CLINICAL PROTOCOLS MANUAL

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CHAPTER 1: INTRODUCTION

This Clinical Protocols Manual has been designed as a desk reference for doctors prescribing Bio-identical Hormone Replacement Therapy (BHRT) using the 'Marion Gluck Method' which is based upon a full understanding of patients.

The aims of this Clinical Protocols Manual are to assist you in:

- Conducting more accurate, efficient and supportive consultations
- Recognising and understanding the underlying causes behind numerous symptoms
- Being able to effectively communicate a diagnosis to each patient and enhance their patient experience and health outcomes
- Offering each patient an individualised and suitable Treatment Plan
- Considering a more holistic approach in treatment with the use of Vitamins and Supplements and offering Nutritional and Lifestyle advice
- Ensuring you deliver high-quality care to your patient each time

CHAPTER 2: INITIAL CONSULTATION PROTOCOL

1. Opening Section

Start with open questions such as:

"What can I do for you?" *"What are your concerns?"* *"What has brought you here?"*

Ask the patient to prioritise their concerns/symptoms by asking:

"What are your main symptoms?"

2. History – Treatment And Medication

Include specific questions such as:

- *"What medications or hormones have you been on?"*
- *"When do you take your medication?"*
- *"How long did you take it for?"*
- *"How did you feel on it?"*
- *"Why did you stop taking it?" (if applicable)*

Find out previous medical and treatment history. Ask questions that include:

Past gynaecological history:

- Menarche
- Last Menstrual Period (LMP)
- Interim Menstrual Bleed (IMB) or bleeding
  1 year post menopause
- Contraception
- Pregnancies
- How felt in pregnancy
- Fertility Issues
- Operations
- Premenstrual Syndrome (PMS)
- Mammogram
- Cervical Smears
- Pelvic Ultrasound Scan (PUS)

3. Symptom Specifics

Questions to explore patterns of symptoms:

- *"Do you have symptoms throughout the month or is there a pattern to them?"*
- *"When are symptoms most prevalent?"*
- *"Do symptoms occur mid-month? End of the month? During your period? Throughout your cycle?"*

For postmenopausal women this won't be specific to menstrual cycle.

Ask the patient to describe their symptoms.

Always ask them to prioritise the worst one first.

Ask the patient about:

Physical Symptoms	Emotional Symptoms
Irregular periods	PMS
Painful periods	Moods
Heavy periods	Palpitations
Sleep	Anxiety
Vaginal Dryness	Concentration
Headaches or migraines	Depression
Aches and pains	Motivation
Hair loss	Confidence
Skin problems	Libido
Allergies	Energy levels
Weight gain	Memory
Hot flushes	
Night sweats	
Breast tenderness	
Fluid retention	
Bladder symptoms	
Hair loss/gain	
Acne/skin (if applicable)	
Energy	

Always ask "*what bothers you most?*" (you really want to understand her concerns).

Use the symptoms guide in Chapter 3 to ask specific questions about each main symptom.

Refer to the main symptom/s section in Chapter 3 to ensure the correct tests are carried out and the appropriate diagnosis is made.

4. Background and Lifestyle

Ask about social history (marriage, life): nutrition, alcohol intake, exercise, profession, and number of children, relationships, interests and hobbies

5. Treatment Objectives

Ask the patient what she wants to achieve from coming to the clinic. Ask questions such as: *"What are your goals?"* or "*What are you looking to achieve?"*

6. Wrap up and Close

Explain tests/next steps

Ask if she has any questions or concerns (very important)

CHAPTER 3: SYMPTOMS

1. Fatigue
2. Anxiety
3. Mood Swings
4. Bloating
5. Breast Tenderness
6. Fluid Retention
7. Weight Gain or Obesity
8. Irregular Periods
9. Painful Periods
10. Heavy Periods
11. Cyclical Headaches and Migraines
12. Acne
13. Hirsutism
14. Hair Loss
15. Insomnia
16. Palpitations
17. Hot Flushes
18. Memory Loss
19. Dysfunctional Uterine Bleeding
20. Aches and Painful Joints
21. Urinary Incontinence
22. Vaginal Dryness or ‘Atrophic Vaginitis’
23. Low Libido
24. Pruritus
25. Night Sweats
26. Urinary Tract Infection

FATIGUE

DEFINITION [1,2]

A person with fatigue will experience a sense of tiredness, exhaustion, or lack of energy. Words used by the patient to describe their fatigue commonly include 'exhausted', 'lethargic', having 'low energy' or being 'tired'.

Sleep duration, quality, and timing are significant mediators of the manifestations of fatigue. Fatigue can be physical, mental, or both and can be provoked by exceeding capacity in terms of time-on-task or stress load.

Differential diagnoses[2]

- **Metabolic/endocrine:** anaemia; hypothyroidism; diabetes; electrolyte abnormalities; kidney disease; liver disease; Cushing's disease
- **Infectious:** infectious mononucleosis; hepatitis; tuberculosis; cytomegalovirus (CMV); HIV infection; influenza; malaria and many other infectious diseases
- **Cardiac and Pulmonary:** congestive heart failure; coronary artery disease; valvular heart disease; chronic obstructive pulmonary disease (COPD); asthma; arrhythmias; pneumonia
- **Medications:** antidepressants; anti-anxiety medications; sedative medications; medication and drug withdrawal; antihistamines; steroids; some blood pressure medications
- **Mental health:** depression; anxiety; drug abuse; alcohol abuse; eating disorders (for example; bulimia; anorexia); grief and bereavement
- **Sleep problems:** sleep apnoea; reflux esophagitis; insomnia; narcolepsy; shift work or shift changes; pregnancy; extra night hours at work
- **Other:** cancer; rheumatology illnesses such as rheumatoid arthritis and systemic lupus; fibromyalgia; chronic fatigue syndrome; normal muscle exertion; obesity; chemotherapy and radiation
- **Menopause**

During the consultation it is important to consider all medical conditions that could be causing the patient fatigue.

When a patient presents with fatigue as their main symptom:

It is important to find out everything about the nature of the fatigue, so asking the patient to describe their fatigue is important. This enables you to understand the timing and severity of the fatigue and ascertain a pattern which will enable the appropriate investigations and tests to reach a diagnosis.

If a patient complains of fatigue, it is critical to understand *when* they are tired by simply asking '*When are you tired?*'

- If the patient is **not tired all of the time**, this would usually indicate an underlying hormone-related condition when it accompanies other cyclical symptoms.
- When the patient is **tired consistently**, it can also indicate a hormonal imbalance; however, constant tiredness may also be related to thyroid dysfunction, or iron and vitamin D deficiency

It is therefore important to ask a series of questions to understand the severity of the patient's fatigue, and other variables that impact fatigue

KEY QUESTIONS

- ***Do you wake up tired?***
  This question is key in identifying the quality of sleep, i.e. could there be an underlying sleep condition such as sleep apnoea if all other conditions are later ruled out?
- ***Are there days or times during the month that you feel more tired?***
  Identify any potential cyclical pattern.
- ***How well do you feel you sleep?***
  Gain an understanding of how well the patient sleeps to see if there are any other underlying stressors which might be causing a disturbed sleep pattern.
- ***How long have you felt tired?***
  Understand what triggered the fatigue, and what has happened since they first felt fatigued. For example, a woman may have felt fatigued since she gave birth.

KEY QUESTIONS CONTINUED

- ***When was the last time you felt well and energetic?***
  Understand more about the lifestyle of the person and whether symptoms indicate a chronic condition – including nutritional factors and lifestyle. ***Do any foods make you feel tired after eating them*?**
  Differentiate whether symptoms could be nutritional or hormonal.
- ***Does fatigue stop you having a normal life – i.e. does it affect your work and personal life?*** Identify the severity of the symptoms. ***What sources of stress do you have in your life?***
  Identify if there are any stressors around their family and work life.
- ***What is your mood like generally?***
  Assess the patients general mood, and whether this is an ongoing low mood, or whether it follows a cyclical pattern.
- ***Are you on any other medication?***
  Identify whether the patient is on any medication that could cause fatigue.
- ***Are you bleeding heavily or frequently? If yes, have you had an iron test*?**

Assess the level of menstruation that could potentially reduce iron store levels and cause fatigue.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

When the patient feels fatigued all, or most of the time, the following tests are recommended:

In the event that a patient presents consistent fatigue as their main symptom, and there are no other *physical* symptoms present, low mood/depression may be suspected.

However, the following full tests are still carried out to ensure there is no other underlying cause:

- Female hormone profile
- Full biochemistry
- Full blood count
- TFTs

Interpreting test results

- If the tests come back **within normal range**, it is advisable to reassure the patient of normal blood results and refer to a counsellor and/or nutritionist as appropriate. See clinical referral guidelines.
- If the blood results **identify thyroid, anaemia or vitamin D deficiency**, refer to Chapter 4 for appropriate treatment.

Vitamin D deficiency

If fatigue is also **accompanied with bone pain and/or low mood**, a vitamin D deficiency can be suspected, although should be tested as standard procedure with all patients due to common occurrence.

- If vitamin D is low, and out of range (Deficient <25 nmol/L; Insufficient 25-49 nmol/L; Normal 50-200 nmol/L) the patient can be diagnosed with vitamin D deficiency. See 'Vitamin D Deficiency' for more information and treatment.

Thyroid problems

When fatigue is accompanied with **hair loss and/or weakness** it would be suspected as anaemia and the biochemistry tests listed earlier would identify this. Tests would also identify any underlying causes such as thyroid dysfunction.

- If the tests come back with **low FERRITIN levels**, the patient is diagnosed with an iron deficiency - see 'Iron Deficiency'.

If symptoms also **include weight gain and/or low mood,** then hypothyroidism would be suspected. The same tests would be carried out to determine the thyroid levels.

- If the tests come back showing an **elevated thyroid TSH and low T3 and T4** then the patient would be diagnosed with hypothyroidism. See 'Underactive Thyroid'.

If the patient presents fatigue along with symptoms such as **potential weight loss, susceptibility to the cold and/or anxiety,** the same tests would be recommended to determine if the thyroid is over functioning.

- If the tests come back showing a **depressed thyroid TSH and elevated T3 and T4,** the patient would be diagnosed with hyperactive thyroid and referred as appropriate.

Fatigue following childbirth

If the patient presents fatigue since childbirth and potentially has other symptoms such as low mood, anxiety, guilt and/or a feeling of being overwhelmed, this could indicate postnatal depression.

Tests to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

Interpreting test results in women with fatigue following childbirth:

- If the results show **low progesterone in the luteal phase**, in combination with the patient's symptoms, a diagnosis of postnatal depression is to be made – see 'Postnatal Depression'.
- If the tests come back **optimal (normal)**, depending on the symptoms presented and the severity of those symptoms, the patient may still to be diagnosed with postnatal depression.

Fatigue and irregular bleeding/heavy or painful periods

If the patient presents with **consistent tiredness** and **symptoms of spotting and/or irregular bleeding** it is important to also carry out a hormone function test, along with the main tests to identify if an iron deficiency is present due to the level of bleeding.

- If the hormone profile shows **high oestrogen and low progesterone levels** the patient would be diagnosed with abnormal uterine bleeding – see 'Dysfunctional Urine Bleeding'.

- If the tests come **within range (normal),** the patient may still be diagnosed with dysfunctional uterine bleeding based on their symptoms.

If the patient describes their period as being **heavy and/or painful,** or of having **spotting** at the same as the fatigue, this would indicate dysfunctional bleeding.

- If the hormone profile shows **high oestrogen and low progesterone levels,** this would be diagnosed with abnormal uterine bleeding.
- If the tests come back **optimal**, the patient may still be diagnosed with dysfunctional uterine bleeding.

It is very common for patients with dysfunctional uterine bleeding to also be iron deficient. The blood tests will confirm if there is a deficiency is present, if so refer to 'Iron Deficiency'.

Cyclical fatigue

If the **fatigue is cyclical** i.e. around the menstrual cycle, approximately 5-10 days before their cycle begins, it is important to understand the patient's mood and what their bleed is like. For tiredness that is not consistent, the following tests, which include hormone function should always be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

Interpreting test results in women with cyclical fatigue

If other symptoms present at the same time as fatigue, such as **breast tenderness, bloating and/or irritability,** pre-menstrual syndrome (PMS) is suspected.

- If the results of the female hormone profile demonstrate **a low progesterone state**, the patient is diagnosed with PMS. Refer to 'Premenstrual Syndrome'.
- Subject to the patient's symptoms, if the hormone profile test is **normal**, the patient may still be diagnosed with PMS and treated appropriately.

If the patient complains of **debilitating anxiety, sadness and/or irritability** at the same time as fatigue, premenstrual dysphoric disorder (PMDD) would be suspected, and the full blood tests would be recommended.

- If the results of the female hormone profile demonstrate **a low progesterone state and/or high oestrogen state**, the patient is diagnosed with PMDD. Refer to 'Premenstrual Dysphoric Disorder'.
- Subject to the symptoms presented, if the hormone test is **within normal range,** the patient may still be diagnosed with PMDD and treated appropriately.

Fatigue and pain

If the patient complains of **excessive pain, bloating and/or spotting** along with fatigue, endometriosis can be suspected. Significant pain is the main determining factor of this condition.

- If the hormone profile shows **elevated oestrogen and low progesterone levels**, this would be suspected as endometriosis, see 'Endometriosis'.
- Please note a conclusive diagnosis cannot be made without a referral to a gynaecologist. If the tests come back within normal range, based on the symptoms the patient may still be suspected to have endometriosis. Fatigue in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of fatigue, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, subject to the symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, fatigue may be more overwhelming due to the oestrogen fluctuations which can also cause intense hot flushes and night sweats that disturb sleep.

- If there is no recognisable cycle, then take the bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Women who are **50+** and are presenting with fatigue may be considered to be entering post menopause. These patients may also have more consistent night sweats and hot flushes, sleep disturbance and aches and pains. Full tests can be carried out at any time.

- If the tests show **elevated FSH and undetectable oestrogen and progesterone levels**, post menopause can be considered – see 'Menopause'.

Please note:

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see Clinical Referral Directory.

References

1. Medscape: Fatigue. October 2015. Available at: http://www.medscape.com/viewarticle/852370
2. Medscape: The Evaluation and Management of Fatigue. Available at: http://www.medscape.com/viewarticle/852370

ANXIETY

DEFINITION [1]

Anxiety is an uneasy feeling of worry, concern and/or nervousness. Patients may describe a sense of impending doom or a knotted feeling in their gut when anxiety is present.

Severe anxiety may cause feelings of helplessness, confusion, and extreme worry that are out of proportion with the actual seriousness or likelihood of the feared event.

Anxiety can cause physical symptoms (e.g. trembling or twitching; fullness in the throat or chest; breathlessness or rapid heartbeat; light headedness; sweating; muscle tension, aches, or soreness; extreme tiredness) and emotional symptoms (e.g. restlessness, irritability, worrying too much, inability to concentrate). Anxiety also affects the part of the brain that helps control communication.

Differential diagnoses[1]

- Mental health problems, such as depression
- Substance use problems
- A physical problem, such as heart or lung disease

During the consultation it is important to consider all medical conditions that could be causing the patient anxiety.

When a patient presents with anxiety as their only symptom or main symptom:

It is important to find out everything about the nature of the anxiety, so asking the patient to describe their anxiety is important. This enables you to understand the timing and severity of the anxiety and ascertain a pattern which will enable the appropriate investigations and tests to reach a diagnosis.

If a patient complains of anxiety, it is critical to understand *when* they feel anxious by simply asking '*When are you anxious?*'

- If the patient is **not anxious all of the time** it could indicate an underlying hormone-related condition, particularly when it accompanies other cyclical symptoms
- When the patient is **anxious consistently**, it can also indicate a hormonal imbalance, however this is more often related to the personality type of the patient or the presence of a generalised anxiety disorder
- Patients may also present **consistent anxiety which is exacerbated during their cycle**. This can indicate a hormonal issue is present in addition to their personality type/underlying generalised anxiety disorder

It is therefore important to ask a series of questions to understand the severity of the patient's anxiety, and other variables that impact it.

KEY QUESTIONS

- ***Have you noticed any particular time during the month when the anxiety is worse?*** Identify the pattern of the anxiety, and whether it follows a cyclical pattern.

- ***Do you wake up in the morning with anxiety? Or do you wake up feeling as if you have a knot in your stomach?***
  Identify the daily pattern of the anxiety.
- ***Does it affect your lifestyle?***
  Establish the severity of the symptom, and how it impacts the patient's life.
- ***Have you ever needed to take medication for anxiety? And are you on any medication now?***
  Identify the severity of the symptom if medication has been required. Also consider any effects that the medication might have on the patient.
- ***Have you ever had a panic attack?***
  Understand the characteristics of the patient's anxiety.
- ***How does the anxiety feel to you? What causes it?***
  Understand the characteristics of the patient's anxiety and what the triggers are.
- ***How long have you had it for?***
  Identify when the symptom first presented itself.
- ***When did your anxiety first present itself?***
  Identify if there was a trigger, and how the anxiety has been since they first experienced it.

KEY QUESTIONS CONTINUED

- ***Did you experience any trauma before your first anxiety attack?***
  Identify any specific event or trauma that may have triggered the anxiety. This is important as, if physiological conditions have been excluded, identifying a trauma may indicate that the patient is suffering from post-traumatic stress.
- ***Do you worry a lot generally?***
  Identify the general nature of the patient's personality.
- ***Is there a family history of anxiety?***
  Identify whether there is a family history of anxiety, especially linked to psychiatric disorders such as generalised anxiety disorder.

It is important to enquire about any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2, to cover the main physical and emotional symptoms.

Recommended Tests

For all patients experiencing anxiety, comprehensive blood screening is recommended, which includes thyroid and hormone profile tests:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count

- TFTs

When the patient feels anxious all, or most of the time:

In the event that a patient presents with consistent anxiety as their main symptom, it is important to identify any previous trauma for the patient, or any history or anxiety disorders in the family.

If the patient presents with no other obvious symptoms, full testing is recommended to check for any underlying thyroid disease. Hyperthyroidism can be linked to anxiety.

- If tests confirm a **depressed TSH and elevated T3 and T4** then the patient can be diagnosed as having hyperthyroid and should be referred to an endocrinologist. See Clinical Referral Directory.
- If all tests are **within range (normal)** the patient may be referred for cognitive behavioural therapy (CBT) – see clinic referral guidelines.

Patients presenting with anxiety following childbirth

If the patient presents with anxiety since giving birth, and potentially has other symptoms such as low mood, feelings of being overwhelmed, fatigue and exhaustion, this could indicate postnatal depression.

- If the results come back with **low progesterone in the luteal phase**, postnatal depression diagnosis can be made – see 'Postnatal Depression'.
- If the tests come back **normal,** subject to the symptoms presented and their severity, the patient may still be diagnosed with postnatal depression and treated appropriately.

When the patient presents with anxiety that is exacerbated around the menstrual cycle:

If the anxiety is consistent but is exacerbated around the menstrual cycle (approximately 5-10 days before the cycle begins), it is important to understand that there could be an underlying generalised anxiety, in addition to a hormonal imbalance such as premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD). The patient may also present with other cyclical symptoms such as breast tenderness, low mood and irritability that may occur at the same time as increased anxiety levels.

Blood results

- If the results of the female hormone profile demonstrate **low progesterone in the luteal phase**, the patient is diagnosed with premenstrual syndrome. Refer to 'Premenstrual Syndrome'. In addition, the patient could be considered for referral for CBT.
- If the results of the female hormone profile demonstrate **low progesterone and/or high oestrogen** and the patient is presenting with **severe anxiety,** the patient may be diagnosed with PMDD – see 'Premenstrual Dysphoric Disorder'. A referral for CBT may be required – see clinic referral guidelines.

Other symptoms

If the anxiety is cyclical, it is also important to understand the patient's mood and other premenstrual symptoms they may experience.

If anxiety is presented with other symptoms such as **breast tenderness, bloating and/or irritability**, premenstrual syndrome (PMS) is the likely diagnosis.

- If the results of the female hormone profile demonstrate **low progesterone levels**, the patient is diagnosed with premenstrual syndrome. Refer to 'Premenstrual Syndrome'.

- Based on the patients' symptoms, if the hormone profile test results are **normal**, the patient may still be diagnosed with premenstrual syndrome and treated appropriately.

If the patient complains of **debilitating sadness and/or irritability** at the same time as experiencing anxiety, premenstrual dysphoric disorder (PMDD) may be the reason.

- If the results of the female hormone profile demonstrate a **low progesterone and/or high oestrogen state**, the patient may be diagnosed with PMDD. Refer to 'Premenstrual Dysphoric Disorder'.
- Based on the symptoms and their severity as presented and if the hormone test is **within normal range**, the patient may still be diagnosed with PMDD and treated appropriately. Referral to for CBT may also be recommended.

Anxiety in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of anxiety, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, subject to the symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, anxiety and fatigue may be more overwhelming due to the oestrogen fluctuations which can also cause intense hot flushes and night sweats that may disturb sleep and affect mood.

- If there is no evident cycle then take the bloods at any time of the month. If the results demonstrate **fluctuating hormone levels**, or are possibly even **within normal range**, one can still consider menopause. See 'Menopause'.

Women who are **50+** and are presenting with anxiety may be considered to be entering post menopause. These patients may also have more consistent night sweats and hot flushes, sleep disturbance and aches and pains. Full tests can be carried out at any time.

- If the tests show **elevated FSH and undetectable oestrogen and progesterone levels**, post menopause is the likely diagnosis. See 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. E-medicine Health: Anxiety. Available at: http://www.emedicinehealth.com/anxiety-health/article_em.htm

MOOD SWINGS

DEFINITION [1]

Mood swings are sudden and unexpected changes in disposition, with very little or no provocation. Mood swings can vary in severity from brief events of unexplained anger or sadness, to extended periods of depression or anxiety, interspersed with euphoric happiness.

Frequent or prolonged mood swings can negatively affect the patient's everyday life by interfering with general problem solving, or in more extreme cases, cause the patient to feel despondent, unmotivated, and depressed. Personal relationships can also suffer as a result of inconsistent moods.

Mood swings can be caused by a wide variety of factors. These include but are not limited to: lack of sleep; hormones; a change in circumstances; being under high levels of stress or pressure; medication and drug use. More serious causes include: nervous system disorders, ADHD, and autism.

Differential diagnoses[2]

- Bipolar Disorder
- Attention-Deficit Hyperactivity Disorder
- Borderline Personality Disorder (BPS)
- Depression
- Substance Abuse

During the consultation it is important to consider all medical conditions that could be causing the patient mood swings.

When a patient presents with mood swings as their only symptom/main symptom:

It is important to understand the timing and severity of the mood swings and ascertain a pattern which will enable the appropriate investigations and tests to reach a diagnosis.

If a patient complains of mood swings, it is critical to understand when they experience these by simply asking '***When do your swings in mood occur?***'

- If the patient **does not experience mood swings all of the time** it could indicate an underlying hormone-related condition, when it accompanies other cyclical symptoms at the same time.
- When the patient **has mood swings consistently**, it can also indicate a hormonal imbalance which could compound their existing mood. However, constant mood swings are usually related to a mental health condition and require further exploration with a professional in the field of psychology.

It is therefore important to ask a series of questions to understand the severity of the patient's mood swings, and other variables that impact the patient's mood.

Key questions to ask include:

KEY QUESTIONS

- ***Can you describe your mood swings?***
  Identify the nature of the mood swings and whether they follow a cyclical pattern.
- ***Do you get angry, irritable or feel down?***
  Identify the specific characteristics of the patient's mood.
- ***Do you have black days, and/or feel very etheric? Paranoid? Hopeless? Irritable? Despairing? Anxious?***
  Identify any extremes in the moods. For example, a patient who can be manic and depressed could indicate a mood related disorder if all physiological factors have been excluded.
- ***If you're angry do you ever lose your temper?***
  Identify the severity of their mood swings.
- ***Do you do things that you later regret?***
  Identify if there are any extremes in the patient's mood and behavior.
- ***Do your mood swings affect your family and work life?***
  Identify the severity of their mood swings and how it may impact their ability to function.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned.

Use the symptom check list from the Initial Consultation Protocol to cover the main physical and emotional symptoms.

Recommended Tests

When the patient has mood swings all, or most of the time, the following tests are recommended.

In the event that a patient presents consistent mood swings as their main symptom, it is important to consider that there could be an underlying mental health disorder.

In this case, if the patient presents no other obvious symptoms, carrying out full testing as follows is recommended to check for any underlying causes, including thyroid function, as hyper and hypo thyroid can be linked to mood swings:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

Interpreting test results

- If the tests confirm a **depressed TSH and elevated T3 and T4** then hyper thyroid would be diagnosed – and the patient would be referred as appropriate.
- If all tests are **within range (normal),** referral for psychological support should be considered. See 'Clinic Referral List'.

Women presenting with mood swings following childbirth

If the patient presents with mood swings since giving birth and potentially has other symptoms such as: guilt; low mood and/or feeling overwhelmed; and fatigue and/or exhaustion, this could indicate postnatal depression.

- If the results show **low progesterone in the luteal phase**, in combination with the patient's symptoms, a diagnosis of postnatal depression is to be made.
- If the tests come back **optimal (normal)**, depending on the symptoms presented and the severity of those symptoms, the patient may still to be diagnosed with postnatal depression.

Cyclical mood swings

If the **mood swings are cyclical** i.e. around the menstrual cycle, approximately 5-10 days before their cycle begins, it is important to understand the patient's mood and what their bleed is like. For mood swings that are not consistent, the following tests, which include hormone function, should always be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

Interpreting test results in women with cyclical mood swings

If the mood swings are consistent but are exacerbated around the menstrual cycle (approximately 5-10 days before their cycle begins), it is important to understand that a mental health condition could be present in addition to a hormonal imbalance such as premenstrual syndrome (PMS) or premenstrual dysphoric disorder (PMDD).

The patient may also present with other cyclical symptoms such as breast tenderness and abdominal bloating that occur at the same time as the increase in mood swings.

If the patient complains of additional symptoms, such as debilitating anxiety, fatigue and sadness at the same as mood swings, premenstrual dysphoric disorder would be suspected.

- If the results of the female hormone profile demonstrate **a low progesterone state**, the patient is diagnosed with premenstrual syndrome. In addition, the patient could be considered for referral for psychological support – see 'Clinic Referral List'.
- If the results of the female hormone profile demonstrate **a low progesterone state and/or high oestrogen state** and the patient is presenting severe mood swings, the patient is diagnosed with premenstrual dysphoric disorder.

- Subject to the profile of the symptoms presented, if the hormone test is **within normal range** the patient may still be diagnosed with premenstrual syndrome or premenstrual dysphoric disorder and treated appropriately. In addition, if premenstrual dysphoric disorder is suspected, the patient would be considered for referral for psychological support – see 'Clinic Referral List'.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of mood swings, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis.
- If the tests come back **within normal range**, subject to the presenting symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged **between 48 and 52**, mood swings may be more overwhelming due to the oestrogen fluctuations which can also cause intense hot flushes and night sweats that disturb sleep and affect mood.

- If there is no recognisable cycle, then take the bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause.

Women who are **50+** and are presenting with fatigue may be considered to be entering post menopause. These patients may also have more consistent night sweats and hot flushes, sleep disturbance and aches and pains. Full tests can be carried out at any time.

- If the tests show **elevated FSH and undetectable oestrogen and progesterone levels**, post menopause can be considered.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

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BLOATING

DEFINITION [1,2]

Bloating is an uncomfortable swelling of the abdomen, which can result in feelings of fullness, abdominal pain, and abdominal gas.

Bloating is most frequently experienced after consumption of large meals or fizzy drinks. Eating too quickly or talking while eating can cause ingestion or excess air, which can be another contributing factor. Other causes can be trapped wind or constipation.

If bloating persists, it can be a sign of something more serious such as coeliac disease, food intolerances, or irritable bowel syndrome. These conditions are likely to be accompanied by other symptoms and warrant further investigation.

Certain types of food can cause bloating, but this does not always signify intolerance. These include: beans and lentils, certain fruits and vegetables (Brussels sprouts, cabbage, cauliflower, carrots, prunes, apricots), dairy, and wholegrains.

Differential diagnoses[3]

- Coeliac disease
- Small bowel bacterial overgrowth syndrome
- Giardiasis
- Ascites
- Diverticulitis
- Lactose intolerance
- Obstructed bowel
- Pregnancy
- Premenstrual syndrome
- Weight gain
- Ovarian cancer
- Inflammatory bowel disease (Crohn's disease and ulcerative colitis)

When a patient presents with bloating as their only/main symptom:

It is important to understand the timing and severity of the bloating, and to ascertain any patterns. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

If a patient complains of bloating, it is critical to understand *when* this occurs, by simply asking '*When do you feel bloated?*'

- If the patient is **bloated some of the time**, this could indicate an underlying hormone-related condition when it accompanies other cyclical symptoms at the same time.
- It is very rare for a patient to be **bloated consistently** and this would indicate a gastrointestinal issue. Full tests would always be carried out; however, it is important to explore referral to gastrologist and/or a nutritionist.

It is therefore important to ask a series of questions to understand the severity of the patient's bloating, and other variables that impact it.

