

From Plate to Progress: Nutrition Strategies for PCOS Seminar Video

Presentation

<https://bit.ly/seminar-presentation-2601>

Video

<https://youtu.be/pcos-nutrition-seminar-video-2601>





From Plate to Progress

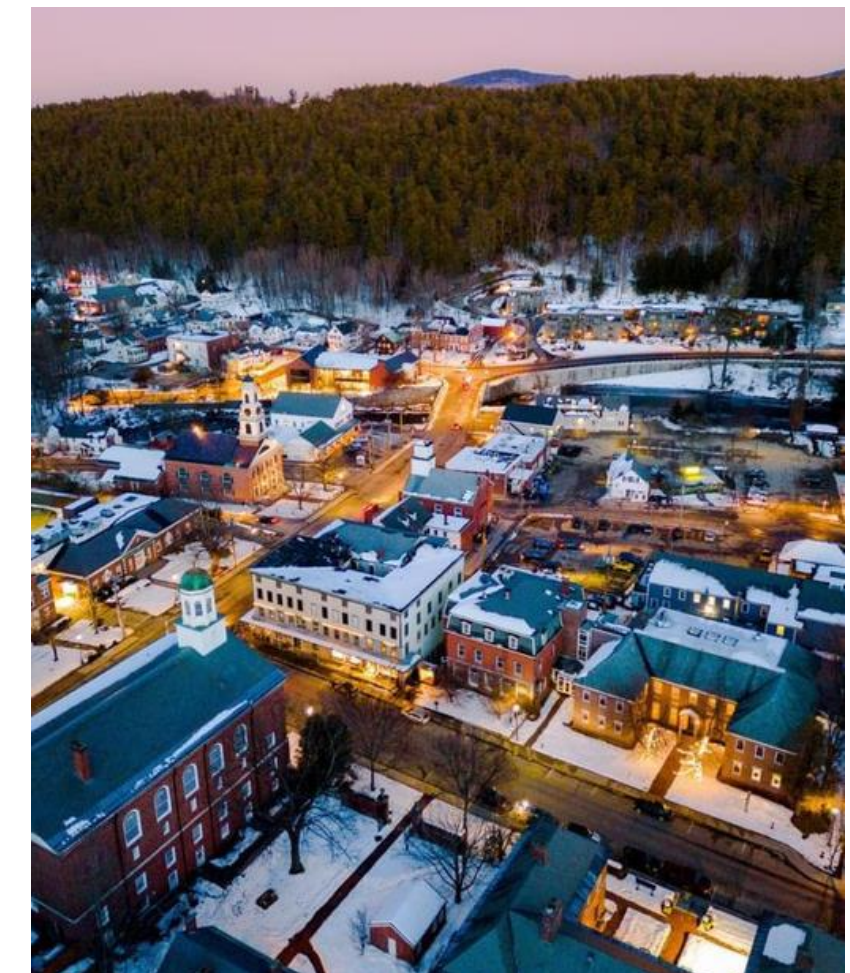
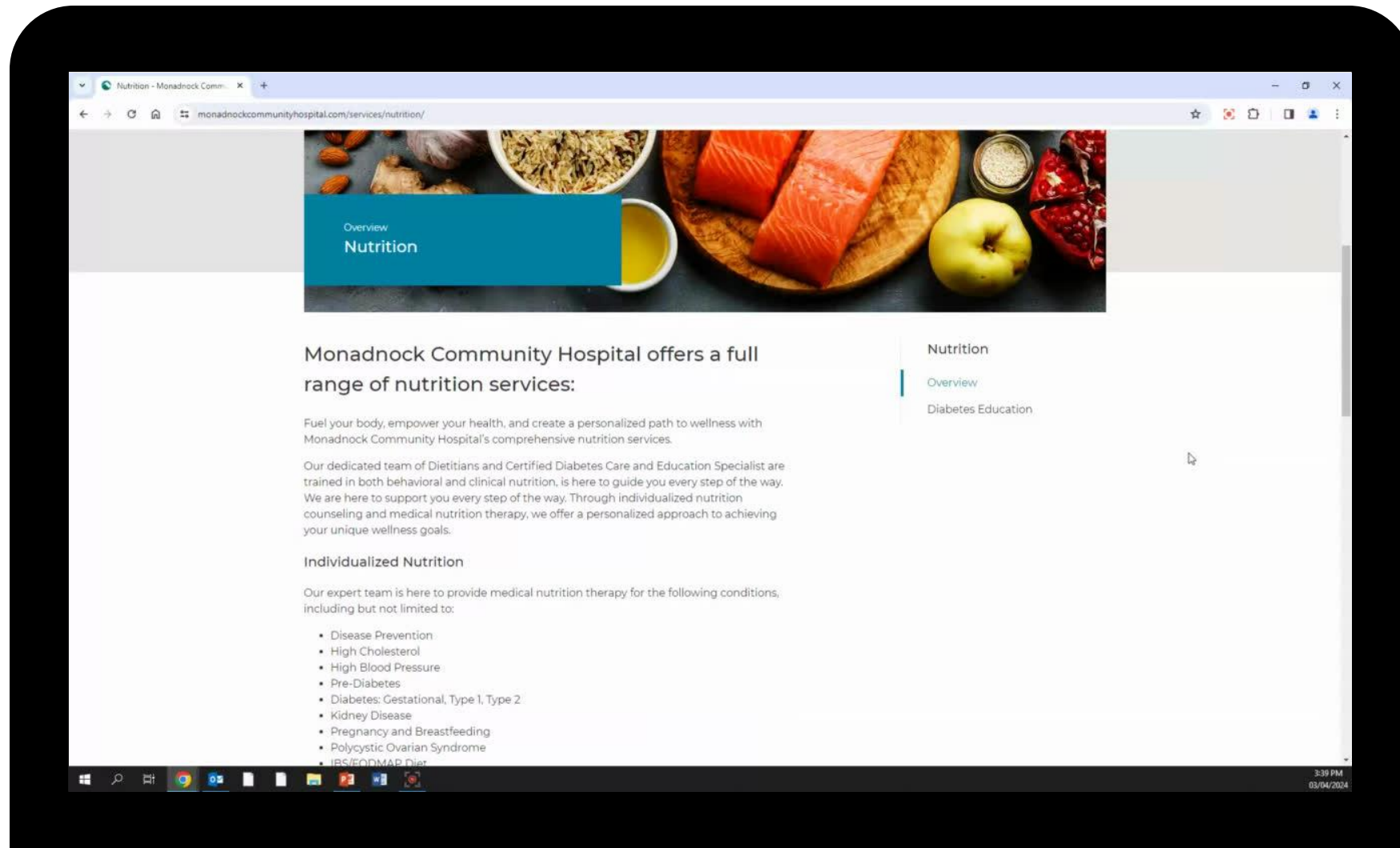
NUTRITION STRATEGIES FOR PCOS

Presenters: Whitney Hightower, MS, RDN, LD & Kaitlyn McCarthy, RDN, LD, CDCES





Welcome!





