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INTRODUCTION

In today’s growing world, the volume and ever-changing nature of medical knowledge is such that it is virtually impossible for any single physician to keep abreast of all the latest developments in his or her field. Healthcare systems across the world seek to present the latest scientific achievements in simple, user-friendly language for the benefit of service providers. This requires clear guidelines and protocols, which need to conform to the specific conditions of the country using them. The present work is the outcome of a prolonged effort by the medical universities of Iran, at faculty and public health department levels, as well as my colleagues in the Family Planning Bureau and the Department of Population and Family Health. It represents a useful work of reference for health managers and experts across the country, as well as students of the medical and paramedical sciences. I wish to thank everyone involved over the past few years in the design, compilation and publication for the considerable burden they have shouldered in the production of this book.

Mohammad Esmaïl Akbari,
Under-secretary for Health,
Ministry of Health and Medical Education
FOREWORD

Given that eight years had elapsed since the last edition of the National Family Planning Manual, and in view of the significant evolution in the field and the need to incorporate the feedback generated during this time by health service providers and managers, we set out to produce a collection that would fulfil the following objectives:

- Updating service provision guidelines;
- Providing answers to questions that were unanswered in previous series;
- Collating instructions that had been issued as and when required on different subjects in the intervening period; and
- Producing a comprehensive guide for service providers with the aim of improving the quality of services offered.

The standardisation of contraceptive guidelines in Iran will be a first step on the road to producing a set family planning care packages for both physicians and non-physicians. The present book only refers to the methods provided free-of-charge by the public healthcare system.

The present work was prepared by the Department of Population and Family Health of the Ministry of Health and Medical Education using the latest editions of the following works of reference in the field of obstetrics and gynaecology and family planning:

Information on each of the methods of contraception available through the healthcare network was obtained from the above references. When the overwhelming majority of the references above provided similar information on a particular topic, the topic in question was included in the draft version of this document. 

In cases where:

a) There was no consensus between the references, or  
b) Some of the references did not address a given topic or aspect of it,

the items were brought together in a separate collection as “items requiring further assessment”. In instances where the references used and the current service framework did not conform, more than ten three-hour meetings, chaired by myself, were held to discuss these discrepancies. Where consensus was reached, the item was excluded from the guidelines.

The remaining material was discussed during a two-day seminar held in Bushehr in February in collaboration with the Faculty of Obstetrics and Gynaecology of Bushehr University of Medical Sciences as well as, from across the country, the directors of Family Health, other medical universities, staff of the Family Planning Bureau, and the Under-secretariat for Health. The seminar, through debate and use of the participants’ experiences, managed to elucidate answers to many of the questions that remained, which were then forwarded for final approval by the relevant scientific associations. Given the outcome of the seminar and the responses provided by the scientific associations, a set of draft family planning guidelines was prepared by the Family Planning Bureau and was circulated for final commentary among all faculty members who participated in the Bushehr seminar. The present document incorporates the comments that these esteemed colleagues generously provided.

It should be noted that in the absence of more solid evidence at national level, the authors of the guidelines have had to satisfy themselves with expert or consensus opinion. On the other hand, some of the recommendations are based on practical consideration of the current framework for service
delivery, whilst making every attempt to safeguard the rights of clients. 
Given these points, this document has been forwarded as the reference for family planning activities to the managers of family health, family planning and community health worker training programmes (at central and provincial level) as well as physicians practicing within the primary healthcare network. 
This book will also be forwarded to obstetrics & gynaecology, urology, nursing and midwifery groups around the country as well as to the departments of health of medical universities, thereby providing the authors with the opportunity to include the critical contribution of these groups in this work. It would indeed be a source of great satisfaction if the readers of this work also provided the Family Planning Bureau and the Department of Population and Family Health with their feedback, either by mail or electronically (fpoffice@hbi.ir), so their knowledge and experience may also go to enrich this and future works. 
It is necessary at the end for me to thank the following for their contribution to the development and completion of these guidelines:
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The Combined Oral Contraceptive Pill
THE COMBINED ORAL CONTRACEPTIVE PILL

INTRODUCTION

The combined (oestrogen and progesterone) oral contraceptive pill (COCP) is available in two forms: monophasic (LD or HD) and triphasic. The COCP is taken daily at the same time and is prescribed by trained healthcare workers.

