

FACT SHEET

Shedding some light on PCOS

HERBS & HEALTH EDITION 7, AUTUMN 2009



PCOS can not only affect your body, but your mind, and spirit as well, particularly when smooth skin and lack of body hair are associated with the essence of femininity. It's hard to feel feminine when you have pimples, excess hair and feel overweight. Add to this a low libido and you begin to see the every day realities for sufferers of this condition.

However, the biggest concern about PCOS is not the cosmetic problems, but the greatly increased risk of heart disease and Type 2 Diabetes.

Insulin Resistance

Both medical experts and alternative healthcare professionals agree that overcoming insulin resistance is the greatest priority when treating this condition. Because Insulin is one of the body's major hormones, it's impossible for your body to balance out the minor hormones (oestrogen, progesterone and testosterone) until insulin metabolism has returned to a healthy pattern.

How insulin works

The two main hormones that regulate your energy levels are insulin and glucagon. Insulin opens cell doors to take glucose out of your bloodstream and shuttle it into your cells where it can be used to create energy, whilst glucagon stimulates the release of glucose back into the bloodstream.

How insulin resistance develops

Our metabolism hasn't evolved since primitive times when our ancestors consumed a diet which included fewer (and more complex) carbohydrates. Today we consume a diet which contains a high proportion of simple carbohydrates that enter the bloodstream quickly. The pancreas releases high levels of insulin to keep the levels of glucose in the blood under control. Eventually the cells no longer respond to this signal and the cells become insulin resistant. Left untreated, insulin resistance will eventually result in Type 2 Diabetes.

An untreated diabetic condition is similar to garden soils that have become water repellent. You can water all you like but the water simply stays on the surface and won't soak into soil to keep it moist. In the case of diabetes you can eat and drink but the nourishment from the food you eat cannot get into your cells and literally runs through the body instead of feeding it. Because your cells aren't being fed, even though you are eating and drinking, your brain sends out the message that you're hungry, tired and thirsty.

Insulin resistance and fat metabolism

Of particular concern to PCOS sufferers is how insulin resistance disrupts fat metabolism. When cells won't absorb glucose, the liver is forced to convert it into fat. Fat cells are loaded

with glucose receptors, and also act like 'oestrogen factories', pumping out extra oestrogen, which results in 'oestrogen dominance syndrome' which further disrupts hormonal balance.

It is known that apple-shaped women who hold most of their weight around their abdomen show less tolerance for insulin. To assess your risk measure your self around the smallest part of your waist (don't hold your stomach in!) and the biggest part of your hips. Divide the waist measurement by the hip measurement. A ratio bigger than 0.8 for women indicates your abdomen is obese and you are at risk of developing insulin resistance.

Insulin resistance diet

The good news is that insulin and glucose levels can be influenced by changes in lifestyle, exercise and diet. The basics of any diet to address insulin resistance should include lean meats and dairy products, high fibre grains, vegetables, legumes, leafy greens and fruit. You should aim to eat breakfast, lunch and dinner, plus two additional snacks. Each meal should contain a maximum of 15 grams of carbohydrates in the form of vegetables and fruits and some lean protein. An example of a healthy low carb meal with is a vegetable curry (e.g. chickpeas and vegetables with a low fat sauce) served with boiled brown basmati rice. Each snack should contain a maximum of 7 grams of carbohydrates for example a 30g box of almonds contains 6g of carbohydrates. Any refined carbohydrates ('white food') such as bread, pasta and sugar should be avoided- 1 slice of white bread contains 15g of carbohydrates on its own!

How different food groups regulate insulin

PROTEIN

By increasing protein in your diet you can help even out the see-saw action between insulin and glucagon. Protein will help you counterbalance the surge of insulin caused by the carbohydrate content in your meals, which in turn helps prevent your body from hoarding the energy in the sugars, storing it in your cells, or converting it to fat. Females require 60-70 grams of protein daily. Good sources include eggs, fish, poultry, lean meats and cheese. Plant sources include seeds, nuts, legumes and soy foods.

FATS

Despite its negative reputation, fat is essential for life and is an integral part of every cell membrane in our bodies. About a third of your brain is comprised of fat! Among its many roles, fat is crucial to maintaining adequate hormonal balance, stabilising blood sugar levels, increasing immunity, supplying energy and helping control hunger. Fat also slows down the processing of food in your digestive tract, which means that by including it in your diet you lower the overall glycaemic load. You need good fats in your diet- these are the omega 3's and unsaturated fats that come from oily fish and olive oil. It is the trans-fats that you should avoid.

According to one study presented at the American Diabetes Association, a diet containing trans-fat causes 30% more abdominal fat than other diets, even when grams of fat and calories are low. (1) Trans-fats are found in deep-fried foods and anything prepared with cheap vegetable oil, such as chips and commercial biscuits. Check the labels- if you see the words "Vegetable Oil" or "Cholesterol-free" you should avoid these products.

CARBOHYDRATES

Carbohydrates are utilised by our bodies as sugar and provide a quick source of energy. Carbohydrates stimulate the release of insulin, and if they're not used immediately as fuel, they'll be stored as fat in your body. Unlike protein and fat, carbohydrates may not signal to your brain that you are full - meaning a meal high in carbs could cause you to over eat. However, avoiding carbohydrates all together causes insulin levels to drop even further, which not only starves the cells of energy but upsets the insulin-glucagon balance. Interestingly, your brain needs the glucose from carbs to function properly! The carbohydrates you do consume should have a low glycaemic index, meaning that they are complex carbohydrates which your body digests slowly- keeping your blood sugar steady.

