

A new evidence-based guideline for assessment and management of polycystic ovary syndrome

Robert J Norman^{1,2}, Helena J Teede³

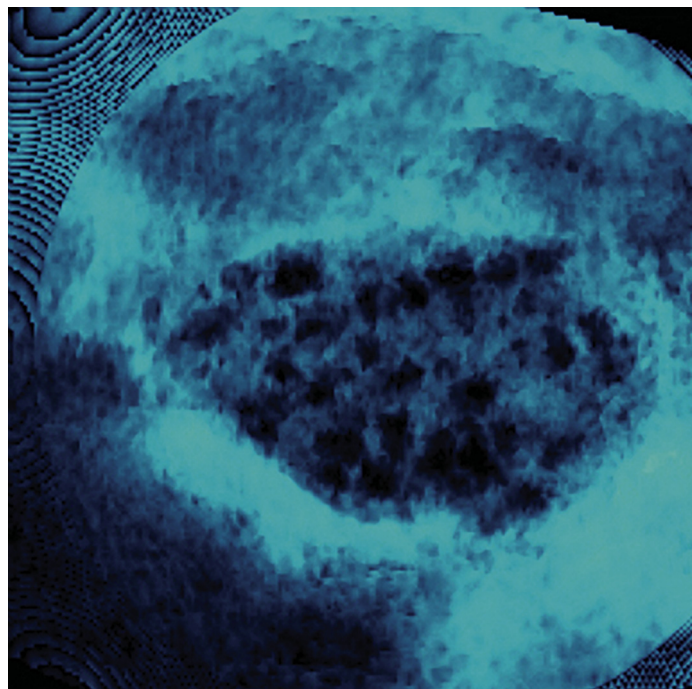
An Australian-led international and multidisciplinary collaboration has developed new recommendations to improve the care, health outcomes and quality of life of women with PCOS

Polycystic ovary syndrome (PCOS) is one of the most common hormonal conditions in women of reproductive age and often presents in adolescence with further manifestation in later reproductive life.¹ Many women are not diagnosed or have long delays before the condition is recognised.² Key patient needs are not being met well, and knowledge gaps have been shown in both patients and health professionals alike.^{2,3} This is of particular concern in a condition where the prevalence is generally considered to be between 9% and 18%, depending on the definition and the population studied.⁴

PCOS is of unknown aetiology but has a familial or genetic tendency. Genome-wide approaches have identified a few significant markers but these have a low predictive value. Intrauterine events may predispose to this condition, including hyperandrogenemia or excess maternal hormones, such as anti-Müllerian hormone, acting directly and indirectly on the developing endocrine system.³ During infancy and childhood, excess weight gain is significant in translating a predisposition to PCOS into clinical expression, and women with excess weight gain are more likely to exhibit the condition.

Given the difficulties in making a diagnosis, the spectrum of presentation and different approaches required for various age groups, complications and personal circumstances, the approach to the diagnosis and management of PCOS has been variable between specialties, general practice and allied health services, with consumers expressing strong preferences about their diagnosis and management. In 2009, the federal government provided funding for development of a guideline for the diagnosis and management of PCOS in Australia which was published in 2011.⁵ A translation program was incorporated and most doctors were made aware of the evidence-based protocols to help patients with PCOS through a range of channels including conventional and electronic media, websites, face-to-face training, and presentation at major conferences. The World Health Organization then contracted the Australian team responsible for developing the 2011 guideline in the preparation of their guidelines for infertility and PCOS.⁴

Since 2015, the National Health and Medical Research Council has funded the Centre of Research Excellence in PCOS to include development of consistent international guidelines and an extensive translation initiative for PCOS. Several thousand consumers, general practitioners, specialists, allied health practitioners and associated health professionals from around the world spent 2 years developing the first international guideline,



available at www.pcos-cre.edu.au/evidence-based-guideline/, accompanied by summaries of the recommendations.⁶⁻⁹ The new guideline covers all aspects of PCOS, including updating previous recommendations and adding others not incorporated in the original Australian 2011 guideline.⁵ Thirty-seven international and national organisations engaged in and supported the guidelines from 71 countries. Consumers were involved in all stages of guideline development from priority setting to co-designed translation resources. Key changes in the guideline include refinement of individual diagnostic criteria focusing on improving accuracy of diagnosis; reducing unnecessary testing; increased focus on education, lifestyle modification, emotional wellbeing and quality of life; and emphasising evidence-based medical therapy and appropriate fertility management.

The supplement accompanying this issue of the *MJA*⁹ provides a summary of the new guideline, including key recommendations and associated resources for medical practitioners and consumers.

