



Narodowe Centrum
Edukacji Żywieniowej



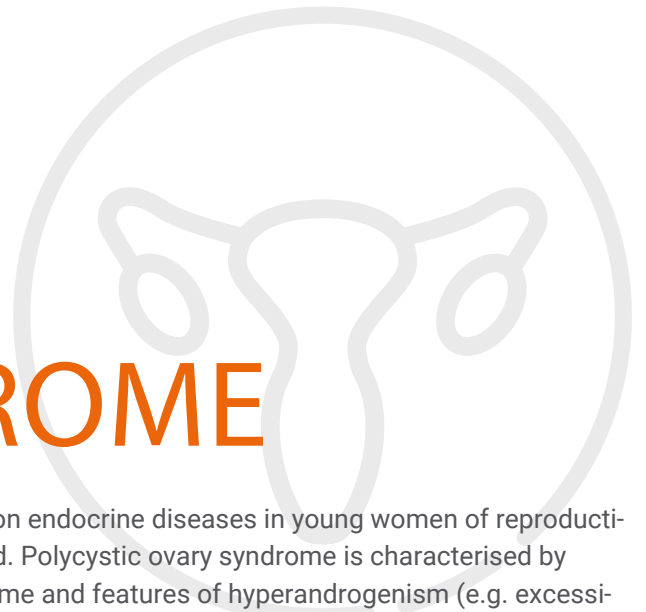
Centrum
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POLYCYSTIC OVARY SYNDROME



Polycystic ovary syndrome (PCOS) is one of the most common endocrine diseases in young women of reproductive age. The causes of the disease are not yet well understood. Polycystic ovary syndrome is characterised by abnormalities in the menstrual cycle, changes in ovarian volume and features of hyperandrogenism (e.g. excessive hair growth or acne). If untreated, it can lead to numerous metabolic diseases, mental disorders and infertility. In therapeutic management, in addition to pharmacological measures, great emphasis is placed on the quality of the diet (including lowering the glycaemic index) and appropriate physical activity.

Dietary recommendations

- 1 Try to maintain a proper body weight. To achieve this, eat regularly (4-5 meals at intervals of 3-4 hours). If you are overweight or obese, control the calorie content of your diet and aim for gradual weight loss. You will achieve long-term results by losing 0.5 to 1 kg per week.
- 2 Eat breakfast within an hour of waking up and have dinner 2-3 hours before bedtime.
- 3 Consume 5 portions of fruit and vegetables a day ($\frac{3}{4}$ vegetables and $\frac{1}{4}$ fruit). Green vegetables rich in folic acid (e.g., spinach, parsley, Brussels sprouts, kale, broccoli) will be particularly beneficial in case of PCOS. Choose fruits that are less ripe and rich in dietary fibre (e.g. berries, apples).



- 4 The main source of energy should be carbohydrates with a low glycaemic index, e.g., wholemeal bread, coarse groats, brown rice and wholemeal pasta. Such products additionally provide dietary fibre, which has a beneficial effect on the lipid profile, blood glucose levels and prolongs the time of satiety after a meal.
- 5 Choose food that is as minimally processed as possible, low in saturated fatty acids, simple carbohydrates (sugar and glucose-fructose syrup) and salt, including whole grain products instead of wheat, fresh fruit and vegetables instead of juices, nuts, and seeds instead of salty snacks, fresh fruit instead of sweets.
- 6 Limit products rich in animal fats, such as fatty types of meat, butter, lard, high-fat dairy products. Instead, choose lean meats, eggs, fish, reduced-fat (but not completely skimmed) dairy products, vegetable oils (e.g., canola oil and olive oil).
- 7 Partially replace animal protein with vegetable protein. Limit your meat intake to 3 times a week. Include as many legumes, vegetables and whole grain cereal products in your diet as possible.
- 8 Include products rich in anti-inflammatory omega 3 acids, e.g., oily sea fish (including salmon, mackerel, sardines, herring), walnuts, flaxseed, flax oil, chia seeds in your diet.
- 9 Limit your consumption of table salt. Instead, use spices that will lower postprandial glycaemia, e.g., cinnamon, ginger or turmeric, and herbs rich in antioxidants, e.g., basil, oregano, thyme, caraway.
- 10 Minimise or completely exclude alcohol.
- 11 Drink about 8 glasses of water every day. Give up sugar in coffee and tea and sweetened drinks. Drinking green tea infusion can be beneficial in reducing blood glucose levels.
- 12 Avoid frying, especially deep-frying. Instead, use culinary methods such as boiling, steaming, baking in foil, grilling without fat. Try not to overcook the dishes.
- 13 Don't forget about physical activity! The type and intensity of exercises should be adjusted to individual needs and capabilities. Regular physical activity should include both activities performed during daily tasks, such as vacuuming, taking the stairs instead of the elevator, cycling instead of driving, walking the dog, or playing with a child, as well as additional activities of moderate intensity, lasting at least 30 minutes a day. Such activities can include gymnastics, dancing, swimming, brisk walking, or jogging.
- 14 Beneficial effects, especially when trying to conceive, can be achieved through the supplementation of vitamin D, zinc, inositol, and folic acid. **However, always consult your attending physician or an experienced dietitian before starting supplementation.**

Literature:

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2. Dutkowska A., Konieczna A., Breska-Kruszewska J.: Recommendations on non-pharmacological interventions in women with PCOS to reduce body weight and improve metabolic disorders. Endokrynol Pol. 2019, 70(2), 198-212.
3. Smyka M., Grzechocińska B., Wielgos M.: The role of lifestyle changes in the treatment of polycystic ovary syndrome. Neuroendocrinol Lett. 2017; 38(8):521-527.
4. Faghfoori Z., Fazelian S., Shadnough M.: Nutritional management in women with polycystic ovary syndrome: A review study. Diabetes Metab Syndr. 2017, 11(1), 429-432.
5. Klósek P., Grosicki S., Całyński B.: Dietoterapia w zespole polycystycznych jajników – zalecenia praktyczne. Forum Zaburzeń Metabolicznych 2017, 8(4), 148-154.



