



IPPF Medical Bulletin

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IMAP Statement on infertility

This statement was reviewed by IPPF's International Medical Advisory Panel (IMAP) in May 2006.

Introduction

For the average couple who have frequent intercourse without contraception, the likelihood of achieving pregnancy is 84% after one year and 92% after two. About one in seven couples, however, are unable to conceive within two years, and their infertility can lead to much personal suffering. *Primary infertility* is failure to conceive after two years of frequent unprotected intercourse; *secondary infertility* is failure to conceive after two years of unprotected intercourse (in the absence of breastfeeding or postpartum amenorrhoea), in a woman who has previously been pregnant.

Sometimes the cause of infertility is easily corrected; sometimes it is resistant to expert and complex management. A distressed couple will often turn first for help to an IPPF Member Association clinic. This IMAP Statement offers advice on preliminary assessment, simple interventions, and the indications for specialist referral. The recommendations are based largely on a critical analysis of investigations and treatments by the UK National Institute for Health and Clinical Excellence (www.nice.org.uk).

Prevalence and aetiology

The prevalence and causation of infertility will vary from area to area, so Member Associations need to be aware of the local epidemiology. In industrialised countries, an important consideration is the tendency for women to delay childbearing into their mid-30s: in such couples the dominant cause of infertility is ovarian ageing. In younger couples, especially in Sub-Saharan Africa, it is sexually transmitted infections (STIs). The relevance of male age is uncertain. In ever-married women, the global prevalence of primary infertility is about 2.5% and of secondary infertility 24%. The most common causes are preventable – STIs, and infections following childbirth or unsafe abortion.

Infertility can be due to male or female factors or both. In 30% of infertile couples no cause is found. Causes of male infertility are:

- Abnormal spermatogenesis
- Disorders of secretory function (eg, hypogonadotropic hypogonadism)
- Genital tract obstruction
- Sexual and erectile dysfunction

Causes of female infertility are:

- Ovulatory disorders

- Tubal occlusion due to pelvic inflammatory disease (PID)
- Endometriosis
- Cervical factors
- Implantation failure.

Influence of contraceptive use

Many Member Association clients who seek advice about infertility will have attended in the past for contraception; so they may ask whether the techniques they used could have led to their infertility. Studies in various populations indicate that previous use of contraception will seldom be a reason for long-term infertility. Indeed, the male condom is likely to have positive effects, by protecting against STIs. Intrauterine devices can in theory predispose to infertility because of post-insertion pelvic infection, but this complication is rare and largely avoidable by scrupulous aseptic technique and exclusion of clients at risk of STIs. With progesterone-only injectables the return of fertility may take a year or more; the mean delay is four months.

Initial advice to couples

A frequent complaint of those who seek advice about infertility is that they are handled brusquely and given too little information. In a Member Association clinic, the necessary empathic approach demands a good knowledge not only of the local epidemiology but also of cultural and social issues such as the likely fate of a barren woman. The couple will sometimes be under pressure from their own parents, who wish for grandchildren; and, if those parents are not aware of the infertility problem, the pressure can be all the greater. Assessment of psychosocial factors may require a special counselling session. Wherever possible, the couple should be seen together. Close questioning will sometimes reveal that the infertility is of shorter duration than they think – for example, because one partner was absent for part of the time.

Sometimes the initial interview and examinations will point to a likely cause for the infertility, which can then be medically investigated. Examples are amenorrhoea, male or female anatomical abnormalities, history of pelvic inflammatory disease, current illness. In the absence of such pointers, general (evidence-based) advice includes the following:

Intercourse – The couple should aim to have vaginal intercourse two or three times a week. Basal body temperature measurement, measurement of luteinising hormone (LH), and other methods for timing intercourse with ovulation are not recommended.

Alcohol – For a woman not more than 2 units a week, for a man not more than 4 units a week.

Smoking – Both partners should stop, and should be referred to a smoking cessation programme if they have difficulty in doing so.

Body weight – Both low and high body mass index (BMI) in a

woman are unfavourable to fertility: the aim should be a BMI of between 19 and 29.

Drugs - Certain prescription drugs impair fertility and their use needs to be reviewed as a possible factor. "Recreational" drugs such as marijuana and cocaine should be avoided, as should the anabolic steroids used by some men to enhance physique and athletic performance.

