

Nutrition Guidelines in PCOS (Polycystic Ovary Syndrome)

Since the origin of most symptoms associated with PCOS is thought to be related to insulin resistance, nutrition guidelines and lifestyle recommendations are centered on treating insulin resistance and its long term health effects.

The following recommendations have proven successful in treatment:

1. **Weight Loss:** even a 10% reduction in body weight will decrease insulin resistance. Try not to eat less than 1400 kcal/day.
2. **Balanced carbohydrate intake** throughout the day. Eat three meals with 45 grams/meal and two to three snacks of 15/20 grams each. (1400 kcal = 170 grams carbohydrate). (Individuals who are very active or vegetarian may need at least 60 grams of carbohydrate/meal).
3. **Do not skip meals.** Try not to let more than four to five hours go between meals/snacks to maintain stable blood sugars and diminish extreme hunger.
4. **Gradually increase intake of high fiber carbohydrate foods,** aiming for 30 to 35 grams/day, or 15 grams/1000 kcal.
5. **Emphasize lean protein foods** at 15 to 20% of total calories. (1400 kcal = 70 grams protein) Try to include protein with most meals and snacks.
6. **Consume about 25 to 30% of calories as fat** – emphasizing low saturated fat foods and increased monounsaturated and omega-3 fatty acid food choices. Avoid foods containing *trans* fats.
7. **Include two to three servings of low fat dairy foods per day,** such as skim or 1% milk, yogurt, lite cheese, cottage cheese etc.
8. **Some phyto-nutrients might improve insulin resistance.** Caissia cinnamom (500 to 1000mg in water soluble capsules or 1 to 2 tsp/day of the spice); low fat dairy foods; nuts especially walnuts; orange and leafy green vegetables such as spinach or kale; carrots, yams and sweet potatoes.
9. **Vitamin D deficiency** has been associated with insulin resistance and reduced pancreatic beta cell function. Supplementation with Vitamin D3 (cholecalciferol) may be beneficial. Consider taking 1500 IU of vitamin D3/day.

10. **Control portions**, especially from restaurants or fast food places. Most restaurant portions are 50% more than needed. Ask for the “to go” container when the meal arrives and put aside part of the meal.

High Fiber carbohydrate foods include: whole grain breads, rolls, bagels; whole wheat pasta, brown and wild rice, high fiber cereals, oats, barley, legumes (peas, beans and lentils), corn, bran, seeds, nuts; fresh and dried fruit and most vegetables.

B12 absorption may be affected by long term use of metformin. A multi-vitamin supplement with B12 is recommended, especially for strict vegetarians.

Monounsaturated fat containing food choices include: avocado, canola, olive and peanut oils; olives, nuts such as almonds, cashews, peanuts and pecans; peanut butter, nut butters, sesame oil, seeds and paste.

Omega-3 fatty acid (specifically EPA and DHA) containing food choices include: cold water fish such as salmon, mackerel, halibut, tuna, sardines and herring. Two to three servings of fatty fish/week will provide the **220 mg** each of EPA and DHA that is recommended. Omega-3 eggs from free range chickens. Fish oil supplements containing 220 mg each of EPA and DHA per day. Typically, a 1000 mg fish oil capsule contains 180 mg EPA and 120 mg DHA.

Flax seed is high in ALA which is normally converted to EPA and DHA. However people with insulin resistance may not efficiently make this conversion, so flax seed supplementation may not be beneficial.

Limit foods containing *trans fatty acids*, especially deep fried restaurant foods and commercial products not labeled *trans* free.

Lean protein food choices include: lean beef such as sirloin, top round, extra-lean ground beef, white meat of chicken and turkey, dark meat without the skin, pork loin, ham, center cut lamb and pork chops, game such venison, buffalo. Fish and shell fish; egg whites, egg substitutes, free-range eggs, skim and 1% milk, soy milk, low-fat yogurts, cottage cheese, low-fat or lite cheese, beef jerky. Dried beans, lentils, peas, hummus, soy products such as veggie burgers and meat substitutes, tofu. Nuts and seeds are higher in fat but contain healthy monounsaturated fats.