MECHANISM OF ACTION

1) Prevents ovulation
2) Affects endometrium
3) Increases viscosity of cervical mucus and thus prevents entry of sperm into the uterus
4) Prevents fertilisation by affecting movement of the Fallopian tubes

EFFICACY

If used correctly, the COCP has an efficacy of 99.9%.

ADVANTAGES

- High efficacy
- Rapid recovery of fertility after discontinuation
- Regulates menstrual periods and reduces menstrual pain and bleeding; alleviates premenstrual syndrome; reduces post-menstrual anaemia
- Reduces incidence of ovarian cysts
- Reduces incidence of benign breast disease
- Increases bone density
- Reduces incidence of pelvic inflammatory disease (PID)
- Decreased incidence of uterine and ovarian cancers
- Reduces incidence of ectopic pregnancy (EP)
- Prevents atherosclerosis
- Reduces incidence of endometriosis
Improves rheumatoid arthritis

**DISADVANTAGES**

- Unsuitable for people who are forgetful (because it needs to be taken every day)
- Need to procure a new blister for each menstrual cycle
- Does not prevent sexually transmitted infections (STIs)
- Unsuitable for breastfeeding mothers during the first 6 months postpartum

**COMMON SIDE-EFFECTS AND THEIR MANAGEMENT**

Common side effects usually appear during the first month of use and usually either resolve completely or diminish in severity after 3-6 months. The most common side effects and their management are listed below:

1. **Weight gain:** Weight gain is caused by fluid retention due to the progesterone component of the pill; increased appetite and, consequently, greater food intake. Weight gain may be controlled by regular exercise and a balanced diet.

2. **Spotting and inter-menstrual bleeding:** Usually appears during the first 3-6 months of use and may be due to the woman forgetting to take the pill every day. Management is discussed under “Instructions whilst using the pill”.

3. **Breast tenderness:** Resolves by following some simple rules of hygiene. If the problem persists, referral to a midwife or, if necessary, a gynaecologist is indicated.

4. **Mild headache:** Usually resolves with routine analgesics. Severe headache or headache associated with high blood pressure, one-sided neurological signs or visual disturbance all constitute warning signs and indicate a need for immediate referral to the appropriate specialist and change in contraceptive method.

5. **Nausea:** Compliance will cease if the client is suffering from severe and intolerable nausea, and another method of contraception is indicated. Mild or tolerable nausea may respond to taking the pill at bedtime or...
with food. Pharmacological treatment for the first 3-6 months with, for example, vitamin B₆ one tablet at bedtime, may also help.

UNCOMMON SIDE-EFFECTS AND THEIR MANAGEMENT

These side effects are very uncommon and frequently never seen. They include:

1) Mood change (depression)
2) Chloasma (freckles)
3) Suspected breast cancer
4) Cancer of the cervix
5) Hepatic adenoma and carcinoma
6) Venous thrombosis - especially in smokers and people with coagulation disorders
7) Myocardial Infarction (especially in smokers)
8) Cerebrovascular accident or “stroke” (especially in smokers and people with hypertension)
9) Hypertension
10) Increased risk of irregular menstrual bleeding
11) Amenorrhoea

In the event of any of these uncommon side effects, immediate referral to a specialist is indicated.

ABSOLUTE CONTRA-INDICATIONS

- Suspected or confirmed pregnancy
- Suspected, confirmed or history of breast cancer
- Oestrogen-dependent malignancies
- Endometrial carcinoma or any other suspected or confirmed oestrogen-dependent malignancy
- Uterine bleeding of undetermined cause
- Smoking in women aged 35 or over
- Active or chronic liver disease
- Gross hepatic dysfunction or viral hepatitis
- Gestational obstructive jaundice or any history of jaundice whilst on the pill
- Hepatic adenoma or carcinoma
- Compensated or mild hepatic cirrhosis
- Schistosomiasis or severe hepatic fibrosis
Deep venous thrombophlebitis or other thromboembolic disorders, or a history of them, or conditions that may precipitate thromboembolism

Valvular heart disease and associated conditions such as pulmonary hypertension, atrial fibrillation, subacute bacterial endocarditis (or a history of it), and use of anticoagulant medication

