



INFERTILITY/POLYCYSTIC OVARIAN SYNDROME

Introduction

Infertility is defined as the absence of pregnancy following 12 months of unprotected intercourse. Infertility may be caused by Ovulatory Dysfunction, Blocked Fallopian Tubes, Male Factor Infertility or Unexplained Causes. Ovulatory Dysfunction can be caused by hypothalamic causes, endocrinopathies (hyperprolactinemia, thyroid dysfunction) or ovarian causes (Polycystic Ovarian Syndrome, ovarian failure). Only those causes of infertility which require a TUE will be addressed in this document.

Ovulatory Dysfunction: Polycystic ovarian syndrome (PCOS)

1. Diagnosis	
<i>A. Medical history</i>	<ul style="list-style-type: none">- Absent or irregular menstrual cycles;- Clinical evidence of androgen excess (hirsutism, acne).
<i>B. Diagnostic criteria</i>	History as above as well as one of: <ul style="list-style-type: none">- Ultrasound evidence of ovarian volume 10cm³, >12 follicles between 2-9 mm per ovary;- Altered hormonal profile is not necessary for diagnosis as serum as androgen levels (testosterone, androstenedione, DHEAS) may be in the normal or high range.
<i>C. Relevant medical information</i>	Some women with PCOS will have associated insulin resistance which may manifest as impaired glucose tolerance or overt diabetes.

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2. Medical best practice treatment		
Prohibited substances:	Clomiphene citrate	Spironolactone
<i>A. Name of prohibited substances</i>	<p>First line therapy is clomiphene citrate, a weak anti estrogen.</p> <p>Alternates to clomiphene: Metformin has not proven to be as effective as clomiphene as a first line treatment.¹ Exogenous gonadotrophins are much more expensive and are only available in an injectable form. In women who are non responsive to clomiphene, or who demonstrate insulin resistance, an insulin sensitizer such as metformin may be added. If this is not successful, FSH s/c may be given.</p>	<p>Spironolactone may be used in some geographic regions of the world as a secondary treatment in the management of hirsutism caused by PCOS.</p>
<i>B. Route</i>	Oral	Oral
<i>C. Frequency</i>	5 days per month	Daily
<i>D. Recommended duration of treatment</i>	9 – 12 months	Long-term use is necessary

¹ *N Engl J Med.* 2007;365:551-566, 622-624

3. Other non-prohibited alternative treatments?	Clomiphene citrate	Spironolactone
		<p>hCG, Progesterone may be required in addition to clomiphene</p>

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	Clomiphene citrate	Spirolactone
4. Consequence to health if treatment is withheld	Significantly decreased quality of life if infertility is unresolved	Significant decreased quality of life for women with hirsutism resulting from PCOS.
5. Treatment monitoring	Blood estrogen, and LH and ultrasound of the ovaries for follicular growth monitoring.	Monitoring by gynaecologist, endocrinologist or dermatologist on a yearly basis is recommended.
6. TUE validity and recommended review process	2 years	10 years TUE with an annual review by a specialist can be granted for this substance as PCOS is a lifelong condition.
7. Any appropriate cautionary matters	Nil	Nil

Unexplained Infertility	
1. Diagnosis	
<i>A. Medical history</i>	No pregnancy despite regular ovulatory cycles, open tubes, regular timed intercourse and normal semen analysis.
<i>B. Diagnostic criteria</i>	As above
<i>C. Relevant medical information</i>	Nil
2. Medical best practice treatment	May be treated with clomiphene citrate (see PCOS), FSH/LH (TUE not required)

Other References

CFAS (Canadian Fertility & Andrology Society) Consensus Document for the Investigation of Infertility By First Line Physicians 2003

<http://cfas.cfwebtools.com/index.cfm?objectid=62E48386-9027-F64A-799957D994FC5F65>

Consensus on infertility treatment related to polycystic ovary syndrome. Fertil Steril 2008; 89(3): 505-522

Handelsman DJ, The Rationale For Banning Human Chorionic Gonadotrophin and Estrogen Blockers in Sport JCEM 19:16461653, 2006

Nattiv A, Loucks AB, Manore MM, Sanborn CF, Sudgot-Borgen J, Warren MP, American College of Sports Medicine; The Female Athlete Triad MSSE10:1249 1867-1881, 2007