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## Introduction to PCOS

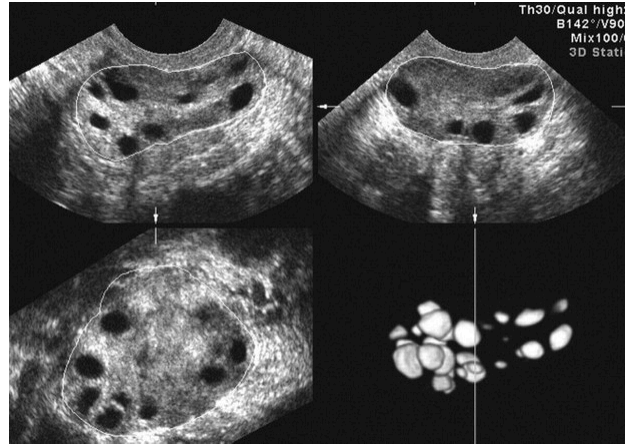
- **Definition and prevalence of PCOS:** PCOS, or polycystic ovary syndrome, is a common hormonal disorder that affects women of reproductive age. It is characterized by the presence of multiple cysts on the ovaries, irregular menstrual cycles, and high levels of androgens (male hormones). PCOS is thought to affect approximately 5-10% of women worldwide.
- **Symptoms of PCOS:** The most common symptoms of PCOS include irregular or absent periods, excess facial and body hair, acne, and weight gain. Other symptoms may include thinning of the hair on the head, infertility, mood disorders, and insulin resistance.
- **Causes of PCOS:** The exact cause of PCOS is unknown, but it is thought to be a combination of genetic, environmental, and hormonal factors. Insulin resistance, inflammation, and abnormal hormone levels (such as high levels of androgens) have all been implicated in the development of PCOS.

## Understanding PCOS

- **The role of hormones in PCOS:** Hormones play a key role in the development and maintenance of PCOS. Abnormal levels of hormones such as insulin, testosterone, and luteinizing hormone can contribute to the development of PCOS.
- **The impact of insulin resistance on PCOS:** Insulin resistance, or the inability of the body to effectively use insulin, is common in women with PCOS. This can lead to high levels of insulin in the body, which can stimulate the production of androgens and contribute to the development of PCOS.
- **Genetic and environmental factors in the development of PCOS:** PCOS tends to run in families, suggesting a genetic component to the disorder. Environmental factors such as obesity, lack of physical activity, and high levels of stress may also contribute to the development of PCOS.

## Diagnosis and evaluation of PCOS

- **Physical examination and laboratory tests:** A healthcare provider may perform a physical examination and order laboratory tests to diagnose PCOS. This may include a pelvic exam, measurement of hormone levels, and testing for insulin resistance.
- **Ultrasound examination:** An ultrasound examination can help confirm the presence of multiple cysts on the ovaries, which is a key diagnostic criterion for PCOS.



- **Differential diagnosis of PCOS:** It is important to rule out other conditions that can cause similar symptoms to PCOS, such as thyroid disorders, adrenal gland disorders, and prolactinomas (benign tumors of the pituitary gland).

### **How does thyroid disorders, adrenal gland disorders, and prolactinomas manifest differently from PCOS?**

**Thyroid disorders** are conditions that affect the thyroid gland, which is a butterfly-shaped gland in the neck that produces hormones that regulate the body's metabolism. Common thyroid disorders include hypothyroidism, which is characterized by an underactive thyroid gland and results in a slow metabolism, and hyperthyroidism, which is characterized by an overactive thyroid gland and results in a fast metabolism. Symptoms of thyroid disorders may include fatigue, weight gain or loss, dry skin, hair loss, and mood changes.

**Adrenal gland disorders** are conditions that affect the adrenal glands, which are small glands located on top of the kidneys that produce hormones such as cortisol and adrenaline. Common adrenal gland disorders include Addison's disease, which is characterized by an underactive adrenal gland and results in low levels of cortisol, and Cushing's syndrome, which is characterized by an overactive adrenal gland and results in high levels of cortisol. Symptoms of adrenal gland disorders may include fatigue, weight gain or loss, muscle weakness, and changes in skin color.

**Prolactinomas** are benign (non-cancerous) tumors of the pituitary gland that produce too much prolactin, a hormone that stimulates milk production. Prolactinomas can cause irregular periods, fertility problems, and breast milk production in non-pregnant or non-breastfeeding women. Other symptoms may include headaches, vision problems, and breast tenderness or discharge.