Coronary heart disease

Cyanotic heart disease

Stroke

Coronary vascular disease or cerebrovascular disease, a history of them or conditions that may precipitate them

Diabetes together with vascular disease

Hypertension (blood pressure $\geq 140/90$ mmHg or higher)

Recurrent headaches, including migraine with focal neurological signs

Breastfeeding mothers less than 6 months postpartum

Unstable angina

Dyslipidaemia (especially Type II hyperlipoproteinaemia)

Conditions necessitating immobilisation (COCP must be discontinued 7 days before surgery and is contraindicated post-operatively until the client is mobilised once more – the client must be clearly warned on this point before and after major surgery)

History of conditions associated with COCP use. Such as chorea, hypertension, acute pancreatitis, gestational pemphigoid, Stevens-Johnson syndrome, haemolytic-uraemic syndrome, and thrombotic thrombocytopenic purpura.

Blood pressure between $90/60$ mmHg and $140/90$ mmHg

History of hypertension ($>140/90$ mmHg) and currently uncontrolled

Moderate to severe cervical intraepithelial neoplasia

Varicose veins without a history of thrombophlebitis

Active gallbladder disease
o Women over 30 who smoke fewer than 10 cigarettes a day or women under 30 who smoke more than 10 cigarettes a day
o Migraine without neurological signs
o Particular complications of diabetes (concomitant hypertension, nephropathy, retinopathy)
o Severe depression
o Anticonvulsants (except valproic acid)
o Rifampicin (rifampin) or griseofulvin
o Sickle-cell disease
o Digestive problems that disrupt absorption of the pill

TIMING OF USE

CONDITION OF THE CLIENT WHO WISHES TO USE THE PILL

1) The woman must begin taking the pill during the first five days of her menstrual period (days 1 to 5). For greater assurance, it is recommended to start taking the pill on the first day of menstruation. The pill is to be taken at a set time of the day, every day, until the blister of 21 pills has been finished. The woman begins the next blister after an interval of seven days.

2) The pill is contraindicated postpartum and whilst the mother is breastfeeding because of its effect on the mother’s milk (reduces quantity produced and is itself excreted in the milk). The pill is absolutely contraindicated in breastfeeding mothers for the first 6 months postpartum.

3) If the child is not being breastfed, the mother may start or resume taking the pill 3 weeks after delivery.

4) The pill may be started in the five days that immediately follow an abortion.

5) If the woman wishes to switch from her current contraception (Lynestrenol, IUD, Norplant, or DMPA) to the COCP, and discontinues her previous method during the first five days of her menstrual cycle, then she may begin taking the pill immediately. Otherwise, she must wait until the beginning of her next menstrual cycle before starting the pill, and it is recommended that she use condoms as contraception until then. Similarly,
women may switch to COCP immediately after stopping Lynestrenol if they have been using the latter regularly and are amenorrhoeic. Women on DMPA who are amenorrhoeic may also begin COCP immediately if they have received their DMPA injection within the preceding $9 \pm 1$ days. Otherwise, pregnancy must be formally ruled out before the client is started on COCP.

**CHANGING FROM THE PILL TO ANOTHER METHOD OF CONTRACEPTION**

Women on the pill, should they desire to switch to another method of contraception, may do so by following the guidelines for using the alternative method of their choice.

**RECOMMENDED CLINICAL AND LABORATORY WORK-UP**

**FIRST VISIT**
\[1.\] Health assessment
\[2.\] Blood pressure
\[3.\] Breast and pelvic examinations
\[4.\] Pap smear ($4-5$ weeks postpartum according to national guidelines)
\[5.\] Coagulation screen and lipid profile (if there is a history of thrombosis or heart disease in a first-degree relative under $6$)

**N.B.**: Examination of the thyroid gland is not necessary before prescribing the pill.

**N.B.T**: Laboratory examinations need not necessarily be performed at the first visit.

**FOLLOW-UP VISITS**
The first follow-up visit is at $1$ months and then every $5$ months thereafter for two years, and annually thereafter in the absence of any complications. The follow-up examination consists of the following elements:
\[1.\] Blood Pressure
\[2.\] Weight
\[3.\] Screening for warning signs and complications, and any further investigations thus warranted
4. In-depth assessment of women with chronic conditions on which the effect of COCP use is unclear (that is, conditions not formally listed as contraindications, such as goitre)

If any of the aforementioned screening tests detects any problem, the client should be referred for specialist opinion. Blood glucose and a lipid and lipoprotein profile are assessed routinely during follow-up visits in the following cases:

- Women aged 50 and over
- Women with a history of heart disease or high blood pressure
- Women with diabetes (annually)
- Women with a history of gestational diabetes (annually)
- Overweight or obese women.