KEY QUESTIONS

- ***Do you have a lot of flatulence or indigestion?***
  Identify any associated gastrointestinal symptoms.
- ***Where do you experience bloating?***
  Identify where the bloating occurs.
- ***Do you have weight gain at the time?***
  Ascertain whether any weight gain accompanies the bloating.
- ***Do your clothes fit you?***
  Understand the severity of the bloating and how it impacts the patient.
- ***Is it uncomfortable or painful?***
  Identify the characteristics of the bloating.
- ***How does food impact bloating?***
  Identify whether the bloating is nutritional or hormonal. I.e. Many patients that are gluten intolerant can experience bloating.
- ***Does it happen more at different times of the month?***
  Identify the exact pattern of the bloating and when it occurs.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended Tests

When a patient presents with bloating, regardless of whether other symptoms are present or not, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

When the patient feels bloated all, or most of the time

In the rare event that a patient presents with consistent bloating as their main symptom, it is important to carry out the full tests in order to identify or rule out any other health conditions.

- If the tests come back **within normal range**, it would be advised to refer the patient to a gastrologist and/or nutritionist as appropriate – refer to clinic referral directory.

When the patient's bloating is cyclical

If the **bloating is cyclical,** i.e. around the menstrual cycle (approximately 5-10 days before their cycle begins) it is important to understand the patient's mood and other cyclical symptoms.

If bloating is presented with other symptoms at the same time, such as **breast tenderness, fatigue, cramping and/or irritability,** premenstrual syndrome (PMS) is suspected.

- If the results of the female hormone profile demonstrate a low progesterone state, the patient is diagnosed with premenstrual syndrome. Refer to Premenstrual Syndrome.

- Depending on the patient's symptoms, in the event that the hormone profile test results are normal the patient would still be diagnosed with PMS and treated appropriately. In addition, consider referral to a nutritionist. See clinic referral directory.

If the patient complains of pain, around their cycle and mid cycle 'mittel Schmerz' in addition to bloating, endometriosis may be suspected.

- If the results show an **oestrogen to progesterone imbalance,** then endometriosis may be considered as a diagnosis – refer to 'Endometriosis'.
- Please note a conclusive diagnosis cannot be made without a referral to a gynaecologist. See clinic referral directory.
- If the tests come back **within normal range**, depending on the symptoms, the patient may still be suspected to have endometriosis. It is also important that a referral to a gastrologist and/or nutritionist may also be considered.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of bloating, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle, it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, bloating may be increased due to oestrogen fluctuations.

- If there is no cycle or irregular cycle, then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider perimenopause. See 'Perimenopause'.

Women who are **50+**, have no periods and are presenting with bloating may be considered to be entering post menopause. These patients may also have more consistent night sweats and hot flushes, sleep disturbance and aches and pains. Full tests can be carried out at any time.

- If the tests show elevated FSH and undetectable oestrogen and progesterone levels, post menopause can be considered –see 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral list.

References

1. Causes Of Bloating. Available at: https://www.healthstatus.com/health_blog/body-fat-calculator-2/bloating/
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BREAST TENDERNESS

DEFINITION [1]

Breast tenderness, often referred to medically as mastalgia and mastodynia, is the general term used to mean sensitivity, discomfort, or pain in one or both of the breasts often when pressure is applied or when the patient is walking or exercising.

In some cases, patients present with breast heaviness or soreness that radiates to the armpit and arm. In other cases, the pain may be described as a sharp, burning pain that occurs in one specific area of the breast.

Differential diagnoses[2-4]

- Puberty
- Menopause
- Pregnancy
- Breastfeeding
- Abscess
- Mastitis
- Breast surgery

It is important to remember that breast lumps may not always be associated with cancer and are frequently cysts; however, cancer should never be ruled out until a definitive diagnosis is reached.

When a patient presents with breast tenderness as their main symptom:

Asking the patient to describe their breast tenderness is important. This enables you to understand the timing and severity of the breast tenderness and ascertain a pattern which will enable the appropriate investigations and tests to reach a diagnosis.

If a patient complains of breast tenderness, it is critical to understand *when* they feel pain by simply asking '*When do you feel breast tenderness?*'

Often breast tenderness is hormone-related; the patient rarely experiences it all of the time.

KEY QUESTIONS

- ***Do you have breast tenderness and pain?***
  Identify whether they have breast pain that accompanies the tenderness.
- ***Do your breasts increase in size when you feel the pain?***
  Identify whether there is any swelling and the severity of the swelling.
- ***When does the breast tenderness occur? Is it recurrent?***
  Identify if the breast tenderness is cyclic and when it occurs each month.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with breast tenderness, regardless of whether patients present with other symptoms or not, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Breast Ultrasound

In addition, for all complaints of breast tenderness, a breast examination must be carried out.

When the patient experiences breast tenderness all, or most of the time

In the rare event that a patient presents with consistent breast tenderness as their main symptom, and there are no other symptoms present, it is important to carry out the full female hormone panel of blood tests, as well as a breast examination, to eliminate any other health conditions.

- If the tests come back **within normal range**, it would be advised to refer the patient for a mammogram and or/ultrasound as appropriate. See clinic referral directory.

- If the results show **oestrogen dominance** then pre-menstrual syndrome (PMS) may also be diagnosed, see 'Premenstrual Syndrome'. In this scenario the patient would also still be referred for further tests.

Cyclical breast tenderness

If the **breast tenderness is cyclical** i.e. around the menstrual cycle (approximately 5-10 days before their cycle begins) it is important to understand any other symptoms which the patient may be experiencing at the same time.

If breast tenderness is presented with other symptoms at the same time, such as **bloating, fatigue, cramping and/or irritability,** pre-menstrual syndrome (PMS) is suspected.

- If the results of the female hormone profile demonstrate **a low progesterone state**, the patient is diagnosed with premenstrual syndrome. Refer to 'Premenstrual Syndrome'.
- Depending on the patients' symptoms, in the scenario that the **hormone profile test is normal**, the patient may still be diagnosed with premenstrual syndrome and treated appropriately. In addition, referral for a mammogram or ultrasound may be recommended, according to the severity of the breast tenderness and/or the presence of any unusual lumps found during the breast examination – see clinic referral directory.

Breast tenderness in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of bloating, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on the symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly

For patients aged 48 and over, breast tenderness may be more intense due to the oestrogen fluctuations which can also cause intense hot flushes and night sweats.

- If there is no cycle, or it is irregular, then take the bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even levels potentially **within normal range**, consider perimenopause as a diagnosis. See 'Perimenopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

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FLUID RETENTION

DEFINITION [1,2]

Fluid retention, or oedema, is the build-up of fluid in the circulatory system or body tissues, causing painful swelling under the skin. Fluid retention can occur in many different parts of the body, but the lower legs and ankles are most commonly affected.

Fluid retention is frequently caused by sitting or standing for extended periods, and inactivity. Fluid retention can also be caused high levels of sodium in the diet.

Oedema can result from hormonal conditions and the thyroid and can also be linked to heart and kidney disease.

Differential diagnoses[3]

- Oedema caused by some medications, histamine release, or allergy
- Pregnancy
- Liver disease
- Kidney disease
- Malnutrition
- Lymphedema
- Myxoedema

When a patient presents with fluid retention as their main symptom:

It is important to understand when the fluid retention occurs and whether or not it is recurrent. If it is, establish also if the recurrence is cyclic. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

If a patient complains of fluid retention, it is critical to understand *when* this occurs, by simply asking '*When do you feel the build-up of fluid?*'

- If the patient **doesn't have fluid retention all of the time**, this would usually indicate an underlying hormone-related condition and will often accompany other cyclical symptoms.
- When the patient experiences **fluid retention consistently**, this can also indicate a hormonal imbalance, however is usually related to thyroid, kidney or cardiac dysfunction.

It is important to ask a series of questions to understand the severity of the patient's fluid retention, and other variables that impact it.

KEY QUESTIONS

- ***Where do you have fluid retention?***
  Identify the location of the swelling
- ***Do your clothes have difficulty in fitting you?***
  Identify the severity of the swelling of the fluid retention and if it occurs at different times of the month.
- ***Is it uncomfortable or painful?***
  Identify the severity and the pain level – i.e. does it affect the patient exercising or having a normal life?
- ***Is your fluid retention food related?***

Identify if food triggers any retention.

- ***Do you retain water anywhere else on your body? In your arms? On your legs?*** Identify if there is any fluid retention in other areas of the body.
- ***Do you get headaches?*** Identify whether the patient gets headaches, as this could indicate oestrogen dominance.
- ***Do you have any fluid retention at the end of the day?*** Ascertain whether fluid retention is worse at the end of the day.
- ***Have you ever had any kidney problems?*** Identify whether there have been any past kidney problems (especially during childhood) as this can impact hormonal balance and kidney function.
- ***What are your blood pressure readings normally like?*** Identify whether the patient has increased blood pressure.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

For all patients that experience fluid retention, the following tests are carried out to detect both hormonal and thyroid conditions:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

When the patient experiences fluid retention all, or most of the time

In the event that a patient presents with fluid retention all or most of the time, hypothyroidism is often suspected. The patient may also complain of fatigue, hair loss and weight gain.

- If the tests come back showing an **elevated thyroid TSH and low T3 and T4** then the patient would be diagnosed with hypothyroidism. See 'Underactive Thyroid'
- If the test results are **normal**, then subject to the severity of the symptoms, you may wish to advise the patient to go back to their GP for further investigation i.e renal or cardiac.

When the patient's fluid retention is cyclical

A patient presenting with cyclical fluid retention, i.e. around the menstrual cycle (approximately 5-10 days before their cycle begins), may also present with other symptoms such as breast tenderness, fatigue and irritability. If this is the case, premenstrual syndrome (PMS) is suspected.

- If the results of the female hormone profile show **oestrogen dominance**, the patient is diagnosed with premenstrual syndrome.
- If the results are **normal**, premenstrual syndrome may still be considered as a diagnosis.

In addition to exploring suspected PMS, it is important to review the patient's thyroid results.

- If the results indicate **elevated thyroid TSH and low T3 and T4**, then the patient would be diagnosed with hypo thyroid. See 'Underactive Thyroid'.

Fluid retention in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of bloating, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis, see 'Perimenopause'
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, fluid retention may be more intense due to the oestrogen fluctuations that can also cause intense hot flushes and night sweats.

- If there is no cycle, or it is irregular, then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider 'Perimenopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see Clinical Referral Directory.

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WEIGHT GAIN OR OBESITY

DEFINITION

Obesity can be defined as the excess body fat that has accumulated to the extent that it may have a negative effect on a patient's health, i.e. reduced life expectancy and/or increased health problems.

Differential diagnoses[1]

- Depression
- Type 2 diabetes mellitus
- Fatty liver
- Hypothyroidism
- Polycystic ovarian disease (Stein-Leventhal syndrome)
- Cushing syndrome
- Menopause
- Premenstrual syndrome

When a patient presents with weight gain or obesity as main symptom:

It is important to understand how much weight the patient has gained, and in what time frame. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

If a patient complains of weight gain, it is crucial that you understand when this started. Simply ask the patient *'When did you start gaining weight?'*

- If the patient is gaining weight **all of the time** it can indicate an under functioning thyroid or polycystic ovary syndrome (PCOS).
- If weight gain is only presented **some of the time,** this could also indicate polycystic ovary syndrome and premenstrual syndrome (PMS).
- When medical and hormonal conditions are excluded, it is also important to consider a nutritionist and lifestyle counsellor.

It is therefore important to ask a series of questions to understand the seriousness of the patient's weight gain, and other variables that impact it.

KEY QUESTIONS

- ***Has your lifestyle and/or diet changed?***
  Identify whether there has been a change in the patient's life attributable to the weight gain.
- ***Have you had your thyroid checked?***
  Identify whether the patient has had their thyroid checked, as hypothyroidism is closely linked to weight gain.
- ***Is there any family history of obesity?***
  Identify any possible heredity patterns.
- ***Are you on any medication? (In particular antidepressants, antipsychotics and the oral contraceptive pill).***
  Identify whether the patient is on any other medication that could be linked to weight gain.

- ***How is your diet?***
  Identify whether the patients weight gain could be attributed to nutritional factors, especially if other medical conditions are later ruled out.
- ***Do you have sugar cravings?***
  Identify if there is an underlying sugar addiction.

It is important to understand any other symptoms that the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with weight gain, regardless of whether additional symptoms are present or not, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

If a patient presents with constant weight gain as their main symptom, it is important to consider hypothyroidism. The patient may or may not have other symptoms such as fatigue, hair loss, and or/low mood.

- If the tests come back **in normal range**, it would be advised to refer the patient to a gastrologist and/or nutritionist as appropriate.
- If the tests come back showing an **elevated thyroid TSH and low T3 and T4** then the patient would be diagnosed with hypo thyroid – see 'Underactive Thyroid'

When the patient presents with other symptoms

When weight gain is present with other symptoms such as acne, hirsutism, and/or irregular periods are present, polycystic ovary syndrome could be suspected. It is possible for a patient to have both polycystic ovary syndrome and hypothyroidism, so the tests should assess for both, in addition to other medical issues.

If polycystic ovary syndrome is suspected

If polycystic ovary syndrome is suspected, additional tests and a pelvic scan will be carried out to help determine whether the patient has PCOS, in addition to the regular blood tests as above.

- Anti- müllerian Hormone (AMH)
- Prolactin
- Androstenedione
- SHBG

- Subject to the pelvic scan results, if the blood results show **oestrogen dominance and/or elevated androgens**, in addition to an elevated FSH/LH ratio, the patient may be diagnosed with polycystic ovary syndrome - see 'Polycystic Ovary Syndrome'.
- If the blood tests are **within normal range**, a diagnosis of PCOS may still be made, depending on the presenting symptoms and results of the scan.

When the patient's weight gain is cyclical

If the *weight gain is cyclical,* i.e. around the menstrual cycle (approximately 5-10 days before their cycle begins) it is important to also understand what other symptoms the patient may be experiencing during this time.

If bloating is presented with other symptoms at the same time, such as **breast tenderness, fatigue, cramping and/or irritability,** pre-menstrual syndrome (PMS) is suspected.

- If the results of the female hormone profile demonstrate **oestrogen dominance**, the patient is diagnosed with premenstrual syndrome.
- Depending on the patient's symptoms, in the event that the hormone profile test results are **within normal range**, the patient would still be diagnosed with PMS and treated appropriately. In addition, consider referral to a nutritionist.
- If the following blood tests come back **in normal range**, polycystic ovary syndrome and PMS may still be diagnosed.
  - Anti- müllerian Hormone (AMH)
  - Prolactin
  - Androstenedione
  - SHBG

  It would be advised to refer the patient to a gastrologist and/or nutritionist as appropriate. See 'Clinic Referral List'.

Weight gain in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of weight gain, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle, it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, weight gain may be increased due to the oestrogen fluctuations that can also cause intense hot flushes and night sweats.

- If there is no cycle, or it is irregular, then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Women who are **50+** and presenting with weight gain may be considered to be entering post menopause. These patients may also have more consistent night sweats and hot flushes, sleep disturbance and aches and pains.

Full tests can be carried out at any time.

- If the tests show **elevated FSH and undetectable oestrogen and progesterone levels**, post menopause can be considered – see ‘Menopause’.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see ‘Clinic Referral List’.

References

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IRREGULAR PERIODS

DEFINITION

A single menstrual cycle may be defined as irregular if it is shorter than 21 days, or longer than 36 days. However, if cycles are regularly shorter than 21 days, or longer than 36 (or 35) days, the condition would rather be termed polymenorrhea or oligomenorrhea, respectively.

Differential diagnoses[1]

- Diabetes Type II
- Polycystic Ovary Syndrome
- Perimenopause
- Ovarian cysts
- Hypothyroidism
- Eating disorders

When a patient presents with irregular periods as their main symptom:

Firstly, it is critical to understand how irregular the patient's periods are by simply asking *'How irregular are you periods? Are they too early? Too late? Infrequent? Have they stopped altogether?'*

It is important to ask a series of questions that will help you understand the characteristics of the patient's periods, and other variables that impact them.

KEY QUESTIONS

- ***When was your last period?***
  Find out the amount of time that has passed since their last period to help identify a pattern.
- ***How long did it last for?***
  Identify how long the cycle is, this is important to know as many of the symptoms that the patient may experience can be related to the length of their cycle.

KEY QUESTIONS CONTINUED

- ***What was it like – heavy? Painful? Normal?***
- Identify the characteristics of the patient's period and its severity. ***Have you ever had normal periods?***
  Identify if there periods have always been like this, as there may have been change over time, or a trigger.
- ***Have you been on the pill or are you on the pill?***
  Identify whether the patient has been on the pill as this may have impacted their cycle.
- ***If you were on the pill, why did you take it?***
  Identify whether the patient is taking the pill to help regulate their periods or improve other symptoms.

When the patient has polymenorrhea (frequent periods) they may present with symptoms such as fatigue and inability to concentrate that affect their day-to-day life. This would indicate dysfunctional

uterine bleeding. Under functioning thyroid can cause menstrual abnormalities and is diagnosable through testing.

The patient may also have iron deficiency due to their bleed being more frequent. The test results would highlight this.

Recommended tests

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

Subject to the pelvic scan results:

- If the blood results show **oestrogen dominance**, the patient would be diagnosed with dysfunctional uterine bleeding – see 'Dysfunctional Uterine Bleeding'
- If the results identify **hypo thyroid dysfunction, and/or iron deficiency**, refer to 'Iron Deficiency' as appropriate, for treatment.

When the patient presents with infrequent or obsolete cycles

When a patient presents with cycles that are infrequent or even obsolete, they may also complain of other symptoms such as acne, inability to conceive, ovarian cysts and/or hirsutism. Polycystic ovarian syndrome (PCOS) would be suspected.

For suspected polycystic ovary syndrome, the following additional blood tests will be carried out:

- Anti-müllerian hormone
- Prolactin
- Androstenedione
- SHBG

Subject to the pelvic scan results:

- If the blood results show **oestrogen dominance and/or elevated androgens**, in addition to indication from the FSH/LH ratio, the patient is diagnosed with PCOS – see 'Polycystic Ovary Syndrome'.
- If the blood tests are **within normal range**, a diagnosis of polycystic ovary syndrome may still be made, subject to the symptoms presented and the results of the scan.
- If the results identify hypothyroidism**, and/or iron deficiency**, refer to 'Iron Deficiency' as appropriate for treatment.

If in the event that the scan yielded results that required further investigation, the patient would be referred to a gynaecologist before any treatment is commenced.

Irregular periods in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of irregular periods, it is important to take into account other factors as detailed above. If there are also symptoms such as anxiety, fatigue, mood swings, aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the perimenopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.

- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, periods may be very irregular due to the oestrogen fluctuations that can also cause intense hot flushes and night sweats.

- If there is no cycle, then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'Clinic Referral Directory'

References

1. Irregular Menstrual Cycles. Available at: http://www.diagnose-me.com/what-causes/irregular-menstrual-cycles.php

PAINFUL PERIODS

DEFINITION

Painful periods (also known as dysmenorrhoea or menstrual cramps) is pain that occurs during menstruation. It usually starts at the beginning of a period and symptoms typically last less than three days. The pain is usually present in the pelvis or lower abdomen and can range from mild to acute. Patients that experience severe pain can describe pain similar to childbirth.

Differential diagnoses[1]

- Ectopic Pregnancy
- Cystitis
- Endometriosis
- Inflammatory Bowel Disease
- Irritable Bowel Syndrome
- Ovarian Cysts
- Pelvic Congestion Syndrome
- Pelvic Inflammatory Disease

When a patient presents with painful periods as their main symptom:

It is important to understand the timing and severity of the pain, and to ascertain any patterns to the symptom. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

If a patient complains of painful periods, it is critical to understand when they are experiencing pain by simply asking *'When is the pain more severe?'*

If the patient experiences pain, it generally indicates an underlying hormone imbalance of oestrogen dominance which can manifest with many conditions such as endometriosis, premenstrual syndrome (PMS) and abnormal uterine bleeding.

If a hormonal imbalance is not identified

Pelvic congestion syndrome may also be considered. Pelvic congestion syndrome is caused by ovarian varicose veins and the patient would generally have consistent pain, which is then compounded during the time of menstruation and ovulation.

It is therefore important to ask a series of questions to understand the severity of the patient's pain, and other variables that impact pain.

KEY QUESTIONS

- ***How long does the pain last?*** Identify the duration of the pain.
- ***Does the pain stop you working or functioning as you normally would?*** Identify the severity of the pain.
- ***Are your periods heavy?*** Identify the characteristics of the period.
- ***Do you get clots?*** Identifying the characteristics of the bleed can help diagnose potential conditions.

- ***Does anything relieve the pain?***
  Identify whether the patient is doing anything to relieve the pain, and if anything is effective.
- ***Do you have to take medication or have an IUD?***
  Identify the severity of the pain if medication or IUD is being used.
- ***Has your menstrual cycle ever been normal, without pain?***
  Identify how long the pain has been going on, and if there were any changes or triggers that started the pain.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't always raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2, which covers the main physical and emotional symptoms.

Recommended tests

If a patient presents with painful periods, the blood tests to be carried out are:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count

A pelvic ultrasound is also to be carried out when a patient presents with painful periods. For any reported spotting between periods, a smear test would also be required.

If the patient presents with hypothyroid symptoms such as fatigue, hair loss and weight gain, their thyroid should also be checked.

- If the tests come back showing **elevated thyroid TSH and low T3 and T4** then the patient would be diagnosed with hypo thyroid. See 'Underactive Thyroid'.

Symptoms that accompany painful periods

Severe pain that is experienced at the start of menstruation, and potentially during ovulation (mittel schmertz) may be suspected as endometriosis. The patient may also present with other symptoms such as bloating or rectal bleeding.

Endometriosis

- If the results indicate **oestrogen dominance**, along with the pelvic scan results, the patient may be suspected to have endometriosis – see 'Endometriosis'.
- If the results are all **normal**, subject to the patient's symptoms, you may still suspect endometriosis and treat accordingly.

Fibroids

If the patient presents **painful periods, along with heaving bleeding and clotting**, fibroids could be a consideration, even if it's not usually common in patients younger than 35 years of age.

- Subject to the scan results, if **oestrogen dominance** is detected from the blood results, fibroids may be considered as a diagnosis – see 'Fibroids'.
- If the results are **all normal**, subject to the patient's symptoms, fibroids may still be suspected and treated accordingly.

Dysfunctional uterine bleeding

When the patient presents pain with symptoms such as heavy bleeding, and other symptoms such as fatigue, spotting, hot flushes and irregular bleeding, dysfunctional uterine bleeding is a consideration.

- If the results indicate **oestrogen dominance**, along with the pelvic scan results, the patient may be suspected to have dysfunctional uterine bleeding – see 'Dysfunctional Uterine Bleeding'.
- If the results are **all normal**, subject to the patient's symptoms they may still be suspected with dysfunctional uterine bleeding and treated accordingly.

Absence of other symptoms

In the event that the patient is experiencing significant pain, has no other symptoms, and tests are normal, pelvic congestion syndrome is a consideration and the patient should be referred to a gynaecologist – see clinic referral directory.

Patients over 35 suffering from painful periods

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of painful periods, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle, it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a profile typical luteal phase** then perimenopause can be considered as a diagnosis. See 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. eMedicine. Dysmenorrhea Differential Diagnoses. Available at: http://emedicine.medscape.com/article/253812-differential

HEAVY PERIODS

DEFINITION[1]

A heavy period may be defined as menorrhagia. Menorrhagia is the medical term for menstrual periods with abnormally heavy or prolonged bleeding. With menorrhagia, every period causes so much blood loss and cramping that it prevents sufferers from maintaining their usual activities.

Differential diagnoses[1]

- Hormone imbalance
- Uterine fibroids
- Polyps
- Adenomyosis
- Intrauterine device (IUD)
- Pregnancy complications
- Cancer
- Inherited bleeding disorders
- Medications

A number of other medical conditions, including pelvic inflammatory disease (PID), thyroid problems, endometriosis, and liver or kidney disease, may be associated with menorrhagia.

When a patient presents with heavy periods as their only or main symptom:

It is important to understand the timing and severity of the heavy periods, and to ascertain any patterns to the symptom. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

If a patient complains of heavy periods, it is critical to understand the seriousness of this by simply asking *'How heavy is your bleed?'*

If the patient experiences heavy periods, it generally indicates an underlying hormone imbalance with oestrogen dominance which can manifest itself in many conditions such as endometriosis, premenstrual syndrome (PMS) and abnormal uterine bleeding.

Polycystic ovarian syndrome (PCOS) or fibroids may also be considered as possible causes of heavy bleeding. It is therefore important to ask a series of questions to understand the significance and characteristics of the patient's bleed, and other variables that impact it.

KEY QUESTIONS

- ***How many tampons/pads do you have to use?***
  Identify how heavy the patient's bleed is.
- ***Have you ever flooded?***
  Identify if the patient experiences of flooding, which is another indicator to how heavy the patient's period is.
- ***Do you get clots?***
  Identify the characteristics of the patient's period.
- ***Have you always had heavy periods?***
  Identify how long the patient has been experiencing heavy periods and whether there have been any changes or potential triggers.

- ***How long do they last for?***
  Identify the length of the period; this is also very important for considering iron deficiency.
- ***Have you had your iron checked?***
  Identify whether the patient has had their iron checked and if they've been diagnosed with iron deficiency.
- ***Are you tired?***
  Identify whether the patient experiences tiredness or fatigue as this is closely linked with iron deficiency caused by heavy bleeding.

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

If a patient presents with heavy periods, the blood tests to be carried out are:

- Female hormone panel (in the luteal phase)
- Full biochemistry
- Full blood count

A pelvic ultrasound is also to be carried out when a patient presents with heavy periods. For any reported spotting between periods, a smear test would also be required.

Although the iron test will be carried out for every patient, it is particularly important if patients are experiencing heavy bleeding, as this can lead to iron deficiency.

- If the results detect **low iron stores**, the patient can be diagnosed with iron deficiency – see 'Iron Deficiency'

If the patient presents hypo thyroid symptoms such as fatigue, hair loss and weight gain, their thyroid should also be checked.

- If the tests come back showing **elevated TSH and low T3 and T4** then the patient would be diagnosed with hypothyroidism. See 'Underactive Thyroid'.

Polycystic Ovarian Syndrome (PCOS)

When a patient presents with a cycle that is heavy and/or prolonged, they may also complain of other symptoms such as acne, inability to conceive, ovarian cysts and/or hirsutism. If this is the case, polycystic ovary syndrome may be suspected.

For suspected polycystic ovary syndrome, the following blood tests will be carried out:

- Female hormone panel (in the luteal phase if the period is predicable, or at random if not predictable)
- Full biochemistry
- Full blood count
- TFTs
- Glucose
- Liquid Profile
- Cortisol
- Antimullerian Hormone
- Prolactin
- Androstenedione
- SHBG

If the blood results show **oestrogen dominance and/or elevated testosterone**, in addition to elevated LH/FSH ratio (i.e. 3:1), the patient is diagnosed as having polycystic ovary syndrome – see 'Polycystic Ovary Syndrome'.

- If the blood tests are **within normal range**, a diagnosis of polycystic ovary syndrome may still be made subject to the symptoms presented and the results of the scan.

Fibroids

If the patient presents with heavy bleeding, along with painful periods and clotting, fibroids could be a consideration.

- Subject to the scan results fibroids can be diagnosed, especially if **oestrogen dominance** is also detected from the blood results – See 'Fibroids'.

Dysfunctional uterine bleeding

- When the patient presents with heavy bleeding that accompanies symptoms such as pain, spotting, hot flushes and irregular bleeding, dysfunctional uterine bleeding is a possible diagnosis.
- If the blood test results indicate **oestrogen dominance**, along with the pelvic scan results, the patient may be diagnosed with dysfunctional uterine bleeding – see 'Dysfunctional Uterine Bleeding'.
- If the results are **all normal**, subject to the patient's symptoms, they may still be suspected as having dysfunctional uterine bleeding and treated accordingly.

In the event that a diagnosis cannot be reached, or a second opinion is required, refer to a gynaecologist – see clinic referral directory.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of heavy periods, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase** profile then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. Mayo Clinic. Menorrhagia. Available from: http://www.mayoclinic.org/diseases-conditions/menorrhagia/basics/definition/con-20021959

CYCLICAL HEADACHES AND MIGRAINES

DEFINITION[1,2]

Migraine is a chronic neurological disease characterised by recurrent moderate to severe headaches. Migraines may be caused by a mixture of environmental and genetic factors. Changing hormone levels may be a trigger for migraines or cyclic headaches.

Cyclic headaches frequently occur mid cycle during ovulation (oestrogen surge) or 2-3 days before menstruation (low oestrogen and progesterone levels).

Headache attacks are interspersed by periods of low or no pain. Attacks can be associated with the usual symptoms of a migraine: photophobia, phonophobia (noise sensitivity) and nausea.

Cyclic headache and migraines are more commonly experienced by women with a family history of migraine, although they can be caused underlying neurological problems.

Differential diagnoses[1]

- Tension headache
- Migraine

Cyclic headaches are often incorrectly diagnosed as cluster headaches.

When a patient presents with headaches and migraines as their only or main symptom:

It is important to understand the timing and severity of the headaches, and to ascertain any patterns to the symptom. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

If the patient's headaches do not follow a cyclical pattern, this can indicate migraine or cluster headaches. Headaches that are cyclical (i.e. the patient rarely has them all of the time or at different times of the month) generally indicate an underlying hormonal imbalance.

