



hair
fact
Fluence Advanced Cyclical Therapy

UNDERSTANDING PCOS



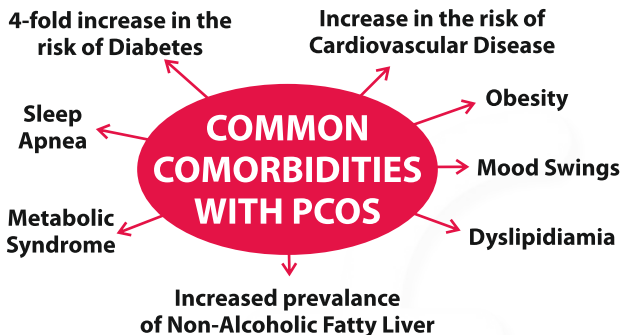
**ENSURING 30-40% MINIMUM
HAIR RE-GROWTH ACROSS
ALL INDICATIONS AND GRADES**

APPROVED BY

● US FDA ● HEALTH CANADA ● AUSTRALIAN TGA

**Results in hair regrowth as well as improved
metabolism can be seen within 3 – 4 months.**

PCOS is a Multifactorial Disorder....



But do we know.....

Polycystic ovary syndrome (PCOS) has been reported without obesity without raised Androgens and without ovarian Cyst; PCOS can present without obesity without ovarian cyst, with normal androgens, varying menstrual disturbances and with or without acne and Hair loss .

The mechanism of PCOS

OXIDATIVE STRESS

Could leads to genetic instability and increases risk of cancer.

INFLAMMATION

Inflammation directly stimulates excess ovarian androgen production (hyperandrogenism).

INSULIN RESISTANCE

A condition that leads to high glucose levels and the potential for pre-diabetes and type 2 diabetes.

Studies show that three basic mechanisms in PCOS are Oxidative Stress, Inflammation & Insulin Resistance.

1. L. Chen, W. M. Xu, and D. Zhang, "Association of abdominal obesity, insulin resistance, and oxidative stress in adipose tissue in women with polycystic ovary syndrome," *Fertility and Sterility*, vol. 102.
 2. M.-M. Huber-Buchholz, D. G. P. Carey, et.al. "Restoration of reproductive potential by lifestyle modification in obese polycystic ovary syndrome: role of insulin sensitivity and luteinizing hormone," *Journal of Clinical Endocrinology and Metabolism*, vol. 84
 3. V. Turan, E. D. Sezer, B. et.al. "Infertility and the presence of insulin resistance are associated with increased oxidative stress in young, non-obese Turkish women with polycystic ovary syndrome," *Journal of Pediatric & Adolescent Gynecology*
 4. A. Repaci, A. Gambineri, and R. Pasquali, "The role of low grade inflammation in the polycystic ovary syndrome," *Molecular and Cellular Endocrinology*
 5. F. Gonz´alez, "Inflammation in polycystic ovary syndrome: underpinning of insulin
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resistance and ovarian dysfunction.

Can we treat patients with having genetic predisposition or family history of PCOS? – Yes

We cannot change the genes but we can improve the expression and prevent the damage caused by the genetic predisposition.

Experts recommend Life Style Modification, Diet & Exercise as the Firstline management Suggested For PCOS

Research workers have identified nutritional deficiencies associated with PCOS:

* **Vitamin D deficiency is commonly associated with PCOS and leads to insulin resistance.**

1. Wehr E, Pilz S, et.al. Association of hypovitaminosis D with metabolic disturbances in polycystic ovary syndrome. *Eur J Endocrinol*.
2. Wehr E, Trummer O, et.al. Vitamin D-associated polymorphisms are related to insulin resistance and vitamin D deficiency in polycystic ovary syndrome. *Eur J Endocrinol*.

