

# PCOS guidelines: What's relevant to general practice

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## International evidence based PCOS guidelines

- 1st ever internationally endorsed & evidence based
- Not yet published – aiming for August 2018
- Covers assessment, diagnosis & management of PCOS
- 5 Guideline Development Groups (GDG)
  - Diagnosis & assessment
  - Assessment & management of emotional wellbeing
  - Lifestyle intervention
  - Pharmacological treatment for non-fertility indications
  - Assessment & management of infertility
- Followed GRADE process to rate the strength of recommendations

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## PCOS: background

- Characterised by ovulatory dysfunction, hyperandrogenemia and polycystic ovaries
- Most common endocrinopathy in reproductive age women
- Prevalence
  - 12-18% (Rotterdam criteria) - Australia <sup>1</sup>

<sup>1</sup> March et al Human Reprod 2010

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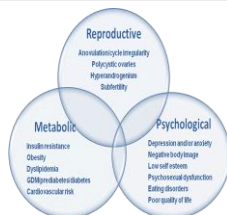
## Management in adults

### Diagnosis of PCOS in adults

- Endorsed Rotterdam 2003 criteria
- 2 out of the 3 following features
  1. Ovulatory dysfunction (< 21 or > 35 days)
  2. Hyperandrogenism (clinically or biochemically)
  3. PCOM
- + exclusion of thyroid disease (TSH), hyperprolactinemia (prolactin) & NCCAH (17OHP)

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## PCOS clinical features



Norman et al Lancet 2007, Tweede et al BMC Medicine 2010, Tweede et al MJA 2011

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## Recommended research/clinical phenotypes

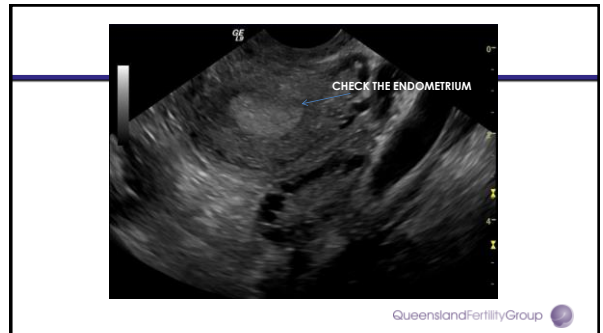
- Androgen Excess + Ovulatory Dysfunction + Polycystic Ovarian Morphology (Phenotype A)
- Androgen Excess + Ovulatory Dysfunction (Phenotype B)
- Androgen Excess + Polycystic Ovarian Morphology (Phenotype C)
- Ovulatory Dysfunction + Polycystic Ovarian Morphology (Phenotype D)

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## Diagnosis of Polycystic Ovarian Morphology

- Use transvaginal ultrasound
  - Follicle # per ovary > 18 &/or ovarian volume > 10ml if using new technology (>8MHz transducer)
  - Follicle # per ovary > 12 &/or ovarian volume > 10ml if using old technology
- Transabdominal ultrasound
  - Ovary volume > 10ml

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## Diagnosis of PCOS in adolescents

- Rotterdam 2003 criteria but
  - A. 2 years after onset of menarche
  - B. must have both
    - ovulatory dysfunction and;
    - androgen excess
  - C. Ultrasound not recommended

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## AMH in PCO

- Often elevated
- Not enough evidence for diagnosis
- Still helpful especially if very high
- Helps in fertility management

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## Assessment of Hyperandrogenism

- Clinical Hyperandrogenism
  - hirsutism
  - acne
  - female pattern hair loss
- Biochemical Hyperandrogenism
  - bioavailable testosterone, calculated free testosterone or free androgen index
  - consider AD & DHEAS if total testosterone or free testosterone not elevated

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## Psychological Assessment

- Psychological Assessment
- Sexual Dysfunction
- Body Image

IMPORTANT +++

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## Long term health risks

- x3-7 times risk of type 2 diabetes
- Infertility
- Menorrhagia and Endometrial CA
- Cardiovascular disease
- OSA

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## Medical Assessment cont...

- All women with polycystic ovary syndrome should be assessed for excess weight at every visit.
- A complete lipid profile should be measured every two years in women with polycystic ovary syndrome who have normal lipid profiles.
- A complete lipid profile should be measured annually in women with polycystic ovary syndrome who have abnormal lipid profiles and/or excess weight.
  - Total cholesterol
  - Low density lipoprotein cholesterol (LDL-C)
  - High density lipoprotein cholesterol (HDL-C) -
  - Triglycerides

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## Medical Assessment cont...