If a patient complains of headaches, it is critical to understand when they are experiencing them by simply asking *'When is the pain more severe?'* This will help you determine whether the headaches occur or worsen at certain times of the month.

It is important to consider that there are several triggers that can cause headaches and/ migraines; triggers that may not be associated with a hormonal balance, such as food. It is therefore important to ask a series of questions to understand the pattern of the patient's headaches, and other variables that impact them.

KEY QUESTIONS

- ***How long have you had headaches for?***
  Identify when they started, and potentially any link to why they started.
- ***Can you describe them?***
  Identify the characteristics of the headache.
- ***How long do they last for?***
  Identify how long they last for, whether this is minutes, hours or days at a time.
- ***Can you continue your normal life?***
  Identify the severity of the headaches and how they impact the patient's life.

- ***Are there any foods that induce your headache or migraine?***
  Identify any possible link to nutrition that could cause or compound the headaches. If all hormone-related conditions are ruled out, this would be an important consideration.
- ***Do you need to take medication to relieve the pain, if so – what medication do you use?***
  Identify how severe the pain is for the patient and if they need medication – and if this gives the patient any relief.
- ***What works best for you to relieve a headache?***
  Identify what the patient does to help relieve their headache.
- ***Have you ever had a migraine with other symptoms? Nausea? Vomiting? Visual disturbances?***
  Identify if there are any typical migraine related symptoms.
- ***Do you take any preventative medicine?***
  Identify whether the patient is taking any medication to prevent migraines, such as beta blockers.

It is important to be aware of other symptoms that the patient may be experiencing. Often patients won't always raise these complaints unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2, which covers the main physical and emotional symptoms.

Recommended tests

When a patient presents with headaches, with or without additional symptoms, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count

If the patient presents with symptoms of **fatigue, hair loss and weight gain,** their thyroid should also be checked.

- If the tests come back showing **elevated thyroid TSH and low T3 and T4** then the patient would be diagnosed with hypo thyroid. See 'Underactive Thyroid'.

Non-cyclical headaches

When a patient presents with migraines and headaches as their main symptom **at different times of the month**, it would generally indicate that they are not hormone related. If the tests show the hormone balance is within normal range, then it is recommended to refer the patient back to their GP to explore other underlying factors.

Cyclical headaches

If the patient has a headache that is **only exacerbated before their menstrual cycle**, then a hormone imbalance may be a contributing factor. The patient may also have other premenstrual symptoms such as breast tenderness, irritability and fatigue.

- If the hormonal tests indicate **fluctuating oestrogen levels and low progesterone levels**, then a diagnosis of premenstrual tension syndrome will be made – see 'Premenstrual Syndrome'.
- If the test results show the hormone levels to be **within normal range**, the patient may still be diagnosed and treated as having PMS.

Other causes

In the event that the patient presents with chronic headaches not relieved by medication, referral to a neurologist is recommended. – see clinic referral directory.

If a nutritional link is considered to be a possible trigger for the headaches, consider referral to a nutritionist.

In the unlikely event that a patient presents with sudden onset of debilitating headaches, this would be considered an emergency and the patient should be prompted to attend hospital as a matter of urgency.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of headaches, it is important to take into account all other factors as detailed above.

If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle, it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase profile,** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. Cyclic Migraine Syndrome. Available at: https://migraine.com/migraine-types/cyclic-migraine-syndrome/
2. Less Frequently Encountered Headache Types, 2009. Available at: http://my.clevelandclinic.org/health/articles/less-frequently-encountered-headache-types

ACNE

DEFINITION[1,2]

Acne is a skin condition whereby hair follicles and oil glands become infected and inflamed, creating pustules on the surface of the skin. The most commonly affected areas of the body are the face, neck, chest, and back. The condition normally occurs during puberty and can peak in late teens.

Acne presents as yellow pus-filled spots, red spots, blackheads, or scars. The condition can be managed by daily facial cleansing with: a mild soap; keeping hair away from affected areas; healthy

diet; over the counter creams or face wash; prescription medications. Acne can be exacerbated by a diet high in fat, oily creams or makeup, menstrual cycles, picking or squeezing spots, and some medications.

Differential diagnoses & alternative causes[3]

- **Premenstrual Syndrome (PMS)** – some women have a flare-up of acne just before their period
- **Pregnancy** – many women have symptoms of acne in pregnancy, usually during the first three months of their pregnancy
- **Polycystic ovary syndrome** – a common condition that can cause acne, weight gain and the formation of small cysts inside the ovary
- **Reaction to cosmetic products** – however, this is less common as most products are now tested so they don't cause spots (non-comedogenic)
- Medications, such as steroid medications, lithium (which is often used to treat depression and bipolar disorder) and some anti-epileptic drugs (used to treat epilepsy)
- Regularly wearing items that place pressure on an affected area of skin, such as a headband or backpack
- Smoking can contribute to acne in older people
-

When a patient presents with acne as their only or main symptom:

It is important to understand when the acne started, and to ascertain any patterns to the symptom. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

When a patient within the age range of 20-35 years presents with acne, it would generally be considered as being hormone-related and is often linked with polycystic ovary syndrome (PCOS).

If a patient complains of acne, it is critical to understand *when* the acne first occurred, by simply asking '*When did the acne first appear?*'

It is therefore important to ask a series of questions to understand the severity of the patient's acne and other variables that impact it.

KEY QUESTIONS

- ***What do/did you take for your acne?***
  Identify whether the patient is taking any medication to help their acne.
- ***Has anything [other than medication] helped?***
  Identify what else the patient may have used to help their acne and how effective it was.
- ***Have you ever been on the oral contraception pill?***
  Identify if the patient has been (or is on) the oral contraceptive pill, as this can affect hormone levels.
- ***Have you ever had any other treatment for acne, if so, what?***
  Identify if the patient has undergone any previous treatment for their acne – e.g. treatment with a dermatologist.

Recommended tests

In the event that a patient presents with acne as one of their main symptoms, the following blood tests would be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- Pelvic Ultrasound
-

When the patient has acne it is important to explore other symptoms that they might have such as irregular periods, hirsutism, and other complaints related to polycystic ovary syndrome.

Polycystic ovary syndrome

If PCOS is suspected, additional tests and a pelvic scan will be carried out to help determine if the patient has polycystic ovary syndrome:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFT's
- Glucose
- Antimullerian Hormone
- Prolactin
- Androstenedione
- SHBG
- Liquid Profile
- Cortisol

Subject to the pelvic scan results, if the blood results show **oestrogen dominance and/or elevated androgens**, as well as an elevated LH/FSH ratio, the patient is diagnosed with PCOS – see 'Polycystic Ovary Syndrome'.

If the blood tests are **within normal range**, a diagnosis of polycystic ovary syndrome may still be made subject to the symptoms presented and the results of the scan.

If the patient has no other symptoms and all tests are normal except for elevated androgens, then a diagnosis of hormonal acne is to be made. See 'Acne'.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of acne, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the perimenopause.

- If the patient still has a cycle, it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase** profile then perimenopause can be considered as a diagnosis, see 'Perimenopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. British Skin Foundation. Acne. Available at: http://www.britishskinfoundation.org.uk/skininformation/atozofskindisease/acne.aspx
2. Andersen F, Acne, 2014. Available at: http://www.netdoctor.co.uk/conditions/skin-and-hair/a3604/acne/
3. NHS. Acne. Available at: http://www.nhs.uk/Conditions/acne/Pages/causes.aspx

HIRSUTISM

DEFINITION

Hirsutism is excessive hair growth in women. The hair is usually thick and dark, rather than fine and fair. In women aged 20-35 the hair is commonly on their face, chest, back and abdomen

Differential diagnoses[1]

- Androgen-Secreting Adrenal Tumours
- Androgen-Secreting Ovarian Tumours
- Congenital Adrenal Hyperplasia
- Exogenous Androgens
- Iatrogenic Cushing Syndrome
- Idiopathic Hirsutism
- Polycystic Ovary Disease

When a patient presents with hirsutism as their only/main symptom:

It is important to understand when the patient first developed hirsutism. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

When a patient within the age range of 20-35 presents with hirsutism, it would generally be considered hormone-related, and is often linked with polycystic ovary syndrome (PCOS). There is also always the consideration that the hair growth is normal for the patient's ethnicity, but the patient is simply uncomfortable with it.

It is important to ask a series of questions to understand the characteristics of the patient's hair growth, and other variables that impact it.

KEY QUESTIONS

- ***How severe is the hair growth? Do you have to shave?***
  Identify the severity of the hair growth and how it affects the patient.
- ***Where is it?***
  Identify where the patient is experiencing excess hair growth.
- ***Have you had any treatment for it? (E.g. electrolysis)?***
  Identify whether the patient has tried any treatments to manage the excess hair growth.
- ***Does it run in the family?***
  Identify if there is a hereditary factor, i.e. it could be due to the patient's ethnicity.

Recommended tests

In the event that patient presents hirsutism as one of their main symptoms, the following blood tests would be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- Pelvic Ultrasound

If the patient also presents with symptoms of fatigue and weight gain, their thyroid should also be checked.

- If the tests come back showing **elevated TSH and low T3 and T4** then the patient would be diagnosed with hypothyroidism. See 'Underactive Thyroid'.

Polycystic ovary syndrome

When the patient has **hirsutism** it is important to explore other symptoms that they might have, such as irregular periods, acne, and other complaints, which could indicate polycystic ovary syndrome.

If polycystic ovary syndrome is suspected, additional tests and a pelvic scan will be carried out to help diagnose the patient:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Glucose
- Cortisol
- Anti-müllerian Hormone (AMH)
- Prolactin
- Androstenedione
- SHBG

Subject to the pelvic scan results, if the blood results show **oestrogen dominance and/or elevated androgens**, in addition to an elevated LH/FSH ratio, the patient is diagnosed with PCOS – see 'Polycystic Ovary Syndrome'.

If the blood tests are **within normal range**, a diagnosis of polycystic ovary syndrome may still be made, subject to the symptoms presented and the results of the scan.

If polycystic ovary syndrome is not suspected, and no other main symptoms are present, the cause of the hirsutism may be considered as genetic.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. eMedicine. Hirsutism Differential Diagnoses. Available from: http://emedicine.medscape.com/article/121038-differential

HAIR LOSS

DEFINITION

Hair loss refers to loss of hair from the head or body and is also known as alopecia or baldness. Patients may complain of generalised thinning hair or thinning on the top.

Differential diagnoses[1]

- Androgenetic Alopecia
- Telogen Effluvium
- Tinea Capitis
- Trichotillomania

When a patient presents with hair loss as their only symptom or main symptom:
It is important to understand when the hair loss started and how severe it is, to ascertain any patterns to the symptom. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis. When a patient within the age range of 20 to 35 presents with hair loss, it can often be linked to polycystic ovary syndrome (PCOS) or an under-functioning thyroid.

If a patient complains of hair loss, it is critical to understand when this began, by simply asking *'When did you first notice that your hair was thinning?'*

KEY QUESTIONS

- ***Were you taking any medication at the time you noticed a change in your hair?***
  Identify whether the patient was taking any medication with hair loss as a side effect.
- ***Is the hair loss seasonal?***
  Determine whether they are losing hair all of the time, to distinguish if this is normal or pathological.
- ***Is there hair loss in your family?***
  Identify any possible genetic pattern.
- ***What is your bleed like?***
  Identify whether their period is heavy, as hair loss can be linked to anaemia.

Recommended tests

In the event that a patient presents with hair loss as one of their main symptoms, the following blood tests would be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic Ultrasound

Polycystic ovary syndrome

When a patient has hair loss, it is important to explore other symptoms that they might have such as irregular periods, prolonged heavy bleeding, acne, and other complaints related to polycystic ovary syndrome.

Generally, patients that have polycystic ovary syndrome have androgenic alopecia or male pattern baldness. If polycystic ovary syndrome is suspected, additional tests and a pelvic scan will be carried out to help diagnose PCOS:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Glucose
- Cortisol
- AMH
- Prolactin
- Androstenedione
- SHBG

Subject to the pelvic scan results, if the blood results show **oestrogen dominance and/or elevated androgens**, in addition to an elevated LH/FSH ratio, the patient is diagnosed with PCOS – see 'Polycystic Ovary Syndrome'.

If the blood tests are within range, a diagnosis of polycystic ovary syndrome may still be made, subject to the symptoms presented and the results of the scan.

Other possible causes

If the patient presents with hair loss that is more evenly diffused across the head, potentially with thinning at the ends of the eyebrows as well, hypothyroidism might be the cause. The patient may also complain of fatigue and weight gain.

- If the tests show an **elevated TSH and low T3 and T4** then the patient would be diagnosed with hypothyroidism - see 'Underactive Thyroid'.

If the patient presents generalised hair loss, and also presents with fatigue, weakness and brittle nails as possible additional symptoms, then anaemia may be suspected.

- If the results indicate **low iron stores**, anaemia will be diagnosed – see 'Iron Deficiency'.

Every patient presenting with hair loss needs their iron levels examining and hormonal blood tests, including thyroid function, completing. If all possible medical conditions are excluded, a genetic cause may be considered.

Patients over 45

For patients aged between 48 and 52, hair loss may be related to the oestrogen fluctuations that can also cause hair loss.

- If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Women who are **50+** and presenting with hair loss and amenorrhoea of more than 1 year may be diagnosed as being post-menopausal. These patients may also have more consistent night sweats and hot flushes, sleep disturbance and aches and pains. Full tests can be carried out at any time.

- If the tests show **elevated FSH and undetectable oestrogen and progesterone levels**, the diagnosis of menopause can be made – see 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. eMedicine. Alopecia Areata Differential Diagnoses. Available at: http://emedicine.medscape.com/article/1069931-differential

INSOMNIA

DEFINITION[1]

Insomnia is defined as difficulty initiating or maintaining sleep, or both, despite adequate opportunity and time to sleep and leading to impaired daytime functioning. Insomnia may be a cause or result of poor quality and/or quantity of sleep.

Insomnia is very common. Ninety percent of the general population has experienced acute insomnia at least once. Approximately 10% of the population may suffer from chronic (long-standing) insomnia.

Insomnia affects people of all ages including children, although it is more common in adults and its frequency increases with age. In general, women are affected more frequently than men.

Insomnia may be divided into three classes based on the duration of symptoms.

- insomnia lasting one week or less may be termed transient insomnia;
- short-term insomnia lasts more than one week but resolves in less than three weeks; and
- long-term or chronic insomnia lasts more than three weeks.

Differential diagnoses[2]

- Depression or anxiety disorder
- Obstructive Sleep Apnoea
- Periodic Limb Movement Disorder
- Restless Legs Syndrome
- Sleeplessness and Circadian Rhythm Disorder

When a patient presents with insomnia as their only or main symptom:

It is important to understand the timing and severity of the insomnia, and to ascertain any patterns. Ask the question 'when do you experience insomnia?' This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

- If the patient is **not suffering from insomnia all of the time,** this could indicate an underlying hormone-related condition, such as perimenopause or menopause.
- When the patient is suffering **consistently**, it could still indicate a hormonal imbalance. However, other physiological and psychological differential diagnoses must be ruled out or, if suspected, the patient should be referred accordingly.

It is therefore important to ask a series of questions to understand the pattern and severity of the patient's insomnia.

KEY QUESTIONS

- ***Do you have problems going to sleep or staying asleep?***

Identify the type of sleep disorder.

- ***What happens when you're trying to sleep, and how long does it take you to fall asleep?***
  Identify whether the patient is suffering from anxiety.
- ***How long have you had sleep disturbances?***
  Identify how long the patient has suffered with Insomnia, and whether this coincides with any other symptoms they are experiencing.
- ***How does insomnia affect your life?***
  Establish the severity of the symptom, and how it impacts the patient's life.
- ***Have you ever needed to take medication? And are you on any medication now?***
  Identify the severity of their insomnia and whether any medication has been required. Also consider any effects that the medication might have on the patient.
- ***Do you worry a lot or are you under any stress?***
  Identify the general nature of the patient's personality.
- ***Is there a family history of insomnia?***
  Identify whether there is a family history of insomnia, or sleep apnoea.
- ***Do you have insomnia throughout the month, or does it occur at specific times of the month?***
  Identify any patterns of occurrence.

It is important to enquire about any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

For all patients experiencing insomnia, comprehensive blood screening is recommended, which includes thyroid and hormone profile tests:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

If other differential diagnoses have been ruled out, insomnia will usually indicate that the patient is in perimenopause or menopause. If the patient has had an early hysterectomy this would also be consistent with menopause symptoms.

When a patient presents with **a cycle that is infrequent or even obsolete**, they may also complain of other symptoms such as hot flushes, night sweats, inability to conceive, premature ovarian failure could be indicated, see 'Premature Ovarian Syndrome'.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of insomnia it is important to take into account other symptoms such as irregular periods, anxiety, fatigue, mood swings and aches and pains.

- If the results **don't represent a typical luteal phase** profile then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Patients aged between 48 and 52 may be experiencing insomnia at night due to oestrogen fluctuations.

- If the results demonstrate **fluctuating hormone levels**, or even are potentially within normal range, consider menopause. See 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. Medicine Net. Insomnia. Available from: http://www.medicinenet.com/insomnia/article.htm
2. eMedicine. Insomnia Differential Diagnoses. Available from: http://emedicine.medscape.com/article/1187829-differential

PALPITATIONS

DEFINITION[1]

Heart palpitations are feelings of a rapid, fluttering or pounding heart.

Heart palpitations can be triggered by stress, exercise, medication or, rarely, a medical condition

Differential diagnoses[2]

- Atrial tachycardia
- Atrial flutter
- Atrial fibrillation
- Atrioventricular nodal re-entrant tachycardia
- Wolff-Parkinson-White syndrome (WPW)
- Ventricular premature beat
- Atrial premature beat
- Anxiety and panic disorder
- Fever
- Hyperthyroidism
- Excess alcohol use (binge drinking)
- Caffeine
- Medications

When a patient presents with heart palpitations as their only or main symptom:

It is important to understand the timing and severity of the palpitations, and to ascertain any patterns. This will enable you to carry out the appropriate investigations and tests to rule out any other diagnoses, and to identify any possible hormone imbalances. Palpitations are common in perimenopause and menopause.

It is important to ask a series of questions to understand the severity of the patient's palpitations.

KEY QUESTIONS

- ***When did the palpitations start?***
  Identify when they began.
- ***How frequent are they happening? Do they occur in the day or night? How often do you experience them?***
  Identify the full picture, in order to see if this is a cardiological issue or related to low oestrogen levels.
- ***How long the palpitations last?***
  Identify the pattern of the symptom.
- ***Are you taking medication?***
  Some medication can cause palpitations.
- ***Are there any heart conditions in the family?***
  Identify any family history, and identify any potential need to refer to a cardiologist.

It is important to understand any other symptoms that the patient may be experiencing, particularly with this type of symptom. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

When a patient present with palpitations, regardless of whether additional symptoms are present or not, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

If other differential diagnosis possibilities have been ruled out, palpitations will usually indicate that the patient is in perimenopause or menopause due to low oestrogen levels. If the patient has had an early hysterectomy this would also be consistent with menopause symptoms.

When a patient presents a cycle that is infrequent or even obsolete, they may also complain of other symptoms such as insomnia, night sweats, inability to conceive, premature ovarian failure could be indicated, see 'Premature Ovarian Failure'.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of palpitations, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, anxiety, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle, it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly
-

For patients aged between 48 and 52, periods may be very irregular due to the oestrogen fluctuations that can also cause intense hot flushes and night sweats.

- If there is no recognisable cycle then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Please note:

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see ‘clinic referral directory’.

References

1. Mayo Clinic. Available from: http://www.mayoclinic.org/diseases-conditions/heart-palpitations/basics/definition/con-20034780
2. BMJ Available from: http://bestpractice.bmj.com/best-practice/monograph/572/diagnosis/differential-diagnosis.html

HOT FLUSHES

DEFINITION[1]

A hot flush, also known as a hot flash, is a feeling of warmth, sometimes associated with FLUSHING that spreads over the body and sometimes followed by perspiration. Menstruating women in their 40s may also experience HOT FLUSHES, and THESE may last for a decade or more in some women. There is no way to predict exactly when they will start or cease for each individual.

Differential diagnoses[2]

- Hyperthyroidism.
- Carcinoma of the pancreas.
- Carcinoid tumours.
- Phaeochromocytoma (may be part of a multiple endocrine neoplasia syndrome).
- Brain tumours and spinal cord lesions (can lead to vasomotor instability).
- Panic disorder.
- Tuberculosis.
- Diabetes insipidus.
- Frey's syndrome (flushing when the affected person eats, sees, thinks about or talks about certain kinds of food which produce strong salivation; may occur as a complication of parotid gland surgery).
- Some food substances – e.g. monosodium glutamate.
- Some drugs - for example:
  - Nitrates.
  - Calcium-channel blockers.
  - Selective serotonin reuptake inhibitors (SSRIs).
  - Levodopa.
  - Selective oestrogen receptor modulators (SERMS) such as raloxifene and tamoxifen.
  - Anti-androgens such as cyproterone, spironolactone, bicalutamide, 5-alpha-reductase inhibitors.
  - Danazol.
  - Goserelin.

Hot flushes are often a symptom of menopause. They can also be related to the body's internal temperature. They are very common at night and can accompany night sweats.

When a patient presents with hot flushes as their only or main symptom:

It is important to understand the timing and severity of the hot flushes, and to identify any patterns. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

It is important to ask a series of questions to understand the severity of the patient's hot flushes and other variables that impact it.

KEY QUESTIONS

- ***When did the hot flushes start?***

Identify when the patient starts to identify any pattern in conjunction with their menstrual history.

- ***How frequent are they happening, what time of day and how often?***
  Identify the pattern of hot flushes, as night time hot flushes are often linked to oestrogen spikes during menopause.
- ***How does it make you feel?***
  Review how the symptom is impacting the patient's life.
- ***Do they accompany night sweats?***
  Identify the characteristics of the hot flushes to come to a clearer picture of whether this is linked to the menopause.
- ***Are you taking medication?***
  Some medication can cause hot flushes

It is important to understand any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with hot flushes the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

If all other differential diagnosis possibilities have been ruled out, hot flushes will usually indicate that the patient is in perimenopause or menopause. If the patient has had an early hysterectomy this would also be consistent with menopausal symptoms.

When a patient presents a cycle that is infrequent or even obsolete, they may also complain of other symptoms such as insomnia, night sweats, inability to conceive, premature ovarian failure could be indicated, see 'Premature Ovarian Failure'.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of hot flushes, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the perimenopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase** profile then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, subject to their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, periods may be very irregular due to the oestrogen fluctuations that can also cause intense hot flushes and night sweats.

- If there is no evident cycle, then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. MedicineNet. Hot flashes. Available from: http://www.medicinenet.com/script/main/art.asp?articlekey=7322
2. Patient Info. Hot Flushes. Available from: http://patient.info/doctor/hot-flushes

MEMORY LOSS

DEFINITION[1]

Memory loss (amnesia) is unusual forgetfulness. The patient may not be able to remember new events, or to recall past memories, or both.

The memory loss may be short-lived and then resolve spontaneously (transient). Or, it may not go away, and, depending on the cause, get worse over time.

Differential diagnoses[1]

- Brain tumour
- Cancer treatment, such as brain radiation, bone marrow transplant, or chemotherapy
- Concussion or head trauma
- Not enough oxygen getting to the brain when your heart or breathing is stopped for too long
- Severe brain infection or infection around brain
- Major surgery or severe illness, including brain surgery
- Transient global amnesia (sudden, temporary loss of memory) of unclear cause
- Transient ischemic attack (TIA) or stroke
- Hydrocephalus (fluid collection in the brain)
- Sometimes, memory loss occurs with mental health problems, such as:
- After a major, traumatic or stressful event
- Bipolar disorder
- Depression or other mental health disorders, such as schizophrenia
- Memory loss may be a sign of dementia. Dementia also affects thinking, language, judgment, and behaviour.
- Other causes of memory loss include:
- Alcohol or use of prescription or illegal drugs
- Brain infections such as Lyme disease, syphilis, or HIV/AIDS
- Overuse of medicines, such as barbiturates or (hypnotics)
- ECT (electroconvulsive therapy) (most often short-term memory loss)
- Epilepsy that is not well controlled
- Illness that results in the loss of, or damage to brain tissue or nerve cells, such as Parkinson disease, Huntington disease, or multiple sclerosis
- Low levels of important nutrients or vitamins, such as low vitamin B1 or B12

Memory loss is often a menopausal symptom that arises as a result of the decline in oestrogen in many women. The memory loss they experience is never as serious as in any of the above-mentioned conditions. In many perimenopausal and menopausal women, memory loss is often transient and considered irritating or frustrating. Women may have to revert to writing notes to aid memory recall. Furthermore, forgetting names or being unable to recall appropriate words in conversation can be a source of great embarrassment. Due the nature of this symptom, it is important to rule out any other possible pathology before diagnosing the patient.

When a patient presents with memory loss as their only symptom or main symptom:
It is important to understand what the patient's experiences of memory loss are and how severe it is. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis.

KEY QUESTIONS

- ***When did the memory loss start?***
  Identify when the memory loss started to identify any pattern in conjunction with the menstrual history.
- ***Is it your short-term and long-term memory that is affected?***
  Identify the characteristics of their memory loss, if long term is identified it's important to consider referral to a neurologist.
- ***How frequently are you noticing the memory loss?***
  Identify the pattern of memory loss, and severity.
- ***How is it affecting your life?***
  Review how it is impacting the patient's life.
- ***Do you also experience night sweats?***
  Identify the characteristics of the symptom to come to develop a better idea of whether this is linked to the menopause.
- ***Are you taking medication?***
  Some medication can cause memory loss.

It is important to enquire about any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with memory loss, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

If other differential diagnosis possibilities have been ruled out, short term memory loss will usually indicate that the patient is in perimenopause or menopause. If the patient has had an early hysterectomy this would also be consistent with menopause symptoms.

When a patient presents a cycle that is infrequent or even obsolete, they may also complain of other symptoms such as insomnia, night sweats, and an inability to conceive. In this case, premature ovarian failure could be indicated, see 'Premature Ovarian Failure'.

Patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of memory loss, it is important to take into account other symptoms such as irregular bleeding, fatigue, mood swings and aches and pains.

- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48 and 52, periods may be very irregular due to the oestrogen decline that can also cause intense hot flushes and night sweats.

- If there is no evident cycle then take bloods at any time of the month. If the results demonstrate **fluctuating levels**, or are even potentially **within normal range**, consider menopause. See 'Menopause'.

Please note

If vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. MedlinePlus. Memory Loss. Available from: https://medlineplus.gov/ency/article/003257.htm

DYSFUNCTIONAL UTERINE BLEEDING

DEFINITION[1]

Abnormal uterine bleeding is irregular uterine bleeding that occurs in the absence of recognisable pelvic pathology, general medical disease, or pregnancy. It reflects a disruption in the normal cyclic pattern of ovulatory hormonal stimulation to the endometrial lining.

Differential diagnosis[2]

Pregnancy and pregnancy-related conditions:	Medications and iatrogenic causes:
Abruptio placentae	Anticoagulants
Ectopic pregnancy	Antipsychotics
Miscarriage	Corticosteroids
Placenta preavia	Herbal and other supplements: ginseng, ginkgo, soy
Trophoblastic disease	Hormone replacement
	Intrauterine devices
	Oral contraceptive pills, including progestin-only pills
	Selective serotonin reuptake inhibitors
	Tamoxifen (Nolvadex)

Systemic conditions:	Genital tract pathology
Adrenal hyperplasia and Cushing's disease	Infections: cervicitis, endometritis
Blood diseases, including leukemia and thrombocytopenia	Neoplastic entities
Coagulopathies	Benign anatomic abnormalities: adenomyosis, fibroids, polyps of the cervix or endometrium
Hepatic disease	Premalignant lesions: cervical dysplasia, endometrial hyperplasia
Hypothalamic suppression (from stress, weight loss, excessive exercise)	Malignant lesions: cervical squamous cell carcinoma, endometrial adenocarcinoma, estrogen-producing ovarian tumors, testosterone-producing ovarian tumors, leiomyosarcoma
Pituitary adenoma or hyperprolactinemia	Trauma: foreign body, abrasions, lacerations, sexual abuse or assault
Polycystic ovary syndrome	
Renal disease	
Thyroid disease	

When a patient presents with dysfunctional uterine bleeding as their only symptom or main symptom:

It is critical to understand the characteristics of the bleeding. It is therefore important to ask a series of key questions.

KEY QUESTIONS

- ***When was your last period?***
  Identify the time since the patient's last period to help form a pattern.
- ***How long did it last for?***
  Identify how long the patient's menstrual cycle is.

KEY QUESTIONS CONTINUED

- ***What was your last bleed like – heavy? Painful? Normal?***
  Identify the characteristics of the patient's period and its severity to rule out other possible diagnoses.
- ***When are you bleeding outside of your normal cycle? What is this bleed like? Is there clotting present?***

Identify the characteristics of the abnormal bleeding to support your diagnosis.

