The Natural PCOS Diet

A Naturopath’s Easy Step-by-Step Guide to Overcoming PCOS

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Preface

Polycystic ovarian syndrome (PCOS) is one of the most common hormone imbalance disorders affecting women. And one thing’s for sure, PCOS leads to a long list of distressing symptoms. For many women, infertility is one of the most devastating consequences.

The good news is that a comprehensive natural treatment strategy can address the underlying causes of this complex hormone disorder. Put simply, natural treatments can help relieve symptoms and prevent the condition from becoming worse. A healthy diet, specialised nutrients, specific herbal medicines, targeted homeopathic remedies and meditation are all effective ways to manage PCOS.

How Can The Natural PCOS Diet Help You?

For many years I had my own private clinical practice, where I treated numerous clients suffering from PCOS and helped them get their health back on track. My treatment plan empowered my clients to achieve lasting results, and inspired them to take better care of their general health.

I know from firsthand experience what it takes to see results, and I want to share my practical advice with you. Imagine having all the information you need from an expert to improve your hormone health in natural ways. The Natural PCOS Diet is my step-by-step guide to help you manage and overcome PCOS.

The Natural PCOS Diet offers real solutions to help you:

- naturally balance your hormones
- increase your chances of conceiving
- help you lose weight and feel good
- curb your cravings for sugary foods
- turn your fatigue around
- achieve clear, glowing skin
- see improvements in your mood.

It’s possible to recover your hormone health so begin your journey to wellness now.

Best wishes,

Jenny Blondel

Naturopath and Wellness Coach
Chapter 1: What is PCOS?

Polycystic ovarian syndrome (PCOS) is a hormonal disorder characterised by the accumulation of what appears to be numerous fluid-filled cysts on the ovaries. These develop over time as the ova (eggs) fail to mature, then release during the menstrual cycle. This causes multiple immature ova to be visible on an ultrasound, which are mistakenly called cysts.

PCOS affects 6–10% of women in developed countries and up to 30% of overweight women. The lack of ovulation associated with PCOS is the leading cause of infertility in women of reproductive age.

Despite the name, not all women with PCOS have polycystic ovaries, although most do. The cysts are just one of the many signs and symptoms of PCOS (which will be discussed in Chapter 2: Signs and Symptoms of PCOS).

A Poly-glandular Syndrome

PCOS is far more than just a reproductive problem – it affects an entire cascade of hormones and each PCOS sufferer’s experience with this syndrome is very different.

PCOS is a complex syndrome which disrupts normal hormone balance and blood sugar levels. It can result in weight gain, menstrual problems, fertility problems and skin and hair problems.

It is not just the ovaries that are affected by this syndrome. The Hypothalamic-Pituitary-Adrenal (HPA) axis, adrenal glands, pituitary gland, thyroid gland, pancreas and even the liver can be detrimentally involved in this syndrome.

Because PCOS can affect a women’s appearance, metabolism and fertility, many psychological issues such as anxiety, depression, relationship problems and eating disorders can manifest.

There is substantial evidence that PCOS should no longer be considered purely a gynaecological disorder, but a complex hormone disorder.

To be **diagnosed with PCOS**, two out of the following three things must be present:

- Polycystic ovaries – diagnosed by ultrasound
- Irregular or absent periods from an early age
- A change in the amount of body and facial hair, or high levels of testosterone in the blood.
Chapter 2: Signs and Symptoms of PCOS

PCOS does not just affect your ovaries. There can be devastating effects on your whole body.

The cysts on polycystic ovaries are tiny, and look like black dots on the ovary on an ultrasound. The cysts are actually multiple immature ova (eggs that have failed to fully mature) that have not been released from the ovary.

Signs and symptoms of PCOS include:

- infertility
- ovarian/pelvic pain
- irregular or absent menstruation
- irregular or absent ovulation
- increased facial and body hair (hirsutism)
- male pattern hair growth
- weight gain and obesity
- acne, oily skin and skin pigmentation
- hyperkeratosis of the skin
- reduced libido (sex drive)
- fatigue (often as a result of sleep apnoea)
- hypoglycaemic episodes
- mood swings
- hypothyroidism.

You may only experience a few of these symptoms or you may be able to tick them all.
A note on hirsutism

One of the most distressing and de-feminising symptoms of PCOS, hirsutism (excessive hair growth) can vary from mild and hardly noticeable, to severe and needing removal every day.

Hirsutism is a symptom of high testosterone levels, which can be due to insulin resistance (insulin increases the production of testosterone), low sex hormone binding globulin (SHBG), or higher conversion of testosterone precursors in the skin and hair cells. This activity of androgens in the skin stimulates abnormal patterns of hair growth.

Interestingly, hirsutism occurs in 70% of women with PCOS in the USA, as opposed to only 10–20% of Japanese women. This may be explained by the genetically determined differences in 5-alpha-reductase activity between different cultures. From a holistic standpoint, hirsutism may reflect differences in hormone behaviour in accordance with local diets and levels of physical fitness.

What is 5-alpha-Reductase?

5-alpha-reductase is an enzyme produced in the prostate, adrenal glands and scalp that metabolises the male hormone testosterone into DHT (dihydrotestosterone). DHT is a highly active form of testosterone known to stimulate prostate growth and scalp hair loss.

DHT can cause hair follicles to shrink and enter a permanent dormant state. This condition is more common in men but may also occur in women during menopause, due to low oestrogen levels.
Chapter 3: What Causes PCOS?

A basic understanding of the causes of PCOS will help empower and motivate you to make positive changes to your diet and lifestyle to help overcome this condition.

While researchers are not certain of the exact cause of PCOS, it is known that an imbalance of the endocrine (hormonal) system is responsible for many of the changes associated with PCOS. However, it is still not known exactly what causes those changes.

In this chapter, the following plausible causes will be discussed:

- Hormone connection
- Insulin resistance
- Weight
- Genetics
- Inflammation
- Leptin Resistance
- Gluten Intolerance.

Hormone Connection

In women with PCOS, the ovaries make more androgens than normal. Androgens are male hormones that females also produce. High levels of these hormones affect the development and release of eggs during ovulation.

Problems with Ovulation

Hormones are proteins produced by a structure within the body that causes a change within a cell or organ. The Hypothalamic-Pituitary-Ovarian (HPO) axis is a system of hormonal control within the body. The hypothalamus is a gland within the brain that, when stimulated, produces a hormone known as Gonadotropin-Releasing Hormone (GnRH). This then travels to the pituitary gland, another small structure in the brain. The pituitary gland produces a variety of other hormones which regulate and maintain many body functions, including ovulation.

In a normal menstrual cycle, follicles grow on the ovaries. Within those follicles eggs develop, one of which will reach maturity faster than the others and be released into the fallopian tubes. This is known as ovulation. The remaining follicles (sometimes hundreds) will degenerate. This happens in response to hormone changes – the fluctuation of oestrogen and progesterone. This response is stimulated by hormones released from your pituitary gland – the Luteinising Hormone (LH) and Follicle Stimulating Hormone (FSH).

In the case of polycystic ovaries, however, the ovaries can appear much larger than normal, and there are a series of undeveloped follicles that appear in clumps, like a bunch of grapes.
Hormonally, elevated androgens inhibit FSH, thereby inhibiting development and maturation of the follicles. High testosterone levels elevate LH levels (but not in all cases). Testosterone levels can be twice the normal range (20–80ng/dL).

**Hyperprolactinemia**

About 25% of PCOS sufferers have elevated prolactin, known as hyperprolactinemia. This results from abnormal oestrogen negative feedback via the pituitary gland. Elevated prolactin can, in turn, also contribute to elevated oestrogen levels, suppress progesterone release and compromise normal GnRH function, contributing to lack of ovulation.

**Hormones and Stress**

The impact of adrenal stress on our complex hormonal system is not to be underestimated, hence the area of study on the Hypothalamic Pituitary Adrenal (HPA) axis. DHEA, an adrenal stress hormone, is found to be elevated in 50% of women with PCOS. This excess DHEA then converts to androgens via adrenal metabolism, which in turn contributes to the typical elevated androgen levels in PCOS.

**Oestrogen Imbalance**

Our body produces three types of oestrogen. In some cases, the body will attempt to normalise the high levels of androgens through conversion to oestrogen (i.e. oestrone). This, however, creates an imbalance in the oestradiol (E2): oestrone (E1) ratio.

This imbalance in oestrogen can create an excess in oestrogen. This in turn suppresses the FSH surge that triggers ovulation. When this happens, ovulation generally doesn’t occur, elevating LH, in turn reducing progesterone. Without enough progesterone, the body can’t fully support normal ovulation and pregnancy.

Exposure to xenoestrogens (environmental oestrogens) due to lifestyle choices will also contribute to an oestrogen dominant state. Examples of these are Bisphenol – A (BPA e.g. in plastic drink bottles), parabens (e.g. in beauty products) and dioxins.

Detailed information can be found in Chapters 13–16.

**Thyroid Link**

Oestrogen dominance and PCOS have been positively correlated with the risk of thyroid dysfunction and disease. Hypothyroidism (an underactive thyroid gland) may also contribute to the symptoms of PCOS (e.g. irregular periods, weight gain, mood swings). One study found 68% women with hypothyroidism had menstrual abnormalities compared to only 12% in controls.³

A recent German study has found that PCOS sufferers have an increased risk for Hashimoto’s, an autoimmune thyroid disease.⁴ The researchers believe that the progesterone deficiency associated with PCOS makes women more susceptible to this

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⁴ Janssen OE. High prevalence of autoimmune thyroiditis in patients with polycystic ovary syndrome. Eur J Endocrin 150(3): 363-369
autoimmune condition. It may also be that women with thyroid conditions are more likely to develop PCOS.

Healthy thyroid function is necessary for healthy ovulation.

**Insulin Resistance**

There is good evidence to suggest that many cases of PCOS are caused, in part, by insulin resistance, a metabolic problem that also causes weight gain and diabetes.

Seventy percent of women with PCOS are **insulin resistant**. Insulin is a hormone that controls the change of sugar, starches and other food into energy for the body to use or store. Many women with PCOS have too much insulin in their bodies because they have problems using it. Excess insulin appears to increase production of androgens, leading to problems such as anovulation (lack of ovulation), acne, hirsutism and weight gain. Refer to Chapters 5–6 for detailed information on insulin resistance.

**Does the Pill Cause PCOS?**

Even though the Pill has been a standard treatment for PCOS, it can cause permanent hormone changes, even once it is stopped. The bad news for Pill users is that the Pill appears to worsen the metabolic problem that is at the root of the condition, leading to insulin resistance. But that’s not all. It also leads to weight gain, suppresses thyroid function, increases the likelihood of depression and the deposition of cellulite, and can induce testosterone deficiency, impacting on libido.  

**Weight**

Carrying more weight worsens insulin resistance and the existing symptoms of PCOS. Some women with PCOS report that when they are a normal healthy weight, they don’t show symptoms such as menstrual irregularity or excessive hair growth, and that these symptoms only appear once they gain weight. The symptoms of PCOS can therefore be reduced if you follow a healthy diet and lifestyle.

**Genetics**

Immediate female relatives of women with PCOS (i.e. daughters or sisters) have up to a 50% chance of having the condition, so most researchers believe there is a genetic link, although at this time it’s not known exactly what that link may be. This is made difficult due to the lack of a single diagnostic test, as well as the role that external factors (such as obesity, diet and exercise habits) may play in the development of the syndrome. It is likely to be complex and involve multiple genes that control:

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6 Nader, S et al. The effect of desogestrel-containing oral contraceptives on the glucose tolerance and leptin concentration in hyperandrogenic women' J Clin Endocrinol Metab 1997 82: 3074-7
• insulin regulation
• androgen production
• the hormones involved in regulating ovulation and menstruation.

Inflammation
Recent research also links blood sugar control with inflammation in PCOS. Since insulin resistance can make you overweight, and the more overweight you are, the more inflammatory markers you will make. However, these levels are increased not only in overweight women with PCOS but also in healthy weight women with PCOS.
Detailed information can be found in Chapter 4.

Leptin Resistance
Leptin resistance is also associated with PCOS. Leptin is a key messenger from the fat cells to the brain. It naturally encourages a feeling of satiety (a feeling of fullness), so when levels are adequate you are less likely to store fat, experience cravings or excess hunger. Constant hunger, inability to lose body fat, poor blood sugar control and reproductive problems associated with PCOS can be a result of leptin resistance.
Detailed information can be found in Chapter 7.

