Jean Hailes FOR WOMEN'S HEALTH

CRE PCOS Centre for Research Excellence in Polycystic Ovary Syndrome

PCOS Australian Alliance

# Polycystic ovary syndrome

## Health professional tool

Assessment, investigations & management

# PCOS assessment

## Presentation

### Clinical presentation

- Prevalence – most common endocrine disorder in women of reproductive age (12-18%)

Consider if female presents with one or more – menstrual irregularity (>35 or <21 day cycles), overweight, hirsutism, fertility issues, prediabetes, gestational diabetes or early onset type 2 diabetes, note high risk ethnic groups (Asian, Indigenous, Nth African)

## Investigations

### Differential diagnosis investigations

- TSH
- Prolactin
- FSH (if premature menopause suspected)

### Rotterdam diagnostic criteria

Requires two of:

1. Oligo- or anovulation
2. Clinical and/or biochemical hyperandrogenism
3. Polycystic ovaries on ultrasound (and exclusion of other aetiologies)

### Confirm diagnosis PCOS (2 out of 3 required)

1. Hyperandrogenism: clinically (hirsutism, acne) or biochemically

2. Menstrual Hx: >35 or <21 day cycles indicating anovulation

3. Gynaecological ultrasound: women >18 years age (PCO alone is nonspecific 68% in young women)*

1. Biochemical androgens:
   - measure after 3-month cessation of OCP (ensure alternate contraception)
   - measures of free not total testosterone (measure sex-hormone binding globulin (SHBG) in addition to testosterone, to obtain free androgen index or calculated free testosterone)

* If
- clinically significant hyperandrogenism or
- rapid or severe onset of hyperandrogenism
- plus testosterone levels > 20% above normal limit

Refer to endocrinologist for exclusion of other rarer causes

3. Vaginal ultrasound is not needed if 1 and 2 above are present. It is also not recommended for non-sexually active women and is unreliable in adolescents with high false positives. Abdominal ultrasounds can be used >18 years for PCOS diagnosis, but are less accurate

## For more comprehensive information:

Jean Hailes website, including evidence-based guideline – jeanhailes.org.au/health-a-z/pcos
Shorakae S, Teede H. How to treat: polycystic ovary syndrome. Australian doctor. 2017 March 31:19-26.

This resource is informed by the evidence-based guideline for the assessment and management of polycystic ovary syndrome (PCOS), authored by the PCOS Australian Alliance and auspiced by Jean Hailes for Women's Health. We are grateful to the Australian Government for their support and funding of the national PCOS evidence-based guideline project and subsequent translational program.

# PCOS management

**This should be considered across the lifespan and individualised.**

**Consider the benefit of a Chronic Disease Management plan and/or team care arrangement.**

## Referral guidance:

In those with more complex PCOS or with challenges in differential diagnosis, consider referral to an endocrinologist or multidisciplinary service for initial work-up but for ongoing care by the GP.

Fertility specialist referral is appropriate in overweight women AFTER 6 months of intensive lifestyle intervention and potentially after metformin therapy, if no other fertility factors are suspected and if age is less than 35 years. If age is greater than 35 years refer early.

## PCOS management areas include:

- identifying patient priorities
- emotional health
- lifestyle
- cardiometabolic health
- weight management
- fertility and contraception
- menstrual cycle regulation
- clinical hyperandrogenism (eg hirsutism)
- sleep apnoea

**Note:** this is a heterogeneous chronic condition and there is a need to engage each woman in prioritising her own management issues.

## Mental & emotional health

- Depression (prevalence 28-64%) and/or anxiety (prevalence 34-57%) should be routinely screened for
- Eating disorders, negative body image, low self-esteem and psychosexual dysfunction should also be considered
- Emotional health screening questionnaire (see back of this tool)

**Key message**

**Assess mental and emotional health for:**

- **depression and/or anxiety**
- **body image**
- **disordered eating**
- **psychosexual dysfunction**

If positive, consider a GP mental health treatment plan, ongoing support and/or referral to a mental health professional.

## Lifestyle

- Lifestyle is 1st line treatment for all women with PCOS, addressing high risk of weight gain through prevention and where needed, enabling weight loss
- Realistic weight loss goals vital (5-10% body weight)
- No specific diet, focus on low energy density, sustainable behavioural change, GP and self-weighing/monitoring regularly
- 30 minutes of moderate to vigorous exercise daily for health goals – won't reduce weight alone, need diet. Increase opportunistic movement, consider referral to exercise physiologist

## Cardiometabolic health

**Key message:**
Increased cardiovascular risk factors

**Screen for CVRF:**

- Smoking – advise cessation
- BP: check annually
  - <135/85mmHg
- Lipid profile: check every 2-4 years with targets
  - TC <4 mmol/L
  - LDL (without additional CVD risk factors) <3.4 mmol/L
  - LDL (with metabolic syndrome or diabetes) <1.8
  - HDL >1.0 mmol/L
  - Triglycerides <1.7 mmol/L