- ***Have you ever had normal periods?***
  Identify whether periods have always been like this, as there may have been a change over time, or a trigger.
- ***Have you been on the pill or are you on the pill?***
  Determine whether the patient has been on the pill, as this may have impacted their cycle.
- ***If you were on the pill, why did you take it?***
  Identify if the patient was taking the pill to help regulate their periods or improve other symptoms.
  Do you have an IUD or Mirena coil?

When a patient presents with abnormal uterine bleeding as their main symptom, it is critical to carry out a thorough gynaecological history to ensure there are no other potential causes. In addition, it is important to review whether the patient has undergone any other tests – such as a laparoscopy or hysteroscopy.

Recommended tests

It is important to carry out the following tests:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

If the blood results show **oestrogen dominance** and other causes have been ruled out, they may be diagnosed with dysfunctional uterine bleeding.

Dysfunctional uterine bleeding in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of dysfunctional uterine bleeding, it is important to take into account other factors as detailed above.

If there are also symptoms such as irregular bleeding, fatigue, mood swings and aches and pains, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the patient still has a cycle it is important to carry out the full blood examinations during the luteal phase.
- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Please note

If vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see ‘clinic referral directory’.

References

1. eMedicine. Abnormal (Dysfunctional) Uterine Bleeding. http://emedicine.medscape.com/article/257007-overview
2. The American Academy of Family Physicians. Available from: http://www.aafp.org/afp/2004/0415/p1915.html

ACHES AND PAINFUL JOINTS

DEFINITION[1]

Joint pain can be discomfort, pain or inflammation arising from any part of a joint — including cartilage, bone, ligaments, tendons or muscles. Joint pain can be mild, causing soreness only after certain activities, or it can be severe, making even limited movement, particularly bearing weight, extremely painful.

Aches and painful joints can have varying causes depending on their location and frequency. If pain is localised, this could be indicative of injury, for example, sprain, strain, impact injury to specific joint, over-extension or -rotation of joint, or dislocation. Pain from joint injury may only be present until the patient has fully recovered, or it may reoccur after recovery if said joint undergoes heavy use.

Another cause of aches and pain in joints may be arthritis. Arthritis can present in the form of osteoarthritis or rheumatoid arthritis. Both forms typically present in adults, from late 40s. Rheumatoid arthritis differs from osteoarthritis in that it causes the immune system to target joints, causing pain and swelling. Osteoarthritis affects the joint cartilage causing stiffness and problems with movement.

Differential diagnoses[2]

- Injury
- Osteoarthritis
- Rheumatoid arthritis
- Gout
- Fibromyalgia

Declining hormones

Aching and painful joints are often a symptom of menopause that arises as a result of the decline in key hormones.

When a patient presents with aching and painful joints as their only or main symptom:

It is important to understand when the aches and pain started, how long they occur for and how severe they are. This will enable you to carry out the appropriate investigations and tests to reach a diagnosis

It is important to ask a series of questions to understand the severity of the patient's aches and pains and any other variables that impact it.

KEY QUESTIONS

- ***When did you start experiencing aches and pains?***
  Identify when the aches and pains started, to identify a pattern in conjunction with the patient's menstrual history and other symptoms.
- ***How often are you experiencing the aches and pains, and when in the day or night do they occur?***
  Identify the pattern of the pain, and any hormone fluctuations.

- ***How does it make the patient feel?***
  Review how it is impacting the patient's life.
- ***Is there any family history of osteoporosis or arthrosis?***
  Identify whether there is any family history.

It is important to enquire about any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with aches and pains the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Bone density scan

If other differential diagnosis possibilities have been excluded, aches and pains will usually indicate that the patient is in perimenopause or menopause. If the patient has had an early hysterectomy this would also be consistent with menopause symptoms.

When a patient presents with no cycle, or an irregular cycle, they may also complain of other symptoms such as insomnia, night sweats and an inability to conceive. In this case, premature ovarian failure could be indicated, 'Premature Ovarian Failure'.

Pain in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of aches and pain, it is important to take into account other factors as detailed above. If there are also symptoms such as irregular bleeding, fatigue, mood swings and hot flushes, it is important to consider hormonal changes caused by the hormonal transition that occurs during the menopause.

- If the results **don't represent a typical luteal phase** profile then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.
- If the bone density scan results **show osteopenia**, use the appropriate treatment protocol of perimenopause – see 'Perimenopause'.

For patients aged between 48 and 52:

- If the results demonstrate **fluctuating hormone levels**, or appear to be **within normal range**, you can still consider menopause or perimenopause as a diagnosis. See 'Menopause' and 'Perimenopause'.
- If the bone density scan detects **osteopenia or osteoporosis,** treat according to the protocols in this section.

Please note

If vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see ‘clinic referral directory’.

References

1. Mayo Clinic. Joint Pain. Available from: http://www.mayoclinic.org/symptoms/joint-pain/basics/definition/sym-20050668
2. WebMD. Joint Pain. Available at: http://www.webmd.com/pain-management/guide/joint-pain#1
3. Shiel WC, Joint Pain Symptoms & Signs. Available at: http://www.medicinenet.com/joint_pain/symptoms.htm

URINARY INCONTINENCE

DEFINITION[1]

Urinary incontinence is the unintentional loss of urine. The patient has an inability to hold urine in the bladder due to loss of voluntary control over the urinary sphincters.

Differential diagnoses[2]

- Cystitis in Females
- Multiple Sclerosis
- Spinal Cord Neoplasms
- Spinal Cord Trauma and Related Diseases
- Spinal Epidural Abscess
- Urinary Obstruction
- Uterine Prolapse
- Vaginitis

Urinary incontinence (excluding all differential diagnoses) is a menopausal symptom relating to the decline in key hormones.

It is important to ask a series of questions to understand the severity of the patient's urinary incontinence and other variables that impact it.

KEY QUESTIONS

- ***When did the urinary incontinence start?***
  Identify when the patient's urinary incontinence started. This will help determine any patterns in conjunction with their menstrual/gynaecological history.
- ***How frequently do you experience incontinence? When in the day does it occur and how often?***
  Identify the pattern of urinary incontinence.
- ***Does it happen when you laugh or sneeze?***
  Identify the characteristics and how it is affecting the patient.

KEY QUESTIONS CONTINUED

- ***How does it make you feel?***
  Review how it is impacting the patient's life.
- ***Do you have vaginal dryness?***
  This may be a symptom of low oestrogen.

It is important to enquire about any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with urinary incontinence, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

Incontinence in older patients

For patients aged 48+, urinary incontinence may also be combined with other menopausal symptoms such as hot flushes, night sweats etc.

- If the results demonstrate **fluctuating hormone levels**, or are even potentially **within normal range**, consider menopause. See ‘Menopause’.
- If the pelvic ultrasound or physical examination highlights **any other possible causes**, refer the patient for further examination as appropriate.

Please note

If vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see ‘clinic referral directory’.

References

1. MedicineNet. Definition of Urinary incontinence. Available from: http://www.medicinenet.com/script/main/art.asp?articlekey=18377
2. Urinary Incontinence Differential Diagnoses Available from: http://emedicine.medscape.com/article/452289-differential

VAGINAL DRYNESS OR 'ATROPHIC VAGINITIS'

DEFINITION[1]

Atrophic vaginitis (also known as vaginal atrophy, vulvovaginal atrophy, or urogenital atrophy) is an inflammation of the vagina (and the outer urinary tract) due to the thinning and shrinking of the tissues, as well as decreased lubrication. These symptoms are due to a lack of the reproductive hormone oestrogen

The most common cause of vaginal atrophy is the decrease in oestrogen which happens naturally during perimenopause, and increasingly so in post-menopause.

The symptoms can include vaginal soreness and itching, as well as painful intercourse, and bleeding after sexual intercourse. The shrinkage of the tissues and loss of flexibility can be extreme enough to make intercourse impossible.

Differential diagnoses[2]

- Atrophic vaginitis
- Cervical polyp
- Contact dermatitis
- Entamoeba histolytica infection
- Excessive desquamation of normal vaginal epithelium
- Large cervical ectropion
- Lichen sclerosis
- Lichen simplex chronicus
- Vaginal adenosis
- Vaginal cancer
- Vaginal intraepithelial neoplasia
- Vaginal ulcers
- Vaginitis emphysematosa (multiple gas-filled cysts on the vaginal and cervical mucosa)

Atrophic vaginitis (excluding all differential diagnoses) is a menopausal symptom relating to the decline in key hormones.

It is important to ask a series of questions to understand the severity of the patient's vaginal dryness.

KEY QUESTIONS

- ***When did the vaginal dryness start?***
  Identify when the patient started to experience the symptom. This will help identify a pattern, in conjunction with their menstrual/gynaecological history.
- ***How frequent is the dryness happening? Do you experience it all of the time?***
  Identify the pattern of the vaginal dryness.
- ***Is sex painful? How does the vaginal dryness affect your life?***
  Review how it is impacting the patient's life.

It is important to enquire about any other symptoms the patient may be experiencing. Often patients won't raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to cover the main physical and emotional symptoms.

Recommended tests

When a patient presents with vaginal dryness, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- Pelvic ultrasound

The typical patient presenting with vaginal dryness is menopausal, and no longer has a menstrual cycle. The patient's vaginal dryness may also be combined with other menopausal symptoms such as hot flushes, night sweats and urinary incontinence etc.

- If the results demonstrate **fluctuating hormone levels**, or may be still **within the normal range**, consider menopause. See 'Menopause'.
- If the pelvic ultrasound or physical examination highlights any other possible causes, refer the patient for further examination as appropriate.

Please note:

If vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. Wikipedia. Atrophic Vaginitis. Available from: https://en.wikipedia.org/wiki/Atrophic_vaginitis
2. eMedicine. Vaginitis Differential Diagnoses. Available from: http://emedicine.medscape.com/article/257141-differential

LOW LIBIDO

DEFINITION[1]

Libido is a person's overall sexual drive or desire for sexual activity. Sex drive is influenced by biological, psychological and social factors. Biologically, the sex hormones and associated neurotransmitters that act upon the nucleus accumbens (primarily testosterone and dopamine, respectively) regulate libido in humans.

Social factors, such as work and family, and internal psychological factors, like personality and stress, can affect libido. Sex drive can also be affected by medical conditions, medications, lifestyle and relationship issues, and age

Differential diagnoses[2]

- Stress
- Anxiety of depression
- Medication
- Poor body image
- Hormonal changes

Low libido is often a menopausal symptom, due to the changes in key hormones oestrogen and testosterone.

When a patient presents with low libido as their only or main symptom:

It is important to understand timing and severity of the lack of sex drive, and to ascertain any patterns to the symptom.

This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

KEY QUESTIONS

- ***When did you start to feel a lower sex drive?***
  Identify when the patient started to feel a reduction in libido, to identify a pattern in conjunction with their menstrual history.
- ***How frequently do you feel like this?***
  Identify the pattern of the patient's low libido.
- ***How does it make you feel?***
  Review how the symptom impacting the patient's life.
- ***Are there any key stressors going on your life – work or personal life?***
  Identify any potential sources of stress, to get a clearer picture of whether this is hormone-linked or a result of their current life circumstances.
- ***Is there anything physiological or psychological affecting your sex drive?***
  If possible, probe further to identify any other probable causes, i.e. painful sex, vaginal dryness, poor body image etc.
- ***Are you taking medication?***
  Some medication can cause low libido – e.g. antidepressants.

It is important to enquire about any other symptoms that the patient may be experiencing. Often patients won't always raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2, which covers the main physical and emotional symptoms.

Recommended tests

When a patient presents with low libido, the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

If other differential diagnosis possibilities have been ruled out, low libido will usually indicate that the patient is in perimenopause or menopause. If the patient has had an early hysterectomy this would also be consistent with menopause symptoms.

Low libido in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of low libido, it is important to take into account other symptoms such as irregular periods, anxiety, fatigue, mood swings and aches and pains.

- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

For patients aged between 48-52+ and the results demonstrate fluctuating hormone levels, or even potentially are in the normal range, then consider as a diagnosis of menopause. See 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see clinic referral directory.

References

1. Wikipedia. Libido. Available from: https://en.wikipedia.org/wiki/Libido

PRURITUS

DEFINITION[1]

Pruritus is defined as an unpleasant sensation that provokes the desire to scratch and can be caused by a variety of factors. The key to treating pruritus is to determine the cause of the itching.

Causes include dry skin, allergies, medication, asthma, and eczema, to more serious conditions such as diabetes, HIV/AID, and certain cancers, chemical or heat burns.

Symptom management for pruritus includes using creams to prevent skin from drying out; avoiding known irritants or allergens such as certain laundry products, soaps, fabrics; applying a cold compress or ice pack to the affected area to remove the urge to itch.

Certain systemic diseases have long been known to cause pruritus that ranges in intensity from a mild annoyance to an intractable, disabling condition.

Differential diagnoses[1]

- Allergy
- Eczema
- Liver disease

When a patient presents with pruritus as their only or main symptom:

It is important to understand the timing and severity of the pruritus, and to ascertain any patterns to the symptom. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

Pruritus is often a perimenopause symptom that arises as a result of significant fluctuations in ovarian hormones. It is important to exclude any other skin condition that could be causing it.

It is therefore important to ask a series of questions to understand the severity of the patient's pruritus and other variables that impact it.

KEY QUESTIONS

- ***When did the pruritus start?***
  Identify when the itching started, to help ascertain a pattern in conjunction with the patient's menstrual history.
- ***How frequent are they happening, when in the day, how often?***
  Identify the pattern of pruritus and whether this is consistent with hormone fluctuations.
- ***Is there a visible rash or skin irritation?***
  Identify if the symptom is the result of other skin-related conditions.
- ***How does it make you feel?***
  Review how it is impacting the patient's life.
- ***Are you taking medication or using any new products (washing detergent, skin products)?***
  Some medication and chemicals can cause pruritus.

It is important to enquire about any other symptoms that the patient may be experiencing. Often patients won't always raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2, which covers the main physical and emotional symptoms.

Recommended tests

When a patient presents with pruritus the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs

If other differential diagnosis possibilities have been ruled out for skin conditions, pruritus will usually indicate that the patient is in perimenopause.

Pruritus in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of pruritus, it is important to take into account other symptoms such as irregular periods, anxiety, fatigue, mood swings and aches and pains.

- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Pruritus can sometimes occur in menopausal patients. If the patient is suspected as being menopausal, refer to 'Menopause'.

Please note

If thyroid dysfunction, vitamin D and/or iron deficiency is indicated in any of the blood results, the patient will also be treated for these, in combination with any other conditions that may be diagnosed.

In the eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation, then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. eMedicine Butler DF, Pruritus and Systemic Disease, 2016. Available at: http://emedicine.medscape.com/article/1098029-overview

NIGHT SWEATS

DEFINITION[1]

Night sweats may be defined as excessive sweating that occurs at night. Night sweats are often, but not always, associated with hot flushes that women may experience during the menopausal transition.

Differential diagnoses[1]

- Idiopathic hyperhidrosis
- Infection
- Cancers
- Medications
- Hypoglycaemia
- Neurologic disease

Although night sweats are often a menopausal symptom, they can also be related to the body's internal temperature regulation.

When a patient presents with night sweats as their only or main symptom:

It is important to understand the timing and severity of the night sweats, and to ascertain any patterns to the symptom. This will enable the appropriate investigation and tests to be carried out in order to reach a diagnosis.

KEY QUESTIONS

- ***When did the night sweats start?***
  Identify when the night sweats started to help you determine any potential pattern, in conjunction with the patient's menstrual history.
- ***How frequently are they happening, when in the night, and how often?***
  Identify the pattern of night sweats; often these are linked to oestrogen spikes during menopause.

KEY QUESTIONS CONTINUED

- ***Do the night sweats accompany hot flushes?***
- Identify the characteristics of the symptom to help uncover a possible menopause diagnosis.
- ***How does it make them feel?***
  Review how the symptom is impacting the patient's life.
- ***Are you taking medication?***
  Some medication can cause night sweats.

It is important to enquire about any other symptoms that the patient may be experiencing. Often patients won't always raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2, which covers the main physical and emotional symptoms.

Recommended tests

When a patient presents with night sweats and hot flushes the following tests are to be carried out:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
- TFTs
- Pelvic ultrasound

If other differential diagnosis possibilities have been ruled out, night sweats will usually indicate that the patient is in perimenopausal or menopausal. If the patient has had a total hysterectomy this would also be consistent with menopausal symptoms.

Night sweats in patients over 35

For patients that are **approaching the age of perimenopause** (can be from 35) and complaining of night sweats, it is important to take into account other symptoms such as irregular periods, anxiety, fatigue, mood swings and aches and pains.

- If the results **don't represent a typical luteal phase profile** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If the tests come back **within normal range**, based on their symptoms, the patient may still be suspected to be entering the perimenopause phase and treated accordingly.

Infrequent/obsolete cycles

When a patient presents with irregular or no cycles, they may also complain of other symptoms such as insomnia, hot flushes, inability to conceive, premature ovarian failure could be indicated in patients younger than 45, see 'Premature Ovarian Syndrome'.

For patients aged between 48 and 52, if the results demonstrate **fluctuating hormone levels**, or even potentially **normal range**, consider menopause. See 'Menopause'.

Please note

Vitamin D and/or iron deficiency is also detected from any of the results from each any blood results the patient will also be diagnosed and treated for these in combination with other conditions that might be diagnosed.

In any eventuality that the biochemistry tests indicate suspected auto immune disorder, infection or inflammation then the patient is to be referred to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. eMedicine. Night Sweats. Available from: http://www.emedicinehealth.com/night_sweats/article_em.htm

URINARY TRACT INFECTION

DEFINITION[1,2]

Urinary tract infection (UTI) is a common infection, usually caused by bacteria, that involves the kidneys, ureters, bladder, or urethra.

UTIs are much more common in women than in men; almost half of women will experience a UTI at some point during their lifetime. Symptoms largely depend on the location of the infection:

- Infections of the lower urinary tract (i.e., involving the bladder and urethra) often cause: urgency, pain during urination, and/or cloudy, pink or red urine
- Infections of the upper urinary tract (i.e., involving the kidneys and ureters) are associated with kidney infection is associated with fever, vomiting, and flank pain

Routine treatment[2]

Antibiotics are routinely prescribed to treat UTIs. Longer course antibiotics may be offered to patients with recurrent infections. However, there is evidence that this course of action can lead to the emergence of antibiotic-resistant bacterial strains, which can result in a UTI that is more difficult to treat.

UTIs and the menopause[2]

The occurrence of UTIs is often associated with the declining oestrogen levels observed during the transition into menopause. As is the case with the vaginal wall, the urethra also undergoes changes as oestrogen levels drop. These changes in the urethra may lead to different kinds of urinary symptoms, including an increased susceptibility to urinary tract infections.

Differential diagnoses[1]

Differential diagnoses include:

- Urethritis
- Pregnancy
- Urolithiasis
- Bladder and bowel dysfunction

It is important to understand the timing and severity of UTIs to ascertain a picture that will enable the appropriate investigation and tests, and allow you to reach a diagnosis.

KEY QUESTIONS

- ***When did you first start experiencing UTIs?***
  Identifying when UTIs started occurring will help determine any associative patterns or correlations with menstrual history.
- ***How frequent are they happening?***
  Identify the frequency of UTIs to identify any links with other symptoms.
- ***How does having a UTI make you feel?***
  Review how the infections are impacting the patient's life.
- ***What are you currently using to relieve your symptoms?***
  Review what the patient is taking/and when.
- ***Are you experiencing any incontinence?***

Incontinence is a symptom of low oestrogen.

It is important to enquire about other symptoms the patient may be experiencing at the same time. Often patients won't always raise these unless questioned. Use the symptom check list from the Initial Consultation Protocol in Chapter 2 to ensure you have covered the key physical and emotional symptoms.

If a patient presents with urinary incontinence, the following tests are recommended:

- Female hormone panel (in the luteal phase if the patient still has a cycle or anytime if the patient has stopped their cycle)
- Full biochemistry
- Full blood count
    - Optional:
- TFTs
- Pelvic ultrasound

If other differential diagnoses have been ruled out, UTIs will usually indicate that the patient is in a low oestrogen state and perimenopause or menopause may be considered. If the patient has had a total hysterectomy this would also be consistent with menopausal symptoms.

For patients that are approaching the age of perimenopause (from 35+) and complaining of UTIs, it is important to take into account all other symptoms, such as: irregular periods, anxiety, fatigue, mood swings and aches and pains.

Interpreting test results

- If the blood results are **not representative of a typical luteal phase,** then perimenopause can be considered as a diagnosis, see 'Perimenopause'.
- If test results come back **within normal range**, it may still be appropriate to suspect that the patient is entering the perimenopause based on their symptoms, and thus they may be treated accordingly.
- When a patient's results indicate an **infrequent or even obsolete cycle**, they may also complain of other symptoms such as insomnia, hot flushes and an inability to conceive. In such cases, premature ovarian failure may be suspected, see 'Premature Ovarian Failure'.
- If the patient is in the menopausal age (48-52) and results are **inconclusive** (fluctuations or normal) then the diagnosis should be considered on symptoms that the patient is experiencing

Please note

If vitamin D and/or iron deficiency is also identified when the blood results are interpreted, the patient will be diagnosed and treated accordingly, alongside any other conditions that may have been detected.

In the eventuality that the biochemistry tests indicate a suspected autoimmune disorder, infection or inflammation, the patient should be referred on to an appropriate specialist for further investigation – see 'clinic referral directory'.

References

1. eMedicine. Cystitis in Females. August 2016. Available at: http://emedicine.medscape.com/article/233101-overview

2. Life Extension Online. Health Protocols: Urinary Tract Infections (UTIs). Available at: http://www.lifeextension.com/protocols/kidney-urinary/urinary-tract-infection/page-01

CHAPTER 4: TREATMENT GUIDELINES

1. Premenstrual syndrome (PMS)
2. Premenstrual dysphoric disorder (PMDD)
3. Postnatal depression (PND)
4. Polycystic ovaries/polycystic ovary syndrome (PCO/PCOS)
5. Acne
6. Endometriosis
7. Secondary amenorrhoea
8. Migraine and menstrual headaches
9. Perimenopause
10. Menopause
11. Fibroids
12. Dysfunctional uterine bleeding
13. Premature ovarian failure
14. Osteoporosis
15. Under functioning thyroid
16. Conversion from HRT to BHRT
17. Vitamin D deficiency
18. Iron deficiency
19. Contraindications to BHRT
20. Symptom Management Chart

Main Marion Gluck method diagnosis explanation protocol:

PREMENSTRUAL SYNDROME

DEFINITION[1-4]

Premenstrual syndrome, or PMS, is characterised by a range of physical, behavioural and psychological symptoms experienced by menstruating women at certain times during their menstrual cycle. It's also known as premenstrual tension (PMT).

The specific emotional and physical symptoms of premenstrual syndrome vary from woman to woman and can be distressing for some. The pattern of symptom occurrence is fairly predictable – usually during the luteal phase of the cycle (around 7- 10 days before period starts) of each patient. This is due to hormonal and chemical changes that occur in a woman's body at this time. Reduced progesterone levels are thought to play a role in the presence of premenstrual syndrome symptoms.

Premenstrual syndrome symptoms normally diminish when the period starts and hormone levels return to normal. In most cases, symptoms will have completely disappeared a few days after the period begins.

Nearly all women of childbearing age have some premenstrual symptoms, but they can differ greatly in intensity from woman to woman.

PMS symptoms[3,4]

There are many different symptoms of premenstrual syndrome, here are a few examples:

- bloating
- breast pain
- mood swings
- feeling irritable
- lowered libido
- fatigue
- food cravings

Severe PMS[3]

Approximately 1 in 20 women have symptoms severe enough to affect their normal everyday activities. This may indicate a more intense type of premenstrual syndrome, known as Premenstrual Dysphoric Disorder (PMDD).

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio-identical hormone replacement therapy (BHRT). If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it after 5 years or revert to the copper coil. If the patient is receiving the contraceptive injection or implant, they can still be treated, but advise that when the implant or injection is due to be updated, it is important to revert to oral contraception or the copper coil. The ideal situation is to stop contraception if it is not needed.
- Blood tests: GLU8 (to be taken in the second half of cycle between day 16 and day 24; day 21 is optimal)

Cyclical symptoms and the below blood profile would support a diagnosis of PMS, if the patient is not on any hormone therapy (i.e. hormone-based contraception):

- FSH – elevated or normal
- Oestradiol – elevated or normal
- Progesterone – low

A ratio of 1:10 progesterone to oestrogen is a helpful guideline to work from.

Guidelines for explaining the diagnosis to the patient

1. Explain to the patient that their symptoms are explicable as a result of them producing insufficient amounts of progesterone
2. Reiterate that it is the hormones that are in control of the symptoms, not the patient
3. Reassure the patient that their PMS symptoms are easy to treat
4. Use the menstrual cycle chart to explain the function of the hormones and their fluctuations
5. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Mild	**Progesterone 25mg days 21-28 BD**
Mild – Moderate	**Progesterone 25mg days 14-28 BD**
Moderate – Severe	**Progesterone** **Day 1-14 25mg nocte** **Day 15-28 25mg BD**

Vitamins and Supplements

MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C. Magnesium has been shown to relax muscles and relieve cramping. Combining magnesium with B vitamins is particularly effective for female hormonal health.

Magnesium is required as a cofactor in hundreds of enzymatic processes and is involved in relaxing the smooth muscles within the blood vessels, thereby promoting a health cardiovascular system. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis.

Eskimo-3 extra strength

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood. Omega- 3 fatty acids have been shown to have anti-inflammatory properties and to help support female hormonal health. Many symptoms of PMS can be linked to the inflammatory effects of oestrogen.

Star flower (borage oil and vitamin E)

Borage, or star flower oil, is extracted from the blue star-shaped borage flower. The active component of borage oil is an essential fatty acid, gamma linolenic acid (GLA). Borage oil is now thought to be a superior source of GLA and contains 22% of the fatty acids, far higher than the amount found in evening primrose oil. Omega- fatty acids in the form of GLA has been used successfully for PMS and have anti-inflammatory properties.

5-HTP

Ideal for all symptoms related to serotonin deficiency such as mild to medium depression, eating disorders and other mood swings and chronic pain. 5-HTP has been shown to be helpful for premenstrual insomnia, depression and anxiety.

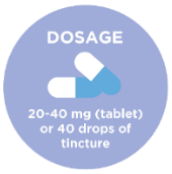
S-Adenosylmethionine (SAM-e)

Methionine is a major methyl donor in the synthesis of hormones, nucleic acids, proteins and phospholipids. SAMe is also required for the synthesis of norepinephrine, dopamine and serotonin.[5]

SAMe facilitates glutathione usage and maintains acetylcholine levels, which helps to enhance or maintain cognitive function.

+ Vitex Agnus castus

Viteex Agnus castus is a herb which has been shown in trials to reduce irritability, anger, headaches, breast fullness, aches and pains, depression, fatigue and lower abdominal cramping (Schellenberg 2012). A trial of vitex extract for PMS found a significant benefit, with nearly 70% of participants reporting complete reolution of their PMS symptoms by the end of the trial.The authors called it “one of the most effective therapeutic options for PMS.” [6]



+ St John’s Wort (Hypericum)

St John’s Wort is used as a natural anti-depressant and mood enhancer, but unlike many prescription antidepressants, is not addictive.

A randomized controlled trial in women with mild PMS used 900 mg per day of a St. John’s wort extract, or placebo, for two menstrual cycles. St. John’s wort significantly improved a range of physical and behavioural PMS symptoms such as food cravings, swelling, poor coordination, insomnia, confusion, headaches, crying, and fatigue compared with placebo. St. John’s wort also appeared to improve pain and mood symptoms towards the end of the trial. [8]

Contradictions: St John’s wort increases phase 1 liver detoxification by significantly increasing cytochrome P-450, so care must be taken prescribing to patients taking the OCP, antidepressants etc.

Estrolibium

Estrolibiumm features a combination of targeted nutrients that help support healthy oestrogen metabolism and balance in women of all ages. It incorporates well-researched ingredients including calcium-d-glucarate, broccoli extract and flaxseed along with vitamins and minerals to support optimal hormone balance.

High levels of oestrogen are pro-inflammatory. By encouraging clearance of oestrogen, you can help reduce symptoms of PMS. Phytonutrients such as turmeric are known to have anti-inflammatory properties. Nutrients such as flaxseed meal, NAC and DIM help to support healthy oestrogen metabolism.

Vitamin D3 Drops with K2

Vitamin D contributes to numerous biological functions in the body, including hormone production, maintenance of normal bones and utilisation of calcium and phosphorus. Women with a lower dietary intake and blood levels of vitamin D may have an increased risk of PMS. [7]

Nutrition and Lifestyle

- **Maintain optimal micronutrient status:** take a one-a-day multi-vitamin to restore or maintain micronutrient levels in the body.
- **Hormone balancing foods:** include lots of cruciferous vegetables and lots of fibre. Ensure meat is organic, avoid saturated fats and increase essential fats. Avoid caffeine, sugar and chocolate as these can worsen inflammation.
- **Physical activity:** has been shown to increase oestrogen clearance in the body and decrease symptoms of PMS over time.
- **Probiotics:** Using a daily probiotic is a great way to maintain a healthy digestive tract and gut health.
- Manage stress through yoga/ massage/ relaxation techniques.