Gluten Intolerance
Up to 85% of PCOS sufferers have gluten sensitivity. Gluten is a protein found in wheat and other grains such as rye and barley. When these women remove gluten from their diets they often see a marked improvement in their PCOS symptoms including weight loss.
Detailed information can be found in Chapter 8.

In summary, some of the causes discussed here may also be consequences of PCOS. In other words, we have an amazingly complex network of interacting variables, each of which influences the other. PCOS is not a simple condition with a single cause.
Chapter 4: The Link Between PCOS and Inflammation

When most people hear the word ‘inflammation’, they think of a swollen ankle, red and irritated eyes, or the pain of an injury. This is called **acute inflammation**, which occurs over a short period of time and is a helpful process in the body in response to any sort of trauma or injury. This type of inflammation helps to promote healing and prevent infection.

On the other hand, prolonged or chronic, often unseen **internal inflammation** is harmful and associated with many health conditions including PCOS, infertility, Type II diabetes and heart disease.

To combat internal harm, inflammation produces **C-reactive protein (CRP)**, which, unfortunately, can damage the arteries by helping to form plaque while attempting to tackle a condition like high blood pressure.

According to a 2009 study⁸, levels of inflammatory markers in the blood are increased not only in overweight or obese women with PCOS but also in healthy weight women with PCOS, compared to women who do not have PCOS.

Recent research also links blood sugar regulation with inflammation in PCOS.⁹ As you know, insulin resistance can make you overweight, and the more overweight you are, the more inflammatory markers you will make.

While the cause and best treatment for PCOS has yet to determined, the research indicates that insulin resistance, blood sugar regulation, inflammation and hormone levels appear to be linked. Losing excess weight and controlling inflammation cannot be emphasised enough.

The guidelines in this book can help you to make changes to your diet and lifestyle that can help you lose weight, regulate your blood sugar and decrease the inflammation associated with PCOS, which may help improve your chances of conception and decrease your risk for heart disease.

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⁹ Sathyapalan T, Atkin SL. Mediators of Inflammation in Polycystic Ovary Syndrome in Relation to Adiposity. Mediators of Inflammation; 2010
Chapter 5: Insulin Resistance Syndrome

Insulin is a hormone produced by the pancreas to transport sugar into the cells, assisting in producing energy for your body. Insulin resistance syndrome is a condition where your body is no longer able to control your blood sugar levels. It is also known as Metabolic Syndrome and Syndrome X.

To have this condition, a person must have central obesity (body fat that is concentrated around the waist), plus any two of the following indicators:

- A raised triglyceride level (a type of fat in the blood)
- A low level of HDL-cholesterol (‘good’ cholesterol)
- High blood pressure
- An increased blood sugar level after a period of fasting, or have been previously diagnosed with Type 2 diabetes.

The average modern diet is too high in processed carbohydrates, especially sugary foods, which cause rapid spikes in blood sugar levels. This places undue stress on the pancreas as high amounts of insulin are released to keep the level of glucose in the bloodstream from spiralling out of control. Over time this situation leads to insulin resistance syndrome.

Fatigue, weight gain and sugar cravings are common signs of insulin resistance syndrome. These symptoms result when the cells stop responding to the increased insulin and the liver starts converting unused blood sugar into body fat.

Insulin resistance can be caused by:

- being overweight due to poor diet or physical inactivity
- leptin resistance
- too many refined carbohydrates in the diet, especially flour and sugar
- damaged vegetable oils called trans fat
- smoking
- environmental toxins such as Bisphenol-A (BPA)
- the oral contraceptive pill (OCP)

Pharmaceutical medications such as metformin, clomid and the oral contraceptive pill are often prescribed to help correct insulin resistance. But are these the answers?
Chapter 6: The Link Between Insulin Resistance Syndrome and PCOS

There is a definite link between PCOS and insulin resistance. Up to 80% of women with PCOS have insulin resistance syndrome.

Insulin resistance is a state where the body cannot carry out the complex normal actions of insulin. Insulin resistance can contribute to an increased risk of developing Type 2 diabetes and cardiovascular disease.

Insulin has a range of other functions in the body in addition to regulating blood glucose levels. In PCOS, high levels of insulin can increase the production of male hormones (androgens such as testosterone) in the ovary. Both high insulin and androgens contribute to symptoms such as irregular periods, difficulty ovulating, excessive hair growth and acne.

In addition to regulating glucose levels, insulin causes the liver to decrease production of a key molecule known as sex-hormone binding globulin (SHBG). Testosterone is carried in the blood by SHBG when the molecule is present. If a reduced amount of SHBG is available, more free testosterone (testosterone that isn’t carried by SHBG) is present in the blood. It is also believed that high levels of insulin can increase the amount of androgens the ovary produces.

Stress can worsen insulin resistance and your PCOS symptoms. Under stress, your adrenal glands weaken and this in turn affects all of your hormones, including insulin. Insulin becomes more sensitive and this stimulates androgen production from the adipose (fat) tissue, ovaries and adrenals. Under chronic stress, excess cortisol is produced from the adrenal glands, triggering the release of elevated levels of prolactin and a sympathetic nervous system response. Prolactin reduces the production of Follicle Stimulating Hormones (FSH) and elevates the production of Luteninising Hormones (LH), worsening the scenario for women with PCOS.

This can result in:

- cells responding poorly to insulin stimulation
- the pancreas producing large amounts of insulin
- an increased risk of developing diabetes
- obesity and weight gain
- ovaries that are sensitive to insulin
- high testosterone and high LH, which stop follicles from maturing
- hirsutism
- acne
- cholesterol problems – high LDL, low HDL
- food cravings.

Too many sugary foods in your diet can lead to insulin resistance syndrome, putting you at risk of developing PCOS.

**Genetics and Insulin Resistance**

Research shows genetic factors can put you at greater risk of developing PCOS. This means that women with PCOS can have:
- a genetic predisposition to having insulin resistance
- insulin resistance due to lifestyle factors
- a combination of both these factors.

As you can see, insulin resistance tied in with PCOS is a lifestyle issue that requires management through diet and exercise. Naturopathic and herbal treatment can help with all aspects of this condition.

A natural PCOS diet for insulin resistance can help you:
- maintain a good balance of protein and carbohydrates
- reduce sugar and refined carbohydrate intake
- achieve a low glycaemic index by eating low glycaemic foods.

This is discussed in more detail in Chapters 18 to 21.
Chapter 7: The Leptin Link

The hormone leptin was discovered only in 1994. Produced by fat cells, leptin is fascinating researchers as a potential key marker for appetite, blood sugar regulation, fat burning, bone health, and for its role in helping stimulate follicle development in the ovary.

Leptin is a key messenger from the fat cells to the brain. It naturally encourages a feeling of satiety (a feeling of fullness), so when levels are adequate you are less likely to store fat, experience cravings or excess hunger.

The following problems occur when your brain stops listening to the leptin message:
- Constant hunger
- Inability to lose body fat
- Increased blood sugar
- Reproductive problems.

Too Little or Too Much?

Sleep is needed to produce optimal amounts of leptin, but when you don’t get enough sleep, leptin production is reduced. This allows a molecule called neuropeptide y to predominate in the brain, stimulating hunger and fat storage.

Too much leptin can occur with weight gain. The more fat cells present, generally the more leptin is produced. You would think that a higher amount of leptin would make you less hungry, but it can do the opposite by causing leptin resistance.

What is Leptin Resistance?

Foods loaded with sugar cause an excessive release of leptin. Over time, when the brain is exposed to this much leptin, it has to ‘stop listening’ i.e. cells become resistant.

The leptin-resistant person wants to eat all the time. Fat tissue accumulates, and secretes more and more leptin, but the brain still isn’t listening. It still thinks the body needs more food. In the meantime, the excess leptin signals the liver to secrete excess blood sugar. Leptin also increases inflammation in the body and interferes with normal ovulation and reproduction.

Leptin resistance can be likened to insulin resistance. In PCOS, high insulin levels lead to insulin resistance, making it hard for insulin to get sugar inside the cells for energy. Leptin resistance is caused by a similar mechanism. It’s like background noise – at first you notice it, then after a while you get so used to it that you forget about it.
In a recent groundbreaking study on mice, leptin supplementation was shown to completely normalise blood sugar, irrespective of insulin. Leptin does this because it prevents the production of glucose by the liver. Experts are stunned by the development. It means a complete rethink about blood sugar, and could pave the way to a cure for diabetes.

Are You a Yo-Yo Dieter?

If you are lean, you will have a low leptin set-point. In other words, your brain is accustomed to low leptin. If leptin levels drop because you are hungry, then your brain responds in a reasonable fashion. It signals the body to eat, but it doesn’t trigger a massive fat storage reflex. This is normal leptin sensitivity.

However, if you are carrying extra weight, then generally you will have a high leptin set point. Your body is used to a lot of leptin, so when leptin levels drop due to calorie restriction and fat loss, the brain panics. It sends out hunger messages, and signals the body to store fat. You then fall into the trap of being a ‘yo-yo dieter’.

Rebound weight gain can be prevented by not allowing leptin levels to drop too low during the weight loss phase. A healthy large meal once per week (no sugar) will cause a beneficial leptin surge to stimulate metabolic rate and suppress appetite. This can be part of a successful strategy to reduce the leptin set point slowly over time.

What Can You Do?

- Get your leptin levels tested via a fasting (on an empty stomach) blood test by your doctor.
- Stop eating all refined sugar. Sugar disrupts leptin signalling. It causes constant hunger and makes it impossible for the body to let go of fat.
- Get eight hours sleep (ideally unbroken). Sleep improves leptin sensitivity.
- Don’t crash diet. Losing weight too quickly will cause a rapid drop in leptin levels and suppress your metabolic rate.
- Enjoy the occasional big healthy meal to trigger a surge in leptin levels and increase your metabolic rate.
- Consider taking Resveratrol, a supplement that has been shown to inhibit leptin secretion from fat cells.
- Avoid, when possible, prescription medications that interfere with leptin production, such as certain blood pressure medications and steroids.

Normalising leptin levels can result in fewer food cravings and hunger, weight loss and normal ovarian follicle development, leading to ovulation and better balanced hormones.
Chapter 8: Gluten Intolerance and PCOS

PCOS has been linked to gluten sensitivity\textsuperscript{10}. Up to 85% of my patients test positive for a sensitivity to gluten. When these women remove gluten from their diets they often see a marked improvement in their PCOS symptoms as well as dramatic improvements in cholesterol levels, thyroid function and weight loss.

Gluten is a protein found in wheat and other cereal grains. Adding texture and a characteristic chewiness to baked goods, gluten is used in a wide variety of other foods as a thickener and binder, flavour enhancer and protein supplement.

Many women who are sensitive to gluten-containing grains may not necessarily have an autoimmune reaction to gluten i.e. test positive for Coeliac disease (a disease of the small intestine caused by gluten allergy). However, gluten may well be a causative factor for their PCOS.

Gluten sensitivity can affect how your body absorbs vitamins and minerals - essential for hormone health. Without proper food absorption, a woman’s hormones may not function as they should. Research studies have shown that women with gluten sensitivity are more likely to experience:

- Delays in menstruation
- Amenorrhoea
- Irregular periods
- No ovulation (and therefore infertility)
- Miscarriage
- Gynaecological and obstetric complications
- Low birth weight in babies

Additionally, gluten intolerance can contribute to low sperm count and low motility in men. Screening for coeliac disease, and non-coeliac gluten sensitivity should be a top priority for infertile couples.

As gluten sensitivity is becoming more common in our society, couples experiencing issues conceiving should consider testing for a gluten allergy/intolerance and/or trialling a gluten-free diet.

The grains to avoid if you are gluten intolerant are wheat (bulgar, semolina, couscous, seitan), spelt, triticale, kamut, rye and barley. Oats are technically gluten-free but are often contaminated during processing and may contain traces of gluten.

\textsuperscript{10} J Clin Gastroenterol. 2004 Aug;38(7):567-74. [pubmed link]
Chapter 9: Diagnosing PCOS

There is no clear-cut method of detecting PCOS as each sufferer may present differently. For example, not all PCOS sufferers will have polycystic ovaries or be overweight, and some may never experience symptoms of excess androgen due to genetic differences or insulin resistance.

Your doctor or gynaecologist will usually order a range of pathology tests and investigations to confirm a diagnosis of PCOS. An ultrasound should be conducted to see if the ovaries contain multiple immature ova. If the diagnosis is unclear, a laparoscopy may be performed to view the reproductive organs.

