

Perth Diet Clinic



POLYCYSTIC OVARIAN SYNDROME

What is it?

Polycystic Ovarian Syndrome (PCOS) is a condition that occurs in 5 to 10% of women of reproductive age. Some of the features that may be present are:

- Multiple small follicles incorrectly called cysts on the ovary.
- Irregular or only occasional periods that may be heavy when they occur.
- Difficulty in becoming pregnant
- Problems with weight gain particularly around the middle.
- Excess facial and body hair called hirsutism.
- Acne
- Higher levels of blood fats including cholesterol and triglycerides.

What causes it?

It is not clear but it can be a combination of environmental and genetic factors. It is felt that part of the gene that regulates insulin secretion may function abnormally. This leads to a condition called **insulin resistance**. This can affect the way cells handle glucose and in the way ovarian cells respond to the hormone that stimulates testosterone production.

Insulin Resistance

In some people, the body cells do not respond to the insulin. This is called insulin resistance. As the glucose does not move freely into the cell, our blood concentration of glucose increases. When body cells become resistant to insulin, the pancreas over produces insulin to try to compensate. The resulting hyperinsulinaemia is the major factor behind insulin resistance syndrome.

It is thought that around one in four people show signs of insulin resistance.

Testing For Insulin Resistance

Insulin resistance can be determined with a simple fasting blood test.

Current guidelines indicate:

Fasting insulin:

<10 mU/L	normal
10-14 mU/L	mild to moderate insulin resistance
>14 mU/L	moderate to severe insulin resistance

Insulin levels may also be checked during a Glucose Tolerance Test (GTT).

Levels of 100 or more at 1 or 2 hours show severe insulin resistance.

Effects Of Insulin Resistance

Obesity is strongly linked with insulin resistance. This is mostly due to insulin's effect of promoting the production of fat (lipogenesis) and the development of adipose tissue. Alternatively, obesity is also a major factor in the development of insulin resistance.

There is an increased risk of **cardiovascular disease**. This is usually accounted for by obesity, hypertension and changes to the lipid profile. Often the insulin tends to increase blood triglyceride levels

and decrease HDL (good cholesterol) levels.

Hormone imbalance - the hyperinsulinaemia also affects other hormones. In particular there is an increase in androgens. This can result in acne, Polycystic Ovarian Syndrome, infertility and hirsutism. Finally, there is a greatly increased risk of developing **diabetes**. The excessive production of insulin by the pancreas to compensate for the insulin resistance can cause the pancreas to fail to cope with the continued production and lead to diabetes.

Treatment of PCOS

Diet to Achieve Weight Loss

Achieve and maintain a healthy body weight. This involves balancing food intake with energy output. Having a low fat/low kilojoule diet and doing regular physical activity.

Diet in combination with exercise can assist with weight loss thus reducing insulin resistance. It is more difficult to lose weight with PCOS so being very careful about fat and total kilojoules is very important. Many women reduce the amount of fat but still eat too many kilojoules in the form of rice, pasta and bread. This excess carbohydrate is then stored as fat. Consume a low fat, low sugar and high fibre diet. Include breads and cereals (preferably wholegrain), fruit and vegetables, lean meat and low fat dairy products. Eat smaller meals more frequently as this will give further satiety and keep insulin levels lower.

Low Glycaemic Index

Consume low glycaemic index foods. These foods result in a slower increase in blood sugar levels over a period of time resulting in a sparing effect on insulin requirements.

Choosing low GI foods also spares insulin and keeps the levels lower. Aim to have one low GI food such as milk products, whole grain breads and pulses at each meal.

Omega -3 Fatty Acids

Increase intake of fish and other sources of omega-3 fatty acids. A high intake of omega-3 has been shown to decrease insulin resistance.

Exercise

With PCOS it is difficult to achieve fat burning. In order for this to occur, usually 45 minutes of brisk walking, cycling, swimming or any aerobic exercise is necessary. This should be done at least six days a week but preferably seven days a week. Exercise lowers the level of insulin in the blood making it easier to burn the fat.

Other Factors

Be a non-smoker.

Look at ways to alleviate stress.

There may be a need for drug therapy. These medications are typically used to manage blood glucose levels in people with diabetes but are also very effective with insulin resistance and PCOS eg Metformin.

Useful Web Sites

Women's health information centre- www.rch.unimelb.edu.au.



STAR RECIPES



Carrot Cashew Soup

A delicious warming soup for a cold winter's night.

Ingredients

5 medium peeled and coarsely chopped carrots (500 grams)
 2 medium peeled and cubed potatoes (200 grams)
 1 medium peeled and coarsely chopped onion (100 grams)
 2 small peeled, cored and coarsely chopped green apples (200 grams)
 4 medium stalks coarsely chopped cauliflower (300 grams)
 6 cups vegetable or chicken stock (1500 grams)
 ½ cup coarsely chopped cashews (75 grams)

Method

Place carrot, potatoes, onion, apples and cauliflower in a large saucepan with vegetable or chicken stock.
 Cook for 10 to 12 minutes or until vegetables are soft.
 Add 2/3 of cashews to vegetable mixture and blend until smooth.
 Sprinkle remaining 1/3 of chopped cashews on top of soup as a garnish when serving.