AGENDA

- Overview: What is PCOS
- Hormones and Insulin Resistance
- Nutrition Strategies for Managing PCOS
- Common PCOS Nutrition Myths
- Practical Tools for Success
- Q&A



Overview





WHAT IS PCOS?

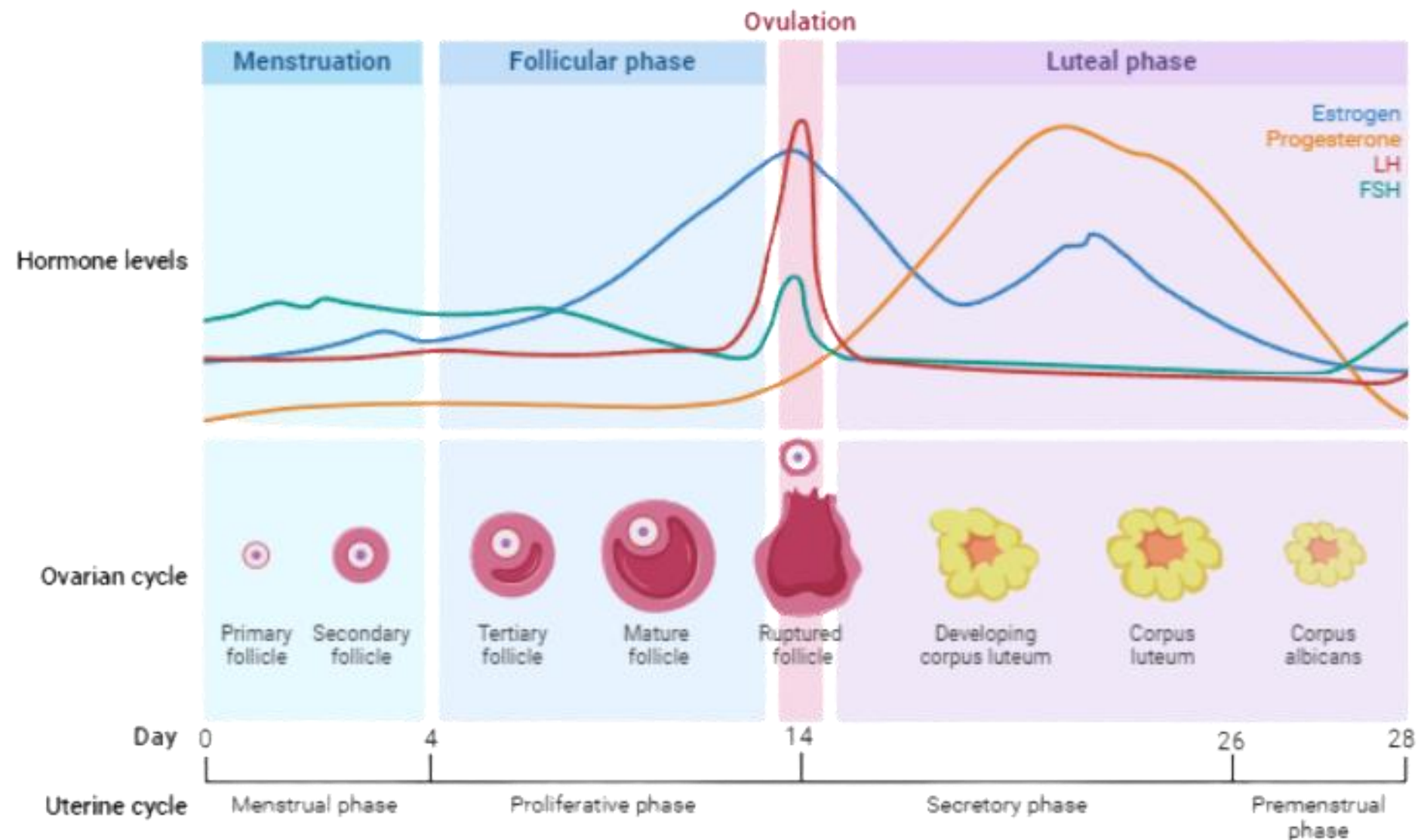
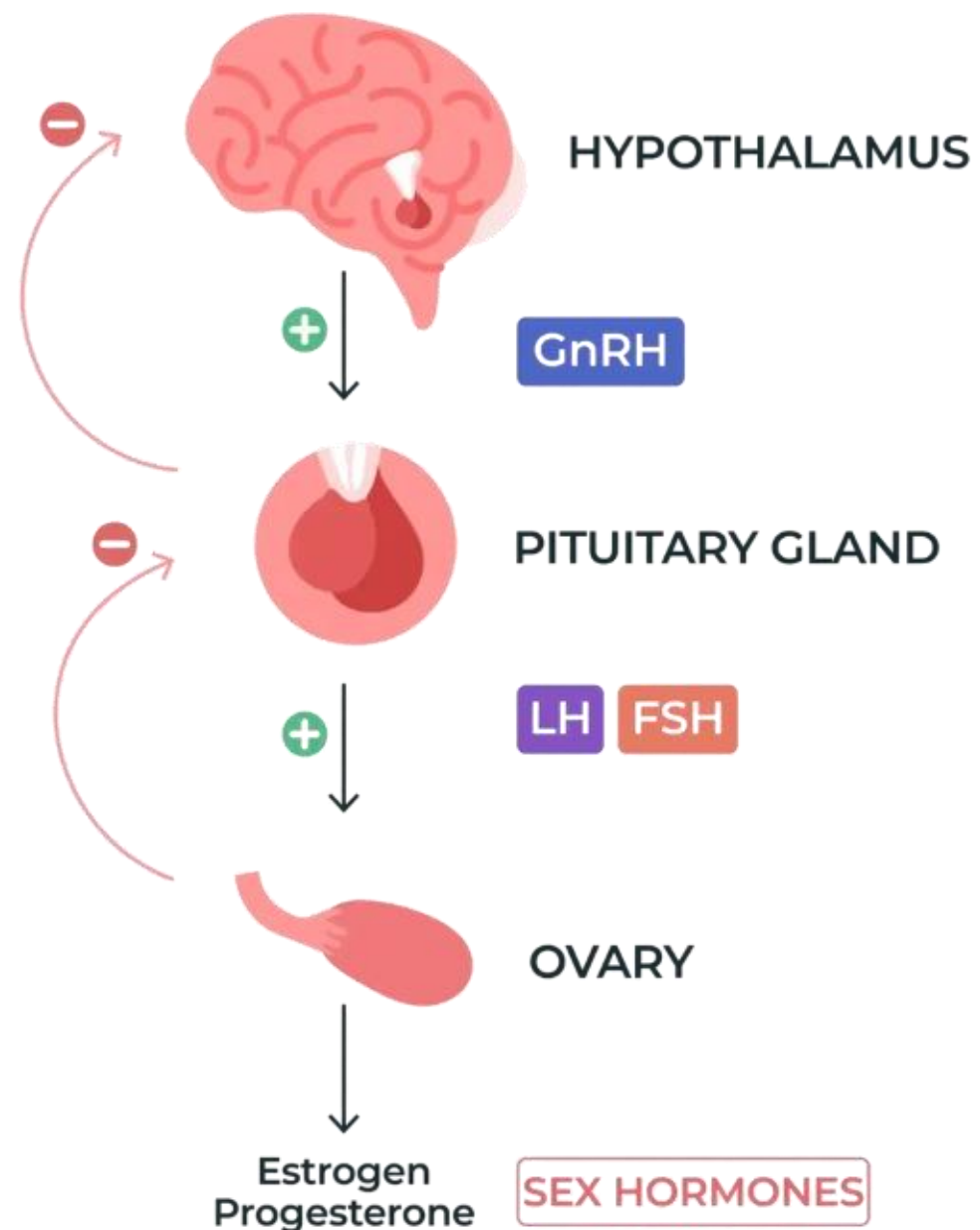
- PCOS is the most common endocrine condition in women of reproductive age.
- Impacts 6% - 10% of women.
- Despite its prevalence, no single root cause has been determined.
- Lifestyle and environment strongly influence how PCOS is expressed.