Occupational - Numerous environmental and occupational factors are under suspicion as predisposing to infertility. An occupational history may reveal some that should be avoided

if possible - such as pesticides, certain metals, heat, and X rays.

Welfare of the fetus - In the hope she will become pregnant, the woman should start taking folic acid supplements (for prevention of neural tubal defects). She should be immunised against rubella if susceptible, though this means a month's postponement of any further attempt at conception. Cervical screening should be brought up to date, and in a high-prevalence area she should be offered an HIV test.

Figure 1 is an algorithm for investigation and referral.

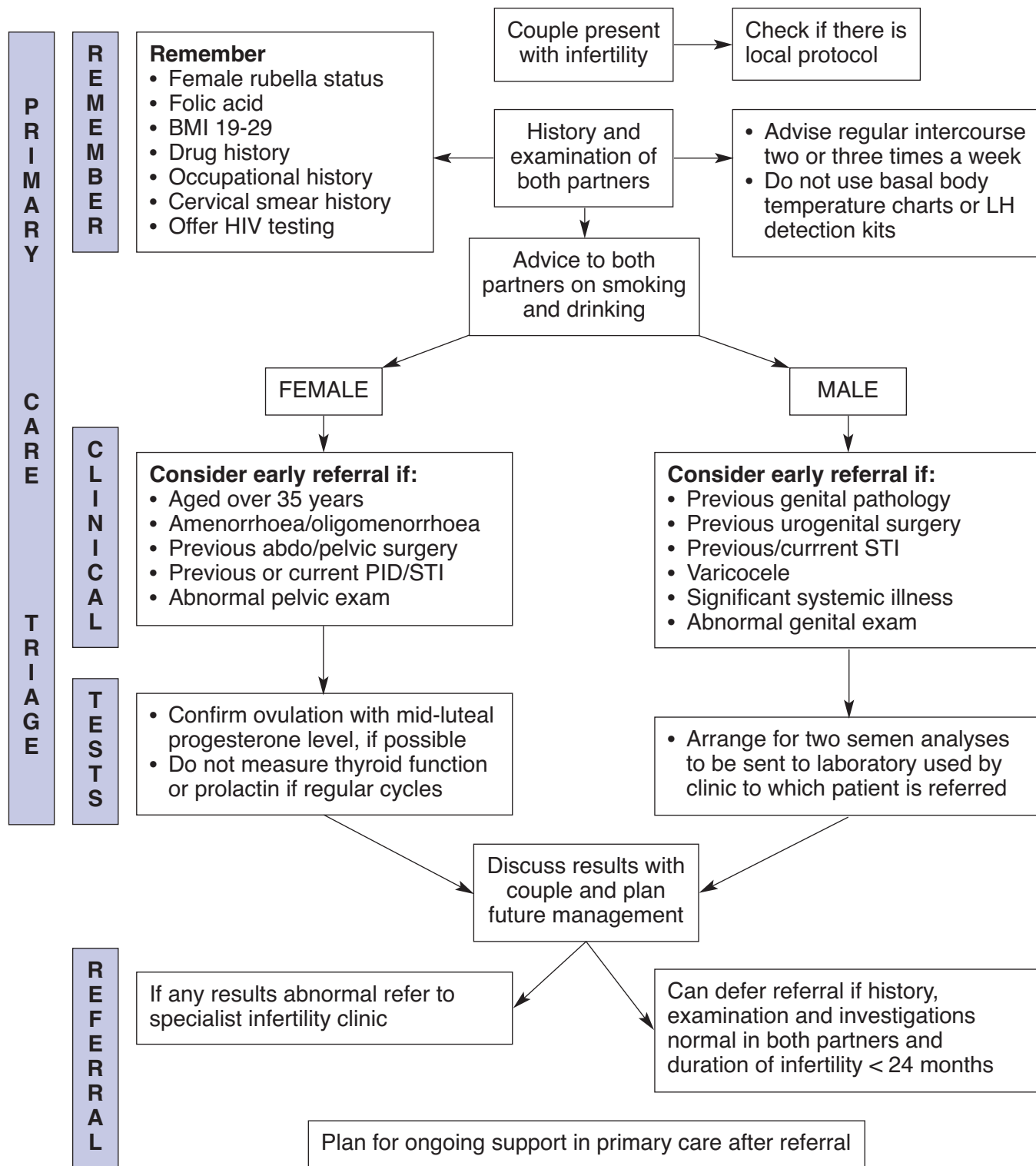


Figure 1: Investigation and referral for infertility.