ON-GOING MANAGEMENT

After 2 months

Review patient after the first two cycles (as per the patient pathway), to see if there has been any improvement of symptoms. Often patients don't perceive any improvement until you review their initial symptoms. Review all of the symptoms the patient came with and identify any changes.

Continuing treatment

Continue treatment indefinitely. Patients may come off medication independently, however often report recurrence of original symptoms.

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, sometimes making periods more frequent, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to 'Symptom Management Chart'.

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PREMENSTRUAL DYSPHORIC DISORDER (PMDD)

DEFINITION[1-4]

It has been estimated that as many as three-quarters of menstruating women have some signs of premenstrual syndrome (PMS). But women suffering from premenstrual dysphoric disorder (PMDD) experience symptoms that are much more severe than those diagnosed with PMS. Premenstrual dysphoric disorder causes debilitating emotional and physical symptoms that often interfere with the patient's daily lives, including work, school, social life, and relationships.

Causes

Various biological and psychosocial factors are thought to play a role in the development of premenstrual dysphoric disorder. (PPMD) Although the exact cause of premenstrual dysphoric disorder remains unknown, researchers suspect it is the result of abnormal reaction to hormonal changes that occur during the menstrual cycle.

PMDD symptoms

The symptoms of premenstrual dysphoric disorder usually occur a few days prior to the patient's period. They often last until a few days after the period has started.

Symptoms include:

- Mood swings
- Depression or feelings of hopelessness
- Intense anger and conflict with other people
- Tension, anxiety, and irritability
- Decreased interest in usual activities
- Difficulty concentrating
- Fatigue
- Change in appetite
- Feeling out of control
- Sleep problems
- Cramps and bloating
- Breast tenderness
- Headaches
- Joint or muscle pain
- Hot flushes

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Blood tests: GLU8 (to be taken in the second half of the cycle between day 16 and day 24; day 21 is optimal)

Evaluate whether the patient is taking any contraceptive, if the is patient is on an oral contraceptive and doesn't want to stop it, you can still treat with BHRT. If the patient tolerates the Mirena coil, you can still treat them as normal, however advise the patient not to replace it after 5 years or revert to the copper coil. If the patient is receiving the contraceptive injection or implant, they can still be treated, but advise that when the implant or injection is due to be updated, it is important to revert

to oral contraception or the copper coil. The ideal situation would be to stop contraception completely (if it is not needed).

Cyclical symptoms and the below blood profile support a PMDD diagnosis, if the patient is not on any hormone therapy (i.e. contraceptive):

- FSH (elevated or normal)
- Oestradiol (elevated or normal)
- Progesterone (low)

A 10:1 oestrogen to progesterone is a helpful guideline to work to.

Guidelines for explaining the diagnosis to the patient

1. Explain to the patient that their symptoms are explicable as a result of them producing insufficient amounts of progesterone
2. Reiterate that it is the hormones that are in control of the symptoms, not the patient
3. Reassure the patient that their PMS symptoms are easy to treat
4. Use the menstrual cycle chart to explain the function of the hormones and their fluctuations
5. Encourage patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Moderate – Severe (PMS)	**Progesterone: 25mg days 1-14 nocte** **50mg BD days 15-28**

Vitamins and Supplements

5-HTP

5-HTP is a direct precursor of serotonin, a neurotransmitter in your brain associated with positive mood and restful sleep. It is also important for the production of melatonin.

Ideal for all symptoms related to serotonin deficiency such as mild to medium depression, eating disorders and other mood swings and chronic pain. 5-HTP has been shown to be helpful for premenstrual insomnia, depression and anxiety.

B-plex

B-Plex contains the most important B vitamins in an optimal combination (together with vitamin C and MSM). The various B vitamins are important for a number of essential functions of the body such as metabolism and cell renewal. The vitamin B complex is considered to be the energy provider for body and mind.

Vitamin B6 has been shown to improve symptoms of bloating, headache, breast pain, depression, and irritability.[2] A large 10-year study found that women with the highest dietary intake of vitamins B1 (thiamin) and B2 (riboflavin) had a lower incidence of PMS.[3]

+ St John's Wort (Hypericum perforatum)

St John's Wort is used as a natural anti-depressant and mood enhancer, but unlike many prescription antidepressants is not addictive. St John's Wort is used as a natural anti-depressant and mood enhancer, but unlike many prescription antidepressants, is not addictive.

A randomized controlled trial in women with mild PMS used 900 mg per day of a St. John's wort extract, or placebo, for two menstrual cycles. St. John's wort significantly improved a range of physical and behavioral PMS symptoms such as food cravings, swelling, poor coordination, insomnia, confusion, headaches, crying, and fatigue compared with placebo. St. John's wort also appeared to improve pain and mood symptoms towards the end of the trial. [3]

Contradictions: St John's wort increases phase 1 liver detoxification by significantly increasing cytochrome P-450, so care must be taken prescribing to patients taking the OCP, antidepressants etc.

Star Flower Oil

Star flower - Borage, or star flower oil, is extracted from the blue star-shaped borage flower. The active component of borage oil is an essential fatty acid, gamma linolenic acid (GLA). Borage oil is now thought to be a superior source of GLA and contains 22% of the fatty acids, far higher than the amount found in evening primrose oil. Omega- fatty acids in the form of GLA has been used successfully for PMS and have anti-inflammatory properties.

Eskimo 3 Extra

Omega- 3 fatty acids have been shown to have anti-inflammatory properties and to help support female hormonal health. Many symptoms of PMS can be linked to the inflammatory effects of oestrogen.

MegaMag Fem Balance

MegaMag Fem Balance is a high strength magwith B vitamins, vitamin E and vitamin C. Magnesium has been shown to relax muscles and relieve cramping. Combining magnesium with B vitamins is particularly effective for female hormonal health.

Magnesium is required as a cofactor in hundreds of enzymatic processes and is involved in relaxing the smooth muscles within the blood vessels, thereby promoting a healthy cardiovascular system. Some studies have found that women with PMS have lower blood levels of magnesium than women without PMS.[4] Several successful trials have used magnesium to treat symptoms of PMS.

Nutrition and Lifestyle

- **Maintain optimal micronutrient status:** take a one-a-day multi-vitamin to restore or maintain micronutrient levels in the body.
- **Hormone balancing foods:** include lots of cruciferous vegetables and lots of fibre. Ensure meat is organic, avoid saturated fats and increase essential fats. Avoid caffeine, sugar and chocolate as these can worsen inflammation.
- **Physical activity:** has been shown to increase oestrogen clearance in the body and decrease symptoms of PMS over time.
- **Probiotics:** Using a daily probiotic is a great way to maintain a healthy digestive tract and gut health.
- Manage stress through yoga/ massage/ relaxation techniques.

ON-GOING MANAGEMENT

After 2 months

Review patient after the first two cycles (as per the patient pathway), to see if there has been any improvement of symptoms. Often patients don't perceive any improvement until you review their initial symptoms. Review all of the symptoms the patient came with and identify any changes.

Every 3 months

Patients with PMDD should be reviewed at least every 3 months, and should only discontinue medication after being symptom-free for at least 2 months. Consider referral for psychological support if symptoms have not significantly improved, and/or if the symptoms are still impacting the patient's professional and personal life.

Continuing treatment

Continue treatment indefinitely. Patients may come off medication independently, however often report recurrence of original symptoms.

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, possibly making periods more frequent, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to 'Symptom Management Chart'.

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POSTNATAL DEPRESSION (PND)

DEFINITION[1-2]

It is estimated that around 10–15% of new mothers develop postnatal depression (PND). This form of depression typically develops within six weeks of giving birth although it can also be several months after having a baby before symptoms appear. In some cases PNS onset is very rapid, whereas other women report a gradual onset of symptoms. Severity ranges from relatively mild to very severe.

Postnatal depression can seem very isolating, but can affect a new mum regardless of her family or personal circumstances. There is no single answer as to why some new mums are affected by postnatal depression and not others.

Possible symptoms of PND

- Feeling very low, or despondent,
- Feeling tired and lethargic, or even numb.
- Not wanting to do anything or take an interest in the outside world.
- Feeling a sense of inadequacy or unable to cope.
- Feeling guilty
- Being unusually irritable
- Wanting to cry/crying a lot or even constantly
- Obsessive and irrational thoughts
- Loss of appetite or comfort eating.
- Difficulty sleeping, e.g. not getting to sleep, waking early, or having vivid nightmares
- Difficulty in concentrating or making decisions
- Headaches
- Suicidal thoughts

BHRT Consultation Protocol

- Medical and obstetric history
- Menstrual history (especially timing and pattern of symptoms if periods have returned)
- Blood tests: GLU8 (to be taken in second half of cycle between day 16 and day 24; day 21 is optimal)

Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio-identical hormone replacement therapy (BHRT). If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it after 5 years or revert to the copper coil. If the patient is receiving the contraceptive injection or implant, they can still be treated, but advise that when the implant or injection is due to be updated, it is important to revert to oral contraception or the copper coil.

The below blood profile would support a diagnosis of postnatal depression, if the patient is not on any hormone therapy (i.e. hormone-based contraception):

- FSH – low or normal
- Oestradiol – low or normal
- Progesterone – low

Guidelines for explaining the diagnosis to the patient

1. If the patient has already been on antidepressants and/or had psychiatric help, explain how hormones contribute to their condition
2. If the patient hasn't received any previous help, explain that their symptoms are understandable as they're not producing sufficient amounts of progesterone.
3. Reiterate that it is the hormones that are in control of the symptoms, not the patient
4. Reassure the patient that their symptoms are easy to treat and that postnatal depression is not necessarily a diagnosis for life
5. Use the menstrual cycle chart to explain the function of the hormones and their fluctuations
6. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Mild	**Progesterone 50mg days 14-28 BD**
Mild – Moderate	**Progesterone 25mg days 1-14 BD** **Progesterone 50mg days 15-28 BD**
Moderate – Severe	**Progesterone 50mg days 1-28 BD (no break)**

Vitamins and Supplements

5-HTP

5-HTP is a direct precursor of serotonin, a neurotransmitter in your brain associated with **positive mood** and **restful sleep**. It is also important for the production of melatonin. 5-HTP has been shown to be helpful for premenstrual insomnia, depression and anxiety.

B-plex

B-Plex contains the most important B vitamins in an optimal combination (together with vitamin C and MSM). The various B vitamins are important for a number of essential functions of the body such as metabolism and cell renewal. The vitamin B complex is considered to be the energy provider for body and mind.

S-Adenosylmethionine (SAM-e)

Methionine is a major methyl donor in the synthesis of hormones, nucleic acids, proteins and phospholipids. SAMe is also required for the synthesis of norepinephrine, dopamine and serotonin.[3]

Research shows SAMe can benefit depressed patients who do not respond to SSRIs.[4]

+ St John's Wort (Hypericum)

St John's Wort is used as a natural anti-depressant and mood enhancer, but unlike many prescription antidepressants is not addictive.

CONTRAINDICATIONS: St John's wort increases phase 1 liver detoxification by significantly increasing cytochrome P-450, so care must be taken prescribing to patients taking the OCP, antidepressants etc.

+ Eskimo-3 Extra

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood.

Omega-3 fatty acids, specifically EPA, supports the health of the nervous system and have been shown to decrease susceptibility to depression.

Star flower

Borage, or star flower oil, is extracted from the blue star-shaped borage flower. The active component of borage oil is an essential fatty acid, gamma linolenic acid (GLA). Borage oil is now thought to be a superior source of GLA and contains 22% of the fatty acids, far higher than the amount found in evening primrose oil.

MegaMag Fem Balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C.

Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis. Combining magnesium with B vitamins is particularly effective for female hormonal health.

Nutrition and Lifestyle

- Increase omega-3's and folate in the diet as both appear to be very important in mood management. [5]
- Limit sugar and refined carbohydrate intake to reduce blood sugar levels
- Eat small meals 4-6 times per day, eating a balance of healthy proteins, fats and complex carbohydrates, whiles reducing caffeine intake.
- Follow a Mediterranean diet rich is omega 3 fatty acids and phenolic compounds to help manage depression.

ON-GOING MANAGEMENT

After 2 months

Review patient after two months to see if there has been any improvement of symptoms and lifestyle. If a patient with postnatal depression visits the clinic shortly after birth (when symptoms occur) treatment maybe only required for 6-9 months, until they achieve a regular cycle.

For patients with longer-term postnatal depression

If a patient visits more than a year after initially presenting with depression, or if they have previously tried antidepressant medication, progesterone treatment maybe continuous- either until the patient's next pregnancy, or until all symptoms of depression have subsided (which can take up to two years).

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, making periods more frequent, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to 'Symptom Management Chart'.

If patient is on antidepressant medication, progesterone therapy can still be given simultaneously. If the patient wishes to stop their antidepressant medication, this must be done under the supervision of the doctor who prescribed the medication.

If the patient becomes pregnant whilst taking progesterone they can continue taking it up until the end of the first trimester. Always consider recommending psychological support if deemed appropriate.

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POLYCYSTIC OVARIES/POLYCYSTIC OVARY SYNDROME (PCO/PCOS)

DEFINITION[1-4]

Polycystic ovary syndrome (PCOS) is an endocrine system disorder observed in women of reproductive age. It is a set of symptoms caused by a hormone imbalance in women. These symptoms are often accompanied by the physical finding of enlarged ovaries containing multiple fluid-filled follicles, or cysts. Ovarian cysts can be visualised during an ultrasound exam.

Progesterone deficiency and anovulatory cycles are a feature of polycystic ovary syndrome, as is an excess of androgens and oestrogens. Polycystic ovary syndrome is the most common endocrine disorder in women age 18-44.

Polycystic ovaries (PCO) is the diagnosis given to women with cysts on their ovaries, who do not have the syndrome as detailed below. It is often diagnosed in younger women who may have irregular periods and mild acne as their main or only symptoms.

Polycystic Ovary Syndrome Symptoms[1-3]

- Excess body and facial hair
- Acne
- Central obesity
- Heavy or periods (due to endometrial hyperplasia)
- Prolonged, irregular or no periods
- Infertility
- Pelvic pain
- Androgenic alopecia
- Thinning hair

Causes & Complications

The exact cause of polycystic ovary syndrome is unknown. PCOS is diagnosed when the patient has high androgen levels, irregular ovulation and ovarian cysts.

Polycystic Ovary Syndrome and Obesity

Adipose tissue contains the enzyme aromatase, which converts androstenedione to estrone and testosterone to oestradiol. In obese women with polycystic ovary syndrome the excess adipose tissue creates the paradox of having excess androgens causing hirsutism and virilisation and oestrogens, which inhibit FSH via negative feedback. Many patients with polycystic ovary syndrome have endometrial hyperplasia.

Complications

PCOS is associated with Type 2 diabetes, obesity, obstructive sleep apnoea, mood swings and endometrial cancer.

Early diagnosis and treatment along with weight loss may reduce the risk of long-term complications, such as type 2 diabetes and heart disease.

BHRT Consultation Protocol

- Medical history
- Family history (as PCOS can be genetic)
- Menstrual history (oligomenorrhea and anovulatory cycles)
- Pelvic ultrasound (both PCO and PCOS patients)
- Blood tests for suspected PCOS: (Prolactin, hormone panel, androstenedione, AMH, TFT, metabolic panel).
- Blood tests for suspected PCO: normal hormone profile and vitamin D (to be taken in second half of cycle between day 16 and day 24, day 21 being optimal if irregular cycle blood test can be taken anytime)

Evaluate whether the patient is taking any contraceptive, if the patient is on oral contraceptive, and doesn't want to stop it, it is still possible to treat with BHRT. If the patient tolerates the Mirena coil you can still treat as normal, however advise the patient not to replace it.

Test results that support PCOS/PCO examination diagnosis for patients who are not on any other hormone therapy:

- Pelvic ultrasound indicates or confirms PCOS
- FSH –normal or low
- LH – high (LH to FSH ratio 2:1 or 3:1)
- Oestradiol – normal or high
- Testosterone/Free Testosterone - normal or high
- Progesterone – Low
- Prolactin – Normal or mildly high
- DHEAs – normal to high
- SHBG – low
- Androstenedione – high
- AMH – high

Guidelines for explaining the diagnosis to the patient

Polycystic Ovary Syndrome

1. Explain the physiology of the condition and what is happening within the patient's body.
2. Bear in mind that the patient may have many concerns around the impact on their fertility etc, which they will want to address early on.
3. Explain that with PCOS, nutrition and lifestyle play a very key role in treatment.
4. Reassure that PCOS is not necessarily a diagnosis for life and can be very successfully treated.
5. Encourage the patient to feel confident in the treatment plan and invite them to ask any questions they have or express any concerns.

Polycystic Ovaries

1. Explain that they are experiencing cycles in which they are not ovulating regularly and that this is not uncommon in patients.
2. Reassure that the condition can be managed with progesterone support.
3. Encourage the patient to feel confident in the treatment plan and ask any questions and to express any concerns.

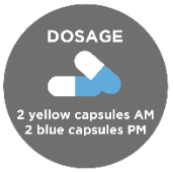
Treatment Guideline

Symptoms	Prescription (RX)
Mild (PCO only)	Progesterone 50mg days 14-28 BD
Mild – Moderate (PCOS onwards)	Progesterone 25mg days 1-14 BD Progesterone 50mg days 15-28 BD
Moderate – Severe	Progesterone 50mg days 1-28 BD (no break)

Vitamins and Supplements

Diabetichron (insulin resistance)

Diabetichron regulates glucose metabolism and improves insulin sensitivity. The composition of various extracts, vitamins and minerals allows largely physiological regulation of glucose metabolism. Ingredients include: banaba extract, vanadium sulphate, L-carnitine, alpha lipoic acid, bilberry extract, vitamins C, E and biotin, magnesium, coral calcium, and fenugreek.[5]



Starflower

Borage, or star flower oil, is extracted from the blue star-shaped borage flower. The active component of borage oil is an essential fatty acid, gamma linolenic acid (GLA). Borage oil is now thought to be a superior source of GLA and contains 22% of the fatty acids, far higher than the amount found in evening primrose oil.

Omega- fatty acids in the form of GLA has been used successfully for PCOS and has anti-inflammatory properties,

Eskimo-3 Extra

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for your skin, joints and mood. Omega- 3 fatty acids have been shown to have anti-inflammatory properties and to help support female hormonal health, while reducing pelvic pain and inflammation. Eskimo-3 will help to shift the balance of eicosanoid synthesis away from pro-inflammatory mediators towards anti-inflammatory mediators.

DIM

Diindolylmethane (DIM) is a metabolite of indole-3-carbinol, the phytonutrient found in cruciferous vegetables, and has been shown to support healthy hormone balance in both men and women by supporting oestrogen balance and metabolic clearing.

N-acetyl cysteine (NAC)

N-acetyl-cysteine (NAC) is a stable derivative of the sulphur-containing amino acid cysteine and an antioxidant that is needed for the production of glutathione, one of the body's most important natural antioxidants and detoxifiers. A large body of evidence supports the use of NAC in women with PCOS, showing improvement with insulin sensitivity, restoring fertility and lowering raised homocysteine levels.[6]

+LIpoic acid

Published studies have shown the importance of lipoic acid in preserving youthful cellular energy by supporting healthy mitochondrial function. It is critical for maintaining optimal blood sugar levels and supporting insulin sensitivity, as well as key aspects of cardiovascular health. Lipoic acid has been shown to reduce blood pressure and insulin resistance, improve lipid profiles and reduce weight.

Vitamin D+K2

Vitamin K maintains bone density by facilitating calcium transport into bone and promotes a healthy heart and vascular system. Researchers have found that women with higher blood levels of vitamin D were much less likely to be insulin resistant. A further study found that vitamin D combined with calcium supplementation helps normalise menstrual cycles in women with polycystic ovary syndrome.

+Saw Palmetto

The saw palmetto berry (Serenoa repens) is rich in bioactive, high-molecular weight compounds including beta-sitosterol and inhibits the activity of an enzyme, 5-alpha reductase, thereby reducing the conversion of testosterone to dihydrotestosterone,

the more androgenic form of male hormone. This may have implications for reducing acne, excess facial and body hair, as well as male pattern hair loss. Oral administered saw palmetto has been studied as part of a formula that slowed hair loss and improved hair density in patients with testosterone related hair loss. [7]

Green tea (epigallocatechin gallate, EGCG)

Green tea extract provides powerful antioxidant effects throughout the body. Green tea contains health-promoting polyphenols including epigallocatechin-3-gallate (EGCG), a powerful antioxidant which may have the following benefits:

- Supports cell membrane integrity
- Enhances immune function
- Supports healthy cholesterol levels already within normal range and lipid profiles
- Supports healthy cell growth
- Possibly promotes weight loss
- Positive effects on glucose metabolism
- Lowers TNF-alpha which is involved in systemic inflammation
- Lowers Hba1C level in individuals with borderline diabetes
- Increases metabolism of fat by up to 40% when taken before each meal[8]

Nutrition and Lifestyle

- Reduce dietary carbohydrates and saturated fat and increase monounsaturated fats and fibre from low-glycaemic index foods
- Daily physical activity and regular exercise to improve insulin sensitivity

ON-GOING MANAGEMENT

After 2 months

Review patient to assess symptoms and tolerance to medication. Review all of the symptoms the patient came with and review whether there has been any change.

After 3 months

Monitor treatment; if there is no perceived improvement, you can consider adding oestradiol (0.25 -0.5mg daily) into the treatment plan.

Every 6 months

- Monitor with pelvic ultrasound. Refer to a nutritionist and/or lifestyle counsellor.
- In polycystic ovary syndrome patients monitor thyroid function also every six months along with all other blood tests.
- Polycystic ovaries patients to have pelvic ultrasound and blood tests carried out every six months to monitor progress of treatment.

Continuing treatment

Continue treatment indefinitely until the patient wants to get pregnant.

Side Effects/Concerns

It is possible that progesterone can have an impact on the menstrual cycle as periods can become irregular, however, this is of no significant concern. For any other possible side effects of progesterone or oestrogen please refer to the Symptoms Management Chart.

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ACNE

DEFINITION[1-3]

Acne is a skin condition whereby hair follicles and oil glands become infected and inflamed, creating pustules on the surface of the skin. Acne presents as yellow pus-filled spots, red spots, blackheads, or scars.

The most commonly affected areas of the body are the face, neck, chest, and back. The condition normally occurs during puberty and can peak in late teens. In some cases, acne can return, or even occur for the first time, during adulthood.

Acne can be exacerbated by a diet high in fat, oily creams or makeup, menstrual cycles, picking or squeezing spots, and some medications. Many cases of inflammatory acne are hormonal in nature – that is, they are aggravated by hormonal fluctuations like those that occur during the menstrual cycle.

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Blood tests: GLU8 (to be taken in second half of cycle between day 16 and day 24; day 21 is optimal)
- Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio-identical hormone replacement therapy (BHRT). If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it after 5 years or revert to the copper coil. If the patient is receiving the contraceptive injection or implant, they can still be treated, but advise that when the implant or injection is due to be updated, it is important to revert to oral contraception or the copper coil.

Cyclical symptoms and the below blood profile would support a diagnosis of acne, if the patient is not on any hormone therapy (i.e. hormone-based contraception):

- Low FSH
- Normal oestrogen
- Low progesterone
- Normal testosterone [if Testosterone is above 3 nmol/L this could demonstrate other underlying condition such as polycystic ovary syndrome (PCOS) – see PCOS treatment guidelines

Guidelines for explaining the diagnosis to the patient

1. Explain to the patient that hormones are playing a role in their acne, and hormone supplementation or balancing could have a very positive impact
2. Encourage the patient to feel confident in the treatment plan and ask any questions or express any concerns

Treatment Guideline

Prescription (RX)

Progesterone 25mg BD (for 3 months and then review)

Vitamins and Supplements

Akne-plex

Akne-plex contains a well-balanced combination of nutrients, vitamins, enzymes and trace elements. Its effects are immune modulating and anti-inflammatory; they regulate the cell-proliferation of the skin epithelium. This supplement supports the treatment of common acne and related inflammations of the sebaceous glands whilst purifying the skin, improving the complexion and firming the skin.

Eskimo-3

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood. Omega-3's improve epithelial integrity and reduce inflammation by modulating the production of inflammatory compounds. They are also involved in maintaining strong, supple skin.

Zinc

Zinc is an essential mineral needed for many bodily functions including promotion of healthy immunity and helping with inflammation. It has several properties which could potentially relieve acne, such as exerting an anti-inflammatory and antioxidant actions, antibacterial effects modulating the immune system and reducing the production of sebum. This key mineral stimulates enzymatic activity and is an integral component of vital hormones.

Zinc also supports protein and DNA synthesis; insulin production; and thyroid and bone metabolism. People with acne vulgaris tend to have lower serum zinc levels on average compared to control subjects.[4]

Selenium

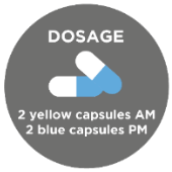
Selenium is a vital trace element that contributes to: the protection of cells from oxidative stress; the normal function of the immune system; the maintenance of normal hair and nails; and normal thyroid function.

Probiotic Plus

Probiotics reduce systemic markers of inflammation and oxidative stress, as well as the ability to regulate the release of inflammatory cytokines within the skin and in particular reducing interleukin-1 alpha, a protein linked to acne when found in abnormal amounts. Probiotics enhance digestion which may be a problem for many people who suffer with skin conditions.

Diabetichron

Diabetichron regulates glucose metabolism. The composition of various extracts, vitamins and minerals allows largely physiological regulation of glucose metabolism. Ingredients include: banaba extract, vanadium sulphate, L-carnitine, alpha lipoic acid, bilberry extract, vitamins C, E and biotin, magnesium, coral calcium, and fenugreek. Impaired glucose tolerance can contribute to the incidence of acne rosacea.



Berberis vulgaris (Barberry extract)

Barberry has anti-inflammatory and antibacterial properties and can reduce sebum production. It is known to promote stomach acid secretion which is very often low in patients with acne rosacea.

+Echinacea

Echinacea is a wide-spectrum immunomodulator that stimulates the health of the immune system.

Vitamin A, C, E as antioxidants

Vitamins A, C and E function as anti-oxidants and as such contribute to the protection of DNA, proteins and lipids from oxidative damage. They are involved in reducing inflammation and maintaining normal skin function. Low blood serum levels of vitamins A and E are frequently found in acne patients compared with acne-free controls.

Nutri Advanced UltraClear Plus pH

An alkalising metabolic food with N-acetyl-L-cysteine (NAC), glutathione and green tea which helps support healthy liver clearance, provides protection from the effects of reactive oxygen species and assists with the excretion of toxins through the kidneys.

Nutrition and Lifestyle

- Reduce alcohol, dairy and sugar
- Increase consumption of omega-3 fatty acids. Studies show that people who habitually consume a diet mainly consisting of oily fish have a lower overall incidence of acne.
- Follow a low GI diet. The high glycaemic index of refined foods has been reported to increase acne breakouts and symptoms.
- Follow a diet high in soluble fibre, antioxidants, phytonutrients and EFAs while reducing refined carbohydrates, processed foods, dairy and trans fatty acids.
- Include ginger, rosemary and turmeric in the daily diet to calm inflammation.
- Identify and remove any dietary triggers. Acne rosacea flare ups can often be linked to food sensitivities.

ON-GOING MANAGEMENT

After 3 months

Review progress after 3 months. If the patient has shown progress, then continue treatment for at least 12 months. Refer to a dermatologist if no progress has been made.

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, making periods more frequent, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to ‘Symptom Management Chart’.

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ENDOMETRIOSIS

DEFINITION[1-3]

Endometriosis is the growth of endometrial cells (endometrium) outside of the uterus. Endometriosis can cause infertility and ovarian cancer. The exact cause of endometriosis is unknown, but several factors may increase the risk of developing endometriosis, these include: never giving birth, starting periods at an early age, premature menopause, low body mass index, and alcohol consumption.

Symptoms[3]

- Painful periods
- Pain during sex
- Painful bowel movements and urination
- Heavy periods
- Fatigue
- Diarrhoea
- Bloating

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Blood tests: GLU8 (to be taken in second half of cycle between day 16 and day 24; day 21 is optimal)
- Pelvic ultrasound
- Review past laparoscopy reports
- Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio-identical hormone replacement therapy (BHRT). If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it after 5 years or revert to the copper coil. If the patient is receiving the contraceptive injection or implant, they can still be treated, but advise that when the implant or injection is due to be updated, it is important to revert to oral contraception or the copper coil.

The ratio of 10:1 oestrogen to progesterone is a helpful guideline to work from.

The following results would support a diagnosis of suspected endometriosis:

- A laparoscopy indicating or confirming endometrioses (if symptoms are severe)
- Pelvic ultrasound results that exclude any other causes of the pelvic pain - i.e. ovarian cysts
- FSH – normal
- LH – normal
- Oestradiol – normal or high
- Testosterone / free testosterone – normal / normal
- Progesterone – normal to low
- DHEAs – normal

Guidelines for explaining the diagnosis to the patient

1. Explain what endometriosis is from a hormonal perspective (however, bear in mind that in most cases patients are very well educated on this as they usually visit the Clinic having already had this diagnosis confirmed)
2. Explain how endometriosis can be oestrogen driven, and how progesterone supplementation can be very helpful in balancing hormones and treating the symptoms
3. Reassure the patient that it's not necessarily a diagnosis for life, and that treatment can be successful
4. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Mild (or suspected endometriosis) (pain mid-cycle and painful periods	**Progesterone 25mg days 14-28 BD**
Mild to moderate Painful ovulation, spotting at ovulation, painful periods and defecation.	**Progesterone 25 mg days 1-14** once a day Progesterone 25 -50 mg days 15-28 BD
Moderate to severe Severe pain, spotting during ovulation, rectal bleeding, severe pain on defecation and debilitating pain during periods that impacts daily life	**Progesterone 50mg on days 1-28 BD** (no break) Can increase to 100mg BD if symptoms are severe.