PCOS EXPLAINED

Root causes, pathophysiology, reason for symptoms

Hypothalamic-pituitary-ovarian axis

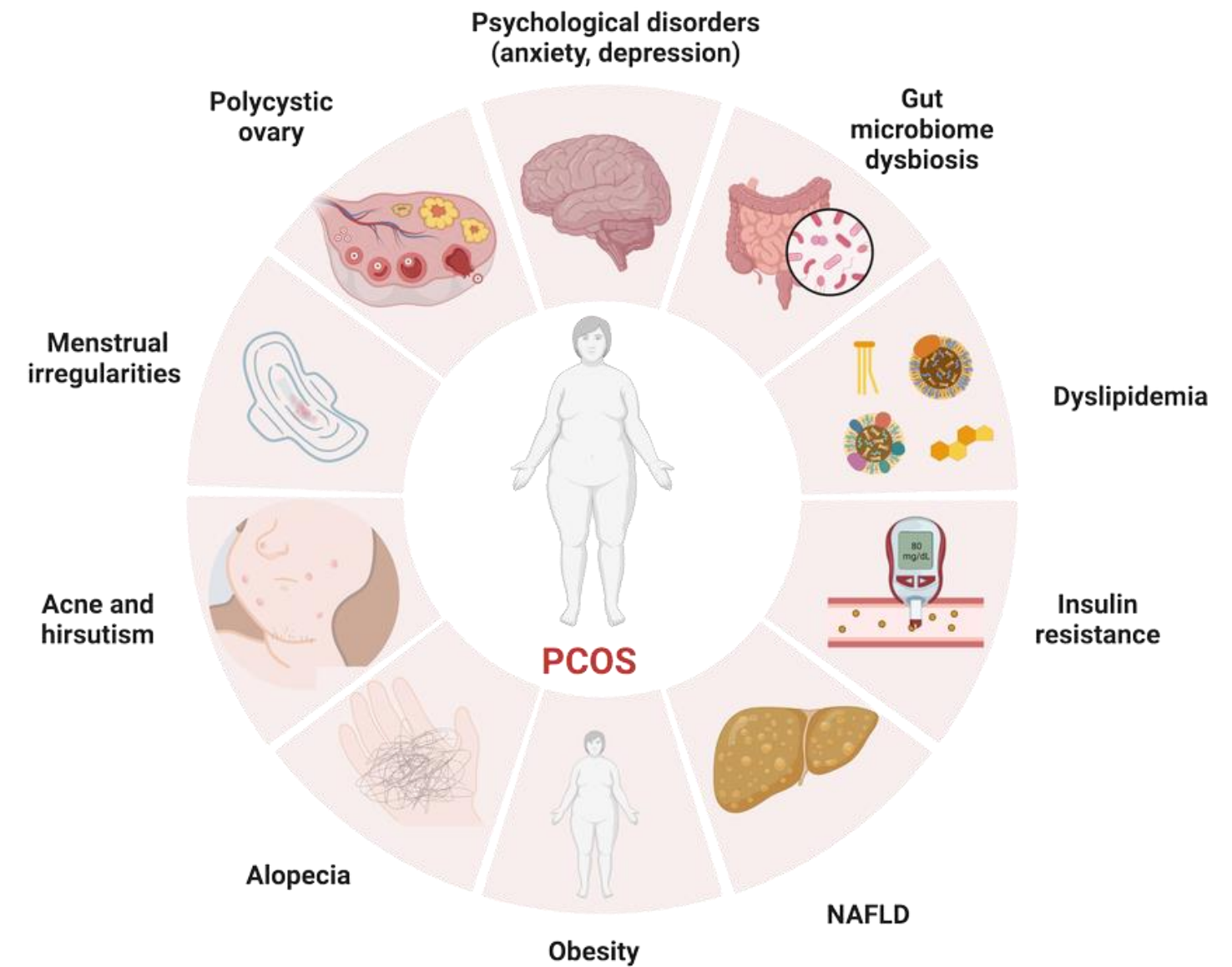


Reprinted from "Ovarian Hormones Throughout the Menstrual Cycle", by Rosalba Lopez at BioRender.com (2024). Retrieved from <https://app.biorender.com/biorender-templates>





HORMONAL IMBALANCE IN PCOS





HORMONAL IMBALANCE IN PCOS

Prevalence of Cardiovascular Disease Risk Factors in PCOS

Source: PCOS: The Dietitian's Guide, Angela Grassi, MS, RD, LDN

CVD Risk Factor	% of women with PCOS
Abnormal glucose metabolism (e.g., impaired fasting BG, T2DM)	50 – 70%
Dyslipidemia	70%
Higher weights	40 – 74%
Insulin Resistance	50 – 80%
Metabolic Syndrome	24 – 47%