The following is a list of pathology abnormalities which may be present in a woman with PCOS:

- High levels of testosterone
- Serum androgens and DHEA may be elevated
- LH is elevated while FSH is usually low, at a ratio of 2:1. If the ratio of LH:FSH is >3, PCOS is confirmed
- Progesterone can be low
- Low sex hormone binding globulin (SHBG)
- Prolactin and TSH may or may not be normal
- Abnormal glucose tolerance
- Low leptin levels
- Low vitamin D
- Positive antibodies for gluten sensitivity
- Body mass index greater than 27.
Chapter 10: Recommended Testing for PCOS

To assist with a diagnosis, your naturopath may recommend some or all of the following blood tests:

- Serum (blood) expanded female hormonal panel, including testosterone, prolactin, SHBG and LH to FSH ratio
- Ultrasound to detect cysts on ovaries
- Saliva Adrenal Hormone test, measuring cortisol and DHEA
- Saliva female hormone panel including estrone, estradiol, estriol, progesterone and testosterone
- Glucose tolerance test (fasting glucose and insulin)
- Leptin test (fasting)
- Thyroid panel (TSH, free T4, free T3, reverse T3 thyroid antibodies)
- Blood lipid profile (cholesterol and triglycerides)
- Vitamin D (vitamin D deficiency affects hormone balance): 25-hydroxyvitamin D
- Urinary iodine
- Genetic test for Coeliac disease and gluten sensitivity (HLA Tissue Typing and Anti Tissue Transglutaminase IgA).
Chapter 11: Medical Treatments for PCOS

The conventional treatment for PCOS depends on whether you want to achieve hormonal balance to get pregnant, or menstrual regularity to manage contraception. It involves the use of different medications to treat and manage symptoms, and even surgery in some cases.

Medication is used to treat many different facets of PCOS, as discussed below.

**Irregular periods**

If pregnancy is not a desired option, then oral contraceptive pills are often prescribed for regulating menstrual cycles and helping reduce acne. It is a cure for as long as a person remains on it. However, the Pill can worsen insulin resistance, provoking more weight gain.

The Pill is also known to cause permanent hormone changes, even when stopped.\(^{11}\),\(^{12}\) It is medically known that it can take a long time to resume ovulation (some women are lucky to start ovulating again easily, but that is not the case for everyone).

**Hirsutism**

Excessive hair growth is known as hirsutism, and this is addressed using anti-androgen drugs such as Spironolactone and Propecia (as long as pregnancy is not a concern). The Pill may also be used to treat hirsutism. Non-medical treatments to remove hair include electrolysis and laser hair removal.

**Infertility**

Clomiferine citrate (Clomid\(^{\circ}\)) is often used by women with PCOS and infertility. This drug induces ovulation increasing the pituitary gland’s production of FSH. The problem with Clomid is that it is not targeting the exact cause of the lack of ovulation. It also initiates a surge in hormones and can increase the risk of multiple pregnancies.

Gonadotrophins and human chorionic gonadotrophin (hCG) (used in IVF treatment) are also used to stimulate ovulation to assist fertility.

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Other Pharmaceutical Medications

Other pharmaceutical medications prescribed for PCOS include medroprogesterone acetate, glucocorticoids, ketoconszole, flutamide, finasteride and metformin.

Metformin, also called Glucophage, is a medication used to treat Type 2 diabetes but can also be prescribed for PCOS patients. Because Metformin affects the way that insulin regulates glucose, testosterone production is decreased and any hair growth will slow down. Ovulation should also return to normal after a few months of use. But metformin does have side effects such as nausea, diarrhoea and abdominal bloating.

Surgery

Surgery is not recommended as a primary treatment option; however, a surgery known as ovarian drilling can be used to induce ovulation. Ovarian drilling involves destroying a small portion of the ovary using an electric current. It can lower the levels of androgens and help ovulation to occur normally, allowing a woman to fall pregnant naturally. However, it is not useful for dealing with changes in hair growth or loss. The effects of the surgery may only last a few months.
Chapter 12: Natural Treatments for PCOS

Over the past few years, research into the naturopathic and nutritional approach to PCOS has revolutionised the condition’s treatment.

It is important to treat the factors that lead to PCOS. Following *The Natural PCOS Diet*, making lifestyle changes and taking supplements can influence a healthy outcome.

One of the most important things is to address insulin resistance, if this is an apparent problem. This can be done by incorporating dietary changes and taking suitable nutritional supplements.

As women with PCOS lose excess weight, the following changes can take place:

- Oestrogen and progesterone levels return to normal
- Testosterone levels fall
- Serum insulin levels decrease
- SHBG levels increase
- Significant improvements in the reduction of excess hair.
Chapter 13: The Excess Oestrogen Connection

Women with conditions such as PCOS, endometriosis and fibroids are thought to be exposed to high levels of oestrogen for too long. Such conditions may also occur because the growth-promoting effects of oestrogen are not in balance with other hormones such as progesterone. This is called oestrogen dominance.

Excess oestrogen does not occur because the ovaries make too much oestrogen; on the contrary, there is usually a problem with the availability and clearance of oestrogen.

Our hormones are a complex system of glands and hormones which control development, growth, reproduction and behaviour. When the delicate balance is disrupted by oestrogen excess, many hormone problems can occur.

Symptoms may include heavy periods, clotting, breakthrough bleeding, period pain and premenstrual syndrome (PMS). Increased incidences of endometriosis, fibroids, PCOS, fertility problems, miscarriage, breast and uterine cancer have been associated with oestrogen dominance.

Women today are exposed to more oestrogen because they are having more periods per lifetime. The average age of a woman’s first period is becoming progressively earlier, the average age of menopause is getting later, and women are having fewer children.

We are also absorbing oestrogens from our environment into our bodies. Environmental oestrogens are emerging as significant risks for hormonal conditions. See Chapter 13 for more on this issue.

Apart from excessive oestrogen production and exposure to environmental estrogens, our lifestyle, poor diet and weight gain can also contribute to oestrogen dominance.

Hormonal conditions are major healthcare concerns, affecting millions of women worldwide, and are seemingly increasing in incidence. They have an extremely debilitating effect on physical and emotional health and on quality of life for large numbers of women, young and old.

Oestrogen-dominant conditions such as endometriosis, fibroids and PCOS are associated with:

- exposure of oestrogen through food, water and other environmental sources
- underactive thyroid gland
• weight gain
• insulin resistance
• sluggish liver function.

All of these are, in turn, inter-related:

• Excessive exposure to environmental estrogens or poor liver metabolism of oestrogen can result in poor progesterone production and menstrual irregularities.
• An underactive thyroid gland is related to weight gain, and excess fatty tissue increases oestrogen storage.
• Insulin resistance contributes to weight gain and PCOS.
Chapter 14: What are Environmental Oestrogens?

Environmental oestrogens are everywhere – in our food and water, the air we breathe, the substances we touch, and even in medicines we are given for our ‘health’. It has been said we are ‘swimming in a sea of oestrogen’. This is bad news for both women and men.

These environmental oestrogens come in the form of petrochemical derivatives such as herbicides and pesticides which have been sprayed on our foods and the plastic cups from which we drink.

There are even oestrogens in drinking water recycled from our rivers. For example, oestrogens from the oral contraceptive pill and hormone replacement therapy are excreted in urine. They can end up in our water supply, as hormones are not removed by standard water purification treatments.

Environmental oestrogens are also known as:

- Endocrine disruptors
- Hormone disruptors
- Xeno-oestrogens
- Hormonal mimics, blockers and triggers
- Exogenous hormones.

Environmental oestrogens work in a variety of ways by mimicking, blocking and triggering hormonal activity. They throw our bodies out of balance.

Hormonal mimics or ‘oestrogen mimics’ fit into the receptors on the cell membranes and send messages just like actual hormones. For example, DES was a synthetic oestrogen given to pregnant women from 1940 to the early 1970s (and beyond in a number of cases), which led to their daughters suffering a range of reproductive problems and infertility.

These environmental oestrogens are stored in body fat and have long lives, which can magnify their individual effects by 100 to 1,000 times.

Environmental exposure to these substances affects the level and action of all hormones in our body. They cause problems such as:

- infertility (male and female)
- birth defects
• premature labour
• early puberty in females
• weight gain and obesity
• compromised immune systems, leading to higher rates of infection and allergy
• mental and behavioural disorders
• increased risk of breast and uterine cancer
• endometriosis, fibroids and PCOS
• excessive/heavy bleeding (menorrhagia)
• osteoporosis.

Unfortunately, much of the medical profession and the general public remain largely unaware of the effects these dangerous chemicals are exerting on our lives and those of animals.

**Chemical Warfare on our Hormones**

The effect of endocrine disruption was first noticed in wildlife, but is now being observed in humans, for example, in the worldwide decline in sperm count.

Over 100,000 synthetic chemicals are now in widespread use but this is still very recent in terms of evolution.

It has been more than 70 years since toxic chemicals such as PCBs and DDT were introduced. The first generation of children exposed to these chemicals in the womb has recently reached reproductive age, and we are seeing more and more hormone problems and infertility. In fact, most people have been exposed to dangerous chemical toxins throughout their life.

Our waterways contain residues of birth control pills, antidepressants, painkillers, shampoos and many other chemical compounds. Pharmaceutical and personal care products are entering rivers from sewage treatment plants or leaching into groundwater from septic systems.

Most of these substances are not checked for their effects on health, including fertility.
Examples Of Chemicals That Act As Hormone Disruptors

- **Polychlorinated biphenyls (PCBs)** – now banned, but traces can still be found in pesticides, electrical transformers, hydraulic fluid, compressors, varnishes, inks, flame resistors, carbonless copy paper and even some cosmetics.

- **Heavy metals** (lead, mercury, cadmium, arsenic, nickel) – present in cigarette smoke, paints, plastics, batteries, water pipes, dental fillings, fluorescent lights, large fish, cosmetics and treated pine.

- **Organochlorines** and many other pesticides – including insecticides, fungicides and herbicides.

- **Parabens** – found in deodorants.

- **Butylated hydroxyanisole (BHA)** and alkyl phenol ethoxylates – present in many foods as well as paints, plastics, toiletries, cosmetics, some medications, cleaning products, spermicides, polystyrene and PCV, herbicides and pesticides.

- **Dioxins** – by-product of chlorine bleaching from industry (pulp mills, etc) and present in sanitary products and disposable nappies; linked to endometriosis.

- **Bisphenol A, DEHP (di-ethyl hexyl phthalate)** – plasticizers present in flexible plastics e.g. PVC and polycarbonate plastics, cellophane, cling wrap/cling film, plastic bags, drink bottles, takeaway containers and linings in food cans.

- **Other phthalates** – present in seatbelts, hose pipes, plastic dental fillings, moisturisers, hairsprays, insect repellents, solvents, coatings on time-released medicines, soap, shampoo and detergents.

- **Car pollution.**

- **DDT** – (dichlorodiphenyltrichloroethane) was a pesticide used on crops to kill mosquitoes. At the time, people were afraid of getting malaria from mosquitoes and thought DDT did not hurt any animals because it did not affect humans, but they were wrong.

- **Other** – **chlorine** bleaches, petrol combustion by-products, and pesticides such as dieldrin, atrazine and methylchlor.
Chapter 15: Managing Oestrogen Dominance

Medical drugs and surgery offer limited answers, and can be associated with side effects such as:

- weight gain
- mood disorders
- worsening hormonal imbalances and irregularities.

Naturopathic medicine can be extremely effective for treating and managing oestrogen-dominant conditions such as PCOS. There is room for co-management and cooperation between orthodox medical treatment and naturopathic options for treatment and, hopefully in most cases, they will be complementary.

What Can We Do To Protect Ourselves?

Naturopaths have been aware for years of the dangers of environmental toxins on our health.

Women in particular are extremely sensitive to environmental hormones and we are seeing the results in the rising level of breast and hormonal-based cancers, endometriosis, pelvic inflammatory disease (PID), PCOS and fibroids. The early developmental cycle in teenage girls is one manifestation of the effects of environmental hormones.

Men are also affected. The rate of impotence and prostate-related disorders is increasing dramatically. Prostate cancer is one of the biggest killers of men. Female hormones in our food and water must carry some blame for this situation.

Refer to Chapters 15 and 16 for effective measures to protect ourselves from the onslaught of hormone disruptors.
Chapter 16: Safeguarding Yourself From Hormone Disruptors

Apart from drinking filtered water and eating organic food, there is not a lot we can do to avoid hormone disruptors. The best advice is to regularly detoxify your system of their residue.