Vitamins and Supplements

Eskimo-3 Extra

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for your skin, joints and mood. Omega-3 fatty acids modulate the production of inflammatory compounds and help to support healthy immune signalling.

N-acetyl-cysteine

N-acetyl-cysteine, more commonly known as NAC, provides the body with an amino acid called l-cysteine. L-cysteine is one of the amino acids used as building blocks for protein in the body. On its own, l-cysteine can be quite unstable, but is highly stable in the form of NAC. NAC helps to replenish levels of glutathione in the body. The action of NAC does not involve apoptosis, rather its effects are due to the downregulating of inflammatory protein activity and decreased cell proliferation.

Resveratrol

Resveratrol is an effective compound for maintaining optimal health and boosting longevity. When used in patients with endometriosis, it has been shown to reduce endometrial implants and total volume of lesions. It is shown to inhibit angiogenesis in endometriotic lesions and overall growth supressing effects on this tissue.

Curcumin

Curcumin is a polyphenol derived from the spice, turmeric. Curcumin has the ability to bring down inflammation in the body, across multiple pathways, all at the same time and also has strong antioxidant and anti-proliferative effects. It has shown anti-endometriotic effects by acting on cellular signalling pathways and inducing apoptosis in endometriomas.

Interzyme

Contains a well-balanced combination of nutrients, vitamins, enzymes and trace elements. It has an effect that is immunomodulating, anti-inflammatory and skin-purifying. It regulates the cell proliferation of the skin epithelium

+Methionine (SAMe)

Methionine is a major methyl donor in the synthesis of hormones, nucleic acids, proteins and phospholipids. SAMe is also required for the synthesis of norepinephrine, dopamine and serotonin. SAMe facilitates glutathione usage and maintains acetylcholine levels, which helps to enhance or maintain cognitive function.

Estrolibrium

Powdered vitamins and minerals with flaxseed, calcium d-clucarate and broccoli which helps to regulate hormone levels. High levels of oestrogen are pro-inflammatory. Phytonutrients in Estrolibium such as turmeric are known to have anti-inflammatory properties. As endometriosis may be promoted by increased oestrogen levels, nutrients such as flaxseed, NAC and DIM may help support healthy oestrogen metabolism. DIM assists in the safer metabolism of oestrogen through pathways that reduce production of the more proliferative metabolites.

Haemagenics

If patient is anaemic from blood loss, supplementation with haemagenics aids in the rapid restoration of iron levels and blood function in situations of increased demand through blood loss.

Nutrition and Lifestyle

- Reduce consumption of red meat, dairy and foods high in trans fats

- Eliminate alcohol, caffeine, chocolate, refined foods, food additives, sugar and saturated fats
- Increase consumption of fruits, vegetables and foods rich in omega-3 fatty acids
- Consider joining a support group as they can provide a connection to other women suffering from similar symptoms and provide an opportunity to learn more about the disease and strategies for coping with and treating the symptoms

ON-GOING MANAGEMENT

After 2 months

Review patient after the first two cycles to see if there has been any improvement of symptoms. If there is no change or improvement, then increase the progesterone dosage (maximum dosage 400mg). Consider changing to a progesterone lozenge or pessary for more impact if needed.

Every 3 months thereafter

Patients with endometriosis should be seen at least every 3 months.

Every 6-12 months thereafter

Blood tests should be repeated every 6-12 months.

If the patient doesn't have any significant improvement after 6 months, refer to gynaecologist.

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, making periods more frequent or irregular, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to 'Symptom Management Chart'.

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SECONDARY AMENORRHOEA (UNEXPLAINED)

DEFINITION[1]

Absence of a woman's monthly menstrual period is called amenorrhea. Secondary amenorrhea is when a woman who has previously had normal menstrual cycles, then stops getting her periods for 6 months or longer.

Secondary amenorrhea can occur due to natural changes in the body. For example, the most common cause of secondary amenorrhea is pregnancy. Breastfeeding and menopause are also common, but natural, causes.

Women who take birth control pills or who receive hormone shots such as Depo-Provera may not have any monthly bleeding and even after stopping these methods of contraception, they may take a while to return.

Consider BHRT for *unexplained* secondary amenorrhea only when you have excluded all other possible causes.

BHRT Consultation Protocol

- Lifestyle, stressors and psychological evaluation
- Medical history
- Menstrual history
- Blood tests: GLU8
- Pelvic ultrasound
- Consider a bone density scan in patients who haven't had a period in over a year

The below test results would support a diagnosis of secondary amenorrhoea, if the patient is not on any hormone therapy (i.e. hormone-based contraception):

- FSH – low, normal or elevated
- Oestradiol – low
- Progesterone – low
- Testosterone/free testosterone – low or normal
- DHEAs – normal to low
- Bone density scan – normal or low
- Pelvic ultrasound –exclude any other pelvic pathology. If so refer to other protocols – i.e. premature ovarian failure (FSH would be elevated)

Treatment Guideline

If FSH is elevated, refer to ovarian failure protocol.

Use protocol below for unexplained amenorrhoea (generally a result of stress and anorexia).

Prescription (RX)

- **Oestradiol 0.5mg – 1mg BD**
- **Progesterone 50mg – 100mg BD** on days 18-28 (by supplementing on days 18-28 you achieve progesterone withdrawal, inducing a bleed)
- **Testosterone** vaginally 1 – 2mg per day
- If DHEA is low and symptoms suggest fatigue, consider doses of between 5mg and 25mg once daily

Guidelines for explaining the diagnosis to the patient

1. Your approach will need to be very patient-specific. A lot of patients with secondary amenorrhoea will be of child-bearing age, and therefore the conversation will be of a sensitive nature
2. Explain to the patient how the hormones work using the menstrual cycle as a visual aid
3. Describe how we try and mimic the cycle, to initiate a period and stimulate the ovaries to produce hormones again
4. Reassure the patient that the outcome is very positive in the majority of patients and that the body often responds well and starts to menstruate again as a result of treatment

Vitamins, Supplements, Nutrition and Lifestyle

Black cohosh

Black cohosh has a long history of traditional use in treating gynaecological disorders and has become a popular herbal medicine for relieving menopausal symptoms. Randomized controlled trials have demonstrated its efficacy in treating menopausal symptoms such as hot flashes, low libido, sleep disturbance and other physical and emotional symptoms. Black cohosh is not associated with an increased breast cancer risk or recurrence rates. Clinical trials suggest it is comparable to estradiol and other anti-osteoporosis medication for preventing bone loss.

Dong quai

This herb has been used traditionally for gynaecological symptoms such as painful menstruation or pelvic pain, recovery from childbirth and fatigue/ low vitality. Randomised controlled trials have shown that Dong quai can relieve symptoms of menopause and can be as effective as estradiol at preventing bone loss.

Liquorice root

Liquorice root exerts oestrogen-like effects and inhibit serotonin reuptake, an effect that may contribute to its positive impact on menopausal symptoms. A randomised controlled trial showed that treatment with 330 mg of licorice three times daily reduced

both frequency and severity of menopausal hot flashes after eight weeks of treatment.[3]

Vitex agnus castus

This herb has been shown to improve menopausal symptoms such as sleep disturbance, hot flashes and psychosocial wellness. It has been shown to modulate hormonal and neurotransmitter signalling and to relive premenstrual symptoms. Compounds in vitex can bind oestrogen receptors and modulate hormone-responsive genes.[4]

V**itamin D**

Vitamin D appears to confer significant protective effects against breast cancer. Women with higher vitamin D levels had a nearly 70% reduction in their risk of breast cancer compared with women with the lowest levels. Vitamin D suppresses growth and development of breast cancer. [5]

Eskimo oil Extra

Fish oil reduces oxidative stress and suppresses production of many inflammatory mediators that contribute to cancer development.

Green Tea

Green tea polyphenols, particularly EGCG inhibit the production of tumour blood vessels while downregulating cancer-promoting oestrogen receptors and increasing apoptosis. Studies have shown that EGCG suppressed the growth and reduction of human breast cancer cells and tumours.[6]

ON-GOING MANAGEMENT

After 6 to 8 weeks

Review patient after 6/8 weeks of treatment.

After 12 weeks

Within 12 weeks it would be expected that the patient would be menstruating. Review other symptoms and see if they have improved.

If no cycle after 12 weeks, re-do blood tests to check absorption and reconsider treatment programme. Potentially increase progesterone or oestradiol marginally (within recommended range) and persevere with treatment.

After 6 months

If no period is initiated within 6 months, refer to an endocrinologist.

Side Effects/Concerns

If the prescription is causing side effects, refer to the 'Symptoms Management Chart.'

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MIGRAINE AND MENSTRUAL HEADACHES

DEFINITION[1,2]

Many factors contribute to headaches and migraines; however, women often notice a relationship between headaches and hormonal changes. This type of headache may be termed a 'menstrual headache', or, if symptoms are more severe, a 'menstrual migraine'. In many women, oestrogen levels that dip or fluctuate make the headaches worse.

Migraine is most likely to develop in either the two days leading up to a period, or the first three days during a period, due to the natural drop in oestrogen levels at these times.

Periods aren't the only trigger of hormone headaches. Other causes include:

- The oral contraceptive pill
- The menopause (because the normal hormone cycle is disrupted)
- Pregnancy

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Blood tests: GLU8 (to be taken in the second half of cycle between day 16 and day 24; day 21 is optimal) or preferably at the time of the headache if possible. If the patient is in menopause/post menopause then bloods can be taken anytime.
- Pelvic ultrasound for post-menopause patients
- Evaluate the patient's contraception. If the patient is on an oral contraceptive you should advise them to stop taking it, as oral contraception can be linked to headaches

Cyclical/premenstrual symptoms and the below blood profile would support a diagnosis of *hormone-related headaches* if the patient is not on any hormone therapy (i.e. hormone-based contraception):

- LH – normal
- FSH – normal
- Oestradiol – elevated or normal
- Progesterone – normal to low
- Testosterone/Free testosterone – normal
- DHEAs – normal

Guidelines for explaining the diagnosis to the patient

1. Explain to the patient that their symptoms are explicable. They are the result of hormonal imbalance caused by insufficient amounts of progesterone production.
2. Reiterate that it is the hormones that are in control of the symptoms, not the patient.
3. Reassure the patient that their symptoms are easy to treat
4. Use the menstrual cycle chart to explain the function of the hormones and their fluctuations
5. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

The below blood profile would support a diagnosis of *post-menopausal headache/migraine* if the patient isn't on any other hormone replacement (i.e. HRT):

- LH – elevated
- FSH – elevated
- Oestradiol – low
- Progesterone – low
- Testosterone/free testosterone – low
- DHEAs – low

Treatment Guidelines

A) Hormonal (premenstrual headache)

The aim is for the patient to take the treatment before the headaches, to prevent recurrence.

Symptoms	Prescription (RX)
Mild	(Mid-cycle symptoms only) **Progesterone 25-50mg days 10-16 BD** (Pre-menstrual only) **Progesterone 25-50mg days 21-28 BD**
Mild to moderate	**Progesterone 50mg days 12-28 BD**
Moderate to severe	**Progesterone 50mg days 1-28 BD**

B) Post-menopause headache/migraine

Consider daily low dose BHRT replacement, as the headaches are caused by hormone deficiency and therefore daily treatment would be recommended to raise hormone levels.

Symptoms	Prescription (RX)
Mild Occasional headaches which don't impact on daily activities	(Mid-cycle symptoms only) Oestradiol 0.25mg Progesterone 25mg every day (once daily)
Mild to moderate Interference with day to day activities.	Oestradiol 0.25mg Progesterone 25mg every day BD
Moderate to severe Causing disruption to day to day functioning and intense pain, to the point that the patient has to take regular pain medication	Oestradiol 0.5mg BD Progesterone 50-100mg everyday BD

Vitamins and Supplements

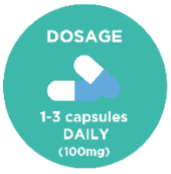
+feverfew

Recent evidence has revealed that feverfew inhibits the production of several inflammatory mediators that may be involved in head discomfort. Combining feverfew with ginger has been shown to be effective for migraine prevention with minimal side effects.[3]

CoQ10

CoQ10 is a potent antioxidant required to convert fats and sugars into usable cellular energy. Researchers have found that organs with high metabolic rate, such as the brain, appear to quickly deplete CoQ10 stores, potentially leading to a deficiency.

CoQ10 (at doses of 100-300 mg daily) has been shown to be beneficial for preventing and reducing the frequency of migraine attacks among adults. [4] These actions are attributed to CoQ10's potential to interfere with inflammatory mechanisms and mitochondrial dysfunction, both of which have been implicated in the migraine process. A CoQ10 deficiency has been found in up to 75% of migraine patients.



MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C.

Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis.

Magnesium is a major factor in relaxing the smooth muscles within the blood vessels and modulates many important neural and vascular processes involved in the development of a typical migraine attack. Migraine patients commonly exhibit low magnesium levels, especially during an attack.

Melatonin

Melatonin increases the speed of falling asleep and adds to the quality of sleep. It helps regulate circadian rhythms. It also has a strong antioxidant property and is important for protecting cellular DNA. Since melatonin is often found in lower than normal levels in migraine sufferers, it is thought to play an important role in migraine pathology.

Some researcher's hypothise that migraines are triggered by an irregularity in pineal gland function. When this imbalance is corrected through melatonin supplementation, some migraine patients experience an improvement in symptoms.

S-Adenosylmethionine (SAMe) – also known as ademethionine

Methionine is a major methyl donor in the synthesis of hormones, nucleic acids, proteins and phospholipids. SAMe is also required for the synthesis of norepinephrine, dopamine and serotonin. SAMe facilitates glutathione usage and maintains acetylcholine levels, which helps to enhance or maintain cognitive function. Some data suggests that long-term supplementation with SAMe may relieve pain among migraine sufferers, possibly due to its ability to increase serotonin.

5-HTP

Serotonin is a neurotransmitter in the brain associated with positive moods and restful sleep. 5-HTP is a direct metabolic precursor of serotonin, and important for the production of melatonin. Approximately 70% of oral 5-HTP is converted into serotonin. Several lines of evidence indicate that low serotonergic signalling within the brain may precipitate migraine.

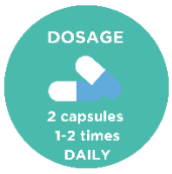
B-Plex

B-Plex contains the most important B vitamins in an optimal combination (together with vitamin C and MSM). The various B vitamins are important for a number of essential functions of the body such as metabolism and cell renewal. The vitamin B complex is considered to be the energy provider for body and mind.

Data indicates that riboflavin (vitamin B2) is effective for the prevention of migraine among both children and adults and may decrease the need for traditional rescue medications. It is believed that riboflavin's beneficial effects are due to its ability to enhance mitochondrial energy production, this is based on data indicating that riboflavin is especially effective among migraine patients with mitochondrial genetic abnormalities.

Eskimo oil

EPA and DHA found in fish oils have been reported to reduce migraine headache symptoms by modifying prostaglandins.



Nutrition and Lifestyle

- Reduce stress,
- Take steps to improve sleep,
- Try relaxation methods such as massage, gentle exercise and acupuncture
- Avoid MSG, chocolate, orange and other foods that can trigger migraines and headaches
- Identify any allergies. Elimination diets have been shown to effect a 30% to 93% decrease in migraines.

ON-GOING MANAGEMENT

Pre-menopausal patient

After 3 months
- Review the premenopausal patient after 3 months of treatment.

After 6 months
- Following the initial 3-month assessment, review symptoms every 6 months.
- If the headaches haven't improved within 6 months, the patient should be referred to a neurologist/ophthalmologist or ENT specialist

After 12 months
- Repeat blood tests annually.
- Continue treatment
- In pre-menopausal women treatment is to be determined on a case by case basis.

Post-menopausal patient

After 3 months
- Review the pre-menopausal patient after 3 months of treatment.

After 12 months
- Ensure blood tests and pelvic ultrasound are conducted yearly

In post-menopausal women, continue treatment indefinitely

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, making periods more frequent, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to 'Symptom Management Chart'.

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PERIMENOPAUSE

DEFINITION[1]

Perimenopause (menopause transition) refers to the time before and after the final menses. This transition can last four to eight years. During the perimenopause oestrogen levels average 20-30% higher than in the premenopause with wide fluctuations. These fluctuating hormone levels and fluctuating FSH levels are the cause of the many symptoms experienced during this menopause transition.

Often patients will complain that they just don't feel like themselves, or feeling as if they are premenstrual throughout the whole month.

Symptoms

- Irregular periods
- Anxiety
- Fatigue
- Palpitation
- Paranoid thoughts
- Loss of confidence
- Mood swings
- Anger and irritability
- Memory loss
- Hot flushes
- Dysfunctional uterine bleeding
- Anaemia
- Weight gain
- Bloating
- Fluid retention
- Breast tenderness
- Aches and painful joints
- Frequent headaches
- Urinary incontinence
- Vaginal dryness
- Low libido

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Blood tests: GLU8 (to be taken in second half of cycle between day 16 and day 24; day 21 is optimal)
- Pelvic ultrasound
- Breast examination
- Ensure cervical smears are up to date

Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio-identical hormone replacement therapy (BHRT). If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it.

Cyclical symptoms and the below blood profile would support perimenopause as a diagnosis, if the patient is not on any other hormones:

- FSH – elevated
- Oestradiol – low or normal
- Progesterone – low or normal
- Testosterone/free testosterone – low to normal
- DHEAs – normal to low

The ratio of 10:1 oestrogen to progesterone ratio is a helpful guideline to work to.

Guidelines for explaining the diagnosis to the patient

1. Explain to the patient that they are now heading towards the menopause. During this phase anything is possible and there is often no consistency in hormone levels.
2. Explain to the patient that when there is a hormonal imbalance, the body is out of sync, therefore the role of BHRT is to balance the hormones in order to manage the symptoms
3. Reassure the patient that treatment is often very successful in relieving the symptoms they are experiencing
4. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

As perimenopause is a period when hormones fluctuate, and symptoms can become extreme, the treatment plan needs to be adaptable and fine-tuned for the patient on an individual basis. You may need to consider changing the protocol regularly.

During the perimenopause the patient should stop BHRT when they get a bleed and restart treatment after it stops.

Symptoms	Prescription (RX)
Mild (progesterone deficiency symptoms) The patient's periods are becoming irregular, they may also have one or more physical or emotional symptoms.	**Progesterone 25mg BD daily** If DHEA is low 5-15mg daily If vaginal dryness prescribe 1mg testosterone / Oestriol 1mg locally
Mild to moderate (oestrogen and progesterone deficiency symptoms)	**Oestradiol 0.25mg** either once or twice daily and **Progesterone 25mg BD daily**
Moderate to severe Oestrogen/progesterone/ testosterone deficiency The patient will exhibit many of the symptoms	**Oestradiol 0.25mg BD and progesterone 25-50mg BD** – If the patient is also exhibiting testosterone deficiency (e.g. joint pain, low self-esteem) – Testosterone 0.5-1mg daily – If DHEA is low, prescribe 5-15mg daily – If vaginal dryness prescribe 1mg testosterone/Oestriol 1mg locally – For patients diagnosed with osteopenia/osteoporosis:

Symptoms	Prescription (RX)
	– Oestradiol 0.25mg BD and progesterone 50mg – 75mg BD – Testosterone; up to 2.5mg daily – If DHEA is low, prescribe 5-15mg daily – If patient presents with vaginal dryness, prescribe 1mg testosterone/ oestriol 1mg locally

Vitamins and Supplements

MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C.

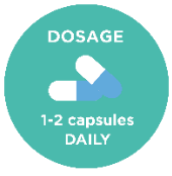
Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis. Magnesium is a major factor in relaxing the smooth muscles within the blood vessels, thereby promoting a healthy cardiovascular system. It also affects circulating levels of norepinephrine and the synthesis of serotonin and nitric oxide. It positively influences the bone mineral matrix and its ability to metabolise minerals needed for repair and rebuilding.

Eskimo-3 extra strength

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood. Fish oil reduces oxidative stress and suppresses production of many inflammatory mediators that contribute to cancer development and help to support healthy immune signalling.

5-HTP

5-HTP is used by the body to make serotonin, a neurotransmitter regulating numerous important bodily functions, in particular brain and nerve function. It is associated with positive moods and restful sleep and may therefore be helpful in mood related problems experienced during perimenopaus such as mild to medium depression and mood swings. Serotonin can also be converted to melatonin which is important in regulating the sleep-wake cycle. (Dosage: NO MORE THAN 100mg and not with antidepressants)



+Methionine (SAMe)

Methionine is a major methyl donor in the synthesis of hormones, nucleic acids, proteins and phospholipids. SAMe is also required for the synthesis of norepinephrine, dopamine and serotonin. SAMe facilitates glutathione usage and maintains acetylcholine levels, which helps to enhance or maintain cognitive function.

+ St John's Wort

St John's Wort is used as a natural anti-depressant and mood enhancer, but unlike many prescription antidepressants is not addictive.

Star Flower Oil (Borage seed oil)

The active component of borage oil is an essential fatty acid called GLA which is superior to amounts found in evening primrose oil. GLA has been shown to be particularly beneficial for female reproductive health and skin health due to its ability to help support hormone balance.

Black cohosh

Black cohosh has a long history of traditional use in treating gynaecological disorders and has become a popular herbal medicine for relieving menopausal symptoms.

Randomized controlled trials have demonstrated its efficacy in treating menopausal symptoms such as hot flashes, low libido, sleep disturbance and other physical and emotional symptoms.[2] Black cohosh is not associated with an increased breast cancer risk or recurrence rates. Clinical trials suggest it is comparable to estradiol and other anti-osteoporosis medication for preventing bone loss.[3]

Vitex agnus castus

This herb has been shown to improve menopausal symptoms such as sleep disturbance, hot flashes and psychosocial wellness. It has been shown to modulate hormonal and neurotransmitter signalling and to relive premenstrual symptoms. Compounds in vitex can bind oestrogen receptors and modulate hormone-responsive genes.

Vitex appears to act directly on the pituitary gland to inhibit the secretion of follicle stimulating hormone (FSH) and promote the secretion of LH. This apparent stimulatory effect on LH leads to an increase in progesterone and may normalise the balance between estrogen and progesterone. Improving the levels of progesterone may be especially useful during pre and perimenopause when menstrual irregularities are likely to occur. Furthermore, progesterone exerts an antiproliferative protective effect on breast tissue that appears to antagonise the proliferative effects of excess levels of circulating estrogens, which may reduce breast cancer risk. Vitex may also possess the ability to prolong progesterone's positive effects throughout the menopausal transition.

Nutrition and Lifestyle

- Consider whether dairy and sugar have an impact and whether these can be reduced.
- Engage in regular exercise as this reduces hot flushes, promotes healthy bone density and improves mood.

- A low-fat diet that is rich in fibre, antioxidants and omega 3 fatty acids helps to lower the risk of heart disease and cancer.
- Quitting smoking is important for several reasons. Research has shown that women who smoke experience menopause earlier than women who don't. Smoking also increases the risk of heart disease and osteoporosis.
- Excessive alcohol and caffeine consumption have been shown to negatively affect bone health.
- Reduce stress. Elevated stress levels are associated with an increased risk of heart disease and a reduced immune response.

ON-GOING MANAGEMENT

After 2 months

Review patient after the first two cycles, to see if there has been any improvement of symptoms. Often patients don't perceive any improvement until you review their initial symptoms. Review all of the symptoms the patient came with and identify any changes.

Every 3 months thereafter

Peri-menopause patients need close monitoring due to hormone fluctuations and changes, and they are to be reviewed at a minimum of every three months.

Every 6 months to a year

If symptoms are changing frequently, blood tests to be taken every 6 months, or every year as the patient moves into the menopause.

Pelvic ultrasound should be repeated every year.

Side Effects/Concerns

There is a possibility that progesterone may impact the menstrual cycle, but this is of no significant concern. However, if you would like advice on managing other potential side effects, please refer to 'Symptom Management Chart'.

References

1. Dennerstein, L. Dudley, E.C., Hopper, J.L., Guthrie, J.R., Burger, H.G. A prospective population-based study of menopausal symptoms. Obstetrics & Gynecology. 2000, 96(3): 351-358.
2. Jiang 2015; Shahnazi 2013; Mohammad-Alizadeh-Charandabi 2013; Ross 2012)
3. Nisslein T, Freudenstein J. Effects of an isopropanolic extract of Cimicifuga racemosa on urinary crosslinks and other parameters of bone quality in an ovariectomized rat model of osteoporosis. J Bone Miner Metab. 2003;21(6):370–376.

MENOPAUSE

DEFINITION[1,2]

The term menopause describes women who have not experienced any menstrual flow for a minimum of 12 months. Menopause is the cessation of egg production in the ovaries. As a result of this, menstrual periods stop and pregnancy is no longer possible. It occurs in adult females, typically between the ages of 40 and 58. Early menopause can be experienced in smokers and can be also caused by ovarian surgery and chemotherapy.

The transition to menopause is gradual. A reduction in the amount of oestrogen produced by the ovaries can cause changes in the duration of periods, changes in the amount of flow, hot flushes, vaginal dryness, and mood changes, during this transitional phase.

Up to 85% of post-menopausal women report symptoms associated with menopause. A woman's reproductive hormone levels continue to drop and fluctuate for some time into post-menopause, so hormone withdrawal effects such as hot flushes may take several years to disappear.

Symptoms[1,3]

The symptoms of menopause can last from a few months, to years. For some patients, symptoms continue all of their lives

- Irregular periods
- Hot flushes and night sweats
- Insomnia
- Mood changes and emotional changes
- Vaginal dryness
- Reduced libido

BHRT Consultation Protocol

- Medical history
- Menstrual history
- Blood tests: GLU8 (to be taken in second half of cycle between day 16 and day 24; day 21 is optimal)
- Pelvic ultrasound
- Breast examination
- Bone density scan
- Ensure cervical smears are up to date
- Evaluate patient's medication and contraception.

Cyclical symptoms and the below blood profile would support a diagnosis of menopause.

- FSH – elevated
- Oestradiol – low
- Progesterone – low
- Testosterone/free testosterone – low
- DHEAs – normal to low
- Bone density scan – if osteopenia or osteoporosis is diagnosed, please refer to protocol at the end of this section.

Guidelines for explaining the diagnosis to the patient

- Ensure the menopausal patient is treated compassionately, as can be difficult for women to come to terms with this diagnosis. Bear in mind that although for some the diagnosis comes as a relief, for others it can be incredibly upsetting
- Explain where they are in relation to the menopause
- Discuss how and why the hormones that are involved with many bodily functions have reduced
- Reiterate that it is the hormones that are in control of the symptoms, not the patient, and that this is normal for women going through the menopause

Reassure the patient that with BHRT they will get their vitality back and feel as attractive and womanly as before the menopause. Their lifestyle will not need to change significantly.

- Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Mild Fatigue, hot flushes, low energy. Lifestyle isn't affected but the patient just doesn't feel quite like themselves.	**Oestradiol 0.25mg Mane daily** **Progesterone 25mg Nocte daily** – If DHEA is low, prescribe 5-15mg daily – If patient presents with vaginal dryness, prescribe 1-2mg testosterone daily. – If incontinence is present, prescribe oestriol 1mg daily

Symptoms	Prescription (RX)
Mild to moderate Insomnia, fatigue, mood swings, low confidence and feeling overwhelmed. Physical symptoms such as night sweats and joint pains may be present. Lifestyle is compromised and effects personal and professional life.	**Oestradiol 0.5mg BD daily** **Progesterone 50mg BD daily** – If DHEA is low and symptoms suggest fatigue, consider dosages between 5-25mg daily – If patient present with vaginal dryness, prescribe 1-2mg testosterone daily. – If incontinence is present, prescribe oestriol 1mg daily
Severe Severe mood swings, insomnia, depression, extreme fatigue, inability to cope. Excessive night sweats, hot flushes, joint paints, incontinence, vaginal shrinkage.	**Oestradiol 1mg – 2mg per day total dosage** **Progesterone 100-250mg per day daily dosage** (because of severity of symptoms, prescriber can work within recommended ranges to tailor doses to the patient) – If DHEA is low and symptoms suggest fatigue, consider dosages between 5-25mg daily – If vaginal dryness is present, prescribe 1-2mg testosterone daily. – If incontinence is present oestriol 1mg – For patients diagnosed with osteoporosis: – Oestradiol 0.5mg BD daily and Progesterone 50mg – 75mg BD daily – Testosterone, up to 2.5mg daily – If DHEA is low, prescribe 5-15mg daily

Vitamins and Supplements

Refer to female hormone restoration life extension

Eskimo-3

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood.

Green tea

Green tea contains health-promoting polyphenols including epigallocatechin-3-gallate (EGCG), a powerful antioxidant which has been the subject of extensive scientific research.