Serves : 10 Quantity per Serve : 1 cup

Nutrients per Serve :

KJ 378, Calories 91, Carbohydrates (grams) 10.1, Fat (grams) 4, Protein (grams) 3.23.



Lentil Bean Goulash



An excellent winter warmer which is high in fibre and low in fat. This recipe can be made in bulk and frozen in small quantities for individual meals. Ideal if you only have one vegetarian in the family or you are cooking for one.

Ingredients

1/3 cup dried yellow split peas (75g)
 1/3 cup red lentils (75g)
 1/3 cup green lentils (75g)
 4 cups boiling water (1000ml)
 2 medium finely chopped onions (200g)
 2 crushed cloves garlic (6g)
 2 tsp mono/polyunsaturated oil (10ml)
 2 tbsp water (40ml)
 1 tbsp fresh or 1 tsp dried oregano
 1 tbsp fresh or 1 tsp dried thyme
 1 tsp caraway seeds
 1 cup tinned kidney beans (200g)
 1 x 400g tin tomatoes (400g)
 ½ cup water (125ml)

Method

Place split peas and red and green lentils in a saucepan with 1 litre of boiling water. Return to the boil and cook for 2 minutes. Cover and leave for 1 hour. Drain and put aside until required.

Place onion, garlic, oil and water in a heavy based saucepan with oregano, thyme and caraway seeds. Stir fry for 5 minutes.

Add prepared peas, lentils, kidney beans, tomatoes, water and salt. Bring to the boil and simmer over a low heat for 1 hour, stirring occasionally.

Serves : 5

Nutrients per Serve : KJ 838, Calories 201, Carbohydrates (grams) 27, Fat(grams) 3.3, Cholesterol(milligrams) 0, Protein (grams) 15, Sodium (milligrams) 185, Fibre (grams) 10, Calcium (milligrams) 69, Iron (milligrams) 4.3.

Lentil Goulash can be used to create a Vegetarian Shepherd's Pie (pictured) by placing 5 cups of Lentil Goulash in a casserole dish and topping it with 600g of mashed potato before baking it in a moderate oven for 30

GLYCAEMIC LOAD

What is the glycaemic load?

Many of us will now be familiar with the term “Glycaemic Index (GI)”. The GI describes the type of carbohydrates in food. It is a measure of that food's ability to raise blood glucose levels. Foods with a high GI contain carbohydrates that can have a dramatic effect on blood glucose levels.

The GI does not take into account how much carbohydrate a normal serve of food contains. A food may contain carbohydrates that will raise blood glucose levels (high GI), but a normal serve of that food may only contain small quantities of carbohydrates.

An example of this is pumpkin. Pumpkin has a GI of 75. This may discourage us from eating pumpkin if we have diabetes. A normal serving size of pumpkin is 80g. The available carbohydrate per serve is only 4g. This gives a glycaemic load of 3 (very low).

Glycaemic Load (GL) is a measure of the amount and type of carbohydrate in a food that allows us to predict blood glucose responses to a meal. The lower the GL the lower the effect on blood glucose levels.

So the best recommendation is to use the GI to help you compare between products of similar carbohydrate content such as rice varieties. When the amount of carbohydrate differs use the GL as a predictor of blood glucose rise.

Reference: J Brand-Miller, K Foster-Powell, S Colagiuri. 2002. *The new glucose revolution*. Hodder: Australia

How is it calculated?

Glycaemic load = GI x carbohydrate per serving ÷ 100

Example:

An apple: GI = 40, Carbohydrate per apple = 15 grams
GL = 6

A potato: GI = 90, Carbohydrate per potato = 20 grams
GL = 18

From this result we can say the effect of the potato including insulin demand may be three times higher than the apple.

Is it then better to use the GL instead of the GI?

Even though the GI only takes into account the quality and not the quantity of carbohydrate in a meal, research has shown that both are good predictors of overall disease risk.

The GL does suggest that the higher the consumption of high carbohydrate, high GI foods, the more adverse the outcome. The problem is that there is a worry it may lead to a rise in low carbohydrate diets.

INTERESTING FACTS, SOLUTIONS AND SUBSTITUTIONS

Baking Powder vs Bicarbonate of Soda

Baking Powder

Baking powder contains bicarbonate of soda and an acid ingredient that has a tartrate or phosphate base plus corn flour or rice flour as a filler. Baking powder gives off carbon dioxide that leavens or causes the batter or dough to rise. The most common one now in Australia is Ward's™ baking powder. It contains rice flour rather than corn flour so is gluten free and is phosphate based.