Foods recommended and not recommended in polycystic ovary syndrome

Product group	Recommended	Not recommended
Grain products 	<ul style="list-style-type: none"> wholemeal, rye, graham, whole-grain bread, brown rice, coarse groats, e.g. buckwheat, pearl barley whole grain pasta, pasta made from durum wheat (semolina) 	<ul style="list-style-type: none"> wheat bread, wheat-rye bread, honey bread and baked goods with added sugar, bakery products with caramel, wheat rolls, butter biscuits with sugar yeast cakes, shortcrust pastries, egg-based French dumplings, puff croutons wheat pasta with refined flour, white rice
Dairy products 	<ul style="list-style-type: none"> natural fermented, e.g. kefir, yoghurt, buttermilk skimmed/semi-skimmed cottage cheese natural lean homogenised cheese milk < 2% fat 	<ul style="list-style-type: none"> milk and products > 2% fat, milk drinks and yoghurts sweetened with sugar, honey, jam, with a lot of fruit full-fat cheese, full-fat cottage cheese
Meat, poultry, cold cuts, fish, eggs 	<ul style="list-style-type: none"> lean meat from chicken, turkey (breast), veal, young beef, rabbit fish (lean and fatty) lean cold cuts, tenderloin, poultry cold cuts eggs, meat and vegetable spreads, homemade meat and vegetable pâtés, homemade cold cuts, fish spreads 	<ul style="list-style-type: none"> fatty meats, e.g. mutton, pork, beef, horsemeat, offal, geese, duck, fatty parts of chicken (legs, wings), fried, baked in the traditional manner fatty processed meats, e.g. black pudding, sausages, tinned meat, liverwurst, brawn, pâté, breaded meats and fish
Fats 	<ul style="list-style-type: none"> oils (e.g. canola, sunflower, soya, linseed, grape seed) olive oil high quality soft margarines avocado, nuts, coconut milk (in limited quantities) 	<ul style="list-style-type: none"> lard, salo (slanina), bacon, tallow hard margarines coconut oil, butter, cream
Vegetables 	<ul style="list-style-type: none"> all fresh and frozen not overcooked 	<ul style="list-style-type: none"> fatty salads and salads with a lot of cream, mayonnaise and sugar chips, potatoes fried in butter, lard or margarine
Legumes 	<ul style="list-style-type: none"> all (not overcooked), hummus sandwich spreads 	<ul style="list-style-type: none"> none
Fruits 	<ul style="list-style-type: none"> fresh and frozen underripe fruit, (bananas, grapes, mangoes, dried fruit and low-sugar jams in limited quantities) 	<ul style="list-style-type: none"> fruit in syrups, kompots with sugar, jellies with cream, candied fruit, high-sugar jams
Soups 	<ul style="list-style-type: none"> vegetable broths lean meat broths seasoned with skimmed milk or natural yoghurt cream soups 	<ul style="list-style-type: none"> essential fatty meat and bone broths, thickened with roux, seasoned with cream, fruit soups with sugar
Desserts 	<p>In limited quantities:</p> <ul style="list-style-type: none"> sugar-free jelly and kissel sugar-free custard with skimmed milk sorbets, fruit salads sugar-free milk puddings dark chocolate (minimum 75% cocoa) home-made sugar-free baked goods 	<ul style="list-style-type: none"> creams, cakes, marmalades all desserts with sugar, with lots of fat, doughnuts, angel wings, halva, chocolate ice cream, whole milk puddings coconuts, salted nuts nuts in caramel
Beverages 	<ul style="list-style-type: none"> still mineral water tea and coffee without sugar, cereal coffee juices of low-carbohydrate vegetables herbal tea 	<ul style="list-style-type: none"> cola drinks, fizzy drinks, sugar-sweetened drinks alcoholic beverages sugared fruit juices, lemonade, energy drinks
Spices 	<ul style="list-style-type: none"> pepper, herbs, spices mustard salt (in limited quantities) homemade stock cube honey (in limited quantities) 	<ul style="list-style-type: none"> sugar, glucose, fructose glucose-fructose syrup, date syrup, corn syrup coconut sugar, maple syrup, stock cubes.

Example of a quality menu in polycystic ovary syndrome (PCOS)

BREAKFAST:

Egg spread with avocado and chives

- egg
- avocado
- natural yoghurt
- chives
- tomato
- lettuce
- whole wheat bread

LUNCH:

Chia pudding with strawberry mousse and nuts

- chia seeds
- 1.5% fat milk
- strawberries
- walnuts
- blueberries and raspberries

DINNER:

Chickpeas in tomato sauce with coriander

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|----------------|-------------------|
| • brown rice | • ginger |
| • chickpeas | • turmeric |
| • tomato puree | • garlic |
| • bell pepper | • onion |
| • celery | • canola oil |
| • carrot | • fresh coriander |



AFTERNOON SNACK:

Green cocktail

- spinach
- celery
- apple
- kiwi
- linseed
- water

SUPPER:

Greek salad

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|---------------------|------------------------|
| • lettuce mix | • cucumber |
| • light feta cheese | • olive oil |
| • bell pepper | • lemon juice |
| • tomato | • whole wheat croutons |
| • black olives | |
| • red onion | |

