

Polycystic Ovary Syndrome (PCOS) dietary advice

This leaflet gives dietary and lifestyle advice on managing the symptoms of PCOS. Please ask your dietitian for further advice.

Your name: _____
Your dietitian: _____
Dietitian contact number: _____

What is PCOS?

Polycystic Ovarian Syndrome (PCOS) is a common disorder of ovarian function in pre-menopausal women. Some women are affected by symptoms including weight gain (particularly around their middle/waist), menstrual problems, infertility, acne, or facial hair growth, and are at increased risk of heart disease and diabetes. With PCOS it is important to maintain a healthy weight, long term. If you are overweight (BMI above 25kg/m²), symptoms of PCOS may be lessened by losing 5% body weight through eating healthily and being active.

A common feature in PCOS is insulin resistance. This leads to raised levels of insulin in the blood, and promotes symptoms such as carbohydrate craving, fatigue, sleep disturbance and higher levels of testosterone in the body. Making dietary changes can improve the body's sensitivity to insulin and improve symptoms of PCOS. A **low-carbohydrate diet** or a very low carbohydrate (ketogenic) diet can be effective in improving insulin resistance and the symptoms of PCOS.

Tips to improve insulin resistance:

1. Choose carbohydrates carefully

Carbohydrates are found in a variety of food groups. To improve blood glucose control, it is important to not only consider the **type** but also the **amount of carbohydrate** you choose. The total amount of carbohydrate you eat predicts the amount of glucose entering your blood and therefore the amount of insulin released in response.

Carbohydrates are found in:

- Cereal starch – breads, pastas, grains, cereals, rice, noodles, chapattis
- Vegetable starch – potatoes, beans, lentils, peas
- Fruits (fructose) – fruit, jam, honey
- Dairy (lactose) – milk, yoghurt, custard, ice cream
- Table sugar (sucrose/glucose) – cakes, sweets, chocolate, desserts, fizzy or sweetened drinks

Recommended carbohydrate portion sizes

- **Cereal and vegetable starchy carbohydrates:**

Depending on how active you are, you should eat 1-3 portions per meal of cereal or vegetable starchy carbohydrates. Initially, it may be a good idea to measure your food with measuring cups, spoons or kitchen scales to see what a serving looks like.

[Key: tbsp = tablespoon, g = grams]

Each serving listed contains 15g of carbohydrate and approximately 80-100 calories.

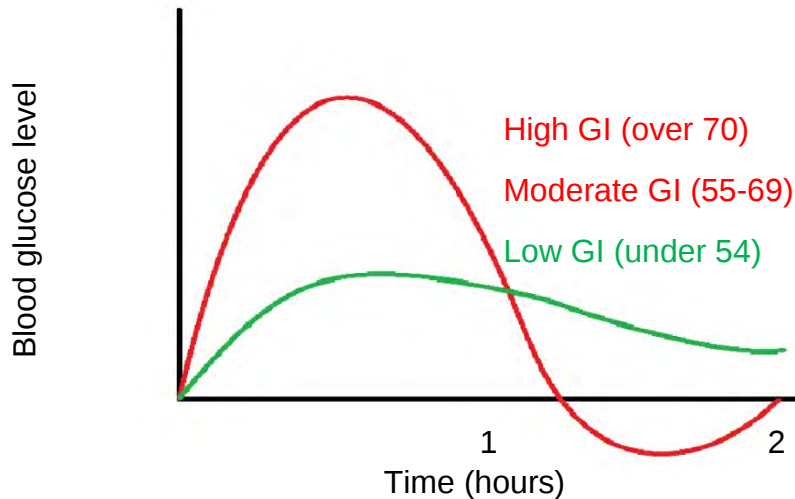
1 medium slice of bread (35g)	½ small baked potato (80g)
½ roll or plain bun	20g uncooked pasta or 45g cooked pasta or noodles
1 small chapatti (35g)	20g uncooked rice or couscous or 45g (2 tbsp) cooked rice
2 egg sized potatoes	100g boiled potato
10 oven chips	150g / ½ cup or 5 tbsp peas
1 Weetabix	1 crumpet
½ large pita bread	20g breakfast cereal, muesli, or porridge oats
½ cup corn/small corn on the cob	2 oat cakes, 3 crackers, 3 rice cakes or 4 breadsticks
90g (3 tbsp) cooked lentils	100g baked beans (1/4 tin)

- **Fruit:** A portion of fruit is one handful, or approximately 80g. A portion this size contains 15g of carbohydrate and 60-80 calories. Aim for two portions of fruit per day.
- **Dairy:** A portion of dairy contributes to meeting your calcium requirements, which are increased in PCOS. Aim for three portions per day e.g. 300ml glass of milk, 125g yoghurt, and a matchbox sized piece of cheese (25g). Please be aware that the carbohydrate content of each dairy product is different.