Modified from *Fertility: assessment and treatment for people with fertility problems* (National Collaborating Centre for Women's and Children's Health and National Centre for Health and Clinical Excellence, London, RCOG Press, 2004)

Referral

IPPF Member Associations should determine what level of infertility service they are capable of providing and refer couples who require more complex diagnosis and management. If they themselves provide infertility services, they must have a full understanding of the legal and ethical issues - respect for the dignity and integrity of the human being; protection of human genetic material so that it is not used inappropriately without the donor's consent; and respect for embryos during handling and storage. Before referring a client elsewhere, they need to know the scope and quality of services offered by the local infertility specialists – and to keep these under review.

Ovulation disorders respond to medical induction in more than 80% of cases. Surgery for fallopian tube blockage is much less successful because damage tends to be extensive. In males, both medication and tubal surgery have low success rates. The techniques employed by tertiary referral centres include artificial insemination with partner or donor semen, in-vitro fertilisation (including intracytoplasmic sperm injection), and embryo, gamete, and zygote transfer.

These new reproductive technologies are very expensive, and their cost-effectiveness (compared with other medical interventions) is debated even in well-resourced countries. Furthermore, they have drawbacks even when successful – an increased likelihood of prematurity from multiple births; above-normal rates of ectopic pregnancy and spontaneous abortion; and an excess risk of genetic disease because of the older age of the parents.

Psychosocial aspects

Many of the diagnostic and therapeutic procedures place a burden on those seeking infertility treatment, and couples should be offered counselling to help them deal with these stresses. Stress itself, in either partner, can be an adverse factor by reducing libido and frequency of intercourse. Counselling should be offered before, during, and after investigation and treatment, irrespective of the outcome. When treatment is unavailable or unsuccessful, couples may need help in coming to terms with their infertility. Some will accept the prospect of life without children; others will wish to consider adoption or fostering.

What Member Associations can do

The section on “initial advice to couples” has indicated several modifiable factors that predispose to infertility – for example, alcohol, drugs, smoking, underweight, overweight – all of which should be discouraged for other reasons too. In many countries, the key issue in women is tubal damage by sexually transmitted infections. Such damage can be limited by early diagnosis and treatment, and more broadly by promotion of safe sex, better obstetric care, and safe abortion. Women who plan to postpone childbearing until their mid-thirties can usefully be warned about the sharp decline in fertility from that age. Advocacy by Member Associations can be based on the “five As” – *access* (to STI diagnostic kits, syndromic management, etc); use of condoms (to prevent STIs and AIDS); *advocacy* for prevention of unsafe *abortion*; and *adolescent-friendly* sexual and reproductive health services.

Comments of IMAP on emergency contraception

At its November 2006 meeting, IPPF's International Medical Advisory Panel (IMAP) discussed a recent claim¹ that, despite making emergency contraception more widely available, the UK and other countries have experienced no reductions in the rates of abortion or unintended pregnancy.

The Panel noted that abortion and pregnancy rates are determined by such a multiplicity of demographic and other factors that a causal association with availability of emergency contraception could easily be missed. There is no doubt about the efficacy of the methods as shown by clinical studies. In real life the effectiveness of emergency contraception could be lower because women who have unprotected intercourse do not always perceive themselves to be at risk of pregnancy.² Nevertheless, emergency contraception remains an important option.³ The Panel concluded that the existing IMAP Statement on Emergency Contraception⁴ remains valid and no change in current guidance is warranted.

Referring back to its Statement the Panel noted that, for the woman exposed to a single act of unprotected sexual intercourse (eg, through lack of contraceptive use, condom breakage, missed pills, or sexual assault), the levonorgestrel-only regimen cuts the risk of pregnancy by 60-93% and the combined “Yuzpe” regimen by 56-89% - estimates derived from clinical studies, since randomised placebo-controlled trials would not be ethically feasible. Direct comparisons show levonorgestrel to be more effective than the combined regimen. The Panel reiterated that emergency contraception

should not be used for routine pregnancy prevention since the cumulative pregnancy rate for frequent use of emergency contraceptive pills is higher than that with regular contraception. However, if there is a further episode of unprotected intercourse in a cycle where emergency contraception has been used, it can be repeated.