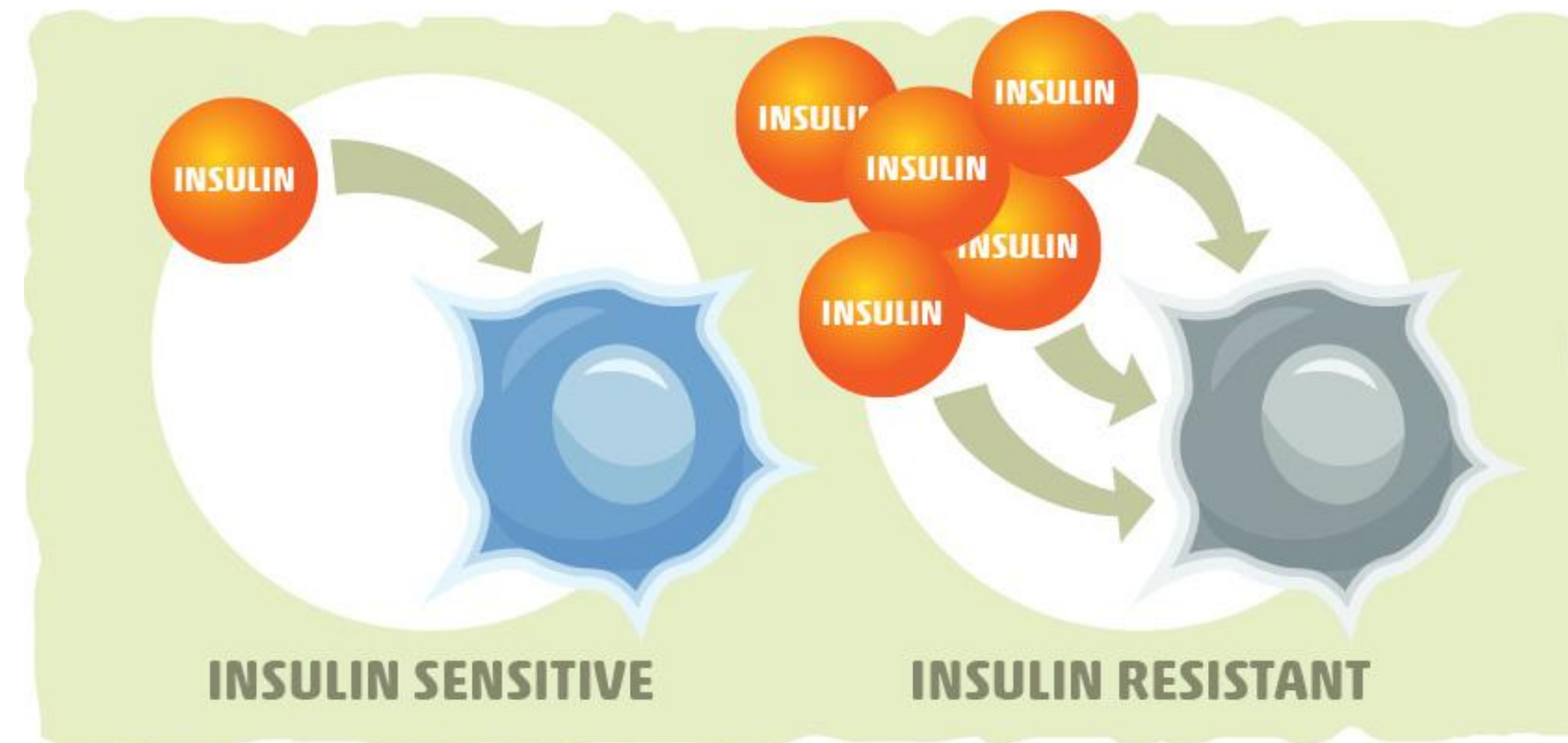
Other Conditions Associated with PCOS

Sources: PCOS: The Dietitian's Guide, Angela Grassi, MS, RD, LDN, <https://www.sciencedirect.com/science/article/pii/S0091302225000299>

Other Condition	Possible Reason
Endometrial cancer	Irregular bleeding and shedding of uterine lining or amenorrhea.
Metabolic Dysfunction-Associated <u>Steatotic</u> Liver Disease (MASLD, Formally NAFLD)	Increase in adipose tissue and insulin resistance in PCOS.
Obstructive Sleep Apnea	Higher risk for those in larger bodies as well as elevated androgens which can cause apnea through a central brain mechanism.
Hypothyroidism (e.g., autoimmune Hashimoto's)	Correlated with imbalance in estrogen and progesterone (high estrogen/low progesterone ratio)
Anxiety and Depression	Hormonal, metabolic and inflammatory pathways.

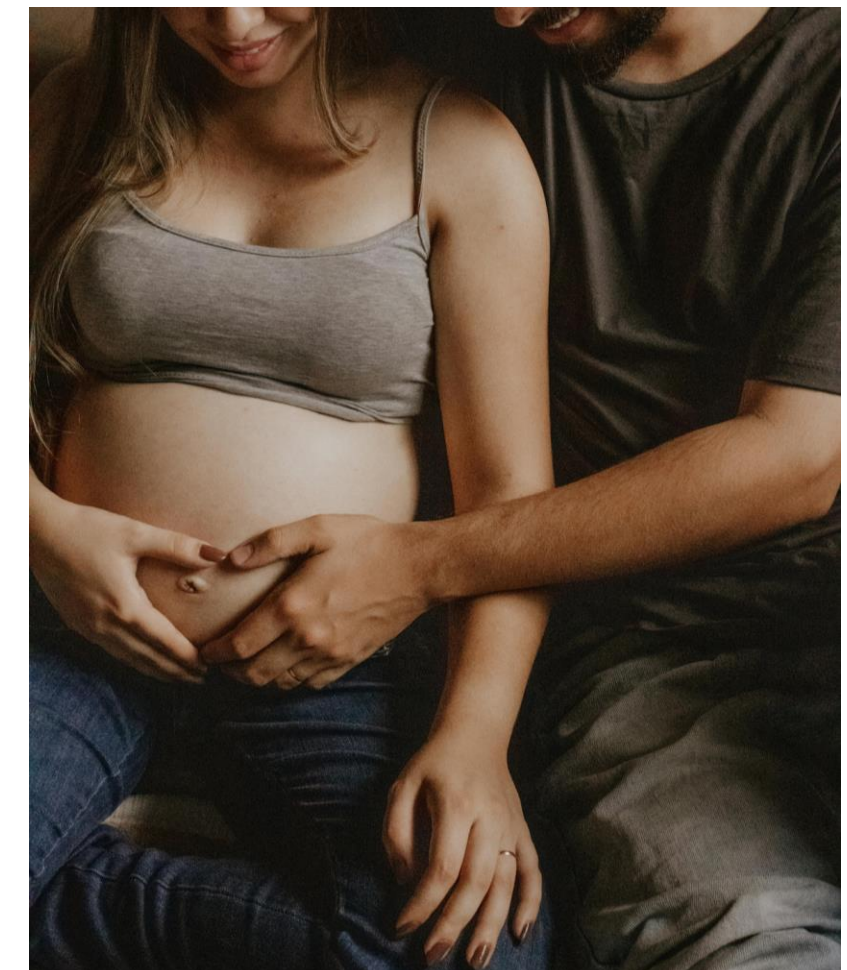
WHAT IS INSULIN RESISTANCE

- Caused by a buildup of fat in tissues that are not designed to store fat, namely muscle and liver tissue
- This stops insulin from being able to effectively signal these cells
 - Reduced uptake of glucose from blood
 - Elevated blood glucose
 - Excess insulin production



