The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

Ovarian stimulation in assisted reproduction

This statement has been developed and reviewed by the Women's Health Committee and approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

Disclaimer This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: March 1995
Current: March 2014
Review due: March 2017

Background: This statement was first developed by Women's Health Committee in March 1995 and most recently reviewed in March 2014.

Funding: The development and review of this statement was funded by RANZCOG.

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1. Patient summary

In some instances pregnancy is difficult to achieve without help. Assisted reproduction refers to the techniques and interventions used to help such individuals conceive and includes techniques such as in vitro fertilization (IVF). Some forms of assisted reproduction push the ovaries of the female to produce one or more eggs for this process. This is known as ovarian stimulation.

2. Introduction

A number of medications may be used for both ovulation induction (the production of a single mature follicle) and controlled ovarian hyperstimulation (the production of multiple mature follicles) including selective estrogen receptor modulators (SERMs), metformin, aromatase inhibitors, gonadotrophins, dopamine agonists and pulsatile gonadotrophin releasing hormone (GnRH).

3. Discussion

3.1 What are the considerations when intending to stimulate ovarian follicular development ?

It is essential to perform an appropriate assessment prior to embarking on any therapy, including appropriate history, examination and investigations, that focus on the diagnosis, any preventable and correctible factors and suitability for pregnancy. Pre-pregnancy investigations such as a Pap smear (in accordance with local screening guidelines) appropriate pre-pregnancy vaccinations and advice on pre-conceptual folate and life style factors should be provided.

RANZCOG advises that known and possible complications of ovarian stimulation should be discussed, including the risk of multiple pregnancy and ovarian hyperstimulation syndrome. Patients should be aware that there is no evidence to support any adverse effects on long term ovarian function or reproductive neoplasia (see below).

3.2 Is ovarian stimulation appropriate in women with a BMI greater than 35?

A Body Mass Index (BMI) greater than or equal to 35 is a recognised risk factor in pregnancy and delivery and should be regarded as a contraindication to assisted fertility.

It is inappropriate to recommend ovarian stimulation (including IVF) as part of first line therapy in the female with a BMI >35 unless there are exceptional circumstances. Ovarian stimulation in these circumstances should be deferred until appropriate weight loss by appropriate measures (e.g. diet, exercise, bariatric surgery, etc.) has occurred. This is expected to improve general health, may restore normal ovulatory function and enhance pregnancy outcome.

3.3 Is there an increased ovarian cancer risk following ovarian stimulation?

Results from currently available studies show that ovarian stimulation does not appear to be associated with an increased incidence of cancer, but continuing research and data analysis is necessary. Ovarian, breast and uterine cancers are known to be more common in women who have not had children.

4 Other suggested reading

Gillett W, Putt T, Farquhar C. Prioritising for fertility treatments - the effect of excluding women with a high body mass index. BJOG 2006; 113: 1218-1221.

5 Links to other College statements

(C-Gen 15) Evidence-based Medicine, Obstetrics and Gynaecology
http://www.ranzcog.edu.au/component/docman/doc_download/894-c-gen-15-evidence-based-medicine-obstetrics-and-gynaecology.html?Itemid=341

(C-Gen 02a) Consent and provision of information to patients in Australia regarding proposed treatment
http://www.ranzcog.edu.au/component/docman/doc_download/899-c-gen-02-guidelines-for-consent-and-the-provision-of-information-regarding-proposed-treatment-.html

(C-Gen 02b) Consent and provision of information to patients in New Zealand regarding proposed treatment
http://www.ranzcog.edu.au/doc/c-gen-02b-consent-and-provision-of-information-to-patients-in-new-zealand-regarding-proposed-treatment.html

(C-Obs 03a) Pre-pregnancy counselling
http://www.ranzcog.edu.au/component/docman/doc_download/1170-c-obs-03a-pre-pregnancy-counselling.html?Itemid=341

(C-Obs 03b) Routine Antenatal Assessment in the absence of pregnancy complications
http://www.ranzcog.edu.au/doc/routine-antenatal-assessment-in-the-absence-of-pregnancy-complications.html

6 Patient information

RANZCOG patient information pamphlet: 'Parents, Obstetricians and Childbirth: Rights and Responsibilities' (November 2001).

Appendices

Appendix A Women's Health Committee Membership

Name	Position on Committee
Associate Professor Stephen Robson	Chair
Professor Susan Walker	Deputy Chair - Obstetrics
Dr Gino Pecoraro	Deputy Chair - Gynaecology
Professor Yee Leung	Member
Associate Professor Anuschirawan Yazdani	Member
Dr Simon Craig	Member
Associate Professor Paul Duggan	Member
Dr Vijay Roach	Member
Dr Stephen Lyons	Member
Dr Ian Page	Member
Dr Donald Clark	Member
Dr Amber Moore	Member
Dr Martin Ritossa	Member
Dr Benjamin Bopp	Member
Dr James Harvey	Member
Dr John Tait	Member
Dr Anthony Frumar	Member
Associate Professor Kirsten Black	Member
Dr Jacqueline Boyle	Chair of IWHC
Dr Louise Sterling	GPOAC representative
Ms Catherine Whitby	Council Consumer representative
Ms Susan Hughes	Consumer representative
Ms Sherryn Elworthy	Midwifery representative
Dr Scott White	Trainee representative
Dr Agnes Wilson	RANZCOG Guideline developer

Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in March 1995 and was most recently reviewed in March 2014. The Women's Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the March 2014 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix B part iii)

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women's Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women's Health Committee members were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.

Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

iii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines (2009). Where no robust evidence was available but there was sufficient consensus within the Women's Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

Recommendation category		Description
Evidence-based	A	Body of evidence can be trusted to guide practice
	B	Body of evidence can be trusted to guide practice in most situations
	C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
	D	The body of evidence is weak and the recommendation must be applied with caution
Consensus-based		Recommendation based on clinical opinion and expertise as insufficient evidence available
Good Practice Note		Practical advice and information based on clinical opinion and expertise

Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.