IPPF Member Associations have a key role in promoting emergency contraception as an entry point to regular contraception, which remains the most effective way to reduce unwanted pregnancy. Information on emergency contraception should be available to all women who may need the method. Whether contained in product pamphlets or offered by a service provider, it should include guidance on the following: correct use; possible side-effects and their management; risk of pregnancy (detection and management of possible failure of the emergency contraception to prevent pregnancy); changes in the menstrual pattern; preferences for regular contraception; and risk of sexually transmitted infection. Member Associations can fulfil an important function in distributing these messages, as well as in advocating for easy access to emergency contraception in their local communities.

References

1. Glasier A. Emergency contraception: is it worth all the fuss? *BMJ* 2006; **333**: 560-1
2. Lakha F, Glasier A. Unintended pregnancy and use of emergency contraception among a large cohort of women attending for antenatal care or abortions in Scotland. *Lancet* 2006; **368**: 1782-7
3. Trussell J, Raymond EG. Preventing unintended pregnancy: let us count the ways. *Lancet* 2006; **368**: 1747-8
4. IMAP Statement on Emergency Contraception. *IPPF Med Bull* 2004; **38** (no.1): 1-3

Pain control in first-trimester suction evacuation

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Suction evacuation for first-trimester abortion, though it takes only a few minutes, requires pain control. Local anaesthesia is the most common choice because it avoids the risks of general anaesthesia and because recovery is fast: a shorter stay in hospital or clinic tends to reduce the cost. Studies of local anaesthesia have usually focused on the pain associated with cervical dilatation and the suction procedure, but the pain of the injections themselves should not be ignored.

The standard method of local anaesthesia for suction evacuation is paracervical block, and the chosen agent is usually lidocaine, with its quick onset of action and low cost. Aspects of paracervical block that have been investigated by randomised trials include the formulation, the depth and positions of injection, and the wait between injection and procedure. Regarding the pain of injection itself, slow administration proved somewhat less painful than fast.¹ In pain scores for the operative procedures, statistically significant advantages were seen for buffered (carbonated) versus standard lidocaine and for 3 cm versus 1.5 cm injection.^{2,3} No differences were reported for four-site block compared with a two-site technique,⁴ from injection into the vaginal vault rather than the cervix,⁵ from a wait of 3-20 minutes before the procedure,^{1,6} from an increase in lidocaine concentration,⁷ or from use of alternative local anaesthetic agents.¹ One randomised trial even showed no advantage for paracervical lidocaine versus saline, used without a waiting period: the authors suggested that tissue distension rather than specific autonomic nerve blockade might be an important mechanism for the anaesthetic effect.⁸ In the above studies the cervix was dilated mechanically. After cervical priming with vaginal misoprostol, which often eliminates the need for such dilatation, paracervical block did not reduce the pain of the suction procedure in women who also received intravenous sedation.⁵

Although certain local anaesthetic techniques give statistically significant improvement in pain scores, clinically significant benefits are harder to obtain. For this reason, intravenous conscious sedation has increasingly been used as an adjunct to paracervical block. A regimen of 2 mg midazolam and 25 µg fentanyl intravenously given 5 minutes before cervical dilatation improved patient satisfaction (compared with saline placebo) despite lack of benefit in pain scores.⁹ A later observational study with higher doses of fentanyl (50-125 µg) did point to a reduction in the pain of suction evacuation.¹⁰ Postoperative side-effects of intravenous conscious sedation (a method to be undertaken only by trained practitioners) include drowsiness and giddiness. An option that has the advantage of self-administration is Entonox (50% nitrous oxide and 50% oxygen), but this proved ineffective in reducing pain when used in combination with conscious sedation.¹¹

Another suggested strategy for lessening the pain of uterine aspiration and the associated cramps is intrauterine infusion of local anaesthetic agent. One research group compared 10 mL 1% lidocaine with saline placebo in women who also received a paracervical block.¹² Pain scores were not lessened by infusion at this dosage, but the same group did find significant pain reduction with 4% lidocaine – at the expense of more side-effects from systemic absorption.¹³ A further possibility that has been explored is application of lidocaine to the cervix: a 2% gel applied 1 minute before cervical manipulation/dilatation reduced overall intraoperative pain, though only in a subgroup of multiparous women.¹⁴ The effect of these methods is modest at best.