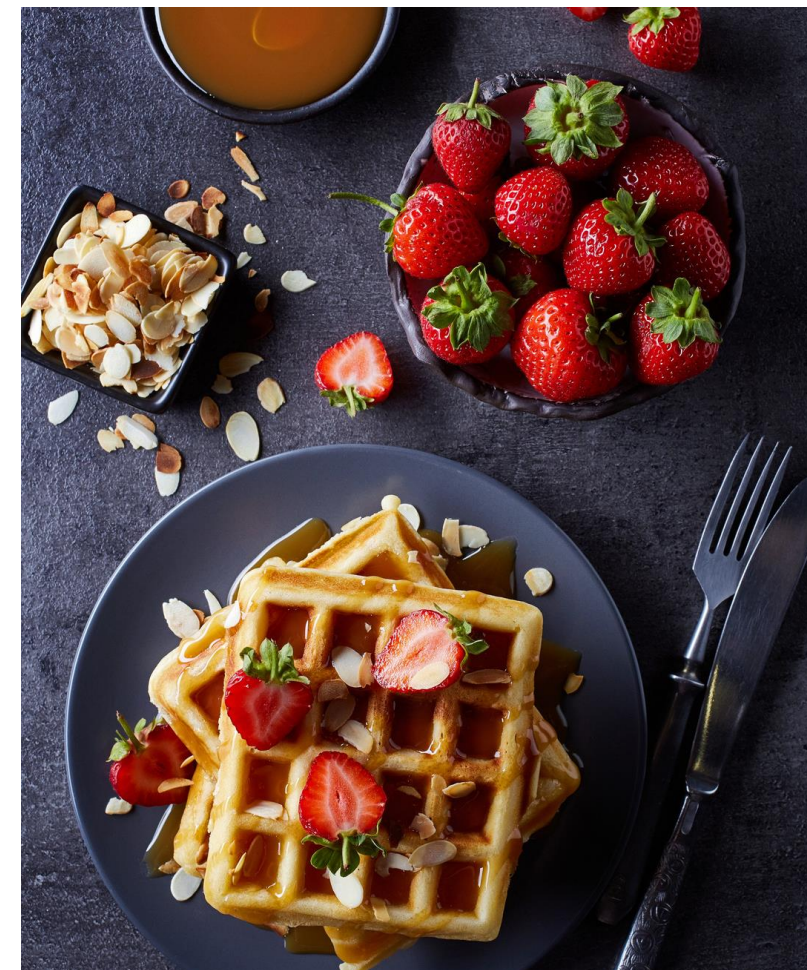
WHY INSULIN RESISTANCE MATTERS IN PCOS

- PCOS is associated with a fourfold increased prevalence of T2DM.
- There is a causal relationship between insulin resistance and cardiovascular disease.
- The International Diabetes Federation recognized PCOS as a non-modifiable risk factor for T2DM.
- Management of insulin resistance is possible, even if PCOS is non-reversible!



WHY NUTRITION MATTERS

- 50-80% of women with PCOS, regardless of weight, experience insulin resistance.
- Insulin resistance can cause intense food cravings, making lifestyle change feel like an uphill battle.
- Women with PCOS have been shown to have impaired appetite-regulating hormones which influence energy balance, insulin levels and glucose metabolism.
- Nutrition plays an integral role in preventing and treating the clinical manifestations associated with PCOS as well as improving reproductive function.



A yellow stethoscope is positioned diagonally across the frame against a teal background. A white heart icon is located in the bottom right corner. The text 'Nutrition Strategies for' is written in a bold, white, sans-serif font, and 'PCOS' is written in a white, cursive font below it.

Nutrition Strategies for

PCOS



NUTRITION STRATEGIES OVERVIEW



While there is no specific diet for the management of PCOS, there are a handful of strategies that can be used to improve symptoms.



An optimal diet for PCOS is one that reduces negative metabolic consequences, improves ovulation and decreases the risk of chronic disease.

For Example: Incorporate foods high in Omega-3 fatty acids or introduce a fish oil supplement to encourage an increase in cardioprotective HDL cholesterol.



FOCUS ON:



- **Blood-sugar balancing**- high in protein and moderate in carbs
- **Anti-inflammatory**- colorful fruits and veggies, healthy fats
- **Hormone balancing**- flaxseed, spearmint tea
- **Gut health-supporting**- variety of plant fibers and probiotics from fermented foods



TENANTS OF A “PCOS DIET”



Note: There is no one “right way” to eat to manage PCOS. What works for some, may not work for all. It is important to work with a Registered Dietitian to create an individualized plan.*



- Small, frequent meals vs skipping meals
- Mixed Meals: protein, fat and carbohydrates at each meal and snack for blood sugar stability
- Higher protein intake
- Fiber-rich foods for lower glycemic benefits and satiety
- Omega-3 fatty acids
- Relying on plant foods and fortification for vitamin D and calcium more often than dairy (<2 servings of dairy per day)--*Mixed results in research*

MEAL TIMING

Insulin Sensitivity

Spacing your meals at regular intervals can help stabilize blood sugar levels, improving insulin sensitivity.