**INSTRUCTIONS WHILST USING THE PILL**

**i) If client forgets a dose of the pill (LD or HD)**

1) If a woman forgets to take the pill and remembers this before she has to take her next dose, she can take the missed dose immediately and continue taking the pill according to her original schedule.

2) If a woman misses two doses of the pill, she must take two pills for the next two nights and then continue taking the pill according to her original schedule. She must also use another method of contraception as assurance for the next seven days.

3) If a woman misses more than two doses of the pill at any time during her cycle, she should continue to take the pill (one a day at the usual time) for the remainder of her cycle, whilst using another method of contraception as assurance for seven days, and immediately begin the next cycle of the pill without the usual seven-day break.

**ii) If client forgets a dose of the triphasic pill**

1) If a woman misses one dose of the pill and remembers this within 21 hours, she should immediately take the missed dose and continue taking the pill according to
her original schedule. It should be noted that if less than 21 hours have elapsed since the scheduled dose, there will be no reduction in the contraceptive efficacy of the pill.

v) If a woman misses one dose of the pill and remembers this after 21 hours, she need not take the missed pill and should continue according to her original schedule. She must, however, use another method of contraception (such as condoms) as assurance until the end of her current blister.

N.B.1: Except for items 1 and v above, all other instructions are as for the HD and LD monophasic pills.

N.B.2: The client should be supplied with at least 1 condom at the same time as her prescription of the pill, to be used as assurance whenever she misses a dose of the latter.

iii) Suspected pregnancy when on the pill

If the client suspects that she has become pregnant while using the pill, she must immediately discontinue the pill and use another method of contraception (such as condoms) until her pregnancy status has been established.

iv) Spotting

Inter-menstrual spotting usually resolves after 3-6 months. If the spotting has not resolved after 3-6 months, for one cycle only and then only on days where spotting occurs the woman should take two LD pills at night until 7 days after spotting has stopped, and then resume her normal schedule of one pill a night. If the problem persists in spite of this treatment, then the woman should be referred to a gynaecologist.

v) Pill-related Amenorrhoea

\[1^{1}\] The additional pills should be supplied from a new pack; the pill should still be taken for the entire 21-day cycle.
If there is a history of a period of amenorrhoea after correctly using the pill, or if there is no menstruation during the seven-day break between the first and second pack, the next pack may be started after the seven-day break. However, a woman may only begin her third pack if she has menstruated after the second pack is finished. Otherwise, in the event of two consecutive amenorrhoeic cycles, pregnancy must be ruled out first.

If amenorrhoea coincides with incorrect usage, a pregnancy test (β-HCG) is indicated. If negative, the woman may begin her next pack. If amenorrhoea persists, the woman should be referred for specialist opinion.

**vi) Vomiting within 1-7 hours of ingesting the pill**

The woman should take another pill (from a fresh pack) and continue taking the pill from the original pack as per her usual schedule. If vomiting persists or in the event of severe diarrhoea, the woman should continue taking the pill as per schedule but also start using an additional form of contraception and continue doing so for one week after the vomiting or diarrhoea has resolved.

**WARNING SIGNS AND THEIR MANAGEMENT**

Serious complications are rare as a consequence of taking the pill. However, in the event of any of the symptoms listed below (which indicate a serious underlying problem), the client should be immediately referred to a hospital:

\(\uparrow\) Severe upper abdominal pain

\(\uparrow\) Chest pain or shortness of breath together with cough or bloody sputum

\(\uparrow\) Severe pain or swelling in one leg

\(\uparrow\) Eye problems (blurred vision, double vision, blindness)

\(\uparrow\) Atypical headache (severe, pulsatile or one-sided headache)

**IMPORTANT POINTS FOR SUBSEQUENT VISITS**
Follow-up is very important in clients who are prescribed the pill. The following points should be emphasised to every client:

- The client should come to the clinic for a new pack during the last 5 days of her old pack.
- The client should be carefully questioned at each visit regarding correct usage, satisfaction with the pill, any complaints, warning signs or side effects.