The experience and reporting of pain is affected by many factors including age, parity, anxiety, and depression. With local anaesthesia alone, clinical trials show unacceptably high pain scores in most women. In our department, the current protocol is as follows. 400 µg vaginal misoprostol is administered 3-6 hours before the operation, for cervical priming. Prophylactic oral doxycycline is given perioperatively since we do not routinely screen for chlamydia in our unit. In the operating theatre, intravenous sedation with 2 mg midazolam and 25 µg fentanyl begins 5 minutes before cervical dilatation/manipulation; 1 mg top-up midazolam can be given if sedation is not sufficient. With cervical priming, we do not routinely use paracervical block. 10 mL of 2% lignocaine gel is applied digitally to the surface of the uterine cervix during bimanual examination, to the set of Hegar dilators (when needed), and to the vaginal speculum for lubrication. Suction evacuation is then performed in the usual manner.

Current methods are still suboptimal. Further research is needed to develop more effective ways to control pain and reduce anxiety.

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References

1. Wieber ER, Rawling M. Pain control in abortion. *Int J Gynecol Obstet* 1995;**50**:41-6
2. Cetin A, Cetin M. Effect of deep injections of local anesthetics and basal dilatation of cervix in management of pain during legal abortions. A randomized, controlled study. *Contraception* 1997;**56**:85-7
3. Wiebe ER. Comparison of the efficacy of different local anesthetics and techniques of local anesthesia in therapeutic abortions. *Am J Obstet Gynecol* 1992;**167**:131-4
4. Glantz JC, Shomento S. Comparison of paracervical block techniques during first trimester pregnancy termination. *Int J Gynecol Obstet* 2001;**72**:171-8
5. Kan ASY, Ng EHY, Ho PC. The role and comparison of two techniques of paracervical block for pain relief during suction evacuation for first-trimester pregnancy termination. *Contraception* 2004;**70**:159-63
6. Phair N, Jensen JT, Nichols MD. Paracervical block and elective abortion: the effect on pain of waiting between injection and procedure. *Am J Obstet Gynecol* 2002;**186**:1304-7
7. Wiebe ER, Rawling M, Janssen P. Comparison of the effectiveness of 0.5% and 1% lidocaine for first trimester abortions. *Int J Gynecol Obstet* 1996;**55**:71-2
8. Miller L, Jensen MP, Stenchever MA. A double-blind randomized comparison of lidocaine and saline for cervical anesthesia. *Obstet Gynecol* 1996;**87**:600-4
9. Wong CYG, Ng EHY, Ngai SW, Ho PC. A randomized, double blind, placebo-controlled study to investigate the use of conscious sedation in conjunction with paracervical block for reducing pain in termination of first trimester pregnancy by suction evacuation. *Hum Reprod* 2002;**17**:1222-5
10. Allen RH, Kumar D, Fitzmaurice G, Lifford KL, Goldberg AB. Pain management of first-trimester surgical abortion: effects of selection of local anesthesia with and without lorazepam or intravenous sedation. *Contraception* 2006;**74**:407-13
11. Kan ASY, Caves N, Wong SYW, Ng EHY, Ho PC. A double-blind, randomized controlled trial on the use of a 50:50 mixture of nitrous oxide/oxygen in pain relief during suction evacuation for the first trimester pregnancy termination. *Hum Reprod* 2006;**21**:2606-11
12. Edelman A, Nichols MD, Leclair C, Astley S, Shy K, Jensen JT. Intrauterine lidocaine infusion for pain management in first-trimester abortions. *Obstet Gynecol* 2004;**103**:1267-72
13. Edelman A, Nichols MD, Leclair C, Jensen JT. Four percent intrauterine lidocaine infusion for pain management in first-trimester abortions. *Obstet Gynecol* 2006;**107**:269-75
14. Li HWR, Wong CYG, Lo SST, Fan SYS. Effect of local lignocaine gel application for pain relief during suction termination of first-trimester pregnancy: a randomized controlled trial. *Hum Reprod* 2006;**21**:1461-6