

# Living PCOS Free

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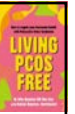
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## Lifestyle Matters in ALL Women's Health?

- Polycystic Ovary Syndrome
- Endometriosis
- Fibroids
- Painful Periods
- Heavy Periods
- Pre-Menstrual Syndrome
- Chronic Pelvic Pain
- Fertility Issues
- Pregnancy
- Gestational Diabetes
- Pre – eclampsia
- Menopause
- Cancers of cervix, womb, ovary
- Breast cancer
- Depression
- Obesity
- Acne
- Thrush
- Osteoporosis
- Vulval conditions: Eczema, LS
- Autoimmune conditions

Kudesia R et al. Dietary Approaches to Women's Sexual and Reproductive Health. American Journal of Lifestyle Medicine. May 2021.  
doi:10.1177/15598276211007113

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## Living PCOS Free



Understanding  
PCOS



Lifestyle  
Considerations



Plant Based  
Nutrition

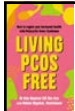


Medications  
Supplements



Soya Facts:  
Myth Busting

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## What is PCOS?

Polycystic Ovary Syndrome

- PCOS is the most common endocrine disorder worldwide affecting women of reproductive age
- PCOS presents with a wide range of reproductive, metabolic, and psychological symptoms
- Onset around puberty (adolescent PCOS) with repercussions beyond menopause
- Complex poorly understood disorder affecting ovarian function
- Hormonal imbalance common in PCOS but not a true gynaecological condition
- PCOS appears to be a highly inheritable disorder with multiple genes involved
- Similar to Type 2 diabetes with metabolic and environmental factors interacting to influence genetic factors
- UK study of >175000 men shows PCOS not linked to ovaries as men can develop PCOS characteristics too

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## How common is PCOS?



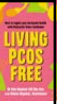
- PCOS affects at least 1 in 10 (8-13%, 2.2-26%) women of reproductive age and those assigned female at birth (AFAB)
- Up to 75% remain undiagnosed
- Ethnic variations
- High incidence in subgroups; excess weight, subfertility
- Commonest cause of subfertility, esp anovulatory subfertility

<https://www.eshre.eu/Guidelines-and-Legal/Guidelines/Polycystic-Ovary-Syndrome>  
<https://www.endocrine.org/news-and-advocacy/newsroom/featured-science-from-endo-2021/genetic-evidence-suggests-men-can-develop-pcos-like-condition>

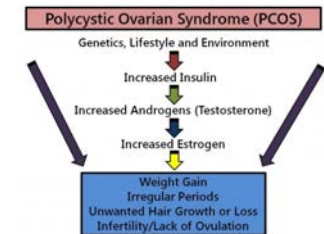
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## Possible drivers of PCOS



- Insulin resistance is the driver in 50%-70% of cases
- Insulin stimulates the ovaries to produce excess androgens
- Genetics
- Weight trigger: >50% are medically obese, many more overweight
- Unclear relation PCOS and excess weight
- 1/3 rd of lean PCOS have increased intra-abdominal fat



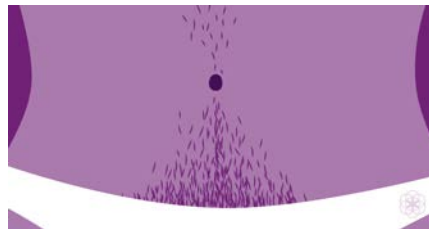
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## Well-Known Symptoms of PCOS



- Infrequent periods or missed periods are the most common sign of PCOS (oligomenorrhoea/amenorrhoea).
- Excess facial/body hair (hirsutism)
- Acne (often adult and/or cystic)
- Scalp hair loss (alopecia)
- Unwanted weight gain
- Insulin resistance
- Fertility problems



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## Less well-known symptoms of PCOS



- Eating disorders, especially binge eating disorders without purging, unlike bulimia.
- Excessive daytime sleepiness
- Breathing problems (sleep apnoea, snoring)
- Acanthosis nigricans (darkened skin: behind the neck, underarms, groin)
- Psychological issues such as depression and anxiety
- Pregnancy complications: miscarriage, gestational diabetes