- **Purify all drinking water** with a good quality purifier, including water used to wash fruit and vegetables and water boiled in a kettle. Hormonal residue from the urine of animals and women taking the Pill makes its way, along with most of the other substances mentioned, into our water supplies.

- Buy **organically** grown fruit and vegetables, and choose organic meat where possible as animal fat is a reservoir for toxins.

- Avoid seafood that is not from the river or the coast (especially crustaceans and other bottom dwellers) as these may be exposed to industrial or agricultural run-off.

- **Avoid large fish** such as swordfish, as these are at the top of the food chain and may be high in heavy metals, especially mercury.

- **Store food in glass**, ceramic or stainless steel containers (or even rigid, non-flexible plastic), especially if the food is hot, fatty, liquid or acidic.

- **Don’t microwave!**

- Avoid using pesticides, toxic paint and bleaches. Use only **environmentally friendly** cleaning products.

- Don’t apply deodorant immediately after shaving.

- Preferably choose **aluminium-free deodorant** and natural skin care products that are free of parabens, perfumes, sulphates, etc.

- **Replace amalgam** or plastic teeth fillings with porcelain or even gold. There are also some plastic fillings that don’t contain phthalates.

- Replace bleached tampons and sanitary pads with cotton/hemp reusable pads, or even organic tampons (though these should be reserved for high-need occasions, as restricting blood flow may have implications for endometriosis).

- Avoid sanding back old, lead-containing **paints** or treated pine.

- Test for **heavy metal contamination** (through hair analysis, electro-dermal or urine). If found, use high-level antioxidants e.g. selenium, zinc, Vitamin C, humic acid and liver support to detoxify and bind (chelate) heavy metals.

- Avoid drinking hot drinks from **Styrofoam cups** as they are a potent source of Bisphenol A.
Chapter 17: Diet and Excess Oestrogens

It is possible to reduce your exposure to excess oestrogens through healthy eating. Here are a few suggestions:

- **Avoid saturated fats where possible.** Saturated fats compete for uptake with essential fatty acids (EFAs), so the types of fats you consume can be a major factor in determining oestrogen and progesterone balance. A diet low in saturated fats and high in EFAs will help reduce oestrogen dominance.

- **Eat more fibre-rich foods.** Dietary fibre reduces oestrogen levels in the blood and urine, possibly by influencing the level of beta-glucuronidase, an enzyme produced by intestinal bacteria or ‘gut bacteria’. Examples of fibre-rich foods include psyllium husks, pectins (skins and rinds of fruit and vegetables) and lignans such as linseeds, also known as flaxseed. These lignans protect against the proliferative effects of endogenous estrogens, and may help reduce the risk of oestrogen-dominant conditions such as breast cancer.

- **Include yoghurt in your diet.** The bacteria in yoghurt, *Lactobacillus acidophilus*, reduce the level of beta-glucuronidase, which has a positive effect on oestrogen excretion. If you are dairy-intolerant, coconut yoghurt, fermented soy products such as tempeh, miso and tamari have the same effect. Alternatively, take a probiotic supplement.

- **Look for foods that contain phytoestrogens.** Phytoestrogens or plant oestrogens can prevent oestrogens produced in the body from binding to their receptor sites, thereby reducing the level of excess oestrogens. Examples of foods that contain phytoestrogens include fermented soy, alfalfa, a large range of grains and seeds, fennel and fenugreek.

- **Eat from the cabbage family.** Natural chemicals found in the cabbage family such as broccoli, cabbage, cauliflower and brussels sprout can increase the rate at which the liver changes oestrogen into a water-soluble form for excretion. N.B. The health benefits of these foods outweigh a possible negative effect on the thyroid. Cooking or fermenting these foods will inactivate any negative impact.

- **Get adequate levels of protein.** Protein is necessary to metabolise oestrogen in the liver. Since many conditions are associated with excess protein intake, it is recommended that protein be taken in the form of grains, legumes, lean meat, fish, organic chicken and eggs. You should ideally not have more than 60g of pure protein daily.

- **Support liver detoxification.** Foods rich in sulphur such as garlic, onion, leek and cabbage aid liver detoxification. Foods high in methionine also help the liver break down oestrogen (estradiol) into a less potent form (estriol). Beans, legumes, onions and garlic are high in methionine. Avoid caffeine and alcohol if possible.
More Natural Solutions to Reduce Excess Oestrogen

- To remove ‘heavy metals’ such as aluminium, lead and mercury from your body, try natural chelaters such as chlorella, coriander (cilantro), humic acid, garlic, rosemary and milk thistle.

- To assist healthy oestrogen metabolism, try liver detoxification agents such as broccoli and turmeric extract, inositol (part of the vitamin B complex) and amino acids such as glutamine, glycine, taurine, cysteine, choline and methionine, found in detoxification supplements.

- Take Diindolemethane (DIM), a supplement that helps the liver convert oestrogen into a healthier form. The dose will depend on your body weight.

- Try vitamin B6 as it can reduce some of the bodily changes caused by oestrogen dominance such as fluid retention and breast tenderness.

- Try phytoestrogenic herbs such as red clover, black cohosh, wild yam, false and true unicorn roots. Your naturopath can prescribe these herbs for you.

- Look into natural progesterone treatments, which are providing positive results. Progesterone helps convert fat to energy, conditions the endometrial lining, acts as a diuretic, and can assist thyroid gland problems. Examples are bioidentical progesterone cream and troches prescribed by a doctor.

- Get active as exercise helps with oestrogen clearance and women who are active tend to have lighter and healthier regular periods.
Chapter 18: Fertility, Pregnancy and PCOS

Sadly, PCOS can reduce your ability to fall pregnant. Up to 75% of PCOS sufferers have a fertility problem. If you are having problems conceiving, it is important to get tested for PCOS straight away.

When it comes to infertility, there are two groups of PCOS women. The first group is women who already know about PCOS and have been prepared by their doctors for the struggle to get pregnant.

The second group is women who have recently been diagnosed with PCOS. While it may have been a shock, the diagnosis also explains a range of previously misunderstood symptoms. Either way, both groups struggle to conceive.

In PCOS, infertility is mostly associated with either failure to ovulate or late ovulation, so the timing of intercourse to achieve conception can be difficult. If conception is achieved, poor progesterone levels may prevent the fertilised egg from implanting in the womb.

PCOS is also associated with a greater risk of miscarriage. The risk begins to increase if ovulation is later than day 17, becomes greater if ovulation is later than day 20 and is greatly increased after day 22. In addition, women with high levels of luteinising hormone in the first half of their menstrual cycle seem to have a greater risk of miscarriage.

Interestingly, a study found that the rate of miscarriage in women with PCOS dropped from 75% to 18%, when they changed their diets and lost weight.¹³

<table>
<thead>
<tr>
<th>5% Weight Loss Increases Pregnancy Rates in PCOS</th>
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<tbody>
<tr>
<td>A study evaluating the effects of weight reduction in overweight PCOS patients with anovulation showed:</td>
</tr>
<tr>
<td>• 67% resumed regular menstrual cycles</td>
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<tr>
<td>• 55% achieved spontaneous ovulation</td>
</tr>
<tr>
<td>• 37% of those who lost at least 5% of their weight achieved spontaneous pregnancy</td>
</tr>
<tr>
<td>• an overall reduction in ovarian volume and micro-follicle number.¹⁴</td>
</tr>
</tbody>
</table>

Natural medicine offers effective treatment strategies to address PCOS. It’s time to take the steps to manage your PCOS and resume healthy, normal cycles and a fertile reproductive system.
Chapter 19: Introducing the Natural PCOS Diet

What you eat can have a direct influence on how balanced (or unbalanced) your hormones are. This is why it’s important to have a healthy diet. *The Natural PCOS Diet* can help you manage the symptoms associated with PCOS.

The PCOS diet program is designed to help you:

- balance your hormones naturally
- recover from insulin resistance
- lose excess body fat (especially from around the abdomen)
- maintain an ideal body weight
- sustain good muscle tone
- support liver function
- reduce elevated triglyceride and cholesterol levels.

Emerging scientific research shows that a low carbohydrate, moderate protein diet from whole foods can target the causes of PCOS.  

**Ovulation and a Healthy Body Weight**

Women with PCOS are urged to lose 5% to 10% of their body weight using a moderate protein, low refined-carbohydrate diet. When this approach was taken in one clinical trial, 10 of the 11 subjects resumed a normal ovulatory cycle within 10.5 months. In a similar study, such weight loss restored ovulation in 60 out of 67 women.

Remember, when the body is insulin resistant, it simply does not remember how to use carbohydrates for energy. It can only store them as fat.

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The Natural PCOS Diet Overview

The Natural PCOS Diet = Low Carb + Moderate Protein from Whole Foods

Eating in accordance with a low carb, moderate protein diet from whole foods is the key for optimal health. The ideal diet comprises 30% good quality fats, 40% protein and 30% low GI complex carbohydrates from whole foods. These percentages can vary slightly depending on the amount of weight that needs to be lost.

Foods to include in your diet:

- Low GI and low Glycemic Load (GL) carbohydrates from fruit and vegetables and grains such as berries and melons.
- Adequate protein with every meal; examples include seafood, animal protein, eggs, nuts and seeds and yoghurt.
- Phytoestrogens such as alfalfa, fermented soy, linseeds, lentils and chickpeas.
- Organic foods whenever possible.
- Two litres of filtered water daily.
- Good oils in the form of essential fatty acids, found in nuts, seeds, flaxseed oil and oily fish (including herring, mackerel, mullet and salmon).

Some foods should be completely avoided as they aggravate PCOS and may make the condition worse. These foods include:

- sugar on its own and hidden in foods
- artificial sweeteners (see box)
- fruit juices, which are high in sugar (fructose), low in fibre and can rapidly raise blood glucose levels
- gluten if intolerant - wheat, rye, barley, spelt, kamut, triticale, cous cous
- refined grain products, especially white bread. These foods have been stripped of any nutritional value, leaving a product that spikes blood sugar levels and drives your hormones to fluctuate
- dairy products, such as milk and cheese. Although dairy products have a low GI, they stimulate insulin production, causing an increase in testosterone, which may cause excess hair growth and acne
- saturated and trans-fats and all fried foods
- additives, preservatives and artificial flavourings and colourings found in processed foods
- caffeine and alcohol.
The Truth about Artificial Sweeteners

Artificial sweeteners can worsen insulin resistance and lead to weight gain. In fact, research shows the more chemical sugar substitutes you consume, the more you desire sugary foods.

The two most common artificial sweeteners used in diet foods are aspartame (such as Equal, Hermesetas and Nutrasweet) and sucralose (Splenda). Other artificial sweeteners include saccharin (Sweet ‘N Low), neotame, tagatose and acesulfame K.

Artificial sweeteners are found in products such as soft drinks, chocolate, chewing gum, sweets, desserts, yogurt, table top sweeteners, snack food and meal replacements. They can also be found in medications and some nutritional supplements.

Research from Duke University has found that sucralose (Splenda) reduces the good bacteria in the intestine and interferes with the absorption of many medications. Another sweetener, aspartame, has been linked with cancer and thyroid disease.

Chemical sweeteners have no place in a healthy diet. Safe alternatives to harmful artificial sweeteners include small amounts of natural honey, stevia, xylitol and agave nectar.

Low Carb – But Do Fake Sugars Cause Weight Gain?

Artificial sweeteners have been shown to disrupt normal appetite control and cause weight gain. The taste sensation in sweeteners cause excessive eating because they stimulate the appetite, in effect tricking your brain into feeling hungry all the time.

You may not get the calories from artificial sweeteners but you may seek out other foods to satisfy your hunger or sweet cravings.

A major study of 80,000 women showed that those who regularly used artificial sweeteners put on more weight over a year than those who did not use them. What was even more surprising was the finding that with widespread use of sweeteners, the consumption of ordinary sugar and sugary foods also increased.  

Chapter 20: Get to Know your Food Groups

Learning about nutrition – including the main food groups – will give you a greater understanding of and make it easier for you to follow *The Natural PCOS Diet*.

**Carbohydrates**

Carbohydrates provide energy, essential vitamins and minerals, and valuable fibre which act like a ‘broom’ to keep your digestive tract healthy and clean. Your body needs good quality carbohydrates for energy. Eating the right type (quality) and the right amount (quantity) makes all the difference between you having a lean healthy physique or battling with insulin resistance and carrying extra weight.