* **Deficiencies of Vit C, Vit B12, Folic acid, Calcium, Potassium, Magnesium, Zinc, Chromium, reported in PCOS.**

1. Szczuko M, Skowronek M, et.al. Quantitative assessment of nutrition in patients with polycystic ovary syndrome (PCOS) *Rocz Panstw Zakl Hig*.
2. Faghfoori Z, Fazelian S, et.al. Nutritional management in women with polycystic ovary syndrome: A review study. *Diabetes Metab Syndr*.
3. Pourghassem Gargari B, Houjehani S, et.al. Relationship between Serum Leptin, Ghrelin and Dietary Macronutrients in Women with Polycystic Ovary Syndrome. *Int J Fertil Steril*. 2015 Oct-Dec;9(3):313-21.
4. Kasim-Karakas SE, Cunningham WM et.al. Relation of nutrients and hormones in polycystic ovary syndrome. *Am J Clin Nutr*. 2007 Mar;85(3):688-94.
5. Farshchi H, Rane A, et.al. Diet and nutrition in polycystic ovary syndrome (PCOS): pointers for nutritional management. *J Obstet Gynaecol*. 2007 Nov;27(8):762-73.

What are the major nutrients that play a role?

* **Myo-inositol (Vit B12)**

1. Improves insulin sensitivity and glucose metabolism in PCOS, inositol are 6 – carbon compounds classified as insulin-sensitizing agents found in many foods, including fruits and beans.
 2. Myo-inositol promotes glucose uptake, glycogen synthesis in the liver and improves FSH synthesis in the ovaries.
 3. Myo - inositol reduces hyperandrogenism and dyslipidemia through the reduction of plasma insulin.
 4. Myo - inositol and D- chiroinositol with L- Methylfolate in the right proportion reduce plasma insulin, Luteinizing hormone, Prolactin, Testosterone, and androgen levels and reset the altered metabolism in PCOS
1. Ngo DT, Chan WP, et al. Determinants of insulin responsiveness in young women: impact of polycystic ovarian syndrome, nitric oxide, and vitamin D. *Nitric Oxide* 2011;25:326–30.
 2. Unfer V, Carlomagno G, et.al. Effects of myo-inositol in women with PCOS: a systematic review of randomized controlled trials. *Gynecol Endocrinol* 2012:1–7.
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3. Dinicola S, Chiu TT, et.al. The rationale of the myo-inositol and d-chiro-inositol combined treatment for polycystic ovary syndrome. *J Clin Pharmacol* 2014;54:1079–92.
 4. Nestler JE, Unfer V. Reflections on inositol(s) for PCOS therapy: steps toward success. *Gynecol Endocrinol* 2015;31:501–5

✱ **Zinc**

Boosts fertility and immune system. Excessive or unwanted hair growth and alopecia may be improved with zinc supplements.

1. Foroozanfard F, Jamilian M, et.al. Effects of zinc supplementation on markers of insulin resistance and lipid profiles in women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial. *Exp Clin Endocrinol Diabetes*. 2015 Apr;123(4):215-20.

✱ **Vitamin D**

1. Administered once a week reduces fasting glucose, C- peptide, triglyceride level and improves menstrual regularity in PCOS. Vitamin D3 also reduces TGF beta levels to counter the action of DHT and improve hair growth in PCOS.

2. Vitamin D and calcium improves irregular periods and help to ovulate.

3. Vitamin D 50,000 IU once a week helps in correction of glucose intolerance, triglyceride levels, LDL, hypertension, androgen levels, acne, hirsutism, and also reduces interval between menstrual cycles.

1. Foroozanfard F, Jamilian M, et.al. Calcium plus vitamin D supplementation influences biomarkers of inflammation and oxidative stress in overweight and vitamin D-deficient women with polycystic ovary syndrome: a randomized double-blind placebo-controlled clinical trial. *Clin Endocrinol (Oxf)*.

2. Mansour A, Hosseini S, et.al. Nutrients as novel therapeutic approaches for metabolic disturbances in polycystic ovary syndrome.

✱ **Chromium -Chromium regulates the expression of gene controlling insulin, lipids and inflammatory markers**

1. Amiri Siavashani M, Zadeh Modarres S, et.al. The Effects of Chromium Supplementation on Gene Expression of Insulin, Lipid, and Inflammatory Markers in Infertile Women With Polycystic Ovary Syndrome Candidate for in vitro Fertilization: A Randomized, Double-Blinded, Placebo-Controlled Trial. *Front Endocrinol (Lausanne)*.

✱ **Omega -3 fatty acids, selenium and zinc improves glucose metabolism control fasting glucose levels and reduce insulin levels in PCOS**

1. Rahmani E, Jamilian M, et.al. The effects of fish oil on gene expression in patients with polycystic ovary syndrome. *Eur J Clin Invest*.