**AGE LIMIT FOR USING THE COMBINED ORAL CONTRACEPTIVE PILL**

A woman may continue taking the pill until the age of 50, unless otherwise contraindicated (see earlier sections on absolute and relative contraindications).
The Progesterone-only Lactational Pill
CLINICAL PRACTICE GUIDELINES FOR CONTRACEPTION FOR THE
ISLAMIC REPUBLIC OF IRAN
THE PROGESTERONE-ONLY CONTRACEPTIVE PILL (LYNESTRENOL)

INTRODUCTION

Lynestrenol is an oral contraceptive pill, which can be used by breastfeeding mothers for up to 7 months postpartum. Lynestrenol must be taken every day at the same time, and is prescribed by trained healthcare workers.

MECHANISM OF ACTION

1) Increases cervical mucus viscosity thereby creating a barrier to sperm entry into the uterus
2) Inhibiting cyclical ovulation (in 5% of cases)
3) Endometrial effect

EFFICACY

The efficacy of Lynestrenol is 99% during breastfeeding.

ADVANTAGES

- Quality and quantity of breast milk not affected
- Increases duration of breastfeeding
- May be prescribed in breastfeeding mothers in whom oestrogen-containing formulations are contraindicated (hypertension, systemic lupus erythematosus, migraine, smokers aged over 30, impaired glucose tolerance)
- Need not be discontinued before surgery

DISADVANTAGES

- Needs to be taken every day at the same time, otherwise the risk of failure is greatly increased, especially in breastfeeding mothers in whom menstruation has resumed.
COMMON SIDE EFFECTS AND THEIR MANAGEMENT

i) Irregular menstrual bleeding

This side-effect is usually observed during the first few months of usage and usually resolves or decreases in severity within 1-3 months. If irregular bleeding persists or the client is dissatisfied, mefenamic acid 500 mg three times a day together with an iron tablet daily may be prescribed for five days in order to stop the bleeding. If bleeding persists in spite of treatment, referral to a gynaecologist is indicated.

UNCOMMON SIDE EFFECTS AND THEIR MANAGEMENT

These side-effects are rarely or never encountered. If they occur, however, referral for specialist opinion, as described below, is indicated. These side-effects include:

\( \text{(1) Ovarian cysts: refer to gynaecologist} \)

\( \text{(2) Ectopic pregnancy: refer to gynaecologist} \)

\( \text{(3) Severe bleeding: melenamic acid 500 mg (two 75 mg capsules) three times a day together with an iron tablet daily for five days. Failure to respond is an indication for specialist referral} \)

\( \text{(4) Headache: Severe (migraine-like or accompanied with blurred vision) or prolonged, debilitating headaches are indications for referral to an internist or neurologist.} \)

\( \text{(5) Breast tenderness: Breast tenderness usually resolves by respecting simple rules of hygiene. Otherwise, the client should be referred to a midwife or, if needed, to a gynaecologist.} \)

ABSOLUTE CONTRAINDICATIONS

\( \text{o Abnormal uterine bleeding} \)

\( \text{o Acute or chronic hepatic dysfunction (tumour, hepatitis...)} \)

\( \text{o Breast cancer} \)

RELATIVE CONTRAINDICATIONS
History of breast cancer
Severe obesity
History of gestational cholestasis
Hypertension (>140 mmHg or higher)
Concurrent use of anticonvulsants or rifampicin (rifampin)
Previous ectopic pregnancy

WHEN TO START OF TREATMENT WITH LYNESTRENOL

1) If menstruation has not resumed and the mother is breastfeeding exclusively, then she may begin to take Lynestrenol 6 weeks postpartum.

2) If menstruation has resumed and the mother is breastfeeding exclusively, then she may begin to take Lynestrenol during the first 6 days, and ideally on the first day, of her menstrual period.

3) If a breastfeeding mother has been using another method of contraception and wishes to switch to Lynestrenol, and if fewer than 6 months have elapsed since delivery, she must begin taking Lynestrenol immediately after discontinuing her previous method of contraception.

HOW TO USE LYNESTRENOL

Each blister of Lynestrenol contains 7 tablets, one to be taken every night at exactly the same time.