In general, the symptoms of thyroid disorders, adrenal gland disorders, and prolactinomas can overlap with those of PCOS, but there are also some distinct differences. For example, PCOS is more likely to cause irregular periods, acne, and excess hair growth, while thyroid disorders may cause fatigue, weight changes, and dry skin. Adrenal gland disorders may cause muscle weakness and changes in skin color, and prolactinomas may cause breast milk production and vision problems. It is important to see a healthcare provider for an accurate diagnosis and treatment plan if you are experiencing any of these symptoms.

### PCOS & PCOD clarification

Polycystic ovary syndrome (PCOS) and polycystic ovary disease (PCOD) are two terms that are often used interchangeably to refer to a hormonal disorder that affects women and is characterized by the presence of numerous small cysts on the ovaries, irregular periods, and high levels of androgens (male hormones). PCOS can also cause fertility problems, acne, and excess hair growth.

The management of PCOS and PCOD may involve similar approaches, such as lifestyle changes (such as diet and exercise), medications to regulate menstrual cycles and manage symptoms, and fertility treatments for those who are trying to conceive. However, the specific treatment plan will depend on the individual's symptoms and overall health. It is important to work with a healthcare provider to determine the most appropriate treatment approach for you.

### Medical management of PCOS

- **Oral contraceptives for regulating menstrual cycles:** Oral contraceptives can help regulate menstrual cycles and reduce the production of androgens. This can help improve fertility and reduce the risk of endometrial cancer.
- **Metformin for insulin resistance and weight management:** Metformin, a medication commonly used to treat diabetes, can help improve insulin resistance and promote weight loss in women with PCOS.
- **Other medications for managing specific symptoms of PCOS:** Other medications may be used to manage specific symptoms of PCOS, such as acne and excess facial and body hair. These may include medications such as spironolactone and eflornithine.

**Spironolactone** is a medication that belongs to a class of drugs called diuretics. It is sometimes used to treat high blood pressure, but it is also sometimes used to reduce the production of androgens (male hormones) in women with PCOS. This can help reduce the severity of symptoms such as excess facial and body hair and acne.

**Eflornithine** is a medication that is used to treat facial hirsutism (excess facial hair) in women. It is applied topically as a cream and works by inhibiting the enzyme responsible for hair growth.

### **Lifestyle management of PCOS**

- **Diet and exercise for weight management:** Maintaining a healthy weight is important for managing PCOS, as obesity can exacerbate the symptoms of the disorder. A healthy diet and regular exercise can help promote weight loss and improve insulin resistance.

#### **DIET PLAN**

- Eat a variety of fruits, vegetables, whole grains, lean proteins, and healthy fats. These foods are rich in nutrients and can help promote weight loss and improve insulin resistance.
  - Avoid processed and sugary foods. These types of foods can contribute to weight gain and insulin resistance, which can worsen the symptoms of PCOS.
  - Eat regular, balanced meals. Skipping meals or eating irregularly can disrupt insulin and hormone levels, which can worsen the symptoms of PCOS.
  - Choose high-fiber foods. Foods high in fiber can help improve insulin sensitivity and blood sugar control.
  - Limit caffeine and alcohol. Both caffeine and alcohol can disrupt insulin and hormone levels, so it is best to consume them in moderation.
  - Consider a low-carb diet. Some research suggests that a low-carb diet may be helpful in improving insulin resistance and weight loss in women with PCOS.
- **Stress management techniques:** Stress can exacerbate the symptoms of PCOS, so it is important to find ways to manage stress effectively. Techniques such as meditation, yoga, and therapy may be helpful in reducing stress and improving overall well-being.
  - **Complementary and alternative treatments for PCOS:** Some women with PCOS may find relief from symptoms through complementary and alternative treatments such as acupuncture, herbal remedies, and vitamin supplements. It is important to consult with a healthcare provider before starting any new treatment.