Other contributing factors to PCOS

THE 'THRIFTY' GENE

Research suggests that PCOS may be the result of 'thrifty' genes, which provide advantages in times of food shortage. If you have 'thrifty' genes, your body is very adept at storing calories for the famine that never comes! (2)

HEREDITARY FACTORS

Researchers have noticed that PCOS tends to run in families. According to Dr Warren Kidson "there's no strict figure, but if you have a parent with Type 2 Diabetes, or if you have a parent with polycystic ovaries, the chances of you having those same genes and developing this condition are somewhere between 25% and 50%, which is very high".

RESTORING NATURAL BALANCE

PCOS is a complex condition and consulting a natural healthcare professional to tailor a program to suit your specific needs is likely to be beneficial. There are a number of nutrients and herbs that healthcare professionals will usually use to assist this condition.

Supplements to assist PCOS

CHROMIUM

Chromium is an extremely important mineral if you have PCOS. It helps to encourage the formation of glucose tolerance factor which is a substance released by the liver and required to make insulin more efficient at transporting glucose into the cells. Chromium helps to control sugar cravings and helps reduce hunger. Chromium also helps to normalise fat and cholesterol levels in the blood.

B GROUP VITAMINS

B group vitamins are important in helping to correct the symptoms of PCOS. Vitamins B2, B3, B5 and B6 are particularly useful for weight management. Vitamin B2 helps to turn fat, sugar and protein into energy. B3 is a component of the glucose tolerance factor (GTF), which is released every time blood sugar rises, and vitamin B3 helps to keep the levels in balance. Vitamin B5 has been shown to help with weight loss because it helps to control fat metabolism. B6 is also important for maintaining hormone balance and, together with B2 and B3, is necessary for normal thyroid hormone production. Any deficiencies in these vitamins

can affect thyroid function and consequently affect your metabolism.

The B vitamins are also essential for the liver to convert your old hormones into harmless substances, which can then be excreted from the body.

ZINC

Zinc is one of the key minerals that we need in our daily diets and it has a wide range of functions. Unfortunately, because our soil has been depleted by over farming, there is very little natural zinc found in our food, and processing and refining diminish this further. So no matter how good your diet, you may not be getting anywhere near the levels of zinc that you need. There are two approaches to this: you can eat whole organic food, which has much more rigorous controls on farming methods, or you can add a zinc supplement to your diet. But why is it so important?

Zinc is an important mineral for appetite control and a deficiency can cause a loss of taste and smell, creating a need for stronger-tasting foods, including those that are saltier, sugary and/or spicier or more fattening. Zinc is also necessary for the correct action of many hormones, including insulin, so it is extremely important in balancing blood sugar. It also functions together with vitamins A and E in the manufacture of thyroid hormones.

MAGNESIUM

Magnesium levels have been found to be low in people with Type 2 Diabetes and there is a strong link between magnesium deficiency and insulin resistance. It is, therefore, an important mineral to include if you are suffering from PCOS.

Herbs

Herbs are extremely useful in the management of PCOS. Making changes and adding supplements to your diet will help to control weight and balance blood sugar, while herbs go a step further, targeting any problems involving hormone balance.

Herbs can also be very beneficial in encouraging the function of your liver, in order to make sure that it is metabolising the hormones efficiently and then eliminating them.

VITEX OR CHASTE TREE

Chaste Tree is one of the most important herbs for PCOS because it helps to stimulate and normalise the function of the pituitary gland, which controls the release of LH (luteinising hormone). This herb has the effect of enhancing progesterone and decreasing oestrogen levels. It supports the endocrine system to find its own balance. When using Chaste Tree, don't expect immediate results. It may not have much effect until it is taken for at least 3-6 months.

MILK THISTLE (SILYBUM MARIANUM)

Milk Thistle is one of the key herbs for the liver, which acts as your waste disposal unit and it is therefore essential for the treatment of PCOS. It helps to protect your liver cells against damage and to promote the healing of damaged cells, so improving the general functioning of the liver and all its detoxifying properties.

RED CLOVER

This herb's high vitamin content is very valuable to the uterus and its high protein content benefits the whole body. It's also quite high in calcium & magnesium, which relax the nervous system and help promote fertility. This herb also contains nearly every trace mineral needed by the glands. Daily use can help balance hormonal functioning.

ALOE VERA GEL

Aloe Gel has astringent & antibacterial properties and is applied topically. This can be used to treat acne, a common problem found with PCOS.

The importance of exercise

As discussed in the Herbs & Health article, exercising three times per week for 40 minutes at moderate intensity helps to reduce androgens, improve insulin resistance, regulate cycles and improve fertility.



(1) Kavanagh, K. 66th Scientific Sessions of the American Diabetes Association, June 9-13, 2006, Washington; abstract 328-OR. News release, Wake Forest University Baptist Medical Centre

(2) Holte J Journal of Endocrinol Invest 1998, 21 (9):589-601