The next blister is started immediately after the last one is finished.

ATTENTION: THERE SHOULD BE NO BREAK BETWEEN BLISTERS

MISSING A DOSE OF LYNESTRENOL

1) If less than 7 hours have elapsed since the scheduled dose, the client may simply take the missed dose, but must be reminded of the critical importance of taking the pill at the same time every day.
If more than $\tau$ hours have elapsed since the scheduled dose, or else one dose is completely missed, the missed dose should be taken as soon as is remembered and the next one at the usual, scheduled time. An additional form of contraception, such as the condom, should be used for $\tau$ days as assurance.

If $\tau$ consecutive doses ($\tau$ days) are missed, the forgotten tablets should be taken together as soon as is remembered and the remaining tablets as scheduled. An additional form of contraception, such as the condom, should be used for $\tau$ days as assurance. If the client has had unprotected intercourse during these two days, then emergency contraception is indicated. If the client has not had a menstrual period after $\tau$ weeks, then pregnancy needs to be ruled out.

If more than $\tau$ pills have been missed and the woman has had unprotected intercourse during the preceding $\tau$ hours, then emergency contraception is indicated together with consultation on choosing a more appropriate method of contraception. If more than $\tau$ hours have elapsed since the client had unprotected intercourse, pregnancy needs to be ruled out.

**RECOMMENDED CLINICAL AND LABORATORY WORK-UP**

1) Blood pressure measurement
2) Pap smear (according to national guidelines)
3) Further workup as indicated by the client’s history

**WARNING SIGNS AND THEIR MANAGEMENT**

If the client complains of any of the following:
- Severe headache (migraine, headache accompanied with blurred vision)
- Severe chest pain after starting Lynestrenol
- Irregular uterine bleeding or any other unexplained bleeding that arouses suspicion of an underlying disorder or pregnancy
- Jaundice (yellow skin and/or sclera)
Severe abdominal pain, especially in the lower abdomen and pelvis (suspected ectopic pregnancy or ruptured ovarian cyst)

There is indication for prompt referral to hospital for assessment by the relevant specialist.

IMPORTANT POINTS FOR SUBSEQUENT VISITS

- If Lynestrenol is well tolerated by the client and the provider has enough supplies, the client may be given several months supplies in advance.
- The client must be assured that she may come back to receive assistance, advice or change her method of contraception whenever she wishes.
- The client’s knowledge and ability to detect warning signs as soon as they occur so that she may seek help at the nearest hospital or health centre.
- The client must be questioned at every visit about correct usage, satisfaction with her method of choice and any potential problems.
- Referral to a higher level if indicated.
Emergency Contraception
EMERGENCY CONTRACEPTION

INTRODUCTION

Emergency contraception (EC) is a method of contraception used after sexual intercourse during which no safe method of contraception has been or any other time when there is the probability of unwanted pregnancy after sexual intercourse. EC is prescribed by trained healthcare workers. EC is not to be used as a routine form of contraception.

MECHANISM OF ACTION

1) Endometrial effect
2) Prevents ovulation
3) Anti-peristaltic effect on Fallopian tubes

EFFICACY

EC has an efficacy of 99%, which is closely associated with the interval between unprotected intercourse and starting EC. The shorter the time between unprotected intercourse and EC, the greater the likelihood of success.

SIDE EFFECTS AND THEIR MANAGEMENT

i) Nausea and vomiting

It is preferable to prescribe an anti-emetic such as dimenhydrinate or diphenhydramine immediately before and 4-6 hours after each dose of EC. Dimenhydrinate may be prescribed in tablet form 50-60 mg 4-6 times a day. Diphenhydramine may be prescribed in tablet or syrup form 50-60 mg (4-6 small tablespoonfuls), the first dose to be taken half-an-hour before EC and subsequent doses (if necessary) every 5 hours thereafter. Both regimens have proven efficacy in reducing the severity of nausea and vomiting.
ii) Menstrual disturbance
The next menstrual period may be a few days earlier or later than usual. The client must be informed that this is quite harmless.

iii) Headache and dizziness

CONTRAINDICATIONS

- Pregnancy
- Contraindications of oestrogen
- Classical migraine
- Deep venous thrombosis
- Multiple exposures – multiple unprotected sexual encounters – decreases efficacy and increases the risk of pregnancy.