**Diabetes:**

- 4-8 fold increased risk and earlier onset of gestational, prediabetes and diabetes in PCOS; these occur in lean and in young PCOS women
- OGTT (fasting BGL alone is inadequate to detect impaired fasting glucose (IFG), or impaired glucose tolerance (IGT):
  - Every 2-5 years (annually if IFG/IGT)
  - HbA1c testing where OGTT not practical

  - Impaired fasting glucose: 6.1-6.9 mmol/L
  - Impaired glucose tolerance: 2 hour glucose level 7.8-11 mmol/
  - Type 2 diabetes:
    fasting plasma glucose: ≥7.0 mmol/L
    or 2-hour glucose level: ≥11.1 mmol/L

## Weight management

**Weigh and monitor women regularly, vital to:**

- targeting prevention of weight gain in all, and
- achieving at least 5-10% weight loss if overweight

**Note:** education alone and unachievable goals are generally unsuccessful.

**Key message:**
5-10% weight loss will greatly assist in symptom control

- Weigh and measure women regularly; avoiding weight gain is an important objective (if a healthy weight or overweight)
- Encourage simple behaviour change – prioritisation of healthy lifestyle, family support, lifestyle and exercise planning, setting of small achievable goals
- Consider referral via team care arrangement if appropriate:
  - dietitian (tailored dietary advice, education, behavioural change support)
  - exercise physiologist (exercise motivation, education)
  - psychologist (motivational interviewing, behaviour management techniques, emotional health and motivation)
  - group support (diet and exercise program)

## Fertility

**Key messages:**

- PCOS limits fertility, but can be treated
- Infertility risk increases for women over 30 years
- BMI >30 limits fertility
- Prevent weight gain and aim for weight loss if needed
- Advise early family initiation where practicable

- BMI >25 lifestyle interventions 1st line
- 5-10% weight loss will greatly assist in cycle control and fertility
- Clomiphene or letrozole is 1st line pharmacological therapy, but in primary care metformin can be started before specialist referral for clomiphene

## Menstrual cycle regulation

**Key message:**

Women with PCOS have increased risk of endometrial cancer with prolonged amenorrhoea; aim for >4 periods/ year unless on contraception

- Lifestyle and metformin usually improve cycles
- OCP – all pills increase SHBG thereby reducing free androgens; provide contraception, endometrial protection and cycle regulation (monitor glucose tolerance in those at risk of diabetes as may increase insulin resistance)
- Specialist pills (eg cyproterone acetate containing) are not more advantageous in reducing acne and hirsutism and longer term the lowest effective dose pill may be optimal
- Progestogens alone may be used cyclically or as an IUD where OCP is contraindicated or not preferred (eg Provera 10mg days 1-10 in January, April, July, September)
- Metformin – improves ovulation, re-establishes cycles, reduces insulin resistance, reduces progression to diabetes, may prevent weight gain, but does not cause weight loss
  - Minimise side effects with starting dose 1 x 500mg daily, increase by 500mg per fortnight up to 1500mg – 2000mg average dose
  - Alcohol excess should be avoided on metformin

## Clinical hyperandrogenism (eg hirsutism)

- Cosmetic options: laser hair removal, depilatory creams, shaving, threading, plucking, waxing and electrolysis
- Pharmacological therapy options (6-12 months to see benefit; variable results):
  - OCP – (all will assist) aim for lowest effective dose
- Combination therapy – if ≥ 6 months of OCP is ineffective, consider adding anti-androgen to OCP
  - Anti-androgen (eg spironolactone, up to 100mg twice daily)
- Contraception is vital to prevent pregnancy while on anti-androgens

## Sleep apnoea

- Monitor clinically for sleep apnoea (strongly associated with excess weight)

# Emotional health screening questionnaire

If any of the questions in any of the sections are positive, further exploration of that area is required (see guidelines for other tools as needed) and consider a GP mental health treatment plan, ongoing support and/or referral to a mental health professional.

Ask patient the following questions:

1. a) During the past month, have you often been bothered by feeling down, depressed, anxious or hopeless?
   b) During the past month, have you often been bothered by having little interest or pleasure in doing things?
   c) During the past month, have you often been bothered by feeling excessively worried or concerned?
2. a) Do you worry a lot about the way you look and wish you could think about it less?
   b) On a typical day, do you spend more than 1 hour a day worrying about your appearance? If so, what concerns do you have and what effect does it have on your life?
3. a) Does it make it hard to do your work or be with your friends and family?
   b) Do you worry you have lost control over your eating?
   c) Do you ever feel disgusted, depressed, or guilty about eating?
   d) Have you tried fasting or skipping meals in an attempt to lose weight?
   e) Have you tried vomiting, laxatives or diuretics in an attempt to lose weight?
   f) Have you had significant (eg >5-7%), recurrent fluctuation in body weight?
4. a) During the past few months, have you often been bothered by problems with your sex life such as reduced satisfaction, desire, pain, or any other problems?
   b) Do you feel that PCOS affects your sex life?
   c) Do sexual problems affect your current relationship and/or have sexual problems affected your past relationships?

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Updated June 2017