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## PCOS Metabolic Consequences



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### Increased Risk (PCOS with obesity)

- Metabolic syndrome
- Type 2 diabetes
- Gestational Diabetes: Prevalence doubled
- Endometrial cancer (<35 years)
- Sleep Apnoea

### Cardiovascular risk: More studies needed

### Serum concentrations of CVD risk markers

- Abnormal lipid profile
- Raised triglycerides
- Raised LDL

- Waterworth DM et al. Lancet. 1997;349(9057):986
- Roos N, et al. BMJ 2011;343:d6309
- Barry JA et al. Hum Reprod Update. 2014 Sep; 20(5): 748–758
- Toulis KA et al. Hum Reprod Update, Volume 17, Issue 6, 2011, 741–760

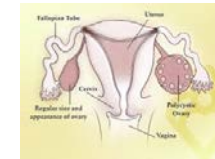


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## Diagnosing PCOS Medical definition of PCOS (Rotterdam Criteria)

2 of 3 of the following criteria must be met

1. Oligo - and/or anovulation
  2. Hyperandrogenism (clinical &/lab)
  3. Polycystic ovaries on pelvic ultrasound scan
- ✓ Adolescent PCOS needs evidence of 1 and 2
  - ✓ PCOS is a diagnosis of exclusion
  - ✓ Classification of PCOS not recommended except research
  - ✓ PCOS Misnomer – No true cysts, immature follicles don't cause pain
  - ✓ PCOS vs PCOD
  - ✓ Testosterone is not a 'male' hormone



ASRM/ESHRE PCOS Consensus Workshop 2003 Rotterdam  
Hum Reprod. 2004 Jan;19(1):41-7.  
<https://www.eshre.eu/Guidelines-and-Legal/Guidelines/Polycystic-Ovary-Syndrome>

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## All six pillars of lifestyle are key

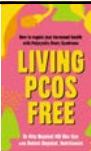
### Lifestyle management (weight loss and behaviour changes)

recommended as 1<sup>st</sup> line of treatment to prevent, manage and treat PCOS and its long-term effects (higher risk of Type 2 diabetes, gestational diabetes, endometrial cancer, cardiovascular disease)



- <https://www.eshre.eu/Guidelines-and-Legal/Guidelines/Polycystic-Ovary-Syndrome>, RCOG and NICE guidelines
- Waterworth DM et al. Lancet. 1997;349(9057):986
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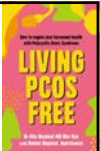


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## Eating plants for PCOS, Periods, Menopause (fibre-rich foods)

- ✓ Reduces insulin resistance
- ✓ Sustained **weight loss** without usually needing calorie counting
- ✓ Lowers **inflammatory markers** (C-reactive protein, homocysteine)
- ✓ Reduces **oxidative stress** and improves **immunity**
- ✓ Reduces circulating **androgens**, ↑ **sex hormone binding globulin (SHBG)**
- ✓ Improves **lipid profile**
- ✓ **Gut dysbiosis** can be addressed by targeting the gut microbiome

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## Eat predominantly whole plant foods

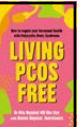


- ✓ **Whole fruits:** the sugar in fruit is bound to fibre
- ✓ **Vegetables:** especially nutrient-rich dark leafy greens
- ✓ **Legumes:** rich in fibre and protein
- ✓ **Whole or minimally processed grains** (e.g. quinoa, red rice, pinhead oats)
- ✓ **Aim for two portions of minimally processed soya foods**
  - ✓ (one portion is 80 g of tofu or a cup of soya milk, edamame beans)
- ✓ **Starchy foods** such as sweet potatoes, boiled potatoes with skin
- ✓ **Nuts and seeds:** especially omega-3 rich walnuts, ground flax, chia seeds)
- ✓ **Water:** beverage of choice
- ✓ **Avoid SOS: salt, oil, sugar: use as flavourings**