Bicarbonate of Soda or Baking Soda

Bicarbonate of soda is the main leavening agent in baking powder and is used in combination with an acid or souring ingredient in baking.

Cream of Tartar or Tartaric Acid

The chemical name is Potassium Bitartrate and it may be used to make a baking powder when combined with bicarbonate of soda.

Acid Ingredients

Acid ingredients are a component of baking powder and are either based on tartrate or phosphate.

Souring or Acid Ingredients

Souring ingredients are part of the recipe and therefore some or all the baking powder will be replaced with bicarbonate of soda. Souring ingredients in the recipe that replace cream of tartar or phosphate in baking powder are buttermilk, sour cream, yoghurt or milk soured with lemon or vinegar, honey, golden syrup or molasses.

When to Use Baking Powder and When to Use Bicarbonate of Soda.

If the recipe contains an acid or souring ingredient then bicarbonate of soda is used instead of baking powder. Baking powder is used in baking cakes, scones, biscuits where there **isn't** any acid or souring component. Recipes may call for some baking powder and bicarbonate of soda when there is insufficient souring ingredient. Too much bicarbonate of soda or baking powder will result in the product over-rising, possibly overflowing the container or collapsing and resulting in a soapy taste.

Self-Raising Flour

Self-raising flour contains bicarbonate of soda and either cream of tartar or a phosphate (acid). If a recipe calls for plain flour and bicarbonate of soda then other ingredients in it are acting as a souring agent and using self-raising flour will alter the proportions and cause the product to rise too much and have a soapy taste. **Self-raising flour cannot be substituted for plain flour without altering the recipe.**

Substituting Sour Milk for Fresh Milk in a Recipe

If you would like to use sour milk, buttermilk or yoghurt for fresh milk then

Useful Substitutes

1 teaspoon of baking powder = ¼ teaspoon bicarbonate of soda + 5/8 teaspoon cream of tartar.

1 cup self-raising flour = 2 teaspoons of baking powder **or** 1/2 teaspoon bicarbonate of soda + 1 ¼ teaspoons cream of tartar to 1 cup of plain flour.

1 teaspoon baking powder = ¼ teaspoon bicarbonate of soda + ¼ to ½ cup molasses, honey or golden syrup.

1 cup sour milk = 1 cup minus 1 tablespoon fresh milk + 1 tablespoon vinegar or lemon juice.

1 teaspoon baking powder = ¼ teaspoon bicarbonate of soda + ½ cup buttermilk, sour milk, yoghurt or sour cream. Decrease liquid in the recipe by about ½ cup or by a 1/3 cup for a thick yoghurt or sour cream.

Consulting Venues and Times

WEST PERTH

12 -14 Thelma St West Perth Phone : 9322 4680 Fax : 9321 4775	E. Spickett / N. Campbell P. Stacy / L. McEvoy / N. Campbell A. Wilson	Monday Tuesday Wednesday	7.00am - 5.30pm 7.00am - 5.00pm 7.00am - 5.30pm
Email: stacy@perthdietclinic.com.au	L. McEvoy	Thursday	9.30am - 5.30pm
Web: http://www.perthdietclinic.com.au/	L. Peacock / A. Wilson L. McEvoy / A. Wilson	Friday Saturday	7.00am - 5.30pm 8.30am - 12.30pm

APPLECROSS

Applecross Medical Group 764 Canning Highway Applecross Phone : 9364 6444	P. Stacy L. McEvoy	Wednesday Monday	1.00pm - 6.30pm 8.00am - 12.00noon
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KARDINYA

Kelso Medical Group Suite 8, South St Kardinya Phone : 9331 3366	A. Wilson P. Stacy	Tuesday Thursday	1.00pm - 6.00pm 1.30pm - 6.30pm
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DUNCRAIG

Sports Medicine Glengarry Unit 1, 64 Arnisdale Rd Glengarry Phone : 9246 4055	L. McEvoy	Tuesday Wednesday	2.00pm - 6.00pm 9.00am - 12.00noon
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WARNBRO

Palm Springs Medical Centre 3 Halliburton Rd Warnbro Phone : 9593 2033	A. Wilson	Thursday	12.00noon - 5.00pm
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Visit our web site at <http://www.perthdietclinic.com.au>
for nutrition information, health and cooking tips
and an abundance of recipes.

New Dietitian—Niki Campbell

Niki trained in WA but has worked in Canberra for the last 12 years. She has 2 school aged children and lives in Carine. Niki specialises in paediatrics, women's health (especially PCOS), food allergies and intolerances and gastrointestinal problems. She will be working on Tuesday and Monday and will be starting a clinic in the northern suburbs. Niki is in her early 40's and is going to appeal to women with young families. We welcome Niki to the clinic.