Resveratrol

Resveratrol is an effective compound for maintaining optimal health and boosting longevity. Previous studies indicated that resveratrol had the potential to reduce chronic pain in age-related osteoarthritis and ability to boost perception of well-being in postmenopausal women.

MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C.

Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis. Magnesium is a major factor in relaxing the smooth muscles within the blood vessels, thereby promoting a healthy cardiovascular system. It also affects circulating levels of norepinephrine and the synthesis of serotonin and nitric oxide. It positively influences the bone mineral matrix and its ability to metabolise minerals needed for repair and rebuilding.

Vit D+K2

Vitamin D contributes to numerous biological functions in the body including normal function of the immune system, maintenance of muscle and bone function along with normal utilisation of calcium and phosphorus. Vitamin K maintains bone density by facilitating calcium transport into bone and promotes a healthy heart and vascular system.

Calcium

Calcium helps maintain bone density and strength.

DIM

Diindolylmethane (DIM) is a metabolite of indole-3-carbinol, the phytonutrient found in cruciferous vegetables, and has been shown to support healthy hormone balance in both men and women.

Indole-3-carbinol

Indole-3-carbinol (I3C) and DIM (di-indolylmethane) favourably modulate oestrogen metabolism and induce liver detoxification enzymes to help neutralise potentially harmful oestrogen metabolites and xenoestrogens (potentially toxic, estrogen-like environmental chemicals).

Nutrition and Lifestyle

- Consider whether dairy and sugar have an impact and whether these can be reduced.
- Engage in regular exercise as this reduces hot flushes, promotes healthy bone density and improves mood.
- A low-fat diet that is rich in fibre, antioxidants and omega 3 fatty acids helps to lower the risk of heart disease and cancer.
- Quitting smoking is important for several reasons. Research has shown that women who smoke experience menopause earlier than women who don't. Smoking also increases the risk of heart disease and osteoporosis.
- Excessive alcohol and caffeine consumption have been shown to negatively affect bone health.
- Reduce stress. Elevated stress levels are associated with an increased risk of heart disease and a reduced immune response.

ON-GOING MANAGEMENT

After 4 weeks

Review patient after 4 weeks of therapy to monitor symptoms and reaction to the treatment prescribed. Review all of the symptoms the patient initially presented with and assess whether there has been any change.

After 2-3 months

Review patient against initial symptoms again, to see how they have improved.

Every 3-6 months

Menopausal patients need close monitoring due to hormone fluctuations, and they are to be reviewed at a minimum of every 3 to 6 months.

Annually

Pelvic ultrasound is to be repeated every year. Bone density scan is also to be repeated annually in patients with osteopenia or osteoporosis to monitor improvement. If treatment is effective, repeat blood tests annually. If symptoms are not resolved carry out blood tests more frequently (every 6 months).

Side Effects/Concerns

The patient may experience spotting or irregular bleeding. If this occurs more than once, carry out pelvic ultrasound and repeat blood tests to identify any hormonal imbalance causing the bleeding. Following tests, reassess the patient's medication. If bleeding issues remain unresolved, refer the patient to a gynaecologist.

For other possible side effects please refer to 'Symptom Management Chart'.

References

1. Fibroids, 2015. Available at: http://www.nhs.uk/Conditions/Fibroids/Pages/Introduction.aspx.
2. Woods, N.F., Mitchell, E.S. Symptoms during the perimenopause: prevalence, severity, trajectory, and significance in women's lives. The American Journal of Medicine. 2005, 118 (12): 14-24.
3. Uterine Fibroids, Symptoms and Causes. Available at: http://www.mayoclinic.org/diseases-conditions/uterine-fibroids/symptoms-causes/dxc-20212514
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FIBROIDS

DEFINITION[1]

Fibroids are benign growths that develop in the uterus. They are comprised of muscle and fibrous tissue, and generally exhibit no symptoms. They are quite common and occur in women of reproductive age (16-50 years). They are generally diagnosed by routine gynaecological examinations.

If symptoms are not present, treatment for fibroids is not required. Fibroids can disappear over time, particularly after menopause.

Symptoms[1,2]

Although rare, symptoms can include:

- Heavy or painful periods
- Abdominal pain
- Lower back pain
- Frequent need to urinate
- Constipation
- Pain or discomfort during sex

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms)
- Blood tests: GLU8 and GLU6 (iron and ferritin levels) to be taken in second half of cycle between day 16 and day 24; day 21 is optimal.
- Pelvic ultrasound
- Review past laparoscopy or pelvic ultrasound reports / any past gynaecological or surgical history.

Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio identical hormone replacement therapy (BHRT).

If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it after 5 years.

A ratio of 10:1 oestrogen to progesterone ratio is a helpful guideline to work from.

The below test results would support a diagnosis of suspected fibroids patients (for patients who aren't already on hormones):

- Laparoscopy indicating or confirming endometriosis (if symptoms are severe)
- Pelvic ultrasound – to exclude any other causes of the pelvic pain, i.e. ovarian cysts
- Physical examination – palpable abdominal or suprapubic mass
- FSH – normal
- LH – normal
- Oestradiol – normal or high
- Testosterone / free testosterone – normal / normal
- Progesterone – normal to low
- DHEAs – normal

Guidelines for explaining the diagnosis to the patient

1. Explain to the patient how common fibroids are and that many are asymptomatic
2. Explain that fibroids are generally oestrogen driven and that patients can respond very well by balancing the effects of oestrogen with progesterone therapy
3. Reassure the patient that treatment is generally very successful
4. Explain that they will require on going monitoring
5. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Without symptoms (Trying to prevent the fibroids from growing further)	**Progesterone 25 mg on days 1-14, once a day** **Progesterone 25 -50 mg on days 15-28 BD**
With symptoms (Bleeding, bloating, bladder symptoms)	**Progesterone 50mg days 1-28 BD (no break)** – Can increase to 100mg BD if fibroid symptoms persist

Vitamins and Supplements

Green tea

Green tea contains health-promoting polyphenols including epigallocatechin-3-gallate (EGCG), a powerful antioxidant which has been the subject of extensive scientific research, showing anti-inflammatory, and anti-tumorigenic properties and showing significant promise for the treatment of uterine fibroids. EGCG can lead to significant improvements in anaemia, blood loss, and quality of life, while inhibiting the growth of new blood vessels that supply malignant tumours.

Curcumin (Curcumin Megasorb)

As a substance found in the spice turmeric, curcumin has been shown multiple effects. Curcumin has the ability to bring down inflammation in the body, across multiple pathways, all at the same time. Curcumin is known to help reduce pain, inflammation and stiffness and has been investigated as a potential therapeutic agent for uterine fibroids. In a laboratory setting, curcumin inhibited uterine fibroid cell growth and decreased the level of fibronectin, an important component of the extracellular matrix that contributes to fibroid progression, without significant effects on normal uterine muscle tissue. Several growth factors are known to be important contributors to fibroid growth, including IGFs, fibroblast growth factors, and transforming growth factors.

Curcumin has been shown to inhibit the secretion of IGF-1 in breast cancer cells; block fibroblast growth factor-2-induced blood vessel growth; and inhibit transforming growth factor-beta signalling in a variety of cells, including liver and kidney cells.

Vitamin D+K2

D3 Drops with K2 provides 1000iu of vitamin D3, per 3 drops, together with 45µg of vitamin K2.

Several studies have reported that women who have lower serum levels of vitamin D are more likely to develop uterine fibroids. There was also a significant relationship between vitamin D levels and fibroid size: women with lower vitamin D had larger fibroids, and those with higher vitamin D had smaller fibroids. The majority of fibroids have low levels of the vitamin D receptor compared to surrounding normal tissue. Vitamin D decreases levels of proteins known to contribute to fibroid formation and inhibits the replication of fibroid cells.

+Black Cohosh

Black Cohosh helps promote hormonal balance in women and has shown to reduce fibroid size.

Estrolibium

Estrolibium features a combination of targeted nutrients that help support healthy oestrogen metabolism and balance in women of all ages. It provides non-soy phytoestrogens from kudzu and flax which modify the effects of circulating oestrogens. Calcium-D-Glucarate supports the inhibition of beta-glucuronidase and allows the body to excrete hormones such as oestrogen before they can become reabsorbed while DIM is also known to significantly support healthy oestrogen metabolism. The vitamin E in Estrolibium restores optimal levels of this vitamin- low levels have been associated with elevated oestrogen.

Nutrition and Lifestyle

- Consume more vegetables, fruits, and dairy products
- Reduce red meat consumption
- Lower glycaemic index
- Increase exercise level
- Reduce body fat

ON-GOING MANAGEMENT

Treatment review

Review patient after 6-8 weeks after treatment, followed by 3 months, and then every 6 months if the patient is stable. The goal is to monitor and ensure fibroids don't grow. Keep the patient on treatment continuously until menopause.

Every 6 months

Repeat the pelvic ultrasound every 6 months, if fibroids have worsened refer to gynaecologist.

Annually

Repeat all tests annually.

Side Effects/Concerns

If you would like advice on managing any potential side effects, please refer to 'Symptom Management Chart'.

References

1. Fibroids, 2015. Available at: http://www.nhs.uk/Conditions/Fibroids/Pages/Introduction.aspx (accessed 23 December 2016).
2. Uterine Fibroids, Symptoms and Causes. Available at: http://www.mayoclinic.org/diseases-conditions/uterine-fibroids/symptoms-causes/dxc-20212514 (accessed 23 December 2016).

DYSFUNCTIONAL UTERINE BLEEDING

DEFINITION[1-3]

Dysfunctional uterine bleeding (DUB) is abnormal bleeding from the vagina. DUB is not associated with pregnancy, a medical condition, or any other recognisable pelvic pathology. In most cases DUB is caused by hormonal disruptions. It is most frequently experienced by women going through hormonal transitions, such as teenagers and menopausal women. The bleeding can be irregular in flow, duration, and can occur randomly.

Menorrhagia

Unusually heavy or long menstrual periods. Women with menorrhagia may soak through one or more sanitary pads or tampons an hour for several consecutive hours, or have periods that last longer than seven days (or longer than a usual menstrual period).

Metrorrhagia

Menstrual bleeding that occurs at frequent, irregular intervals.

Menometrorrhagia

Prolonged menstrual periods that occur at irregular intervals. This condition is a combination of menorrhagia and metrorrhagia.

Symptoms[2]

- Vaginal bleeding or spotting between periods
- Changes in the length of time between periods
- Periods lasting longer than 7 days
- Mood swings
- Hot flushes
- Vaginal dryness
- Hirsutism

BHRT Consultation Protocol

- Medical history
- Menstrual history (especially timing and pattern of symptoms) – understand the pattern of bleeding, type of bleeding and when they occur
- Blood tests: GLU8 and GLU6 (iron and ferritin levels) to be taken in second half of cycle between day 16 and day 24; day 21 is optimal
- Pelvic ultrasound
- Review past laparoscopy or pelvic ultrasound reports / any past gynaecological or surgical history.
- Evaluate the patient's contraception. If the patient is on an oral contraceptive and doesn't want to stop it, you can still treat with bio-identical hormone replacement therapy (BHRT). If the patient tolerates the Mirena coil, you can still treat as normal, however advise the patient not to replace it.

A ratio of 1:10 progesterone to oestrogen is a helpful guideline to work from.

The following test results would support a diagnosis of dysfunctional uterine bleeding, if the patient is not on any form of hormone therapy

- Pelvic ultrasound – to exclude any other causes of the pelvic pain or bleeding, i.e. ovarian cysts
- Physical examination – looking for signs of anaemia
- FSH –normal to low
- LH – normal or high (LH to FSH ratio 2:1 or 3:1)
- Oestradiol – normal or high
- Testosterone / free testosterone – normal / normal
- Progesterone – normal to low
- DHEAs – normal

Guidelines for explaining the diagnosis to the patient

- Explain why dysfunctional bleeding is happening, and how it can be driven by a hormone imbalance between oestrogen and progesterone
- Explain that supplementation is often very successful at improving symptoms
- Reassure the patient that they will be reviewed regularly until their bleeding pattern normalises and treatment is effective
- Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

Treatment Guideline

Symptoms	Prescription (RX)
Menorrhagia (frequent bleeding)	**Progesterone 25 mg days 1-14 once a day** **Progesterone 25 -50 mg days 15-28 BD**
Metrorrhagia (Painful bleeding)	**Progesterone 25mg BD everyday**
Menometrorrhagia (Painful and heavy bleeding)	**Progesterone 50mg days 1-28 BD** (no break) can go up to 100mg BD if symptoms are severe.

Vitamins and Supplements

Eskimo-3

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood.

EPA/DHA

Omega-3 oils contain eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), which are usually lacking in the typical Western diet, which is filled with foods containing high amounts of omega-6 fats.

+Niacin

In its coenzyme forms, niacin is crucial to energy transfer reactions, particularly the metabolism of glucose, fat, and alcohol.

+Dong quai

Dong quai is used in Chinese medicine to treat gynaecologic conditions.

Dong-quai is used in traditional Chinese medicine for the treatment of multiple gynaecological conditions. It has proven to have vasodilatation and antispasmodic properties.

MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C.

Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis.

Magnesium is a major factor in relaxing the smooth muscles within the blood vessels, thereby promoting a healthy cardiovascular system. It also affects circulating levels of norepinephrine and the synthesis of serotonin and nitric oxide. It positively influences the bone mineral matrix and its ability to metabolise minerals needed for repair and rebuilding.

+N Acetyl-cysteine

N-acetyl-cysteine, more commonly known as NAC, provides the body with an amino acid called l-cysteine. L-cysteine is one of the amino acids used as building blocks for protein in the body. On its own, l-cysteine can be quite unstable, but is highly stable in the form of NAC. NAC helps to replenish levels of glutathione in the body.

Green tea

Green tea contains health-promoting polyphenols including epigallocatechin-3-gallate (EGCG), a powerful antioxidant which has been the subject of extensive scientific research.

Curcumin

As a substance found in the spice turmeric, curcumin has been shown multiple effects. Curcumin has the ability to bring down inflammation in the body, across multiple pathways, all at the same time. Curcumin is known to help reduce pain, inflammation and stiffness.

Vitamin C + K

Vitamin C along with bioflavonoids can help reduce heavy bleeding as it helps to maintain the structural integrity of capillaries, preventing them from becoming fragile. Vitamin C can also help women who have secondary iron deficiency from menorrhagia by improving iron absorption. Vitamin K is essential for the hepatic production of a number of clotting factors including factors II, VII, IX and X.

Iron

Chronic or prolonged uterine bleeding may result in iron deficiency, so supplementation may be recommended. Iron bisglycinate provides an advanced mineral delivery system which is highly absorbable. Iron supplementation supported by vitamins B6 and B12 is optimal for red blood cell and haemoglobin production.

ON-GOING MANAGEMENT

After 6-8 weeks

Review patient after 6-8 weeks to see if there has been any improvement of symptoms.

Every 6 months

Repeat pelvic ultrasound every 6 months.

Refer patient to gynaecologist if there has been no significant improvement in symptoms.

Every 12 months

Repeat the blood test annually

Keep on the same treatment if patient experiences improvements, or if the patient wants to review how they feel before continuing, wait until a minimum of 6 months after treatment commenced**.**

Patients with menometrorrhagia

Patients with menometrorrhagia are to be reviewed **every two months.**

Refer patient to gynaecologist if there has been no significant improvement in symptoms.

Side Effects/Concerns

If you would like advice on managing any potential side effects, please refer to 'Symptom Management Chart'.

References

1. Behera MA, Abnormal (Dysfunctional) Uterine Bleeding, 2016. Available at: http://emedicine.medscape.com/article/257007-overview.
2. Burd I, Vaginal bleeding – hormonal, 2014. Available at: https://medlineplus.gov/ency/article/000903.htm.
3. NMIHI. Menstrual Disorders. Available from: http://www.nmihi.com/m/menstrual.htm

PREMATURE OVARIAN FAILURE

DEFINITION[1-3]

Premature ovarian failure (POF), also known as premature ovarian insufficiency is the loss of ovarian function before the age of 40, and affects one in 100 women. Although the exact cause of POF is unknown, genetics and immune system disorders can play a role. When the ovaries fail, they produce less oestrogen and fewer eggs, which can result in infertility. POF should not be confused with menopause, as women with POF may still become pregnant.

Symptoms[1,2]

- Irregular or occasional periods
- Hot flushes
- Night sweats
- Vaginal dryness
- Mood swings
- Loss of libido

BHRT Consultation Protocol

- Medical history
- Menstrual history
- Blood tests: hormone profile and vitamin D, thyroid tests (can be taken anytime if the patient doesn't have a cycle)
- Pelvic ultrasound
- Bone density scan
- Review past laparoscopy or pelvic ultrasound reports / past gynaecological and surgical history
- Evaluate whether the patient is taking any contraceptive and advise patient to stop taking it.

The following pathology results would support a diagnosis of suspected dysfunctional uterine bleeding:

- FSH – elevated
- Oestradiol – low
- Progesterone – low
- Testosterone/free testosterone – low
- DHEAs – normal to low
- Bone density scan – If osteopenia or osteoporosis is confirmed refer to relevant protocol
- Pelvic ultrasound – may detect any congenital problems

The ratio of 10:1 oestrogen:progesterone is a helpful guideline to work to.

Guidelines for explaining the diagnosis to the patient

1. Refer to the initial consultation to review the patient's goals (i.e. fertility) and tailor the response accordingly. This may be a sensitive diagnosis to explain to the patient, especially if the patient hasn't conceived or hasn't finished having a family.
2. Explain the likelihood of premature ovarian failure, taking into consideration the patient's history and blood test results.
3. Explain that nothing will change for the patient, except that they are no longer producing their own eggs.
4. Explain that the treatment plan will help support all functions in the body, and potentially initiate a period once again, if that's desired.
5. Ensure to take time to encourage patient to feel confident in the treatment plan and ask any questions or express any concerns.

Treatment Guideline

Symptoms	Prescription (RX) Patient doesn't want cycle	Patient does want cycle
Mild Normal bone density	**Oestradiol 0.25mg Mane daily** **Progesterone 25mg Nocte daily** – If DHEA is low 5-15mg daily – If vaginal dryness is present, prescribe 1-2mg testosterone daily. – If incontinence is present, prescribe oestriol 1mg daily	**Estradiol 0.5-1mg BD daily** **Progesterone 50mg-100mg BD** days 18-28 (by supplementing days 18-28 you achieve progesterone withdrawal, creating a bleed) Testosterone vaginally 1-2mg per day – If DHEA is low and symptoms suggest fatigue consider dosages between 5-25mg daily
Moderate - Severe Insomnia, fatigue, low energy, low moods. Physical symptoms such as night sweats and joint pains, low bone density may be present.	**Oestradiol 0.5mg BD** **Progesterone 50mg BD** – If DHEA is low and symptoms suggest fatigue consider dosages between 5-25mg daily – If vaginal dryness prescribe 1-2mg testosterone. – If incontinence is present add oestriol 1mg	**Oestradiol from 1mg – 2mg** per day total dosage **Progesterone 100mg** per day daily dosage day 18-28 Testosterone vaginally 1-2mg per day – If DHEA is low and symptoms suggest fatigue consider dosages between 5-25mg daily For patients with Osteoporosis the following rx range is recommended: **Oestradiol from 1mg – 2mg** per day total dosage **Progesterone 100-150mg daily** **Testosterone – up to 5mg daily** **Testosterone vaginally 1-2mg per day** – If DHEA is low and symptoms suggest fatigue, consider

Symptoms	Prescription (RX) Patient doesn't want cycle	Patient does want cycle
		dosages between 5-25mg daily.

Vitamins and Supplements

MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins, vitamin E and vitamin C.

Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis. Magnesium is a major factor in relaxing the smooth muscles within the blood vessels, thereby promoting a healthy cardiovascular system. It also affects circulating levels of norepinephrine and the synthesis of serotonin and nitric oxide. It positively influences the bone mineral matrix and its ability to metabolise minerals needed for repair and rebuilding.

Eskimo Oil High Strength

Omega-3 fatty acids support production of anti-inflammatory mediators, making them ideal in the inclusion of anti-osteoporsis regimens, given the role of inflammation involved in osteoporosis. EPA and DHA reduce bone activity of bone-resorbing cells, increasing bone forming cells and improving calcium balance. EPA and DHA have specific anti-resorption effects on bone cell culture and also stimulate differentiation and activity of bone-forming cells.

Vitamin D3 drops with K2

Vitamin D3 is the preferred form of supplemental vitamin D as this is the form produced by the skin in response to sun exposure. It contributes to the maintenance of normal bones as well as normal utilisation of calcium and phosphorus. Vitamin K is needed for the maintenance of normal bone: it activates the absorption of osteocalcin, the Gla-containing protein essential to calcium deposition in the bone.

Nutrition & Lifestyle

- Elimination of gluten, Beef, Eggs, Nightshade vegetables, Refined sugars , Citrus fruits
- Avoid excess protein, alcohol, smoking, antacids and caffeine which can reduce bone density.

- Quitting smoking is important for several reasons, especially as it increases the risk of heart disease and osteoporosis.
- Excessive alcohol and caffeine consumption have been shown to negatively affect bone health.
- Increase cardiovascular and weight bearing exercise to help prevent bone loss and reduce cardiovascular risk

ON-GOING MANAGEMENT

Review patient after **6-8 weeks after treatment** to see if there has been any improvement of symptoms and continue to monitor them every **3-6 months**.

Repeat pelvic ultrasound, blood test and bone density annually. During course of treatment, ensure a smear is carried out every two years and breast examination every year.

If patient experiences improvements, continue treatment indefinitely.

Side Effects/Concerns

If the patient is experiencing spotting or irregular bleeding, and this occurs more than once – carry out a pelvic ultrasound and repeat blood tests to find out the imbalance that's causing the bleeding. Following this reassess medication. If unresolved refer to gynaecologist.

However, for any other possible side effects please refer to 'Symptom Management Chart'.

References

1. Premature ovarian failure, 2016. Available at: http://www.mayoclinic.org/diseases-conditions/premature-ovarian-failure/home/ovc-20255563

2. Primary Ovarian Insufficiency - Topic Overview. Available at: http://www.webmd.com/menopause/tc/premature-ovarian-failure-topic-overview

3. Nelson LR, Premature Ovarian Failure – What Do I Need to Know?, 2012. Available at: http://www.resolve.org/about-infertility/medical-conditions/premature-ovarian-failure-what-do-i-need-to-know.html?referrer=https://www.google.co.uk/

OSTEOPENIA AND OSTEOPOROSIS

DEFINITION[1-3]

Osteopenia is the reduction of protein and mineral content in the bone tissue, resulting in low bone density. Osteopenia normally occurs around 50 years old and is more common in women. However, the age of presentation can differ depending on how dense the bones are in younger years. Causes of osteopenia can include: genetic predisposition, body type, vitamin D deficiency, menopause and eating disorders. Females with small stature, and consequently small bones, can be more at risk of osteopenia.

Osteoporosis is very low bone density and is often preceded by osteopenia. Therefore, it is important to recognise osteopenia before it progresses to osteoporosis. The causes of osteoporosis are similar to those of osteopenia. It is more commonly associated with women of menopausal age.[3]

Symptoms

- Back pain, caused by a fractured or collapsed vertebra
- Loss of height over time
- A stooped posture
- A bone fracture that occurs much more easily than expected

In all osteopenic patients the focus is on preventing osteoporosis and maintaining adequate bone density. Prevention of osteopenia and osteoporosis is of paramount importance in women who may have a predisposition to low bone density.

Every patient's risk of osteoporosis should be reviewed. Perimenopause and menopause are the main causes.

BHRT Consultation Protocol

- Medical history
- Menstrual history
- Blood tests: hormone profile, vitamin D, thyroid tests (can be taken anytime if the patient doesn't have a cycle)
- Pelvic ultrasound
- Bone density scan (all patients that no longer have a cycle should have a bone density scan)

To support a diagnosis of suspected osteoporosis, consider the below:

- Review blood tests for any other hormone-related conditions, such as the menopause, and treat accordingly. Refer to treatment protocols for osteopenia and osteoporosis

If patient isn't already on hormones, blood tests may indicate:

- FSH – elevated
- Oestradiol – low
- Progesterone – low
- Testosterone/free testosterone (Low or very low)
- DHEAs – normal to low
- Bone density scan – Osteopenia is defined as a T-score between -1 and -2.5. Osteoporosis is defined as a T-score less than or equal to -2.5 (See scan)
- Pelvic ultrasound – to be carried out as standard.

In extreme cases where younger patients have had osteoporosis, blood tests may be different to a patient going through the perimenopause/menopause, however the treatment protocol would be the same.

See perimenopause and menopause for the treatment guide to include osteoporosis and osteopenia.

Guidelines for explaining the diagnosis to the patient

1. Explain what osteopenia or osteoporosis is. (Show patient their scan and results)
2. Explain what stage the patient is at and
3. Reassure them that BHRT will help improve bone density
4. Reiterate that coming to the clinic is the first step towards help
5. Encourage the patient to feel confident in the treatment plan and to ask any questions or express any concerns

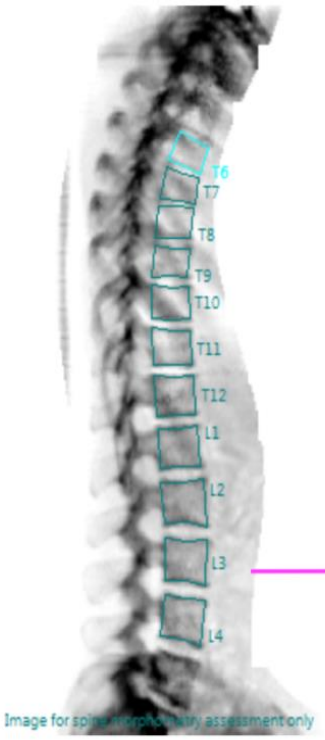
Treatment Guideline

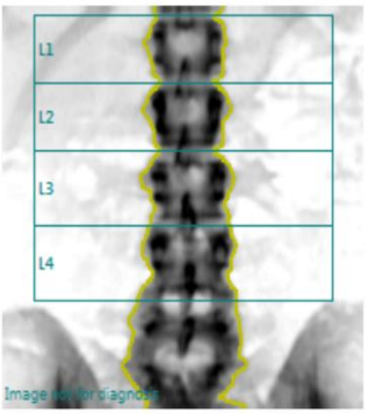
Refer to relevant treatment protocol for perimenopause, menopause or premature ovarian failure.

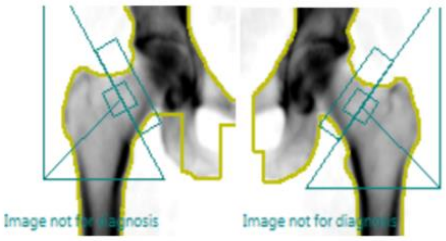
Bone Density Scan

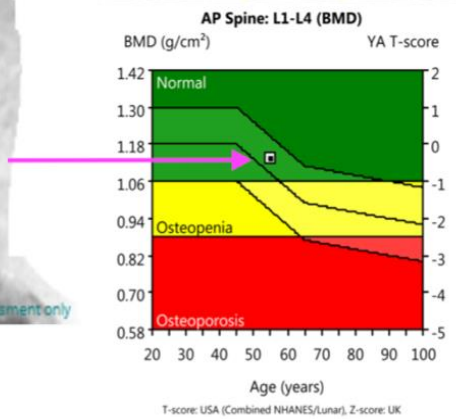
Imaging Report

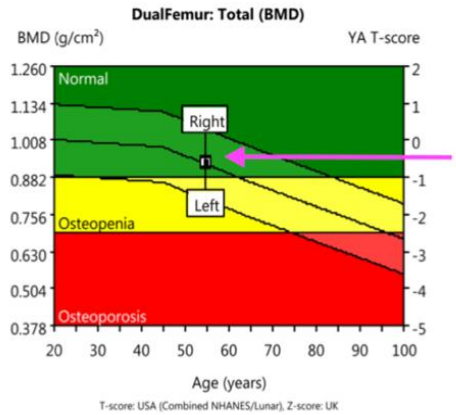
Patient:				**Referring Physician:**	GLUCK
Birth Date:	02/06/1963	**Age:**	54.6 years	**Patient ID:**	493032
Height:	163.5 cm	**Weight:**	51.6 kg	**Measured:**	13/02/2018 12:03:14 (17 [SP 1])
Sex:	Female	**Ethnicity:**	White	**Analyzed:**	13/02/2018 12:11:28 (17 [SP 1])











Region	BMD (g/cm²)	Young Adult T-score	Age-matched Z-Score	WHO Classifcation
AP Spine				
L1	0.988	-1.2	-0.4	Osteopenia
L2	1.168	-0.3	0.5	Normal
L3	1.157	-0.4	0.4	Normal
L4	1.200	0.0	0.8	Normal
L1-L4	**1.136**	**-0.4**	**0.4**	**Normal**
DualFemur Total				
Total Left	0.933	-0.6	0.1	Normal
Total Right	0.937	-0.6	0.1	Normal
Total Mean	0.935	-0.6	0.1	Normal
DualFemur Femoral Neck				
Neck Left	0.858	-1.3	-0.2	Osteopenia
Neck Right	0.901	-1.0	0.2	Normal

LVA Vertebral Deformities

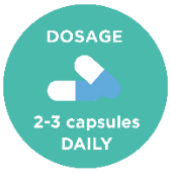
None

Comments:

General normal BMD - see assessment report

Vitamins, Supplements, Nutrition and Lifestyle

Osteo-P-Complex



Osteo-P-Complex is a multiple vitamin and mineral supplement providing specific nutritional support for a healthy skeletal system and bone metabolism, namely calcium, magnesium, vitamin D and boron. Supplementing with this can help increase bone density.