- An oral glucose tolerance test should be performed every second year in all women with polycystic ovary syndrome and annually in those found to have additional risk factors for developing type 2 diabetes as outlined in 3.2a.
- Prediabetes and/or type 2 diabetes should be assessed in all women with polycystic ovary syndrome
- Blood pressure should be measured annually in women with polycystic ovary syndrome and a body mass index 18.5-24.9kg/m<sup>2</sup> (lean).
- Blood pressure should be routinely measured at each visit in women with polycystic ovary syndrome and a body mass index  $\geq 25$ kg/m<sup>2</sup> (overweight/obese).
- ANC care of PCO pregnancies – Assess early for diabetes

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## GYNAE ASSESSMENT & ISSUES IN PCOS

- LH, FSH, PROG, E2
  - PAP/HRHPV
  - TV USS
  - AMH
- Increased risk of
- Menstrual Dysfunction
  - Endometriosis
  - Endometrial Hyperplasias and Ca
  - Infertility

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## PCOS - management



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## Management of excess weight in PCOS

- Lifestyle interventions
  - Diet
    - energy deficit
    - no specific energy equivalent diet is better than another
  - Exercise
    - moderate intensity: > 250 mins/week
    - vigorous intensity: > 150 mins/week
- Behavioural
  - includes goal setting, slower eating, self monitoring
- Metformin (+ lifestyle)
- Anti-obesity pharmacological agents (+ lifestyle)
- Bariatric surgery

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## The top 25 items in Australian supermarkets



1. Coca-Cola 375mls
2. Coca-Cola 1 litre
3. Coca-Cola 2 litres
4. Diet coke 375mls
5. Cherry Ripe
6. Nestle's condensed milk
7. Tally Ho cig papers
8. Mars Bar
9. Kit Kat
10. Crunchie Bar
11. Eta 5 star margarine
12. Heinz Baked Beans
13. Golden Circle vege
14. Diet Coke 1 litre
15. Bushells tea
16. Cadbury Dairy Milk
17. Pepsi-Cola 375mls
18. Coca-Cola 1.5 litres
19. Kellogg's Corn Flakes
20. Maggi 2 min noodles
21. Generic lemon drink
22. Panadol tablets
23. MeadowLea margarine
24. Generic lemonade
25. Mrs McGregors margarine

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## Use of combined oral contraceptive pill in PCOS

- Use for clinical hyperandrogenism & irregular menstrual cycles
- Type
  - EE2&CPA COCP not 1st line
  - otherwise no specific COCP to be recommended over another
- Consider add metformin if
  - metabolic features i.e. IGT, T2DM
  - overweight/obese
- Consider add anti-androgens if
  - > 6 mths of COCP failed to adequately improve hirsutism
  - treatment of female pattern hair loss

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## Hyperandrogenism Rx

### Hirsutism

- Local depilation, creams, shaves
- Reverse sequence CPA and oestrogen
- Diane 35
- Spironolactone

### Acne

- Lotions, creams, soaps
- Antibiotics
- Roaccutane
- OCP

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## Treatment of infertility in PCOS

- Lifestyle (diet, exercise) if obese
- Ovulation Induction
- Pharmacotherapy
  - Oral agents
    - Letrozole, clomiphene citrate, metformin,
    - combinations of the above
  - Gonadotropins
    - r-FSH, HMG
- Surgical
  - Laparoscopic ovarian surgery
- IVF

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## Pre-pregnancy assessment in PCOS

- Offer oral glucose tolerance test
- Optimize the following factors to improve reproductive & obstetric outcomes
  - Weight
  - diet, exercise
  - blood glucose
  - smoking, alcohol
  - blood pressure
  - mental, emotional and sexual health

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## Ovulation Induction in PCOS

- Exclude pregnancy prior to starting OI
- Infertile anovulatory women with no other infertility factors
- Letrozole is 1st line pharmacological therapy <sup>1</sup>
- Risk of multiple pregnancy is less with letrozole compared with clomiphene citrate <sup>2</sup>
- Consider monitoring to reduce risk of multiple pregnancy

1. Wang, Costello et al BMJ 2017 PCOS Australian Guidelines 2015  
2. Wang, Costello et al BMJ 2017

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## Adjuvant metformin use

- Addition of metformin to FSH OI improves ovulation, pregnancy and live-birth rates<sup>1</sup>
- Addition of metformin to IVF treatment improves clinical pregnancy rate and lowers the risk of OHSS<sup>2,3</sup>

1. Bondaruk, Costello et al Cochrane SRV 2017  
2. Lo, Costello et al Cochrane SRV 2014  
3. Lo, Costello et al Fert Steril 2015

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## Surgery for PCOS

### Investigative

- Hysteroscopy & Endometrial biopsy
- Laparoscopy

### Therapeutic

- Wedge Resection = to Clomid but outmoded
- Laparoscopic drilling effective
- Significant adhesion risk
- Last resort therapy

### Bariatric

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## Take home messages in general practice

- Management of excess weight in PCOS may involve the interventions of
  - Lifestyle (diet, exercise, behavioural)
  - Metformin
  - Anti-obesity pharmacological agents
  - Bariatric surgery
- Use COCP for treatment of clinical hyperandrogenism & irregular menstrual cycles
- No specific OCP is to be recommended over another

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## Take home messages in general practice

- Optimising health in pre pregnancy
- Ovulation induction indicated in infertile anovulatory PCOS women with no other infertility factors
- Letrozole is 1st line pharmacological therapy
- Addition of metformin to FSH ovulation induction and IVF can improve outcome

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