Different carbohydrates have different effects on your body. The Glycemic Index (GI) is a numerical rating that compares the effect of different carbohydrates on your blood sugar levels. Choosing foods with a low GI ranking is critical for PCOS sufferers as these foods prevents blood sugar levels from spiking suddenly, thereby reducing the insulin response. This can reduce excessive hormone release from the ovaries and allow the body to burn more fat. Eating low GI foods can also keep your energy levels stable for longer and reduce sweet cravings.

Remember, too much insulin can stimulate the production of testosterone, which is responsible for many of the symptoms of PCOS such as acne, excess hair, scalp hair loss and menstrual irregularities.

**Low GI foods**

Refined carbohydrates are off the menu! Instead, choose complex carbohydrates such as fruit, vegetables and low GI wholegrains, which are all high in fibre. Here are a few tips:

- Eat more low GI foods such as wholegrain breads, oats, apples, basmati rice and sweet potato (instead of potato).
- Be careful when choosing your grains. Most grains are high in nutrients and have a low GI value but not all. Food that is high in amylopectin (a type of enzyme) such as wheat, corn and most types of rice (other than basmati) are broken down rapidly and classified as high GI foods. Even brown rice (nutrient-rich but high GI) should be eaten in moderation. Food that is high in amylase (another type of enzyme) such as rye and barley release carbohydrates slowly and are classified as low GI foods. Examples of low GI grains are buckwheat, kamult, basmati rice, rye, spelt and quinoa (technically a seed).
- Wheat lectins mimic insulin, worsening insulin resistance. Therefore, limit or avoid wheat, including white flour products such as bread, bagels, doughnuts, cakes, biscuits and muffins. (Remember, if you have tested positive to gluten sensitivity, avoid all gluten).
- Remember: the larger the starch particle (e.g. stone-ground flour), the lower the GI value.
If you suspect you are gluten intolerant...and don’t want to shell out money for the blood test, consider following a gluten-free diet for a month or two to see how you feel. You may be pleasantly surprised by how easy and enjoyable a gluten-free diet can be, and by how good you feel - often in unexpected ways.

If you are contemplating going gluten-free, it has to be 100 percent for your body to experience a break from gluten continually passing through your gut.

One caveat here is that not all gluten-free foods are healthy or fertility promoting, many are made from white rice flour, refined corn starch and other nutrient depleted foods, laced with too much sugar and salt. The goal of your gluten-free diet should be to treat PCOS and nourish your fertility, not simply replace gluten with processed, pre-packaged, sugary, gluten-free foods of which there are many.

A gluten-free diet is a great opportunity to have less flour-based foods and increase your intake of vegetables, fruit, beans and good quality proteins. Try a hearty bean and vegetable soup instead of a sandwich, or an egg and vegetable omelette with quinoa bread on the side.

The grains that you need to avoid are wheat (bulgar, semolina, couscous, seitan), spelt, triticale, kamut, rye and barley. Oats are technically gluten-free but are often contaminated during processing and may contain traces of gluten.

**Low GL foods**

For even better results, select low GI foods that have a low ranking on the Glycemic Load (GL) index. The GL index is based on the GI index, and considers the typical serving size of each type of food and the amount of carbohydrates in that serving. These values are more precise in terms of the amount of food you would normally be expected to eat. Foods with high GI values will raise your blood sugar faster than those with low GI values.

**Low GL foods** (rating of 10 or under) include: most high-fibre vegetables and fruits, bran flakes, legumes such as kidney beans, chick peas, pinto beans and lentils.

**Medium GL foods** (rating 11–19) include: pearl barley, oatmeal, some breads and wholegrain pasta, some fruits and natural fruit juice with no added sweeteners.

**High GL foods** (rating 20 or higher) include: candy, some rice and pasta varieties, white flour baked products and cereals made with refined grains.

Different varieties of foods may have different GL values, depending on the type, source, varieties, ripeness and preparation method. For instance, the GL value for apples ranges from 4 to 6; oranges from 3 to 6; carrots from 1 to 6; wholegrain breads from 5 to 10; and varieties of rice from 20 to 40.

Remember, you should try to keep your daily glycemic load under 500. The lower a food’s GI or GL, the less it affects blood sugar and insulin levels.

For comprehensive food lists for low GI and low GL eating, refer to these links:

- [Low Glycemic Load](#)
- [Low Glycemic Load Food Table](#)
- [The Glycemic Index](#)
**Fibre**

A fibre-rich diet is important, as fibre helps to:

- keep your bowel movements regular
- reduce cholesterol
- improve digestive function
- aid proper excretion of excess hormones
- slow the absorption of sugar into the bloodstream.

Aim for about 30 grams of fibre a day. Fibre-rich foods include wholegrains, fruit, vegetables, nuts and seeds, and legumes.

An easy way to increase your fibre intake is with psyllium husks. These are light and fluffy flakes that you can sprinkle on cereal or add to smoothies. They absorb a lot of water when passing through the digestive tract, expanding the contents of the gut, which press against the intestinal wall to stimulate peristalsis (the movement of food through the digestive tract, enhancing bowel regularity).

**N.B.** When increasing fibre intake, it is important to also increase water intake, otherwise you may experience stomach discomfort. Aim for six to eight glasses of water each day.

**Vegetables**

Vegetables are abundant in nutrients and fibre, and low in fat and calories. Here are a few tips:

- **Non-starchy** vegetables such as leafy greens have a very low GI value, but many starchy vegetables have a high GI value. Starchy vegetables include root vegetables that are sweet and sticky when cooked e.g. parsnips, potato, pumpkin, corn and swedes.

- **Cruciferous** vegetables, such as broccoli, cabbage, Brussels sprouts, bok choy, kale and cauliflower, contain Diindolemethane (DIM), a phytochemical that improves oestrogen metabolism. It helps to detoxify excess oestrogen and convert it to a more beneficial form. To produce this chemical, the vegetables must be chopped and/or cooked (this will also inactivate any negative impact on your thyroid gland if this is underactive).

- Choose **organic** where you can. Otherwise, wash and scrub your vegetables thoroughly.
**Fruits**

Fruits are nutrient-rich and high in fibre, assisting with bowel regularity. The sugar in fruit is called fructose and when this is naturally occurring with fibre, is a good choice to help curtail sugar cravings. Here are a few tips:

- Choose your fruits carefully as the ratio of glucose to fructose determines which fruits have a higher GI. For example, grapes (especially black grapes) are high in glucose, compared to fructose; whereas apples are higher in fructose than glucose. Stone fruits, melons and berries have lower GI values.
- Restrict fruits to two to three apple-sized pieces per day.
- **Avoid fruit juices**, stewed fruit and dried fruit. By consuming fruit in a different form, the fibre content is distorted and the sugar content is usually tripled, contributing to weight gain.

**Beware of Sugar!**

Sugar is bad news! Sugar will not only worsen your insulin resistance, but will also accelerate the ageing process. Sugar overloads the control mechanisms in your body. Even excess fruit sugar (fructose) will strip the body’s store of nutrients such as zinc, chromium, B complex vitamins, which are required for metabolising food.

Sugars have many names:

<table>
<thead>
<tr>
<th>Glucose</th>
<th>Galactose</th>
<th>Xylitol</th>
<th>Malt/malt extract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dextrose</td>
<td>Fructose</td>
<td>Sorbitol</td>
<td>Corn starch</td>
</tr>
<tr>
<td>Sucrose</td>
<td>Mannose</td>
<td>Mannitol</td>
<td>Modified carbohydrate</td>
</tr>
<tr>
<td>Maltose</td>
<td>Lactose</td>
<td>Raw sugar</td>
<td>Brown sugar</td>
</tr>
<tr>
<td>Golden Syrup</td>
<td>Honey</td>
<td>White sugar</td>
<td>Rice syrup</td>
</tr>
</tbody>
</table>

Here are a few tips:

- Avoid all sweet foods e.g. cakes, biscuits, soft drinks and sweets.
- Avoid foods with added sugar, including artificial sweeteners, which lead to greater carbohydrate cravings and weaker insulin resistance.
- **Read all labels** for sugar and the type of sugar used. Limit refined sugar as much as possible and enjoy fructose in the way Mother Nature intended – by eating two to three serves of fruit daily.

If you really cannot survive without sweets, especially in the early stages, try stevia, a safe herbal sweetener that may have the additional benefit of improving insulin resistance. Another alternative is Xylitol, extracted from corn, which contains about 60% of the calories of sucrose, and does not cause a blood sugar spike. Other examples are sorbitol and mannitol. However, as they remain mostly unabsorbed in the intestine, they can cause loose bowels in some people.
A Note on Fructose

Fructose is found in fruit and foods such as corn syrup, which is added to soft drinks and processed foods including some yogurts and fruit spreads. It is fine to consume small amounts of fructose combined with fibre i.e. in whole fruit. However, we are doing the opposite by consuming large amounts of fructose with negligible fibre. Fructose without the fibre can damage our liver cells, in turn causing high blood pressure and increasing fats in the blood. The other issue is that our body will metabolise more fructose than is needed. This can result in increased fat storage (hence weight gain) and the production of free radicals (which may damage cells in the heart and liver).

Protein

Protein is necessary to build muscle, fight disease, protect the skin, make hormones and for enzymes that keep our cells working. It is also essential to help balance your blood sugar levels.

The building blocks of proteins, called amino acids, are essential for life. Nine of the 20 amino acids cannot be made by the body, so must be supplied by food. If there is inadequate protein intake then new cells cannot be made, nor can the enzymes or hormones be made that enable these cells to operate.

Complete/Incomplete Proteins

Some proteins are “complete;” others are “incomplete,” and you need them both. ‘Complete’ protein (containing the 9 essential amino acids your body needs) is found mainly in meat, fish, chicken, eggs, dairy and soy products, protein powders and quinoa.

Complementary proteins are incomplete proteins as they may lack some of the essential amino acids. These include fruits, vegetables, grains, seeds, nuts and beans. This basically means if you follow a vegetarian based diet, it is important to eat a wide variety of plant based protein at every meal to make sure you get the full spectrum of essential amino acids.

Protein needs to be part of every meal including snacks. Preferred protein foods include fish, lean organic chicken, lentils, nuts, seeds, whey protein isolate, golden pea/hemp/sprouted rice protein, grass-fed beef and lamb, and organic eggs.

Protein and Weight Loss

Eating protein with each meal stabilises your blood sugar levels, provide a steady supply of energy and a feeling of fullness and satisfaction for hours. It can also help restore levels of natural testosterone in both men and women which start to decline when we age and that can contribute to weight gain and loss of muscle mass.

Here are a few tips:

- The smaller the animal and the fewer legs it has, the less saturated fat it contains.
• Include **legumes** and pulses in your diet, as both are low GL, low in fat and high in dietary fibre (good for bowel regularity). Soak dry legumes overnight and discard soaking water.

• **Eat nuts and seeds** as they contain good fats. However, they can turn rancid very quickly if not stored in the fridge (or even frozen if you do not intend to eat them within two weeks). Stale nuts can cause a damaging free radical cascade. Nuts that taste stale or bitter should be discarded. Avoid roasted and salted varieties.

• Choose cold water **fish** high in **essential fatty acids** such as herring, salmon, mackerel, mullet and sardines. In Australia, avoid fish with higher contamination levels such as swordfish, marlin, tuna, shark (flake), catfish (basa), broadbill and orange roughy (sea perch). Check which fish have lower contamination levels in your area.

• **Avoid or minimise your dairy** intake, as all dairy foods will increase saturated fat. Low-fat dairy foods are highly processed and may contain added sugar, vegetable oils, artificial sweeteners or food additives, worsening your PCOS. Remember, cow’s milk stimulates insulin production, causing an increase in testosterone, which may cause excess hair growth and acne. If you drink milk, look for goat’s and sheep’s milk and milk products, which are more easily digested than cow’s milk (except yoghurt, which is pre-digested, and A2 milk, which does not contain the A1 protein, often responsible for allergies).

• Choose milk alternatives such as rice, oat, quinoa, almond or coconut milk.

**A Note on Soy**

Unfermented soy (tofu, soy milk) should be avoided, as it contains phytates and enzyme inhibitors, which will prevent protein and mineral absorption. This form also dampens thyroid activity. However, traditionally fermented soy milk, tempeh and miso may help glycaemic control.

### Protein: Carbohydrate Ratio

The rate of protein to carbohydrate in a meal is important. An easy ratio to implement, which will give approximately the right proportions, is to balance each meal/snack/plate 1:1 volume. Then assess the carbohydrate portion for overall GL value.