The new guideline endorses the original Rotterdam criteria¹⁰ and highlights that in adults where menstrual abnormalities occur with hyperandrogenism, ultrasound is not required for diagnosis. In adolescents (within 8 years of menarche), both menstrual abnormalities and hyperandrogenism are necessary for diagnosis, and ultrasound is not recommended owing to inaccuracy and risk of overdiagnosis at this life stage.¹¹

The guideline recognises the diversity of presentation, the impact of ethnicity and the changes across the lifespan. Metabolic features

include gestational diabetes and type 2 diabetes, which is at least four times more common and appears at a younger age than in women without PCOS. Risk factors for cardiovascular disease are also more prevalent in women with PCOS.

In managing patients with PCOS, it is vital to first establish the issues of primary concern to the woman. Healthy lifestyle is important in all women with PCOS, to optimise health and well-being and especially to prevent weight gain and manage excess weight when necessary.¹¹ Emotional issues require awareness, screening and management, including controlling common and often-distressing features of PCOS such as anxiety, depression and eating disorders, which are partly dependent on cosmetic and body image issues.¹² Hirsutism can be managed by cosmetic measures including bleaching and laser therapy, while lack of response can be addressed primarily by the use of the oral contraceptive pill. Menstrual abnormalities can be controlled with the use of the oral contraceptive pill or progestins.

Infertility may be managed in the first instance by lifestyle management, with the addition of oral agents to induce ovulation or gonadotrophins if these fail. The use of in vitro fertilisation is generally only necessary where there is another factor contributing to infertility. Metabolic abnormalities require adequate investigation, with treatment based around lifestyle management and/or the appropriate medication for impaired glucose or lipid metabolism.

However, no guidelines are of value unless there is a significant translation program with useful and accessible resources for health professionals and those affected. The new guideline recommendations are being shared electronically online and through social media, patient support groups and print media including significant medical journals. The model of involving consumers, all aspects of health care provision and international partners as individuals and societies, and creating a targeted translation program to patients and doctors could be applied in other areas of health where key gaps exist. The full guideline and all resources are available online at www.pcos-cre.edu.au/evidence-based-guideline/.

Acknowledgements: The Centre of Research Excellence in PCOS is funded by the National Health and Medical Research Council.

Competing interests: We are co-authors of the *International evidence-based guideline for the assessment and management of polycystic ovary syndrome*.

Provenance: Commissioned; externally peer reviewed. ■

© 2018 AMPCo Pty Ltd. Produced with Elsevier B.V. All rights reserved.

- 1 Norman RJ, Dewailly D, Legro RS, Hickey TE. Polycystic ovary syndrome. *Lancet* 2007; 370: 685-697.
- 2 Gibson-Helm M, Teede H, Dunaif A, Dokras A. Delayed diagnosis and a lack of information associated with dissatisfaction in women with polycystic ovary syndrome. *J Clin Endocrinol Metab* 2017; 102: 604-612.
- 3 Tata B, Mimouni NEH, Barbotin AL, et al. Elevated prenatal anti-Mullerian hormone reprograms the fetus and induces polycystic ovary syndrome in adulthood. *Nat Med* 2018; 24: 834-846.
- 4 Balen AH, Morley LC, Misso M, et al. The management of anovulatory infertility in women with polycystic ovary syndrome: an analysis of the evidence to support the development of global WHO guidance. *Hum Reprod Update* 2016; 22: 687-708.
- 5 Teede HJ, Misso ML, Deeks AA, et al. Assessment and management of polycystic ovary syndrome: summary of an evidence-based guideline. *Med J Aust* 2011; 195 (6 Suppl): S65-S110. <https://www.mja.com.au/journal/2011/195/6/assessment-and-management-polycystic-ovary-syndrome-summary-evidence-based>
- 6 Teede HJ, Misso ML, Costello MF, et al. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. *Fertil Steril* 2018; 110: 364-379.
- 7 Teede HJ, Misso ML, Costello MF, et al. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. *Hum Reprod* 2018; doi: [10.1093/humrep/dey256](https://doi.org/10.1093/humrep/dey256) [Epub ahead of print].
- 8 Teede HJ, Misso ML, Costello MF, et al. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. *Clin Endocrinol (Oxf)* 2018; doi: [10.1111/cen.13795](https://doi.org/10.1111/cen.13795) [Epub ahead of print].
- 9 Teede HJ, Misso ML, Boyle JA, et al. Translation and implementation of the Australian-led PCOS guideline: clinical summary and translation resources from the International Evidence-based Guideline for the Assessment and Management of Polycystic Ovary Syndrome. *Med J Aust* 2018; 209 (7 Suppl): S1-S23.
- 10 Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. *Fertil Steril* 2004; 81: 19-25.
- 11 Moran LJ, Misso ML, Wild RA, Norman RJ. Impaired glucose tolerance, type 2 diabetes and metabolic syndrome in polycystic ovary syndrome: a systematic review and meta-analysis. *Hum Reprod Update* 2010; 16: 347-363.
- 12 Dokras A, Stener-Victorin E, Yildiz BO, et al. Androgen Excess- Polycystic Ovary Syndrome Society: position statement on depression, anxiety, quality of life, and eating disorders in polycystic ovary syndrome. *Fertil Steril* 2018; 109: 888-899. ■