MegaMag (magnesium) fem balance

MegaMag Fem Balance is a high strength magnesium formula incorporating myo-inositol, vitamin B6, calcium and magnesium, together with B vitamins and vitamin E.

Magnesium is required as a cofactor in hundreds of enzymatic processes. It helps maintain normal muscle and nerve function, keeps heart rhythm steady, supports a healthy immune system, assists in maintaining blood sugar/ blood pressure and is involved in energy metabolism/ protein synthesis.

Magnesium is a major factor in relaxing the smooth muscles within the blood vessels, thereby promoting a healthy cardiovascular system. It also affects circulating levels of norepinephrine and the synthesis of serotonin and nitric oxide. It positively influences the bone mineral matrix and its ability to metabolise minerals needed for repair and rebuilding.

+Boron

Boron is an essential nutrient for optimal calcium metabolism and healthy bones and joints. Boron may affect human steroid hormone levels.

Resveratrol

Resveratrol is an effective compound for maintaining optimal health and boosting longevity.

Eskimo Oil High Strength

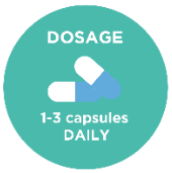
Omega-3 fatty acids support production of anti-inflammatory mediators, making them ideal in the inclusion of anti-osteoporsis regimens, given the role of inflammation involved in osteoporosis. EPA and DHA reduce bone activity of bone-resorbing cells, increasing bone forming cells and improving calcium balance. EPA and DHA have specific anti-resorption effects on bone cell culture and also stimulate differentiation and activity of bone-forming cells.

Vitamin D3 drops with K2

Vitamin D3 is the preferred form of supplemental vitamin D as this is the form produced by the skin in response to sun exposure. It contributes to the maintenance of normal bones as well as normal utilisation of calcium and phosphorus. Vitamin K is needed for the maintenance of normal bone: it activates the absorption of osteocalcin, the Gla-containing protein essential to calcium deposition in the bone.

Zinc Picolinate

Zinc is known to play a role in bone formation, and its deficiency may be a contributing factor in the pathogenesis of osteoporosis. Studies have found significantly depressed levels of serum and bone zinc in patients with senile osteoporosis. Correcting dietary copper deficiency may inhibit bone resorption and reverse the effects of osteoporosis.



Zinc Picolinate provides 15 mg of zinc chelated to picolinate for rapid absorption and assimilation,

- Avoid excess protein, alcohol, smoking, antacids and caffeine which can reduce bone density.
- Increase exercise, especially weight bearing exercise, to help increase bone density.

ON-GOING MANAGEMENT

Follow the same protocol as peri/menopause, however**:**

3 monthly

Conduct vitamin D tests**.**

Annual

Conduct a bone density scan and yearly blood tests to ensure no bone loss.

Recommend that the patient exercises regularly and includes weight bearing exercises to strengthen the bones. Advise a calcium rich diet that includes sesame.

FURTHER MANAGEMENT

Recommend that the patient exercises regularly and includes weight bearing exercises to strengthen the bones. Advise a calcium rich diet that includes sesame.

References

1. Osteopenia – Overview. Available at: http://www.webmd.com/osteoporosis/tc/osteopenia-overview#1

2. Driver CB, Osteopenia. Available at: http://www.medicinenet.com/osteopenia/page2.htm

3. Osteoporosis, Symptoms and causes. Available at: http://www.mayoclinic.org/diseases-conditions/osteoporosis/symptoms-causes/dxc-20207860

UNDERACTIVE THYROID

DEFINITION[1-3]

Underactive thyroid (hypothyroidism) is a condition whereby the thyroid gland does not produce enough thyroid hormone. Hormones are secreted by the thyroid gland, into the bloodstream, and affect nearly every part of your body. The thyroid is predominantly responsible for metabolism – how the body processes food to turn it into energy. The main cause of hypothyroidism is Hashimoto's thyroiditis, an autoimmune disease which causes inflammation of the thyroid gland.

Both males and females, of all ages, can be affected by hypothyroidism, though it is more common in females.

Symptoms[2]

- Weight gain
- Sluggishness/tiredness
- Heightened sensitivity to cold
- Constipation
- Depression
- Muscle aches and weakness

Many patients have symptoms of underactive thyroid; however, blood tests are normal. Be sure to exclude other causes of symptoms before proceeding with treatment.

BHRT Consultation Protocol

- Medical history
- Menstrual history
- Manual/palpation examination of the thyroid to identify goitre (if anything is detected refer for thyroid scan).
- Blood tests: GLU8, GL10 (thyroid antibodies, free T3, T4) and GLU6 (to include biochemistry)

The below results would support a suspected underactive thyroid diagnosis:

- Blood tests showing elevated TSH, low T3 and low T4
- A thyroid scan that indicates dysfunction
- Positive thyroid antibodies would confirm Hashimoto disease. For any elevated antibodies, a thyroid scan would be recommended
- Wilson Syndrome (low free T3)

Guidelines for explaining the diagnosis to the patient

1. Explain results and what they mean using a diagram of the feedback mechanism of how the thyroid works
2. Explaining why TSH is elevated and T3 and T4 are low, and reassure the patient that their treatment is safe and will be monitored

3. Even if results are normal, a patient may still have symptoms of underactive thyroid. In such cases use your clinical judgement regarding initiation of treatment.
4. Explain that treatment is often very effective and encourage any questions

Treatment Guideline

Symptoms	Prescription (RX)
Mild Fatigue, apathy, lethargic, thinning hair and low mood	25 mcg T4 thyroxine (Levothyroxine) OR ¼ grain of Armour Thyroid (0.015 mcg equivalent dose)
Mild to moderate Excessive fatigue, depression, lethargy, thinning hair, dry skin, loss of side of eyebrows	50 mcg T4 thyroxine (Levothyroxine) + 5 mcg T3 OR 1/2 grain of Armour Thyroid (0.0325 mcg equivalent dose)
Severe Excessive Fatigue, depression, lethargy, hair loss, very dry skin, loss of side of eyebrows, increased infections and aches and pains.	50mcg – 150gcm T4 Thyroxin plus 10-20 mcg T3 per day. (Armour not prescribed in severe cases)

Vitamins and Supplements

- Thyroid support – tyrosine, zinc, selenium, iodine, magnesium and copper
- Avoid cruciferous vegetables
- Contraindicated with thyroid - avoid St Johns Wort (hypericum)

Iodine

Iodine and tyrosine are required for thyroid hormone production.

Selenium

Selenium promotes heart health, brain health, and supports longevity.

Zinc

Scientists found that zinc supplementation offers an effective way to support aging immune *systems, as well as healthy inflammatory and antioxidant responses.*

Nutri Thyroid

(For treating primary hypothyroidism, and Hashimoto's Disease.)Thyroid hormones regulate metabolic rate, body temperature and cellular repair. Nutri Thyroid provides hormone-free thyroid gland concentrate containing amino acids required to nutritionally support this regulatory gland, This extract supports the production of normal thyroxine levels and is of bovine source from grass-fed New Zealand cattle.

Thyrocomplex

This synergistic blend of nutrients and herbs helps to support the health of the thyroid gland. Contains nutrients such as tyrosine, selenium, magnesium, zinc and copper which are essential for supporting healthy thyroid function and hormone conversion.

Nutri Whole Pituitary

(For treatment for secondary hypothyroidism). Provides whole pituitary concentrate for direct support of the pituitary gland, supporting production of normal TSH levels.

T-convert

(For treating Euthyroid Sick Syndrome and low T3 syndrome).A synergistic blend of mukul myrrh and minerals ro support the health of the thyroid gland. Gum guggul, selenium, magnesium, zinc, copper and magnesium have all been shown to support the conversion of T4 to T3.

Iodine tincture

(For patients with a confirmed iodine deficiency) iodine is a necessary building block for thyroid hormones. Liposomla iodine is absorbed and utilised more efficiently than other forms.

Sterol 117

Contains plant sterols, pine bark antioxidants and an essential fatty acid complex, to support healthy immune and cardiovascular function. Beta-sitosterol my help to modulate an overactive immune response and reduce inflammation.

L-tyrosine

L-tyrosine is an amino acid that can be converted in the brain and in the adrenal glands to dopamine, norepinephrine, and epinephrine. These hormones may be depleted by stress, overwork and certain drugs. By replenishing norepinephrine in the brain, mental energy levels may be improved.

Iodine and tyrosine are required for thyroid hormone production.

Eskimo-3

As well as supporting the heart and brain, Eskimo-3 - an omega 3 fish oil, can also be good for skin, joints and mood.

Vitamin B12.

Hypothyroid patients are often vitamin B12 deficient. It is not clear what the link between B12 deficiency and low thyroid function is, nor if thyroid function will improve with B12 supplementation, but, since low B12 causes serious neurologic damage, all hypothyroid patients should be tested.

Nutrition and Lifestyle

- Some foods contain goitrogenic substances that reduce the utilisation of iodine. Raw goitrogenic foods (such as canola oil and vegetables from the Brassica family [e.g., cabbage, brussel sprouts, cassava, and millet]) and soy foods that have not undergone fermentation and/ or food processing should be consumed in moderation and discontinued if symptoms should appear.
- Isoflavone molecules in soy inhibit an enzyme involved in thyroid hormone synthesis so consumption of soy should be reduced.

ON-GOING MANAGEMENT

Initial review

If the patient is being prescribed thyroid medication for the first time they should be seen at 6 weeks, 12 weeks and 6 months.

After 3 months

Significant improvement is usually made within 3 months, or immediately in some patients. If there is no symptomatic improvement and no improvement measured by the blood tests, then the patient is to be referred to an endocrinologist for further investigation.

Every 6 months

Repeat all tests every 6 in months in all cases.

References

1. Hypothyroidism (Underactive Thyroid). Available at: http://www.webmd.com/women/hypothyroidism-underactive-thyroid-symptoms-causes-treatments#1

2. Underactive thyroid (hypothyroidism) – Symptoms, 2015. Available at: http://www.nhs.uk/Conditions/Thyroid-under-active/Pages/Symptoms.aspx

HOW TO CONVERT HRT TO BHRT

If the patient is already on synthetic HRT and wants to convert to BHRT there are two ways of doing this:

1. Stop HRT and wait for 6 weeks, then review the patient, their symptoms and blood tests
2. Convert immediately from synthetic HRT to BHRT

The options are largely driven by the patient, in option 1 the patient may want to review their symptoms and how they are feeling before going ahead with treatment, and in option 2 the patient may be reluctant to stop their HRT as they fear that their symptoms may return and prefer to start BHRT without a break inbetween.

In option 1, the patient *will not* have blood tests; however, these will be done after 6 weeks along with the other assessments.

In option 2, the full BHRT consultation, blood tests *would* be carried out.

Diagnosis and Treatment

For all patients wishing to change treatment, it is important to ask the following:

- *What form of HRT are you on?*
- *What dosage have you been given?*
- *How do you feel/what symptoms do you have on your current medication?*
- *Why do you want to change your medication?*

In option 1, blood tests are taken 6 weeks after stopping the HRT. If the blood test indicates a menopausal profile then please refer to treatment guidelines for menopause.

In option 2 where the patient has changed to BHRT immediately, the patient's symptoms (if they are experiencing any) will be reviewed along with their bloods (taken after 6 weeks of treatment) including pelvic ultrasound results. The blood test would be used with the symptoms they may be experiencing, in order to identify the most appropriate BHRT prescription.

Treatment Guidelines

Use the chart below for prescription level based on the form of HRT. If the patient's prescribed form of HRT is not listed, consult with the clinical director and review dosage comparison.

ORAL FORMS OF HRT			
HRT			BHRT EQUIVALENT
Brand name	Generic name	Dosage	Transdermal Cream
CYCLICAL PREPARATIONS			
Prempak C®	Conjugated equine estrogens Norgestrel (equivalent to levonorgestrel 75mcg)	0.625mg Daily 0.15mg D14-28	E2 0.5mg BD with progesterone 50mg BD day 14-28
Climagest®	Estradiol valerate Norethisterone	1mg Daily 1mg D14-28	E2 0.5mg BD with progesterone 50mg BD day 14-28
Cycloprogynova	Estradiol Norgestrel (equivalent to levonorgestrel 250mg)	2mg Daily 500mcg D14-28	E2 1mg BD or Bi-est 5mg BD With progesterone 50mg BD day 14-28
Femoston 1/10	Estradiol Dydrogesterone (D14-28)	1mg/ 10mg	E2 0.5mg BD with progesterone 50mg BD day 14-28
Femoston 2/10	Estradiol Dydrogesterone (D14-28)	2mg/ 10mg (Daily/day 14-28)	E2 1mg BD with progesterone 50mg BD day 14-28

This is a guideline only, every patient is unique and some individuals may be particularly sensitive to hormones.

ON-GOING MANAGEMENT

Whether the patient is directly transitioning to BHRT or is pausing from HRT before commencing BHRT treatment, they need to be monitored carefully. The patient must return every **4-6 weeks** until they are stable, and you should taper their prescription as needed. Once stable, the patient should return to the normal recommended pathway for consultations. All tests are to be repeated annually (bloods and pelvic ultrasound etc.) and more frequently if required (to be decided on a case by case basis).

Side Effects/Concerns

If the patient is progesterone sensitive, reduce their dose significantly and wait for tolerance, then increase it slowly, until you reach a dosage that enables them to experience the benefits.

If the prescription is resulting in other side effects, refer to ‘Symptom Management Chart’.

VITAMIN D DEFICIENCY

DEFINITION[1]

If you shun the sun, suffer from milk allergies, or adhere to a strict vegan diet, you may be at risk for vitamin D deficiency. Known as the sunshine vitamin, vitamin D is synthesised by the body when the skin is exposed to sunlight. It is also found in some foods, e.g. fish liver oils, egg yolks and fortified dairy products. Vitamin D is vital when it comes to strengthening of bones, because it helps the body utilise dietary calcium.

Vitamin D deficiency is widely known for its association with rickets, a disease in which the bone tissue doesn't properly mineralise, leading to skeletal deformities. But vitamin D may help protect against other conditions such as cancer, hypertension and osteoporosis.

Symptoms[1]

- Bone pain
- Muscle weakness

However, for many, symptoms are subtle.

Health risks[1]

Even without symptoms, too little vitamin D can pose health risks. Low blood levels of the vitamin have been associated with the following:

- Increased risk of death from cardiovascular disease
- Cognitive impairment in older adults
- Severe asthma in children
- Cancer

Vitamin D may also play a role in the prevention and treatment of: type 1 and type 2 diabetes, hypertension, glucose intolerance, and multiple sclerosis.

Diagnosis

At the Marion Gluck Clinic, diagnosis will be made if the blood test identifies less than 50 nmol/L of vitamin D.

The optimum range is 80 nmol/L; however, even patients who are within normal range, are recommended to take vitamin D supplementation during the winter.

ON-GOING MANAGEMENT

- 5000 IU Daily Nutri with K2 – **take every day until vitamin D is within normal/optimum range,** and then just continue to take **during the winter months**. Carry out annual blood test to check levels.
- 2000 IU Daily Nutri with K2 – patients within normal range are to take this dosage **daily during the winter months only**.

Reference

1. WebMD. Available from: http://www.webmd.com/diet/guide/vitamin-d-deficiency#1

IRON DEFICIENCY

DEFINITION[1]

Iron deficiency is a lack of iron in the body; over time this can lead to iron deficiency anaemia - a reduction in the number of red blood cells.

Iron assists in the storage and transport of oxygen within red blood cells.

In post-menopausal women, the most common cause is bleeding in the stomach and intestines that may be caused by a stomach ulcer, stomach cancer, bowel cancer, or taking non-steroidal anti-inflammatory drugs (NSAIDs).

In women of reproductive age, heavy periods and pregnancy are common causes.

Unless the patient is pregnant, it's rare for iron deficiency anaemia to be caused solely by a lack of dietary iron.

Symptoms of iron deficiency anaemia[1]

- tiredness and lethargy
- shortness of breath
- heart palpitations
- a pale complexion

The severity of symptoms experienced depends on how quickly the anaemia develops.

Less common symptoms include:

- headache
- tinnitus
- an altered sense of taste
- feeling itchy
- a sore or abnormally smooth tongue
- hair loss
- a desire to eat non-food items, such as ice, paper or clay (pica)
- dysphagia
- mouth ulcers
- spoon-shaped nails

Further problems[1]

- If iron deficiency anaemia is left untreated, it can lower immunity, making the patient more susceptible to illness and infection.
- Severe iron deficiency anaemia may increase the patient's risk of developing complications such as tachycardia or heart failure.
- Pregnant women with severe or untreated anaemia have a higher risk of complications before and after birth.

Diagnosis

At the Marion Gluck Clinic diagnosis is made if blood ferritin iron stores are <30 and all other differential diagnosis causes have been excluded.

If the patient is diagnosed as being iron deficient, a recommendation will be made based on the degree of deficiency and symptoms as below:

Symptoms	Prescriptions (RX)
Mild symptoms/mild deficiency Fatigue, tiredness	**Liquid iron** (e.g Floradix or Spatone available in most high street chemists)
Moderate to severe symptoms/ deficiency Chronic fatigue, hair loss, palpitations, dizzy spells or fainting	**20mg gentle iron BD**

ON-GOING MANAGEMENT

Repeat blood tests every 6 months in iron deficient patients to ensure haemoglobin and ferritin are increased to normal levels (haemoglobin should be above 12 and ferritin above 80). If iron deficiency has not improved after 6 months review potential causes.

Include ferritin iron levels in all future annual tests, once the patient has reached normal levels and symptoms have improved/diminished.

Contraindications

Oestrogen therapy contradictions

Relative contraindications:

- Family history of breast cancer – to be reviewed with patient on a case by case basis
- Benign breast disease
- Moderate to severe endometriosis
- Growing fibroids that cause heavy bleeding

Absolute contraindications:

- Presence of non-eradicated endometrial cancer
- History of breast cancer
- Cancer in immediate relatives
- Active thrombosis
- Acute liver disease or chronic liver failure
- Unexplained uterine bleeding

This is a guideline, however treatment can be reviewed on a case by case basis. In the event that a patient with relative or absolute contraindications is requesting treatment, they must sign an indemnity and be reviewed by the medical director.

Testosterone and DHEA contraindications

- Patients suffering from PCOS or PCS (in this case a patient would not be prescribed testosterone or DHEA as they are generally producing too much anyway.

Reference

1. NHS Choices. Available from: http://www.nhs.uk/conditions/Anaemia-iron-deficiency-/Pages/Introduction.aspx

SYMPTOM MANAGEMENT CHART

Transdermal Cream containing:	Possible side effects:	What to do:
Progesterone only	Breast tenderness	For breast tenderness, advise patients to stop taking the medication and wait until symptoms have cleared before gradually restarting the medication.
	Spotting Missed periods Fatigue	For all other mild symptoms, advise patients to continue taking the medication until symptoms have cleared. If symptoms continue, advise patient to stop taking medication and seek advice from the medical director. If any type of bleeding persists instruct pelvic ultrasound.
	Mood swings – low mood and anxiety	If symptoms are persistent with or without medication, refer patient to psychotherapist or psychiatrist.
	Painful menstrual cramps and uterine cramps	Double progesterone BD. After 3 months review symptoms and seek advice with the medical director if symptoms are still persisting.
	Trouble sleeping	Increase progesterone nocte. Seek advice with the medical direct if this doesn't improve the patient's symptom.
	Headaches and nausea (rare)	Seek advice with the medical director.

When also taking oestrogen:		
Oestrogen & Progesterone	Breast tenderness	For breast tenderness advise patients to stop taking oestrogen and wait until symptoms have cleared before gradually restarting the medication.
	Spotting or breakthrough bleeding	Stop all BHRT until bleeding ceases. Decrease oestrogen dosage (by half) and/or stop medication. Increase progesterone levels BD. Seek advice from clinical director and instruct pelvic ultrasound and repeat blood tests.
	Weight gain and fluid retention.	Reduce oestrogen to half the dosage. If symptoms persist seek advice from the medical director.
Testosterone	Oily skin Facial spots Hair loss (generally rare)	Stop medication until symptoms have cleared before getting the patient to restart the medication on half the dose
DHEA	Facial spots Feeling wired or agitated Hair loss (generally rare)	Stop medication until symptoms have cleared before getting the patient to restart the medication on half the dose

CHAPTER 5: PELVIC ULTRASOUND

Protocols Outline - Pelvic Ultrasound: Siemens, Acuson S1000

At the Marion Gluck Clinic we expect every new patient to undergo a pelvic ultrasound scan before or soon after starting any hormone treatment in order to get a baseline reading. This scan is in addition to blood test results and a thorough initial consultation. This is part of the initial assessment and will determine what medication is appropriate, if any, in each individual case

A blood test can be performed during the initial appointment. We do recommend booking a pelvic ultrasound scan either after the initial appointment, or together with the first follow-up. *

**If a pelvic scan has been performed within the last 12 months, this is not necessary.*

All patients receiving bio-identical hormone replacement therapy (BHRT) are strongly encouraged to have a pelvic ultrasound scan at least every 12 months.

There are three main hormone receptors found in the uterus, endometrium lining and the ovaries. This is why it is immensely important to perform regular check-ups before and during hormone use to offer maximum safety precaution to the patient.

What to look for in a pelvic ultrasound

When carrying out a pelvic ultrasound, the key areas that are being examined closely are: the thickness of the endometrium; any pathological occurrences in the womb or ovaries; and the presence of cysts and/or fibroids.

Look for the endometrium lining. In menopausal patients, anything up to 6mm is considered normal. Over 6 mm needs to be investigated.

Refer the patient to a gynaecologist if anything pathological or abnormal is suspected. Please also advise when you would suggest BHRT is NOT to be used, and when referral or further investigations are required instead.

Instructions for use:

The ultrasound system used at The Marion Gluck Clinic is the ‘Siemens Acuson S1000’.

Please find a system overview below:

System Overview

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System Left Side

1. Flat panel display monitor (with handle, speakers and microphone)
2. 2 USB ports
3. Touch screen
4. Power ON/OFF (QuikStart Standby)
5. Control panel (height and swivel adjustable)
6. CD/DVD drive: supports DVD-R, DVD-RW, CD-R
7. Cable hanger
8. Pull-out keyboard
9. Physio panel (ECG and Aux 1 ECG)
10. Transducer parking port
11. Central brake

System Overview

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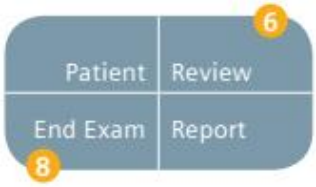
Control Panel

1. Power On/Off (QuikStart Standby Mode*)
2. Workflow Controls
3. Advanced Feature Controls
4. Specialty Controls
5. Soft Key Rotary Controls
6. Major Modes/Image Optimization Controls
7. TEQ/DGC
8. Up/Down Control
9. Dual & Zoom
10. Freeze
11. Home Base
12. Doppler Audio Volume Control

*Optional feature

Before starting a new examination, it is most important to follow the steps below:

Store, Print, Review and End Exam



1. Press **Clip** to acquire and save a clip.
2. Press **Freeze**.
3. If desired, roll **trackball** for frame-by-frame CINE review.
4. Press **Image** to save a static image.
5. Press **UD** to print.*

6. Press **Review**, or
7. Press **Pointer** to activate cursor and double-click a thumbnail to review images.
8. Press **End Exam** to end the study.

*A compatible printer must be connected and assigned to the UD print function in the configuration menu before using selection.

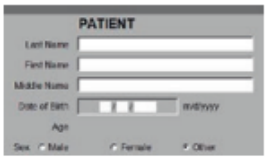
TIP Starting a new patient also ends a current exam.

Patient Registration – Manual

New Patient

1. Press **Patient**.

2. Select New Patient
3. Select Short Form or Long Form
4. Enter Patient Information – use **Tab** to move between fields



5. Select 

and 

from the drop-down menus.
6. Select **Protocol** (optional)
7. Start Study

TIP Transducer, exam and protocol can also be selected from the touch screen after patient registration.

CHAPTER 6: CUSTOM BLOOD TEST PROFILES

Blood Test

The Marion Gluck Clinic has created a list of blood test packages with unique codes. Please see the list of blood tests below.

GLU1

- TSH
- FT4
- FT3

GLU2

- TSH
- Free T3
- Free T4
- Thyroid Abs

GLU3

- PSA
- Testosterone
- Free Testosterone
- Progesterone
- DHEAs
- FAI
- SHBG
- Oestradiol
- Vitamin D

GLU4

- PAPT
- HPVT

GLU5

- Haematology
- Biochemistry
- HDL/LDL
- Ferritin
- Vitamin B12
- Serum Folate
- CRP
- Homocysteine

GLU6

- Haematology
- Biochemistry (DL2L)
- HDL/LDL
- Lipoprotein(a)
- hsCRP
- Homocysteine

GLU7

- Glucose
- Glycosylated Hb
- Insulin

GLU8

- FSH
- Oestradiol
- LH
- Progesterone Total
- Testosterone
- Free Testosterone
- DHEAs
- Vitamin D

GL10

- TSH
- FT3
- FT4
- T4
- T3

GL11

- CA 153
- HE4
- CEA

GL12

- Vitamin A
- Beta Carotene
- Vitamin B1
- Vitamin B2
- Vitamin B6
- Vitamin C
- Vitamin E
- Mineral Screen

GL13

- Vitamin D
- Serum for Deoxypyridinoline (DPD)

GL14	GL15	
• HIV 1&2/p24 • Hep C Abs • Hep B sAg • Syphilis IgG/IgM	• FBC/ESR • Biochemistry profile • HDL/LDL • TSH • FT4 • FT3 • Ferritin • CRP	• PSA • Testosterone • Free Testosterone • DHEAs • FAI • SHBG • Oestradiol • Progesterone • Vitamin D 925 OH

CHAPTER 7: CLINICAL REFERRAL DIRECTORY

SPECIALITY	NAME	ADDRESS	CONTACT NUMBER	EMAIL
Breast Surgery	Mr Tim Davidson	The London Clinic, 120 Harley Street, Marylebone, W1G 7JW	0207 935 6155	tdavidson@thelondonclinic.co.uk
Cognitive Hypnotherapist	Fiona Nicolson	142 Harley Street, Marylebone, W1G 7LD	07920 054 292	fiona@fionanicolson.com
Endocrinologist	Prof. S. L. Chew	The London Clinic, 5 Devonshire Place, Marylebone, W1G 6HL	0207 034 6227	sl.chew@thelondonclinic.co.uk
	Mark Vanderpump	The Physician's Clinic, 13-14 Devonshire Place, Marylebone, W1G 7AE	0207 034 8164	info@thephysiciansclinic.co.uk
Fertility Specialist	Mr Michael Dooley	The Poundbury Clinic, Middlemarsh Street, Dorchester, DT1 3FD	01305 262626	info@thepoundburyclinic.com
Gastroenterology	Prof. Parveen June Kumar	The London Clinic, 20 Devonshire Place, London, W1G 6BW	0207 616 7645	ldh@thelondonclinic.co.uk
Genitourinary Medicine	Angela Robinson	London Medical, 49 Marylebone High Street, London, W1G 5HG	0800 0483 330	info@londonmedical.co.uk
Gynaecologist	Mr Tim Mould	The London Clinic, 20 Devonshire Place, London, W1G 6BW	0207 390 6105	t.mould@tiscali.co.uk
	Mr Colin Davis	Albert House, 47 Nottingham Place, Marylebone, W1U 5LZ	0207 034 5000	secretary@gsc.uk.com

SPECIALITY	NAME	ADDRESS	CONTACT NUMBER	EMAIL
	MIss Alison Wright	The Portland Hospital, 215 Great Portland Street, W1W 5PN	07540 128755	awrightpa@obgynmatters.co.uK
	Miss Claire Mellon	1st Floor, 212 Great Portland Street, London, W1W 5QN	0207 390 6225	admin@clairemellon.co.uk
Gastroentorology	Prof. Owen Epstein	Royal Free London, Pond Street, London, NW3 2QN	0207 317 7751	rf.privateenquiries@nhs.net
Naturopath/Herbalist	Vera Martine	61 Wimpole Street	0207 402 2151	secretary@mariongluckclinic.com
Osteopath	Boniface Verney-Carron	2 Spanish Place, Marylebone, W1U 3HF	0203 581 1515	info@vchealthpractice.com
Psychotherapist	Maya Jacobs-Wallfisch	61 Wimpole Street, W1G 8AH	0207 402 2151	secretary@mariongluckclinic.com
	Robert Hudson	The Hudson Centre, 14 John Prince's Street, Cavendish Square, W1G 0JR	0207 493 4488	info@thehudsoncentre.co.uk
Private GP	Dr Laila Kaikavoosi	Suite 2, 35a Welbeck Street, Marylebone, W1G 8EZ	0207 935 3351	sally@drstephaniegoodwin.co.uk
Urologist	Mr Justin Vale	136 Harley Street, London, W1G 7JZ	0207 127 0041	jvale@opushealthuk.co.uk

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