2. Glycaemic Index

The Glycaemic Index (GI) refers to how quickly carbohydrate is digested and absorbed as glucose into your bloodstream. Glucose, the fastest acting carbohydrate, is given a value of 100 and other carbohydrates are ranked relative to that measurement. Changing the **type** of carbohydrate you eat is also helpful for improving blood glucose control.

The graph below shows the effect of high and low GI food on blood glucose.



High GI foods are digested quickly in the body and give a quick rise in blood sugar levels. Low GI foods, are slower to be digested, helping to control insulin response and energy levels. This is associated with a reduction in symptoms of PCOS. As low GI foods are high in fibre and water, filling up on these foods can also help weight loss and control carbohydrate cravings.

Low (GI less than 55)	Medium (GI between 56–69)	High (GI more than 70)
Fruits Apples, banana, berries, grapes, kiwi, oranges, peaches, plums	Melon, papaya, pineapple, raisins and other dried fruit	Watermelon
Vegetables Most vegetables, corn on the cob, sweetcorn, sweet potato	Beetroot, new potatoes	Baked potato, mashed or instant potato
Cereals All bran, muesli (based on oats and a small amount of dried fruit), oats, oat bran	Shredded wheat, wheat biscuits	Cornflakes, puffed rice cereal
Bread Pumpernickel, sourdough, soya & linseed, wholegrain	Chapatti (whole wheat), granary, pitta, rye bread	Bagel, English muffin, French stick, white bread

Legumes

Beans e.g. baked, butter, kidney or soya, chickpeas, lentils

Grains

Barley, buckwheat, bulgar wheat, pasta, wild rice

Basmati, brown rice, couscous, gnocchi

Glutinous rice, jasmine rice, rice pasta, white long grain rice

Dairy foods

Milk, yoghurt

Ice cream (regular)

Tips to reduce the GI of meals:

- Add beans, pulses or extra vegetables to meals, e.g. kidney beans or lentils to soups, stews and salads
- Use lean proteins and healthy fats. Adding protein or fat to a carbohydrate will slow its absorption e.g. adding tuna or beans to a baked potato will result in a medium GI meal.
- Switch to wholegrain / wholewheat breads, pastas and cereals. Try breads with the grainy bits such as granary, sourdough or pumpernickel.
- Use other grains such as bulgur wheat, quinoa or wild rice instead of long grain rice.
- Alternate regular potatoes with sweet potatoes.
- Enjoy all fruits in small amounts. Berries such as blueberries, raspberries and strawberries are especially low on the glycaemic index scale. Avoid overripe fruits.

Note, you also need to consider the food's other nutritional qualities, such as fat, sugar and salt content. Some foods which are high in sugar and fat have a low or medium GI value e.g. chocolate. These are best avoided or eaten in moderation.

Other nutrient requirements

- **Calcium:** The lower level of oestrogen in the blood in PCOS may make you more prone to losing calcium from your bones.
You may have cut down on dairy products while trying to lose weight. However, to ensure you get adequate calcium in your diet, we recommend you have three portions of dairy products or calcium fortified dairy-free alternatives per day. The bones in oily fish are also high in calcium. (See page 2 for guidance on a portion of dairy).
- **Vitamin D** helps the absorption of calcium from foods. Most of our vitamin D is made by the action of sunlight on the skin. Between April and September, going outside for 15 minutes, two or three times a week between 11am and 3pm without sunscreen, should be enough to produce sufficient vitamin D. However, all adults and children over the age of one should consider taking a daily supplement containing **10µg vitamin D**, especially during autumn and winter.
- **Iron:** Heavy menstrual losses, which may also occur in PCOS, can lead to a low iron level in the blood. Try to include some lean red meat, fortified wholegrain breakfast cereals and dark green vegetables such as broccoli on a regular basis. Vitamin C aids the absorption of iron, so for example, eating some citrus fruit or juice (e.g. orange) with a meal may help.

- **Omega 3:** Although the evidence is currently limited, there is some suggestion that a regular intake of Omega 3 fatty acids may have a beneficial effect on some of the symptoms and complications of PCOS, as well as on your glucose and insulin levels. Aim to include some dietary sources of Omega 3 as part of a healthy diet, such as:
 - o Oily fish e.g. salmon, mackerel, sardines
 - o Nuts and seeds
 - o Vegetable oils e.g. rapeseed and linseed
 - o Soya and soya products e.g. soybeans, soya milk and tofu
 - o Green leafy vegetables

If you are unable to obtain sufficient omega 3 fatty acids from your diet, discuss with your health care professional / dietitian as to whether it is worth considering an Omega 3 supplement. *Nutritional supplements should not be used without medical guidance.*

Can I still drink alcohol?