Metabolism

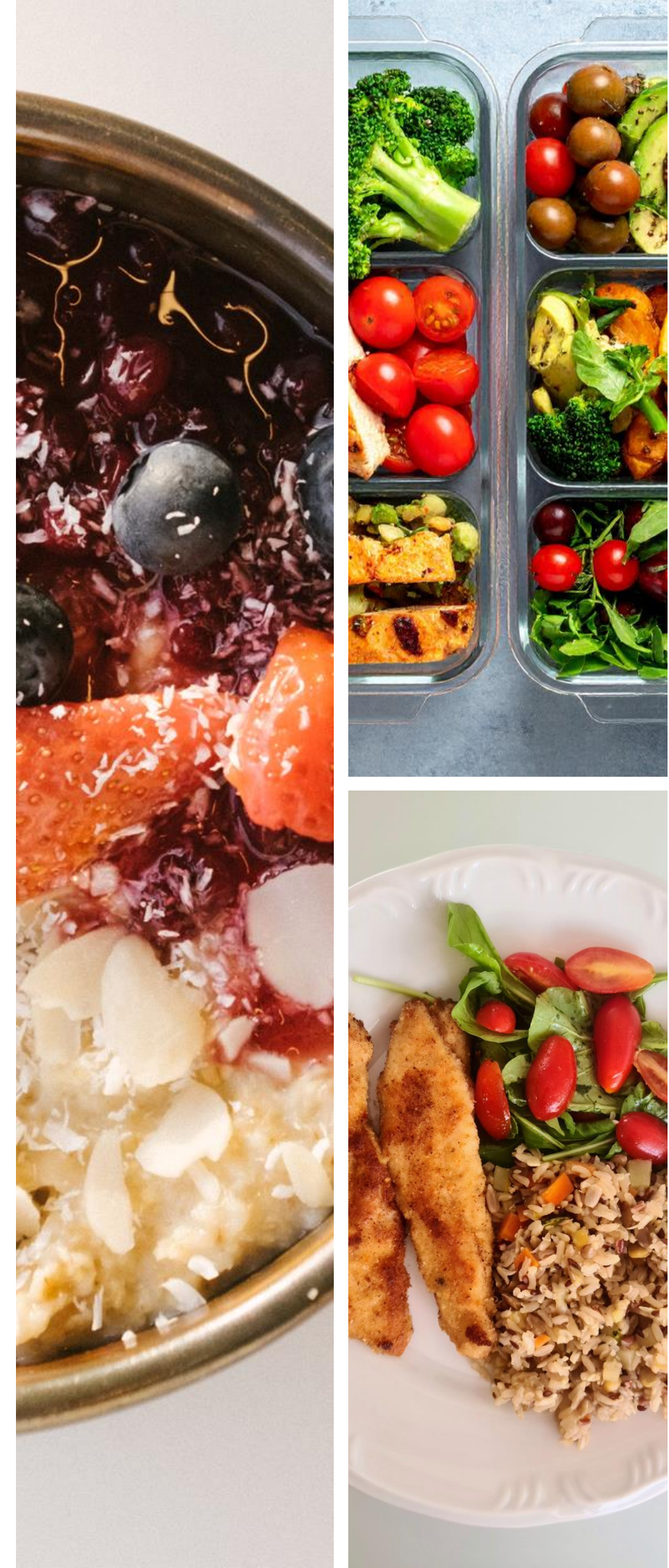
Consistent mealtimes support regular metabolic processes.

Hormones

Consistent meal timing can help regulate hormones, including those involved in hunger and satiety

Strategies to try:

- 3 main meals and 1-2 snacks per day. Ensure each meal has carbs, protein, fiber, and healthy fats.
- Avoid skipping breakfast which can lead to more hunger later in the day
- Try spacing your meals in even intervals every 3-4 hours
- Limit late night eating as this can disrupt sleep and digestion



CHOOSING ANTI-INFLAMMATORY FOODS

- A Mediterranean diet emphasizes plant-based foods like vegetables, fruits, grains, beans, peas, lentils, nuts, and seeds.
- The primary sources of protein in this diet are seafood, beans, soybeans, peas, lentils, nuts, nut butters and seeds and seed butters.
- This diet emphasizes healthy fats, such as olives and olive oil, avocados, nuts, and seeds.
- Less healthy fats are limited. Less healthy fats include certain red meats, high-fat dairy products, and processed foods like donuts and other baked goods.
- Spices like cinnamon, tumeric, ginger



PCOS POWER FOODS

ginger
swiss chard
turnips
flaxseed
artichoke hearts
beets
parsley
turmeric

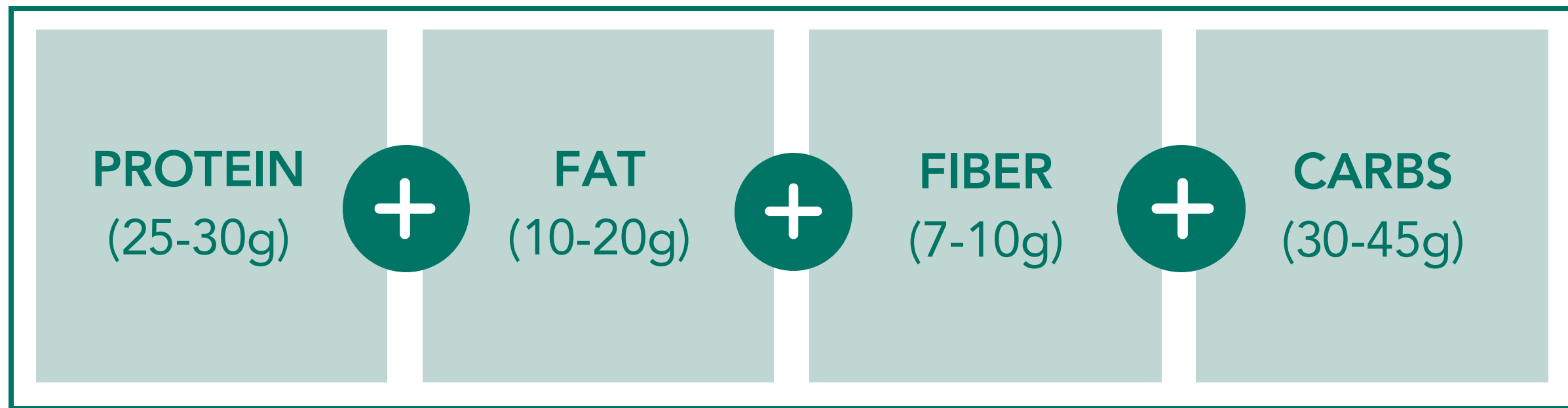
chia seeds
spearmint
cilantro
cauliflower
arugula
rosemary
cinnamon
barley



Creating Balanced Meals



BALANCED MEALS FOR PCOS*



***INDIVIDUAL RECCS. MAY VARY**



Source: A Balanced Approach to PCOS. Melissa Groves Azzaro, RDN, LD. 2020. Victory Belt Publishing.

EXAMPLE MEAL PLANS

The following examples meet the PCOS meal criteria and can be found in "A Balanced Approach to PCOS" by Melissa Groves.



BREAKFAST

Sausage Egg Muffins

LUNCH

Winter Salmon Salad with Honey-Ginger Vinaigrette

DINNER

Chicken Stir-Fry with Soba Noodles

SNACK

Green Goddess Hummus

DESSERT

Chocolate Sea Salt Brownie Bites

BREAKFAST

Citrus Boost Smoothie

LUNCH

White Chicken Chili

DINNERS

Beef Burrito Bowls

SNACK

Lemon-Berry Chia Muffins

DESSERT

Berry Crisp



Source: A Balanced Approach to PCOS. Melissa Groves Azzaro, RDN, LD. 2020. Victory Belt Publishing.