# the BEAT PCOS Diet Cheat Sheet

WITH KYM CAMPBELL FROM BEATPCOS.COM

## A good PCOS diet = foods from this list - my foods to avoid checklist

| GROUP   | HEALTHY WHOLE FOOD EXAMPLES  |  |   | NOTES   |
|---|--|--|---|---|
| Protein   | Eggs<br>Chicken<br>Turkey<br>Beef<br>Veal<br>Pork<br>Lamb<br>Duck  | Liver<br>Kidney<br>Ox tongue<br>Heart<br>Rabbit<br>Venison<br>Bison<br>Elk   | Crab<br>Cod<br>Halibut<br>Sardines<br>Salmon<br>Shrimp<br>Clams<br>Lobster  | <ul style="list-style-type: none"> <li>Aim for approximately 3 servings of animal protein per day.</li> <li>Organ meats are amongst the most nutrient dense foods you can find and are normally very cheap.</li> <li><a href="#">Click here to learn why I don't recommend a plant based diet for women with PCOS.</a></li> </ul>   |
| Low GI Carbohydrate Grains and Starchy Vegetables | Quinoa<br>Black rice<br>Red rice<br>Wild rice<br>Buckwheat<br>Peas<br>Chickpeas<br>Lentils   | Adzuki beans<br>Black beans<br>Fava beans<br>Kidney beans<br>Mung beans<br>Navy beans<br>Pinto beans<br>Yellow beans | Artichoke<br>Beetroot<br>Parsnip<br>Plantain<br>Squash<br>Sweet potato/Yam<br>Sweet corn<br>Taro                    | <ul style="list-style-type: none"> <li>Aim for approximately 3 servings of low GI carbs from whole food sources per day.</li> <li>Consider legumes a carb rather than protein due to amino acid bioavailability and composition considerations.</li> <li><a href="#">Click here to learn why I recommend a small amount of low GI carbs with every meal.</a></li> </ul>   |
| Non-Starchy Vegetables                            | Asparagus<br>Bell peppers<br>Bok choy<br>Broccoli<br>Brussel sprouts<br>Cabbage<br>Carrots<br>Cauliflower<br>Chinese cabbage<br>Chives | Collard greens<br>Cucumber<br>Eggplant<br>Garlic<br>Ginger<br>Green beans<br>Kale<br>Leek<br>Lettuce<br>Mushrooms    | Mustard greens<br>Onions<br>Rhubarb<br>Seaweed<br>Shallot<br>Spinach<br>Swiss chard<br>Tomato<br>Turnip<br>Zucchini | <ul style="list-style-type: none"> <li>Non-starchy vegetables are the most important element of a PCOS friendly diet and should be given top priority at every meal.</li> <li>Aim to eat at least 6 oz (170 g) of non-starchy vegetables with every meal (including breakfast). This is approximately equivalent to 2 cups when the vegetable is cut up and packed down a little.</li> <li><a href="#">Click here to discover my top 3 reasons for eating more vegetables.</a></li> </ul> |
| Fats and Oils                                     | Fatty meat<br>Oily fish<br>Fish oil supplements<br>Pork rinds<br>Coconut cream   | Nuts & seeds<br>Avocados<br>Lard<br>Ghee<br>Butter   | Olive oil<br>Avocado oil<br>Coconut oil<br>Macadamia oil<br>Walnut oil  | <ul style="list-style-type: none"> <li>Use coconut oil, ghee, and lard for high temperature cooking as these fats are more heat stable.</li> <li><a href="#">Click here to learn my 6 reasons why saturated fat is good for you.</a></li> </ul>   |
| Nuts and Seeds                                    | Chia seeds<br>Flaxseed<br>Pumpkin seeds<br>Almonds   | Brazil nuts<br>Cashews<br>Hazelnuts<br>Macadamia nuts  | Pecans<br>Pine nuts<br>Pistachio<br>Walnuts   | <ul style="list-style-type: none"> <li>Chia seeds, flaxseeds, and walnuts are the best.</li> <li>Enjoy the others liberally but don't snack on nuts so much that you aren't hungry for your next meal.</li> </ul>   |
| Low Sugar Fruits                                  | Apricots<br>Blackberries<br>Blackcurrants<br>Blueberries<br>Cantaloupe<br>Cranberries<br>Currants                                      | Grapefruit<br>Guava<br>Honeydew melon<br>Loquats<br>Nashi pear<br>Nectarines<br>Oranges                              | Passion fruit<br>Peaches<br>Plums<br>Raspberries<br>Strawberries<br>Tamarillo<br>Watermelon                         | <ul style="list-style-type: none"> <li>Enjoy whole fresh fruit only and avoid fruit juices, canned fruit, or processed fruit concentrates.</li> <li>Add healthy fats like coconut yogurt or nut butter to lower the GI.</li> <li>To keep your sugar consumption low, limit your fruit intake to 1-2 servings per day (approximately 1 cup, or one medium sized piece per serve).</li> </ul>   |
| Probiotic Foods                                   | Coconut yogurt<br>Fermented pickles<br>Sauerkraut  | Kimchi<br>Miso<br>Natto  | Chickpea tempeh<br>Soy tempeh<br>Kombucha   | <ul style="list-style-type: none"> <li>The gut microbiome is one of most exciting fields in medical research. <a href="#">Click here to stay up to date with the most important PCOS related findings.</a></li> </ul>   |
| Sauces, Condiments, and Spices                    | Apple cider vinegar<br>Avocado mayo<br>Ceylon cinnamon<br>Chili<br>Cumin<br>Dairy free pesto<br>Fresh & dried herbs                    | Guacamole<br>Salt & pepper<br>Horseradish<br>Lemon & olive oil<br>Lime juice<br>Mustard<br>Paprika                   | Salsa<br>Siracha sauce<br>Tabasco sauce<br>Tamari sauce<br>Turmeric<br>Vinegar<br>Wasabi                            | <ul style="list-style-type: none"> <li>Keep to low sugar products and watch out for hidden sources of gluten and dairy within the ingredients list.</li> <li>Pretty much all herbs and spices are fine so long as they don't contain any added sugar or gluten.</li> </ul>  |
| Flours  | Almond meal<br>Amaranth flour<br>Arrowroot flour<br>Buckwheat flour  | Cassava flour<br>Chickpea flour<br>Coconut flour<br>Teff flour   | Flax meal<br>Sorghum flour<br>Tapioca flour<br>Teff flour   | <ul style="list-style-type: none"> <li>Pick the most suitable flour for your recipe. Gluten-free flour baking mixes can be a quick and easy substitute for regular flour.</li> </ul>  |
| Sweeteners  | Fresh fruit<br>Dried fruit<br>Brown Rice Syrup   | Glucose powder<br>Dextrose powder<br>Corn syrup*   | Monk fruit<br>Stevia<br>Unheated raw honey  | <ul style="list-style-type: none"> <li>Use sweeteners for special occasions only.</li> <li><a href="#">Click here to learn more about why I recommend these specific sweeteners and discover my 5 sugar hacks for having dessert.</a></li> </ul>  |
| Drinks  | Soda water<br>Water infusions<br>Coconut water<br>Nut & seed milks   | Green smoothies<br>Bone broth<br>Kombucha<br>Roasted cocoa   | Hot cacao<br>Hot tea<br>Iced tea<br>Turmeric latte  | <ul style="list-style-type: none"> <li>There's no need to overthink your drinks. Keep to low sugar options, drink water when you're thirsty and stop once you've had enough.</li> </ul>   |