So no more plates of pasta or rice with sauce! These foods should be seen as an accompaniment to, rather than the basis of a meal.

### Fats and Oils

**Good Fats**

In the past fats were blamed for everything from weight gain to heart disease and cancer. We now know that there are good fats and bad fats. The good fats are mono- and polyunsaturated fats, as well as essential fatty acids (EFAs).

The best fats for weight loss are **Omega 3** and **Omega 6** EFAs. Omega 3 fats are abundant in the deep sea oily fish like salmon, sardines and tuna, and in linseed or flaxseed oil.
Omega 6 EFAs are found in evening primrose oil and some vegetable oils. These essential fatty acids are important in weight loss as they keep the cell membranes fluid to allow proper blood sugar transport into the cell.

However, the problem is that while it is easy to consume Omega 6 EFAs, it is not as easy to consume Omega 3 EFAs as they are mostly in fish. The optimum ratio of Omega 3 to Omega 6 is three to one (3:1).

In summary, good fats are important for PCOS sufferers because they:

- allow your cell membranes to work efficiently
- slow the absorption of carbohydrate into your blood stream (improving insulin sensitivity)
- are anti-inflammatory
- unlock stored body fat and burn it for energy
- boost metabolic rate
- make food taste good.

Good fats can be found in:

- **Omega 3**: sardines, anchovies, salmon, mackerel, mullet, flaxseed oil, egg yolk, nuts and vegetable oils
- **Omega 6**: evening primrose oil, flaxseed, borage and blackcurrant
- **Monounsaturated fats**: olives, avocado, peanuts, canola (but beware GI versions). Olive oil is best for cooking at lower heats, but due to its low smoke point it should be replaced by sesame oil for high heat cooking.
- **Coconut oil**: use only good quality virgin coconut oil, preferably organic. It should contain no fillers, added oils or other additives. It will be solid at room temperature. Many people have been told to avoid coconut oil because it contains a high amount of saturated fats; however, not all saturated fats are equal. Coconut oil is rich in beneficial saturated fats like lauric acid, which actually benefits the thyroid, heart, brain and gut.

As well as including good fats in your diet, it is a good idea to add a daily supplement into your regime (refer to Chapter 23: Supplements for PCOS).

**Bad Fats**

‘Bad’ fats (saturated, damaged and trans fats) need to be avoided as much as possible as they compete with EFAs for uptake. They also tend to make the cell membrane very rigid and hard so blood sugar cannot pass easily into the cell, thereby interfering with the function of insulin receptors.

Margarine should be avoided. It is a highly processed food that contains trans fats, a source of free radicals that can cripple or kill cells. Beware of enticing names such as ‘olive oil spread’, which sound healthy but are quite the opposite.
Foods to avoid include:

- organ meats
- fat in red meat
- certain dairy products such as cow’s milk, cream and ice-cream
- pastries and commercially baked cookies, doughnuts and muffins
- margarine
- processed food

**Oils for Cooking**

Cooking with oils that don’t break down into trans fat is tricky. If you use oil to cook, use coconut oil as it is heat stable. Coconut oil is available in many health food shops. Olive oil, on the other hand, is not an oil to cook with as it easily breaks down into trans fat in high heat. However, it is a very healthy oil so it can be used in salads, dips or even drizzled onto roasted vegetables.

**H₂O: The Good Drop**

Water is vital for life and needed in transporting nutrients and ridding the body of waste products. It is also important for skin health, controlling your appetite, keeping hunger pangs at bay, and maintaining regular bowel movements.

But unfortunately, most of us don’t drink enough water. Up to 75% Australians are chronically dehydrated. What’s more, a lack of water is the number one trigger of daytime fatigue. Other symptoms of dehydration can be headaches, irritability, an inability to concentrate and reduced alertness.

**Did you know?** Mild dehydration will slow down our metabolism by 3%.

You should aim to:

- drink two litres of filtered water a day, but avoid drinking with meals as this dilutes digestive enzymes and reduces the absorption of important nutrients
- add 1 litre of water per hour of exercise. It is a good idea to hydrate well before, during and after your workout to replenish lost fluid stores.
Chapter 21: Other PCOS Diet Tips

Here are more tips to help you manage your PCOS.

- Read all food labels. Be aware of the carbohydrate, sugar and sodium content. Avoid anything with artificial sweeteners and high fructose corn syrup.
- Try the Portfolio Diet if high cholesterol is a problem. This involves eating daily amounts of raw almonds, fermented soy protein and fibre-rich foods, such as salads, steamed vegetables and low GI fruit, and taking a dietary fibre supplement.
- Make your own salad dressing using apple cider vinegar with extra virgin olive oil or flaxseed oil. This combination assists with blood sugar control, fat burning and, in turn, insulin resistance.
- Introduce ground flaxseed (also called linseed) into your diet. It may help reduce excessive endogenous oestrogen by bypassing oestrogen binding. Store in a container in your refrigerator. Have one heaped dessertspoon in a large glass of water, stir and drink immediately, ideally before breakfast.
- Use LSA mix every day. LSA is a crushed-up mixture of linseeds, sunflower seeds and almonds. It contains essential fatty acids, vitamins, minerals and phytoestrogens. Sprinkle a tablespoon onto a low GI breakfast cereal, or add to smoothies and salads. Store in your refrigerator as this helps stop the oils in the mix from going rancid.
- Instead of frying your food, try grilling, steaming or poaching.
- Consider using sugar alternatives when cooking, including 100% maple syrup, agave, honey or stevia.


Eating well and correctly is key to managing PCOS. Below are some tips to help you stay on track and consume the right foods.

- Sit down for your meals. Eat slowly. Never have a second helping.
- Do not skip meals. Allow a maximum of four hours between meals.
- Aim to have about five or six small meals a day.
- Ensure you have adequate protein with each meal.
- Don’t skip breakfast as it boosts your metabolism for the day.
- Don’t eat within two hours of bedtime as you will most likely store the calories as fat.
- Do not combine two meals together e.g. brunch instead of breakfast and lunch.
- Avoid alcohol or caffeine.
- Cut out sugar (sweets, chocolate, cakes, biscuits, sugared soft drinks), jam, dried fruit, white flour products and fried food from your diet.
- Drink eight glasses of filtered water per day. Sugar-free decaffeinated beverages, green tea and herb teas can be included.
- Feel free to season food liberally with spices but use salt sparingly.
- Avoid or limit dairy and wheat/gluten if appropriate.
- When in doubt, leave it out.

### Food Plan

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<thead>
<tr>
<th></th>
<th>Breakfast</th>
<th>Morning Tea</th>
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</thead>
<tbody>
<tr>
<td>Protein</td>
<td>1 selection</td>
<td>Protein-based snack</td>
</tr>
<tr>
<td>Fruit</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>Grain</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>Fat</td>
<td>1 selection</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Lunch</th>
<th>Afternoon Tea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein</td>
<td>1 selection</td>
<td>Protein-based snack</td>
</tr>
<tr>
<td>Vegetable</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>Grain</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>Fat</td>
<td>1 selection</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Dinner</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Vegetable</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>Fat</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>*Grain</td>
<td>1 selection</td>
<td></td>
</tr>
<tr>
<td>*Fruit</td>
<td>½ selection</td>
<td></td>
</tr>
<tr>
<td>*Either fruit or grain; not both</td>
<td></td>
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</tbody>
</table>
NB. It is important that you eat this combination and keep to the weights and measures. This is the secret to losing and keeping weight off.

**Protein** (per serve)
- Meat and poultry (90 g): organic chicken, turkey, duck, beef, lamb, veal, pork, natural ham and bacon
- Fish and seafood (120 g fresh or 90 g tinned): sardines, salmon, tuna, lobster, crab, scallops, clams, prawns, herring, haddock, mackerel, calamari (not crumbed). Any fresh fish that does not contain mercury

**Vegetarian Protein** (per serve)
- 2 scoops protein powder
- 1½ vegetarian sausages
- 220 g fermented tofu
- 135 g tempeh
- 2 eggs
- ½ cup legumes (chickpeas, hummus, lentils)
- ½ cup quinoa
- ½ cup coconut yoghurt

**Dairy** (per serve)
Either avoid or limit to:
- 60 g (⅓ cup) low fat cottage cheese
- 60 g (⅓ cup) low fat ricotta cheese
- 60 g low fat cheddar/Swiss/feta/mozzarella/sheep or goat’s cheese
- 100 g (½ cup) plain yoghurt
- Milk substitutes: almond, coconut, goat, oat, quinoa, rice, sheep, A2

**Nuts**
- Aim for 30gm/day: almonds, brazil nuts, hazelnuts, macadamias, walnuts

**Beverages**
- ✔ Water is the best selection – at least eight glasses per day
- ✔ Herbal teas
- ✗ No fruit juice
- ✗ No alcohol
**Carbohydrates** (per serve)

- **Vegetables** (1½ to 2 cups per serve)
  - 1 cup: beetroot, carrots, Jerusalem artichokes, leeks, onions, parsnips, pumpkin, water chestnuts, squash
  - 1 cup (maximum twice per week): corn, peas, sweet potato (kumura), potato
  - 2 cups: alfalfa sprouts, Asian greens e.g. bok choy, asparagus, bamboo shoots, bean sprouts, broccoli, cabbage, capsicum, cauliflower, celery, chillies, cucumber, dill pickles, eggplant, green beans, leeks, lettuce, mushrooms, okra, parsley, radish, snow peas, tomatoes, turnips, zucchini

- **Fruit** (2 serves per day)

<table>
<thead>
<tr>
<th>Apple – 1</th>
<th>Apricots – 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banana – 1 small (max twice per week)</td>
<td>Blackberries or blueberries – 1 cup</td>
</tr>
<tr>
<td>Cherries – 14</td>
<td>Fruit salad – 1 cup</td>
</tr>
<tr>
<td>Grapefruit – 1 cup</td>
<td>Grapes – ½ cup</td>
</tr>
<tr>
<td>Honeydew melon – 1 cup</td>
<td>Kiwi fruit – 2</td>
</tr>
<tr>
<td>Lemon – ½</td>
<td>Lime – ½</td>
</tr>
<tr>
<td>Mandarin – 1</td>
<td>Mango – ¾ cup</td>
</tr>
<tr>
<td>Nectarine – 1</td>
<td>Orange – 1</td>
</tr>
<tr>
<td>Papaya – ½ cup</td>
<td>Peach – 1</td>
</tr>
<tr>
<td>Pear – 1</td>
<td>Pineapple – 1 cup</td>
</tr>
<tr>
<td>Plum – 1</td>
<td>Raspberries – 1 cup</td>
</tr>
<tr>
<td>Rockmelon (cantaloupe) – 1 cup</td>
<td>Strawberries – 1 cup</td>
</tr>
<tr>
<td>Tangerine – 1</td>
<td>Watermelon – 1 cup</td>
</tr>
</tbody>
</table>

**Grain** (optional, per serve)

- ½ – 1 slice bread: seeded, wholemeal, rice, rye, spelt, quinoa, gluten-free
- 1 slice wheat-free lavash or mountain bread
- 15 g cereal (dry): oats, barley, muesli, gluten-free muesli
- ¼ cup cooked cereal i.e. porridge, amaranth
- ¼ cup cooked pasta (ideally spelt, corn or gluten-free)
- ¼ cup cooked rice, buckwheat, millet
• ½ cup quinoa
• Two rye or rice crackers e.g. Ryvita
• Two oat cakes
• ½ mini pita bread
• 1 taco shell
• 1 corn tortilla

These selections should ideally be wheat or gluten-free. If you are going to have wheat, avoid unbleached, enriched, semolina and durum flour; they are all white flour, not wholegrain.

**Fat** (per serve)
• 1 teaspoon butter
• 1 teaspoon mayonnaise
• 9 olives
• ¼ avocado
• 1 teaspoon olive oil
• 1½ teaspoons tahini
• 3 macadamia nuts
• 2 teaspoons sliced nuts or sunflower seeds

**Condiments** (use freely)

<table>
<thead>
<tr>
<th>Pesto</th>
<th>Tamari</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemon juice</td>
<td>Vinegar</td>
</tr>
<tr>
<td>Mustard</td>
<td>Worcestershire sauce</td>
</tr>
<tr>
<td>Salsa</td>
<td>Low GI tomato sauce/ketchup</td>
</tr>
<tr>
<td>Spices</td>
<td>Salad dressing (low fat, no sugar)</td>
</tr>
</tbody>
</table>
What about Morning and Afternoon Tea?