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## A word on Soya



**Soya is a complete plant protein, with all nine essential amino acids, similar to egg white**

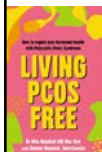
- ✓ fibre
- ✓ vitamins
- ✓ minerals
- ✓ high in PUFAs
- ✓ low in sat fat
- ✓ Isoflavones (healthy plant oestrogens)

**Isoflavones mimic oestrogen in some tissues and blocking its effect in others (SERM effect)**

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## Soya isoflavones on tissues

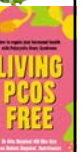


- Reduces menopausal hot flushes
- Promotes bone strength, also pro-oestrogenic effect
- Breast: Anti-oestrogenic effect (SERM)
- As little as one portion of soya per day intake in childhood can reduce future risk of breast cancer
- Reduction in colon, lung, prostate, ovarian cancer
- PCOS markers, weight loss benefits
- Soya products had no adverse effects on men
- Soya does not hinder reproduction
- Increased intake of soya resulted in a 26 % reduction in prostate cancer risk (analysis of 14 studies)

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## Focus on colour



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## What foods should we avoid?

### Foods with NO or ↓ FIBRE

- Sweetened beverages
- Fruit Juices
- Oils (trans fats & sat fats)
- Refined Grains
- Junk food
- Ultra Processed foods
- Animal derived foods



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## AGEs and PCOS: Advanced Glycation End products

- Glycotoxins or AGEs accelerate aging process, heart disease, PCOS
- Cross link proteins, oxidative stress, insulin resistance, cell damage
- Stop smoking (glycotoxins in cigarette smoke)
- CUT OUT ANIMAL FOODS: high AGEs
- X ultra processed foods, breakfast cereals and fried foods
- Avoid trans fats, sugar-sweetened beverages and fruit juices
- Eat Low AGE foods (legumes, wholegrains, fruits, veg, herbs, spices, brown rice, mushrooms)
- Choose raw foods (30 times less AGEs than roasted nuts/ nut butters)
- Change from high heat dry cooking methods to low heat, higher humidity (stewing, steaming, and boiling)

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## Lifestyle Advice in PCOS

- Physical activity: Aerobic exercise and resistance training to improve insulin sensitivity and hormonal balance (Aim for 300 min/ week (natural light))
- Sleep: Ensure regular sleep routine with 7-9 hours of restorative sleep
- Stress reduction: Identify stress triggers and try meditation, mindfulness, community work, psychotherapy or yoga to lower cortisol levels
- Avoid risky substances such as tobacco, drugs and alcohol (↑ AGEs)
- Positive social connections: Prioritise time with your support network

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## Role of supplements in PCOS

- Vitamin D: may improve reproductive function and insulin sensitivity (Thomson et al 2013)
- Inositol (Ip6): in whole grain, legumes and nuts. In clinical trials, inositol has been shown to improve insulin action, improve ovulatory function
- Omega-3 fatty acid: improves insulin resistance, lowers LDL (meta-analysis by Yang et al, 2018)
- Marjoram tea: improved insulin sensitivity and reduced levels of adrenal androgens (RCT pilot study)
- Chromium: significantly improved ovulation and reduced hirsutism (Jamilian et al 2016)
- Pre-Pregnancy supplements – Folate 400 mcg – some may need higher dose

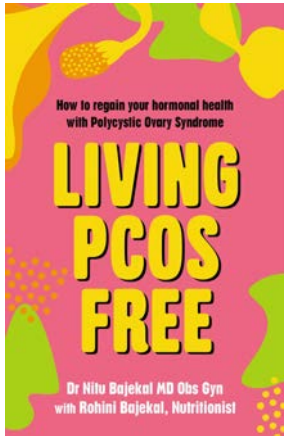
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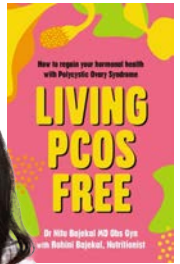
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