IMPORTANT POINT

EC is not intended for continuous use and its use should be confined to specific instances, such as:
- Ruptured condom
- IUD expulsion at any time other than during menstruation
- Sexual intercourse without use of safe method of contraception
- Use of the natural or withdrawal method of contraception and sexual intercourse that is suspected could lead to pregnancy

WHEN AND HOW TO USE EMERGENCY CONTRACEPTION

If less than 72 hours have elapsed since an episode (suspected or confirmed) of unprotected intercourse – the first dose of EC must be taken within 72 hours of unprotected intercourse – the client may use one of the following methods of EC to prevent unwanted pregnancy:

1. 7 HD pills at once followed by 7 more after 7 hours
2. 7 LD pills at once followed by 7 more after 7 hours
٩. ٨ white triphasic pills at once followed by ٨ more white (third phase) pills after ٨ ٨ ٨ hours

١٠. In the event of sexual assault or rape, EC should be supplied and the victim should then be referred to a specialist centre to be screened for STIs and other potential complications.

INSTRUCTIONS DURING USE

١. It is better not to take EC on an empty stomach.
٢. In the client vomits within ٢ hours of ingesting a dose of EC, that dose must be repeated.
٣. EC may not be prescribed more than once per menstrual cycle. Clients must be educated on the correct usage of EC and it must be emphasised that the client must resort as little as possible to EC during her reproductive years. The fact that EC may be used once per cycle does not in any way mean that its use is recommended every cycle.

SPECIFIC REASONS FOR REFERRAL TO SERVICE PROVIDER

٠ If menstruation (or any bleeding consistent with menstruation) does not occur within ٠ weeks of EC, the client should be referred for pregnancy (β-HCG) testing.
٠ Pregnancy whilst on contraception: Since EC is not teratogenic٠, there is not indication for termination of pregnancy if EC fails and the client becomes pregnant.

٠ There is no evidence so far to prove the teratogenicity of emergency contraception in cases where the client becomes pregnant in spite of using EC.
Megesterone
(DMPA: Depot Medroxy Progesterone Acetate)
MEGESTERONE
(DMPA: Depot Medroxy Progesterone Acetate)

INTRODUCTION

DMPA is a parenteral method of contraception. The active compound in an ampoule of DMPA is medroxyprogesterone acetate and a single injection provides contraceptive coverage for three months. This form of contraception is prescribed by trained healthcare workers.

MECHANISM OF ACTION

1. Prevents ovulation
2. Increases viscosity of cervical mucus, which therefore acts as a barrier to sperm entry
3. Affects endometrium

EFFICACY

Efficacy exceeds 99.7% in the first year of use.

ADVANTAGES

o High efficacy
o Ease of use
o Relatively long interval between injections (every 12 months)
o Suitable for people who have difficulty complying with methods that require daily or continuous usage (forgetful people, nomadic lifestyle, mentally retarded individuals…)
o Reduces incidence of endometrial and ovarian cancers, pelvic inflammatory disease, anaemia, fibroids, endometriosis, ectopic pregnancy, vaginal candidiasis,
premenstrual syndrome, dysmenorrhoea, and mittelschmerz.

- No oestrogenic side-effects
- Suitable for people with diabetes or thyroid disease
- No age restriction on use
- May be used during breastfeeding
- Does not interfere with sexual intercourse
- No need to discontinue before major surgery
- Suitable for people with epilepsy (except those treated with carbamazepine or phenytoin)

**DISADVANTAGES**

- Delayed recovery of fertility
- Need for injection every three months
- Does not protect against sexually transmitted infections, including HIV
- Risk of weight gain
- Amenorrhoea

**COMMON SIDE EFFECTS AND THEIR MANAGEMENT**

i) Menstrual irregularities (from amenorrhoea to irregular bleeding)

Irregular uterine bleeding is usually encountered during the first months of use and usually diminishes in severity or resolves within 3-6 months, though resolution may take as long as 6-21 months. If the client is inconvenienced by this irregular uterine bleeding, she may be referred for assessment by a gynaecologist.

If DMPA is the cause of bleeding, then mfenamic acid 0.5-2 mg (two 50 mg capsules) three times a day may be prescribed for five days. If there is no improvement or if bleeding is due to any another cause, the client should be referred to a gynaecologist.