Here are some healthy snack ideas:

- Handful of nuts and seeds such as cashews, brazil nuts, almonds, pepitas or sunflower seeds, with a piece of fruit like apple, pear or one cup of strawberries.
- Smoothie made with low-allergy pea protein powder and blended with rice milk, coconut yoghurt, strawberries and half a banana.
- A homemade nut/protein bar (see recipe).
- Roast chickpeas
- A boiled egg
- Carrot and celery sticks with hummus dip
- Cream cheese, tahini or hummus on oat cakes, rice crackers or Ryvita.

Avoid commercially bought muesli bars, breakfast bars, snack bars and crisps.

Here is a recipe from ‘The Natural PCOS Cookbook’.

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**Homemade Protein Bars**

These can be wrapped individually and frozen for those mornings when you run out of time. They taste like store-bought muesli bars and provide a healthy supply of beneficial essential fatty acids, protein and complex carbohydrates for steady energy release.

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup quinoa flakes</td>
<td>½ cup pumpkin seeds</td>
</tr>
<tr>
<td>½ cup roasted hazelnuts</td>
<td>½ cup sesame seeds</td>
</tr>
<tr>
<td>½ cup sunflower seeds</td>
<td>½ cup coconut</td>
</tr>
<tr>
<td>½ cup coconut</td>
<td>¾ cup honey or rice syrup</td>
</tr>
<tr>
<td>1 egg white</td>
<td>½ cup tahini</td>
</tr>
<tr>
<td>1 Tbsp olive oil</td>
<td>6 Tbsp protein powder</td>
</tr>
</tbody>
</table>

**Method**

Preheat oven to 180C. Place all ingredients in a bowl and mix until thoroughly combined. Press mixture into a lightly oiled tray. Mark into 12 bars with an oiled knife. Bake for 10–12 minutes until browned. Suitable for freezing.

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Can I Have a ‘Sweet Treat’?

I believe in the 90:10 rule. Be good 90% of the time and allow a small treat 10% of the time. This could be a couple of squares of good quality organic dark chocolate. Eat slowly and savour the moment! Alternatively, consider a ‘treat’ such as a magazine, a movie, a massage or a pedicure.
Chapter 23: Supplements for PCOS

If you take the Pill to regulate your periods, you may have an even greater imbalance between a number of key vitamins and minerals. Correcting this imbalance will go a long way towards treating the root cause of the problem.

N.B. In other texts, you may come across the terms ‘nutrimedicine’ and ‘nutriceuticals’. These are just fancy names for supplements.

Here are some vitamins and minerals that may help:

- A good multivitamin and mineral tablet will provide a ‘little bit of everything’.
- Chromium (bound with amino acid chelate or chloride and nicotinate together) is essential for insulin’s response on blood sugar, cravings, hunger and weight loss.
- Zinc helps with appetite control and is necessary for the correct action of insulin, promoting a healthy blood sugar balance. It also works together with selenium and vitamins A and E to manufacture thyroid hormone.
- Magnesium balances blood sugar levels. There is a strong link between magnesium deficiency and insulin resistance. It is an important mineral to include if you are suffering from PCOS.
- Co-enzyme Q10 is essential for energy production and normal carbohydrate metabolism (the way our bodies break down the carbohydrates we eat to turn them into energy).
- B vitamins are important for energy production, fat burning and hormone imbalances, including your thyroid gland and metabolism.
- Vitamin C is important for adrenal health, inflammation and immunity.
- Vitamin D or a lack of is associated with PCOS, with many authorities believing it could be the main contributing factor. A lack of vitamin D also leads to hyperparathyroidism which is often present in PCOS.
- Diindolemethane (DIM) in a supplement form helps the liver convert oestrogen into a healthier form. The dose is dependent on body weight.
- Resveratrol, a potent antioxidant, improves sensitivity to insulin and leptin.
- Amino acids L-arginine and N-acetyl cysteine (NAC) have shown in studies to help restore ovarian function. NAC may also improve insulin sensitivity.19

| A Combination of clomiphene citrate (Clomid) and NAC significantly increased both ovulation rate and pregnancy rate in women with Clomid-resistant PCOS (49.3% vs. 1.3% and 21.3% vs. 0%, respectively).20 |

NB. For best results, try these recommended supplements for a period of three months. These supplements are best taken under the care and guidance of your healthcare practitioner.

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Herbs for PCOS

Adding supplements and making changes to your diet will help control weight and balance blood sugar. Herbs go a step further, targeting any problems involving hormone balance, so they are extremely useful in treating PCOS. Herbal medicine aims to treat PCOS by enabling the body to normalise hormone production, which allows a normal menstrual cycle to take place.

While herbal medicines sound harmless, they can interfere with medications or fertility treatments. Discuss using these treatments with a qualified naturopath and your GP.

- **Chaste tree** (*Vitex agnus castus*) is one of the most important herbs for treating PCOS because it helps stimulate and normalise the function of the pituitary gland, which controls the release of luteinising hormone (LH). Chaste tree has been successfully trialled in the treatment of PCOS and infertility. It can enhance progesterone levels, which lengthen the menstrual cycle, as well as decreasing oestrogen and androgens which, when elevated, are responsible for cycles with no ovulation (anovulation).

- **Adrenal tonics** such as Rehmania, Rhodiola, Siberian Ginseng and Withania support the adrenal stress response and help the adrenal glands return to a balanced state.

- **Peony** (*Paeonia lactiflora*) is another valuable herb as it positively influences low progesterone, reduces elevated androgens (testosterone) and modulates oestrogen and prolactin.

- **Licorice**, especially combined with Peony, helps regulate hormones, reduce androgen levels and improve the LH to FSH ratio.

- **Gymnema** is helpful in reducing carbohydrate and sugar cravings, thereby assisting in weight loss. It is one of the most significant herbs to improve insulin resistance.

- **Maca** is an adaptogenic herb known to stimulate the hypothalamus, pituitary and adrenal glands to support and balance hormones such as FSH, LH, oestrogen and progesterone. It is indicated for symptoms such as hirsutism, acne, irregular menstrual cycles and even insulin resistance.

- **Blue Cohosh** is a particularly useful herb. It acts as a uterine and ovarian tonic and a pelvic anti-inflammatory.

- **Black cohosh** root consists of hormonally active compounds that suppress luteinising hormone secretion with extended use.

- **Saw Palmetto**, a traditional male reproductive herb used to control excess testosterone, offers promising results for hirsutism.

- **Milk thistle**, rosemary, Bupleurum and Schizandra are excellent liver herbs, aiding in the removal of excess oestrogen.

- **Dandelion root**, which is a great liver detoxifier and bile flow stimulant, also increases the production of sex hormone binding globulins, which reduce the effects of testosterone in the body by ‘mopping’ it up.

- **Red clover** purifies the blood, and contains phytoesterogens that combat the symptoms of PCOS.
• **St John’s Wort** is useful for treating symptoms of depression linked to the hormonal imbalances of PCOS.

NB. You should not take any of the above herbs if you are taking the oral contraceptive pill, fertility drugs, HRT or other hormonal treatment or medication, unless they are recommended by a registered, experienced practitioner.

**Homeopathy for PCOS**

After considering your PCOS symptoms, a homeopath will carefully select an appropriate remedy to help restore balance in your body. This rebalancing creates a healthy internal environment in which the body can take care of the condition itself.

*Homeopathic Remedies for PCOS Symptoms*

Some homeopathic remedies that may be administered to alleviate symptoms of PCOS include:

• Bitter gourd, which reduces blood sugar levels and regulates the appetite
• Caulophyllum, useful to women with a history of irregular periods, discomfort during periods and pain in the pelvic region
• Lachesis, which may be used to promote blood circulation to the reproductive organs, regulate menstruation cycles and correct uterine problems
• Lycodium, which may relieve sweet cravings, insatiable appetites, extended periods, bloating, indigestion, constipation, insomnia and anxiety
• Nat. Mur, which may reduce inflammatory skin conditions such as eczema and vertigo, and may alleviate PMS
• Sepia, a general tonic for the female reproductive system, revitalises the uterus, ovaries and vagina.

A professional homeopath will consider your PCOS condition holistically and devise an appropriate remedy for you. Please keep in mind that remedies are most effective when taken in conjunction with a good diet and exercise.

NB. Always consult a registered practitioner.

**Other Natural Remedies for PCOS**

• Lymphatic drainage may be helpful to reduce congestion. Try massage, skin brushing and exercise such as rebounding.

• Try castor oil packs or linseed packs for pain relief. Refer to my website: [Castor Oil Packs](#)

• Try natural progesterone cream. Dose dependant on symptoms and imbalances.

• **Acupuncture** helps facilitate the free flow of energy through the body. Some acupuncture points are used to move blood, break up stagnation and stop pain. Physiologically, acupuncture reduces androgen excess and improves menstrual frequency in PCOS.

• Aromatherapy can assist and support the reproductive system, and gently contribute to rebalancing your hormones.

NB. Always consult a registered practitioner.
Chapter 24: Exercise and PCOS

Regular exercise is essential for managing PCOS. Due to insulin resistance and excess testosterone associated with the condition, weight loss can be challenging; however, that is all the more reason for exercise to become a habit.

In no time at all, regular exercise can help improve your quality of life by:

- regulating healthy blood sugar levels
- burning excess body fat and building muscle, in turn boosting your metabolism
- strengthening your immune system and making you more resistant to illness
- boosting your stamina and energy
- lifting your mood and self-confidence
- reducing the impact of stress on your health
- improving insulin sensitivity
- helping lower cholesterol and protecting you from heart disease
- improving circulation and reducing cellulite.

You have to enjoy your exercise, especially if it’s going to be part of your everyday life. Try to vary it and make it interesting, that way you won’t get bored with your workouts. Challenge yourself and set goals. If you need motivation and encouragement, do it with a friend and have twice as much fun!

Top Exercise Tips

- Find something you can tolerate, and ideally enjoy. This could be cycling, walking, swimming, jogging, rowing, tennis, squash or Zumba.
- Set yourself a schedule and aim to exercise at least four to five times a week. Start with 15–20 minutes a day and increase the duration, your speed or your effort as you go along. Gradually build up to a minimum of 40 minutes a day as your fitness levels improve.
- Try to exercise at the same time every day – mornings are the ideal time as this kicks starts your metabolism for the day.
- If you need extra motivation, you can download exercise program applications onto your smartphone that you can follow.
- Find that feeling in your body where you feel the ‘burn’. Most people have experienced this. You’re not overdoing it, but your heart rate is increasing, you are breathing more rapidly than when you are at rest and hopefully you are breaking out in a sweat.
• Increase the intensity of your exercise sessions over time. Once you become comfortable with a routine, it is important to increase the intensity in order to continue benefiting from your workouts.

• Be sensible and don’t overdo it. Just stick with it day by day, and after a few weeks, you will start to feel better and exercising will become easier. Reduce exercise if you are unwell.

**Did you know? You will burn more calories even after you have stopped exercising.**

**A Note on Walking**

Walking is free and you can walk almost anywhere. It is one of the best overall fitness activities; it places very little strain on your joints and involves all the major muscle groups. Walk to work, get off one stop earlier from the train or bus, go for a walk during your lunch break, or take the stairs instead of the lift. Ideally walk where there are hills to increase your heart rate, as well as to tone your hips, thighs and bottom. Remember to stretch before and after walking.

**Use a Pedometer**

A pedometer or a step counter is a very motivating tool to help you get enough activity each day. You attach it to the waistband of your trousers, leggings, skirt or belt and it registers each step you take through the movement of your legs. Aim for around 10,000 steps each day, or more if you are trying to lose weight.

**Resistance Training is the Key**

For years we’ve been told the only way to burn off fat is endless hours of aerobic exercise. But now researchers say the secret lies in resistance training, prior to aerobic exercise. Resistance training is any exercise that causes the muscles to contract. Occasionally you will hear the term ‘strength training’ or ‘weight training’.

Twenty minutes of resistance training enables the body to use fat as an energy fuel much sooner. The body will burn fat right from the start. And because the body is using fat to fuel the muscles instead of carbohydrate, the muscles do not tire as quickly and can endure longer sessions. This is especially good news if you are overweight. The more muscle a person has compared with fat, the more efficient the body is at burning fat and calories.