## Fertility and pregnancy in women with PCOS

- **Challenges of fertility and pregnancy in women with PCOS:** Women with PCOS may have difficulty conceiving due to irregular menstrual cycles and hormonal imbalances. They may also be at increased risk of complications during pregnancy, such as gestational diabetes and preeclampsia (Hypertension disorder that occurs during pregnancy).
- **Medical and surgical treatments for improving fertility:** Medical treatments such as clomiphene and gonadotropins can help stimulate ovulation and improve fertility in women with PCOS. In some cases, surgery to remove cysts from the ovaries may be recommended.

**Clomiphene** is a medication that belongs to a class of drugs called selective estrogen receptor modulators (SERMs). It works by blocking the action of estrogen in the brain, which stimulates the production of follicle-stimulating hormone (FSH) and luteinizing hormone (LH). These hormones help regulate the menstrual cycle and stimulate ovulation. Clomiphene is often used to treat infertility in women with PCOS who have irregular or absent periods.

**Gonadotropins** are hormones that stimulate the ovaries to produce eggs. They are often used in fertility treatments to stimulate ovulation in women with PCOS who have not responded to other treatments such as clomiphene. Gonadotropins are typically administered by injection and must be used under the supervision of a healthcare provider.

- **Pregnancy care in women with PCOS:** Women with PCOS may require close monitoring during pregnancy to ensure the health of the mother and baby. This may include regular check-ups, glucose tolerance testing, and careful management of blood pressure.

## Overcoming the challenges of PCOS

- **Coping with the physical and emotional symptoms of PCOS:** Living with PCOS can be challenging, both physically and emotionally. It is important to find ways to cope with the symptoms of the disorder, such as through a healthy lifestyle, stress management techniques, and seeking support from friends and family.
- **Building a supportive network of friends and family:** Having a strong support network can be crucial for managing the challenges of PCOS. Surrounding oneself with supportive friends and family can help provide emotional support and encouragement.
- **Seeking professional help when needed:** If the symptoms of PCOS are affecting quality of life, it may be helpful to seek professional help from a healthcare provider or mental health professional.



## Conclusion

- **Summary of key points:** PCOS is a common hormonal disorder that affects women of reproductive age. It is characterized by the presence of multiple cysts on the ovaries, irregular menstrual cycles, and high levels of androgens. The exact cause of PCOS is unknown, but it is thought to be a combination of genetic, environmental, and hormonal factors.

A comprehensive approach to managing PCOS is important, including medical treatment, lifestyle modifications, and support from friends and family. It is also important to seek professional help when needed to manage the physical and emotional challenges of living with PCOS.