SUPPLEMENTS

- **Vitamin D-** Vitamin D deficiency is common in PCOS. Vitamin D supplementation may reduce insulin resistance and hyperandrogenism and improve lipid metabolism.
- **B12-** People who take Metformin may need B12 supplementation as Metformin may interfere with B12 absorption in the GI tract.
- **Omega-3s-** 1000-4000mg of fish oil or 1000mg flax oil can help improve insulin resistance and total cholesterol.
- **Inositols-** (Myo and D-chiro inositol, 4,000mg/day). Acts as an insulin sensitizer. Helps improve many of the symptoms of PCOS.

Ensure they are third party tested:

a cGMP or GMP certification mark

a USP verified mark

an NSF mark



A photograph of three women standing together against a corrugated metal wall. They are all wearing green jackets and red tops. The woman on the left is wearing red leggings and white sneakers. The woman in the middle is wearing a red skirt and white sneakers. The woman on the right is wearing red leggings and white sneakers. They are all smiling and looking towards the camera.

Navigating Common PCOS

Myths



Myth #1

**Women with PCOS should avoid
gluten and dairy.**



~~Myx #1~~

As of January 2026, there are no randomized control trials that demonstrate any benefit of eliminating gluten or dairy from the diet of someone with PCOS.



Myth #2

Birth control pills are the only medical treatment for PCOS available.



~~Myx #2~~

Birth control pills represent one way to manage PCOS symptoms but they are not the only medical treatment available.



Myth #3

I can only be healthy if I cook everything from scratch.



~~Myx~~ #3

**There are nutrient-dense
convenience foods that help reduce
meal prep and simplify planning.**



LEVERAGING CONVENIENCE FOODS

Frozen berries **vs** fresh

Frozen, chopped peppers and onions **vs** fresh

Pre-cut, bagged kale **vs** bundle of kale

Greek yogurt **vs** protein powder

Precooked chicken **vs** fresh chicken





Practical Tools for PCOS

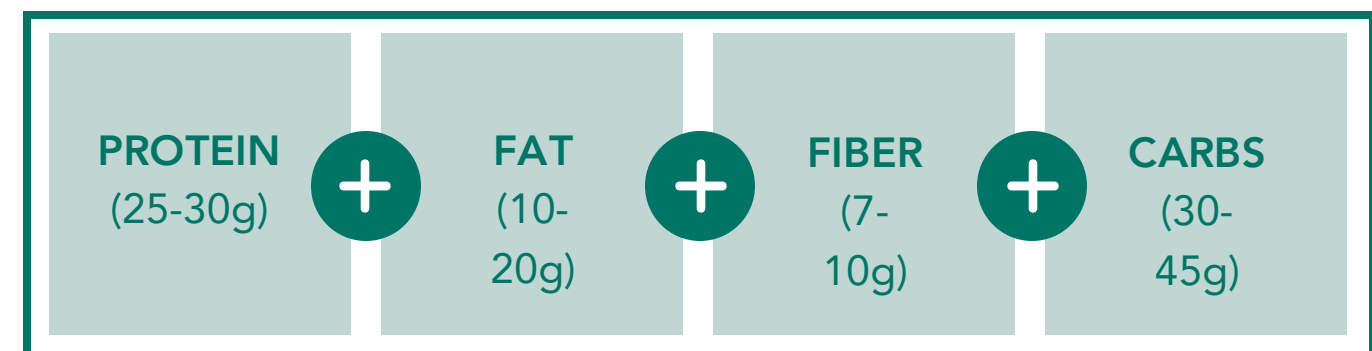
Success





MEAL PLANNING FOR BUSY LIVES

- Easy meals that focus on the building blocks mentioned earlier



MEAL PLANNING & PREP



DINING OUT

- Planning Ahead
- Navigating Menus
- PCOS-Friendly meals



GOAL SETTING

Making small changes to everyday life for long-term success.

- **Increase HDL cholesterol**
 - Incorporate 30 min of moderate physical activity per day or 150 min/week.
 - Introduce foods high in omega-3 fatty acids or use a supplement.
- **Lower circulating insulin levels**
 - Introduce yogurt parfait with low sugar granola, berries and chia seeds at breakfast 3x/week to replace ready-made cereal with milk.
 - Include a cup of non-starchy vegetables with lunch and dinner.
- **Reduce sugar cravings and feelings of being “out of control” around food in the evening**
 - Increase portion size of breakfast to help improve satiety and frontload energy intake.
 - Include a balanced snack between lunch and dinner to avoid going too many hours without food.