✱ **Cod liver oil contains vitamins D and A, as well as high amounts of omega-3 fatty acids. Helps to improve menstrual regularity and help get rid of fat around your waist.**

✱ **Zinc, magnesium , coenzyme Q 10, omega 3 reduces oxidative stress, improve insulin resistance and lower androgen levels, down regulates gene expression IL-1,IL-8,TNFa, reduces free**

testosterone, improves c reactive protein , reduce inflammation and controls hirsutism.

1. Rahmani E, Jamilian M, et.al. The effects of Coenzyme Q10 supplementation on gene expression related to insulin, lipid and inflammation in patients with polycystic ovary syndrome. *Gynecol Endocrinol*.
2. Afshar EF, Foroozanfard F, et.al. The Effects of Magnesium & Zinc Co-Supplementation on Biomarkers of Inflammation & Oxidative Stress & Gene Expression Related to Inflammation in Polycystic Ovary Syndrome: a Randomized Controlled Clinical Trial. *Biol Trace Elem*.

*** Benefit from Selenium and Folate (Vit. B9) is seen in management of PCOS**

1. Jamilian M, Razavi M, et.al. Metabolic response to selenium supplementation in women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial. *Clin Endocrinol (Oxf)*. 2015 Jun;82(6):885-91.
2. Asemi Z, Karamali M, et.al. Metabolic response to folate supplementation in overweight women with polycystic ovary syndrome: a randomized double-blind placebo-controlled clinical trial. *Mol Nutr Food Res*. 2014 Jul;58(7):1465-73.

Nutrients build up the immune system, counter inflammation and restore cellular function supporting overall functional recovery.

Role of antioxidants in PCOS

PCOS is the condition with significant decrease in antioxidant with an increased risk of oxidative stress. Oxidative stress and inflammation leading to altered metabolism.

Antioxidant supplementation improves insulin sensitivity in management of PCOS

1. Abubakar A. Panti, Constance E. Shehu, et.al. Oxidative stress and antioxidants supplementation in patients with PCOS.. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2018;10.18203/2320-1770.
2. Amini L, Tehranian N, Movahedin M, Ramezani Tehrani F, Ziaee S. Antioxidants and management of polycystic ovary syndrome in Iran: A systematic review of clinical trials. *Iran J Reprod Med*. 2015;13(1):1–8.
3. Joo Yeon Lee , Chin-Kun Baw, et.al. Role of Oxidative Stress in Polycystic Ovary Syndrome *Current Women's Health Reviews*, 2010, Vol. 6, No.2:96-107

Is the entire nutritional regime of importance or only the specific nutrients can help?

Nutrients build up the immune system, counter inflammation and restore cellular function supporting overall recovery.

Nutrients do not work alone. All micronutrients are required in definite amounts by body. A well planned, synergistic, low dose, comprehensive nutrition program can improve efficiency, avoid overdose and ensure long term benefits to all the body systems, preventing comorbidity & complications of PCOS.

Results in hair regrowth as well as improved metabolism can be seen within 3 – 4 months .



Before 4 months



After 4 months

HAIR LOSS DUE TO PCOS

*Improvement with
Cyclical Vitamins*

**HAIR FACT is only available with your
Dermatologist / Plastic surgeon...
HAIR FACT is not available
online or with any etailer or retailer ...
Please consult your Doctor for HAIR FACT**

**hair
fact**
Fluence Advanced Cyclical Therapy

**PROVEN ...
PUBLISHED ...
PATENTED PROTOCOL**

- ☐ 100% results in all indications and grades.
- ☐ Creates a toxin-free nutrient environment for hair regrowth.
- ☐ Ensures results irrespective of causes.
- ☐ Absolutely safe for long term use.
- ☐ Benefits in overall well-being as well.
- ☐ Available across the US, Australia, New Zealand and Canada.
- ☐ With US FDA, Australian TGA and Health Canada Approvals.
- ☐ Being used by over 3000 professional practitioners.
- ☐ Benefitted more than a million patients across the globe.
- ☐ With over 12 international and national publications and trials, establishing minimum 30-40% hair regrowth for all.



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