There is no reason why you cannot drink some alcohol, although remember it is **not low in calories**. Due to its effects on your metabolism, if you are trying to lose weight it would slow your rate of weight loss if you were including too much alcohol in your diet.

Try not to exceed a maximum of 14 units total per week, spread out over several days with at least 2 alcohol free days.

A unit of alcohol is a 75mls of wine, 250mls beer or lager, or 25mls spirit. Choose alcoholic drinks with the lowest energy content such as spirits mixed with diet mixers, and dry wines. Avoid cocktails and drinks mixed with sugary mixers.

Lifestyle changes

When making diet or lifestyle changes for PCOS, start with those which are achievable for you.

Exercise

Taking regular exercise speeds up your resting metabolic rate and if done at an intensity, may help with weight loss. Exercise also improves the body's response to insulin (insulin resistance) making it work more effectively.

Build up your exercise levels slowly, but aim for:

- Five sessions per week of 20-60 minutes of enjoyable heart-rate-raising exercise, which will help with your weight-reducing programme.
- Two sessions per week of strength exercises, to build muscle and increase metabolic rate. This could include yoga, lifting weights, using resistance bands or body weight work such as push-ups or squats.
- Shorter bursts of around 10 minutes moderate intensity exercise have been found to be most beneficial in those with insulin resistance; and insulin levels often continue to be reduced for a short time after stopping exercise.

If you don't do much exercise currently, remember any exercise which is more than you would normally do is a great start.

Sleeping well

People with PCOS often feel fatigued, low in energy and may experience sleep disruption. Sleep deprivation can cause stress hormone levels to rise, and this can lead to an increase in blood glucose, insulin levels, blood pressure and inflammation. Stress can prevent fat loss and increase the risk of Type 2 diabetes by making the body more resistant to insulin. A lack of sleep has also been linked to increased appetite and more snacking.

Tips for sleeping well

- Sleep in complete darkness
- Sleep in loose-fitting clothes
- Have a regular sleep pattern
- Keep a cool bedroom
- Stay hydrated
- Avoid using electronic devices just before bed
- Avoid caffeine and alcohol in the hours before bed
- Try to relax before bed

For more advice see: <https://thesleepcharity.org.uk/information-support/adults/sleep-hygiene/>

Managing low mood

A common symptom of PCOS is intense carbohydrate cravings, disordered eating (e.g. using food to manage emotions), which can lead to feeling low in mood, having anxiety or periods of depression. There are ways to obtain support with this e.g. with cognitive behavioural therapy or medications, if appropriate.

Within Berkshire we have a service called **Talking Therapies** that can provide support with the above concerns.

You can self-refer to this service at: <https://www.talkingtherapies.berkshire.nhs.uk/>.

You can also visit your GP to discuss these symptoms and treatment options available.

Medications

There are medications that can be used to treat some of the symptoms of PCOS such as:

- Irregular periods
- Infertility
- High insulin or blood sugar levels
- High cholesterol levels
- Hair growth and hair loss treatments
- Acne treatments
- Weight loss

Please speak to your GP for advice.

References and resources

Book list

PCOS: A women's guide to dealing with PCOS. Colette Harris and Dr. Adam Carey, Thorsons ISBN No. 0-7225-3975-4	The PCOS Diet Book. Colette Harris and Theresa Francis-Cheung, Thorsons ISBN No. 0-00-713184-4
The New Glucose Revolution. Professor Jennie Brand Miller and Dr. Anthony Leeds. Mobius. ISBN no. 0-340-827025	The Insulin-Resistance Diet for PCOS. by Tara Spencer (Author), Jennifer Koslo Rd (Author). Rockridge Press. ISBN no. 978- 1623159023
Carbs & Cals Chris Cheyette (Author), Yello Balolia (Author). Chello Publishing. ISBN no. 978-1908261151	

Websites

- <http://www.verity-pcos.org.uk>
Verity is the UK charity for women whose lives are affected by Polycystic Ovary Syndrome. Please note requires a fee
- <https://www.nursinginpractice.com/clinical/diabetes/dietary-options-in-pcos-and-their-role-in-preventing-type-2-diabetes/>
Article on dietary options in PCOS and their role in preventing Type 2 Diabetes
- Low Carb Meal Plan (pdf)
www.diabetes.org.uk/guide-to-diabetes/enjoy-food/eating-with-diabetes/meal-plans/low-carb
- <https://www.nhs.uk/conditions/polycystic-ovary-syndrome-pcos/treatment/>

Please ask if you need this information in another language or format.

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