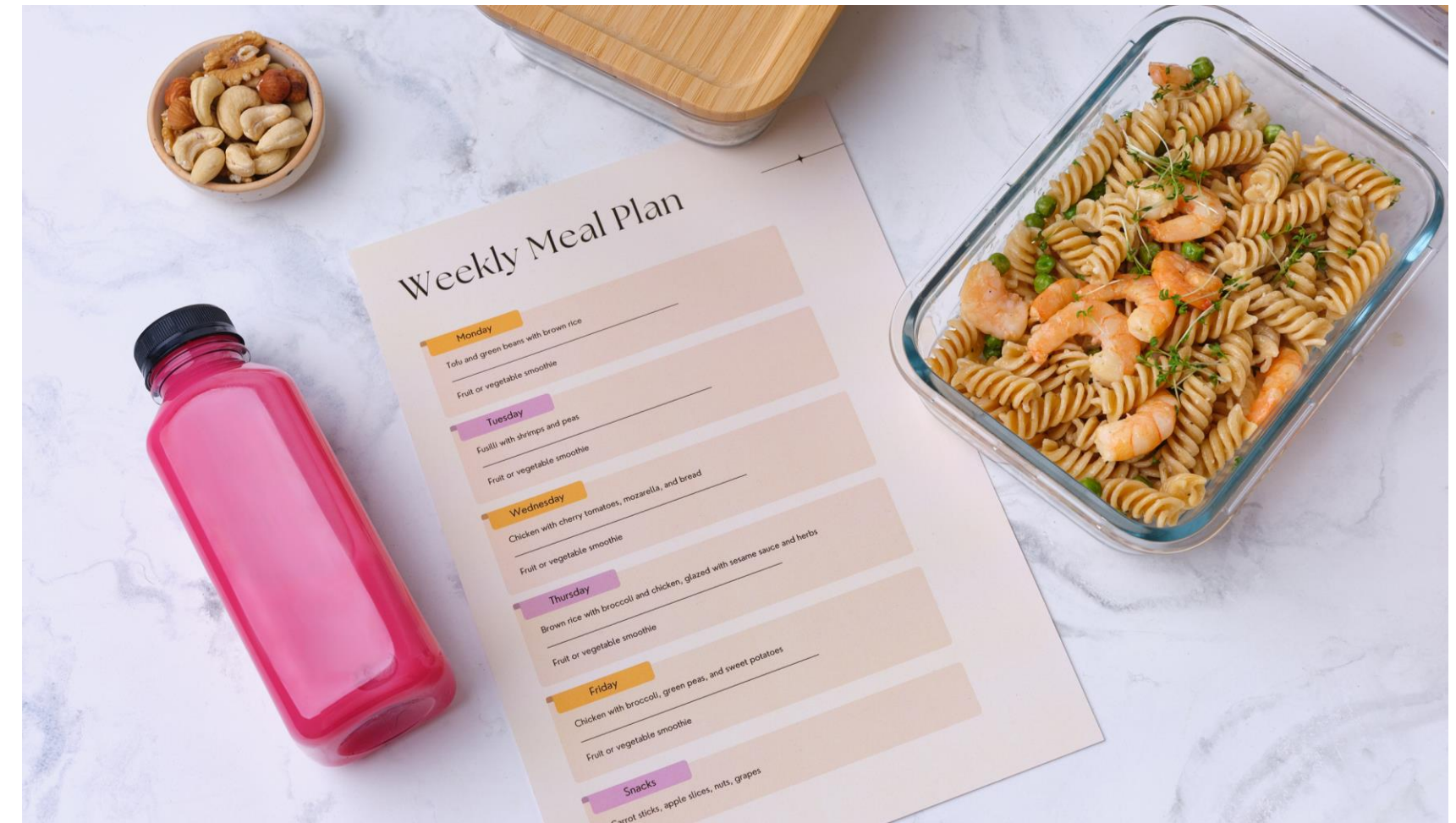


Summary

CONNECT WITH US

To connect with us for 1:1 nutrition counseling. . .

- Ask your provider for a nutrition referral
- Our staff will check insurance coverage and call to schedule an appointment
- Depending upon preference and need, 30 minute follow up sessions can be scheduled



Q&A





RESOURCES FOR ONGOING SUPPORT

The PCOS Nutrition Center

<https://www.pcosnutrition.com/>

Androgen Excess and PCOS Society

<https://ae-society.org/>

Polycystic Ovary Association

<https://www.pcosaa.org/>

PCOS Challenge

<https://pcoschallenge.org/>



CALL TO ACTION



**Remember,
progress is more
important than
perfection!**



Thank You!



References

Grassi, A. (2014). Pcos: The Dietitian's Guide.

PCOS and Sugar | How to Avoid Sugar Cravings | Allara Health. (2017). Allarahealth.com. <https://www.allarahealth.com/blog/pcos-and-sugar-every-single-thing-you-want-to-know>

CDC. (2024, May 15). About Insulin Resistance and Type 2 Diabetes. Diabetes. <https://www.cdc.gov/diabetes/about/insulin-resistance-type-2-diabetes.html>

Kosmas, C. E., Bousvarou, M. D., Kostara, C., Evangelia Papakonstantinou, Evdokia Salamou, & Guzman, E. (2023). Insulin resistance and cardiovascular disease. *Journal of International Medical Research*, 51(3), 030006052311645-030006052311645. <https://doi.org/10.1177/03000605231164548>

Nutrition Care Manual. (n.d.). www.nutritioncaremanual.org. https://www.nutritioncaremanual.org/client_ed.cfm?ncm_client_ed_id=408

Nutrition Care Manual. (n.d.). www.nutritioncaremanual.org. https://www.nutritioncaremanual.org/client_ed.cfm?ncm_client_ed_id=513

Cowan S., Lim S., Alycia C., Pirotta S., Thomson R., Gibson-Helm M., Blackmore R., Naderpoor N., Bennett C., Ee C., et al. Lifestyle Management in Polycystic Ovary Syndrome—Beyond Diet and Physical Activity. *BMC Endocr. Disord.* 2023;23:14. doi: 10.1186/s12902-022-01208-y.

Cochrane KM, Bone JN, Williams BA, Karakochuk CD. Optimizing vitamin D status in polycystic ovary syndrome: A systematic review and dose-response meta-analysis. *Nutr Rev.* Published online September 28, 2023. [Full text.](#)

Greff D, Juhász AE, Vánicsa S, et al. Inositol is an effective and safe treatment in polycystic ovary syndrome: A systematic review and meta-analysis of randomized controlled trials. *Reprod Biol Endocrinol.* 2023;21(1):10. [Full text.](#)

Le Donne M, Metro D, Alibrandi A, Papa M, Benvenga S. Effects of three treatment modalities (diet, myoinositol or myoinositol associated with D-chiro-inositol) on clinical and body composition outcomes in women with polycystic ovary syndrome. *Eur Rev Med Pharmacol Sci.* 2019;23(5):2293-2301. [Full text.](#)

Lete I, Martínez A, Lasaga I, Centurión E, Vesga A. Update on the combination of myo-inositol/d-chiro-inositol for the treatment of polycystic ovary syndrome. *Gynecol Endocrinol.* 2024;40(1):2301554. [Full text.](#)

Manta A, Paschou SA, Isari G, et al. Glycemic index and glycemic load estimates in the dietary approach of polycystic ovary syndrome. *Nutrients.* 2023;15(15):3483. [Full text.](#)

Miao CY, Fang XJ, Chen Y, Zhang Q. Effect of vitamin D supplementation on polycystic ovary syndrome: A meta-analysis. *Exp Ther Med.* 2020;19(4):2641-2649. [Full text.](#)

Che X, Chen Z, Liu M, Mo Z. Dietary interventions: A promising treatment for polycystic ovary syndrome. *Ann Nutr Metab.* 2021;77(6):313-323. [Full text.](#)





PCOS-Power Foods



Ginger- anti-inflammatory



Swiss chard- provides magnesium and potassium, two nutrients important for PCOS



Turnips- high fiber, low carbohydrate content, they also help metabolize estrogen more efficiently.



Flaxseed- high in anti-inflammatory omega-3 fatty acids and lignans fiber with binds to estrogen in your intestines and helps your body eliminate it efficiently.



Artichoke hearts- high fiber (6g per cup)



Beets- contain betalains that help reduce inflammation, and dietary nitrates that can help lower blood pressure.



Parsley- high in antioxidants



Turmeric- contains curcumin, a powerful anti-inflammatory. Black pepper and fat increase the absorption of curcumin.



PCOS-Power Foods



Chia seeds- high fiber, high protein, high in omega-3 fatty acids



Spearmint- may help lower androgens in women with PCOS, often consumed as a tea



Cilantro- may help lower blood sugar levels and is high in antioxidants.



Cauliflower- low in carbs and high in fiber and antioxidants, can help remove estrogen from the body.



Arugula- Helps your liver process excess hormones, high in folate, vitamin C and K, and beta-carotene.



Rosemary- may help lower blood sugar, high in anti-inflammatory compounds.



Cinnamon- may help lower blood sugar and improve insulin sensitivity



Barley- Helps lower blood sugar and insulin levels as well as high in fiber