Three one-hour sessions a week should be adequate – and nothing too strenuous either. Try 20 minutes of easy resistance training e.g. lunges without weights, followed by a 40-minute brisk walk. The fat-burning potential of this hour is the equivalent of two hours’ hard running!
Your Target Heart Rate
By measuring your heart rate, you can monitor the intensity of your exercise session. You can track and guide your exercise intensity by calculating your Target Heart Rate (THR) range.

For a decent workout, your THR should be 60% to 80% of your maximum heart rate. This maximum rate is based on your age. An estimate of your maximum heart rate can be calculated as 220 beats per minute for men and 225 beats per minute for women, minus your age. Because it is an estimate, use it with caution.

Keep your heart rate at the lower end of your recommended range if you are just starting regular exercise. Gradually increase the intensity of your workouts as your fitness improves. Also, your heart rate should stay in the lower ranges during warm-up and cool-down periods.

A heart rate monitor is an easy way to keep track of your heart rate while you’re exercising, or you can take your pulse.

Stretch!
Stretching should be part your daily fitness routine. It helps decrease muscle soreness and increase mobility, reducing the rate of injury. Stretching also encourages the release of toxins in the muscles, and increases the blood supply and nutrients to the area. Being flexible will help you perform and enjoy the benefits of exercise a lot more. Stretch before and after your exercise regime.

In Summary
The more your body is active, the more fat you will burn, and the healthier your whole body will be. Even if you are a healthy weight, exercise is still very important. So get moving!
Chapter 25: Meditation for PCOS

Stress can often trigger PCOS symptoms, such as the associated hormonal imbalances, reduced immunity levels, increased blood fats and glucose levels, and insulin resistance. Recent studies have also shown that women with PCOS are prone to physically reacting to stress, making it all the more important for you to find a way to manage it.

Meditation is an ideal way to lower your stress levels. It returns the body to a peaceful, calm state in which it can heal itself from the physical, emotional and mental symptoms of PCOS.

What is Meditation?
Meditation involves relieving the thinking mind by placing yourself into a deep state of awareness and relaxation. It may be practised sitting up or lying down, and is best done somewhere private and quiet where you won’t be disturbed for at least 5‒20 minutes (or longer) at a time.

Meditation Techniques
While there are hundreds of meditation techniques available, all fit into one of the following categories:

- Concentration meditation, where the mind is focused on a specific object. When the mind wanders into old thought patterns, you bring your focus back to the object.
- Mindfulness meditation, where the mind is focused on an object or your breath, a mantra or a visual image.
- Transcendental meditation, in which you experience a shift in consciousness or physiology.

The Benefits of Meditating for PCOS
Meditation works to relieve the symptoms of PCOS by helping you relax. This improves your stress response and the health of your immune system. Meditation:

- slows down the breath
- helps you breath more efficiently
- normalises blood pressure
- decreases your heart rate
- reduces sweating
- reduces cortisol (the ‘stress’ hormone) production from the adrenal glands
• improves glucose metabolism
• reduces inflammation
• regulates the appetite
• reduces the rate of ageing
• improves overall immunity levels.

Women with PCOS may also benefit from meditation as it:
• increases self-awareness
• reduces negative emotions
• gives new perspective on stressful situations
• guides you to focus on the present moment.

By reducing your stress levels with regular meditation and combining it with *The Natural PCOS Diet*, you will be able to dramatically improve your PCOS symptoms.

PS. Refer to my website for other top tips for stress management: [Natural Hormone Health: Stress Management](#)
Chapter 26: PCOS Case Studies

Elise, aged 32

Elise presented at my clinic with a range of PCOS symptoms including infertility, cystic acne and cravings. She worked full-time as an air steward for an international airline and was finding it hard to keep up with the demands of her job.

Elise had a 35 day menstrual cycle and experienced cramping and heavy periods. She was carrying an extra 5kg in weight. The most distressing symptoms were the infertility and cystic acne. She was feeling miserable and depressed.

Pathology Results

- Weight 65kg
- Height 165cm
- LH: FSH >3 (PCOS confirmed)
- Elevated testosterone and oestradiol
- Low Progesterone
- Ultrasound confirmed ovarian cysts

Elise’s Prescription

- *The Natural PCOS Diet* alongside a dairy and wheat-free diet.
- Hemp/pea protein shakes and nuts for snacks during long haul flights.
- Vitamin A drops (2500 IU), 1 drop 3 x daily (for acne and skin healing).
- Zinc drops (15mg elemental per drop): 1 drop 2 x daily (for acne, skin healing and insulin’s responsiveness on the cell membrane).
- DIM 75mg capsules: 2 capsules 2 x daily (for acne, oestrogen metabolism and lowering androgen production).
- Magnesium: 400mg 2 x daily (for cravings, low energy, poor sleep, fluid retention).
- Follicular phase herbal formula containing tribulus, peony, licorice, thuja and schizandra: 8ml 2 x daily for days 5-14 (to balance androgens, reduce cysts, enhance ovulation, support liver - needed to support the action of DIM and prevent unwanted settling-in effects such as hot flushes).
• Luteal phase herbal formula containing chastve tree, peony, ladies mantle, shatavari and schizandra: 8ml 2 x daily for days 15-1 (to shorten lengthy luteal phase, balance hormones, support liver)

I spoke to Elise about the stress of her job flying in and out of different time zones and the consequences this can have on her sensitive endocrine system. I suggested a few lifestyle recommendations such as stress-reducing yoga and regular walking. I also asked her if working part-time was a financial possibility.

Clinical Outcome
Elise immediately noticed a reduction in her cravings and had already lost 1.5kg at the follow-up consultation 2 weeks later. Within 6 months her cycle returned to a 28 day cycle and her cystic acne had cleared. She was able to work part-time. Elise was much happier.

Over a couple of months, Elise reduced the dose of herbs, and stopped taking DIM. She then started preconception support nutrients. Three months later Elise phoned to say she was pregnant! She has since had a second child.

Charlotte, aged 24
Charlotte presented at my clinic suffering from amenorrhea for the past 18 months. Prior to this, her menstrual cycle length was 35-50 days and very erratic. She was a university student and had been under a lot of stress during the past 12 months. It was not unusual for her to skip a period during these stressful times.

Charlotte felt exhausted most of the time. Her hair and skin were much oiler than usual. She had frequent acne on her face and upper back, hair growth on her nipples, chin, and sides of face. Charlotte craved sugar and starches and ‘lived’ on them. She had no history of ovarian cysts.

Pathology Results
• Weight 85kg
• Height 152cm
• LH: FSH >3
• Elevated prolactin and testosterone

Charlotte’s Prescription
• The Natural PCOS Diet alongside a gluten and dairy-free diet.
• Chromium polynicotinate with added alpha lipoic acid, inositol & vanadium: 1 tablet 2 x daily (for cravings and to assist healthy blood sugar metabolism).
• B complex with Magnesium: 1 tablet 2 x daily (for stress support and cravings).
• Vitamin B6 250gm: 1 tablet daily (to reduce elevated prolactin).
• Herbal Formula containing licorice, paeonia, black cohosh, gymnema: 8ml x 2 daily (for cravings and hormone imbalances including elevated androgens).

• Tribulus (extract equivalent to dry herb) 9g: 2 tablets daily days 5-14 (to assist with a healthy follicular phase of the cycle, induce ovulation and reduce androgens).

• Chaste tree 500mg: 1 tablet each morning (to reduce elevated prolactin and for cycle regularity).

• Maca 500mg: 2 capsules 2 x daily (for cycle regularity and hormone balance).

Clinical Outcome
Charlotte had a period 7 weeks later. Her skin was beginning to show signs of improvement and her energy and concentration were dramatically improved.

After another two months, Charlotte had her second consecutive period and was delighted she had 2 in a row (37 days apart). Her skin was less oily and acne was much less noticeable, she only had the occasional pimple now and again. Her energy levels were also much better.

Charlotte had lost 11kg in weight in the 15 weeks since treatment using The Natural PCOS Diet and increased exercise.

Two months later again, Charlotte had 2 more healthy cycles, exactly 34 days apart. Her charts showed clear and healthy ovulations on day 16 of her cycle. Charlotte reduced dose of all supplements to half for the following 8 weeks, then by half again for the following 8 weeks.

Her Long term maintenance protocol included a high dose B complex vitamin with magnesium, chaste tree and gymnema.

Kathleen, aged 28
Kathleen presented at my clinic with irregular periods and was considering attempting to fall pregnant. She was a shift worker in a hospital with high stress. She had been diagnosed with PCOS two years ago. Up until six months prior to her consultation, she had taken the oral contraceptive pill in combination with Levothyroxine (for an underactive thyroid gland), but suffered side effects of heightened emotional sensitivity from these drugs.

Her menstrual cycle varied in length anywhere from 50 to 70 days and she experienced pre-menstrual breast tenderness and cramping prior to the start of her period. It would always begin with spotting for 12 to 18 hours and when the flow began, it was heavy and sometimes contained clots, lasting for up to 5 days.

Kathleen suffered from deep cystic acne on her face, chest and back, which became worse for up to a week before the onset of each period. She had taken two courses of isotretinoin (Accutane) within the past 5 years and regularly used tetracycline (antibiotic) for treatment of her acne.

She had gained 10kg over the past 3 years, which she had difficulty losing, despite exercise on a regular basis. She did, however, have a high carbohydrate diet and craved sugar all the time.
Pathology results
- Weight 78kg
- Height 172cm
- LH: FSH >2
- Elevated testosterone and prolactin

Kathleen’s Prescription
- *The Natural PCOS Diet* alongside a gluten, dairy and soy-free diet.
- B complex with Magnesium: 1 tablet 2 x daily (for stress support and cravings).
- Zinc and selenium drops (to assist in the conversion of T4 into active T3).
- Herbal formula containing chaste tree, licorice, paeonia, Gymnema and schizandra, 8ml 2 x daily (for hormonal imbalance, elevated prolactin and testosterone, PMS symptoms and liver support to assist in reducing circulating levels of testosterone and oestrogen).
- Tribulus (extract equivalent to dry herb) 9g: 2 tablets daily days 5-14 (to ensure a healthy follicular phase of the cycle, induce ovulation and reduce androgens).
- Fucus vesiculosus (kelp) 1:1 10ml 2 x daily (as a plant source of iodine for thyroid support)

Clinical Outcome
After 5 months of treatment, Kathleen’s cycle had regulated to a 32 day cycle with a consistent 15 day follicular phase and a 17 day luteal phase. The breast tenderness, acne and hirsutism diminished significantly. With the inclusion of a maintenance program of *The Natural PCOS Diet*, Gymnema, and exercise, she lost a total of 12% of her body weight in the 5 months (9kg).
Kathleen went on to begin a full preconception health care program and fell pregnant in her second month.

In Summary
Treatment for PCOS is more effective when ALL aspects of health are addressed.
High levels of stress, adrenal fatigue, environmental oestrogens and poor diet choices are some of the major culprits in the development of PCOS. Treatment is complex and needs to be tailored to each individual.
Conclusion

I hope the information in this e-book has provided you with a holistic perspective on managing and treating your PCOS symptoms. With a suitable, natural diet to combat insulin resistance and balance hormones, alongside supplement, exercise and stress management, you should see significant improvements in your hormone health.

Wishing you all the very best on your healing path!

Yours in health

Jenny Blondel
Naturopath, Herbalist and Homoeopath
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*The Natural PCOS Diet* can be life-changing. If you are inspired, motivated and celebrating renewed health, please share your experience with those who are struggling with PCOS. Refer them to *The Natural PCOS Diet* to purchase their own copy of this book.

If you wish to purchase supplements recommended in *The Natural PCOS Diet*, please click on this link: [Supplements for PCOS](#)

**Feedback**

If you would like to provide feedback on *The Natural PCOS Diet*, please use our Feedback Form: [The Natural PCOS Diet : Feedback Form](#)
I would love to hear from you.

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About Jenny Blondel

Jenny Blondel ND, Naturopath and Wellness Coach, is a specialist in naturopathic medicine. Jenny has more than 17 years’ clinical experience in holistic health in the UK and Australia.

She specialises in women’s health disorders including the treatment of PCOS. Jenny has helped numerous women struggling with PCOS to restore their menstrual cycles, many of whom go on to conceive.

Jenny has worked as a technical consultant and trainer for prominent nutritional companies and has lectured at Australian Naturopathic colleges. She has also written for a host of magazines and newspapers.

Her natural health philosophy:
‘To inspire optimum health and wellbeing by providing integrative naturopathic advice and treatment services for every stage of life.’

Disclaimer

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