If amenorrhoea occurs from the onset, there is no need for treatment and the client should be reassured. Pregnancy testing is indicated when the client previously has had regular menstrual periods and the amenorrhoea only subsequently occurred.
**ii) Weight gain**

Weight gain is due to the effects of progesterone (fluid retention, increased appetite, increased food intake) and can usually be managed with a balanced diet and regular exercise.

**UNCOMMON SIDE EFFECTS AND THEIR MANAGEMENT**

*i) Mood change (insomnia and depression)*
Refer to a gynaecologist.

**ii) Breast tenderness**
Resolves with simple hygiene measures. Otherwise, refer to midwife or, if indicated, a gynaecologist.

**iii) Headache and dizziness**
Refer to a gynaecologist.

**iv) Flatulence**
Refer to a gynaecologist.

**v) Decreased libido**
Refer to a psychiatrist.

**vi) Delayed recovery of fertility**
Refer to a gynaecologist.

**vii) Incidence of breast cancer**
Refer to a gynaecologist.

**ABSOLUTE CONTRAINDICATIONS**

- Pregnancy
- Breast cancer
- Vaginal bleeding of undetermined origin
- Severe coagulopathy
- History of hepatic adenoma secondary to use of sex steroids
- Thromboembolism or a history of it
History of stroke
- Uncontrolled hypertension
- Uncontrolled diabetes
- Diabetes with vascular complications or a history of diabetes for 7 or more years

RELATIVE CONTRAINDICATIONS
- Liver disease
- Severe cardiovascular disease
- Desire for rapid recovery of fertility
- Problems with injections (fear...)
- Severe depression
- Controlled hypertension
- Controlled diabetes
- Mole
- Obesity

WHEN TO START DMPA

1) During the menstrual period: The first injection is given on any of the first five days of the menstrual period, and an additional form of contraception, such as the condom, should be used as assurance for one week after the injection.

2) Non-breastfeeding mothers:
   - After delivery: The first injection of DMPA may be given during the first 7 weeks that immediately follow delivery. There is no need to wait for resumption of menstrual periods.
   - After abortion: If the client chooses DMPA as her method of contraception, the injection may be given within 10 days of first- or second-trimester abortion. DMPA injection after 10 days is conditional upon a negative pregnancy (β-HCG) test and subject to the usual precautions.

3) Breastfeeding mothers:
   - Menstruation has not resumed and the mother is breastfeeding exclusively and has chosen DMPA as her method of contraception: DMPA injection is given 5 weeks postpartum.
Menstruation has resumed: DMPA injection is given on any of the first five days of the menstrual period, and an additional form of contraception, such as the condom, should be used as assurance for one week after the injection.

Following discontinuation of previous method of contraception: If the client is seen on any of the first five days of her menstrual period, DMPA injection may be given immediately. Otherwise, she should be supplied with enough condoms to last her until her next menstrual period, when she will receive her DMPA injection.

HOW TO USE DMPA

1) One 10 mg ampoule of DMPA is injected every three months. If the client is seen 7 weeks either side of the date of her next due injection, the next injection of DMPA may be given but the client should be reminded of the importance of adhering to her original schedule for injection.

2) The ampoule must be vigorously shaken before injection to obtain a homogeneous suspension.

3) DMPA is injected intramuscularly (into the deltoid or gluteal muscles) and deep (long needle). The injection site should not be massaged after injection.

RECOMMENDED CLINICAL AND LABORATORY WORKUP

1) Weight and height measurement to calculate body mass index

2) Blood pressure measurement: controlled hypertension is a relative contraindication and so blood pressure monitoring is very important.

3) Pap smear (according to national guidelines)

4) Lipid profile (once): If the client’s serum LDL is higher than 160 mg/dl and she has two other cardiovascular risk factors or one of the uncommon types of dyslipidaemia, such as familial hypercholesterolaemia, then DMPA is not recommended.
N.B. If the aforementioned workup is not feasible during the first visit, the first injection may still be given. The workup must, however, be completed before the second injection is due.

WARNING SIGNS AND THEIR MANAGEMENT

In the event of any of the following warning signs, immediate referral to a hospital is indicated:

1) Severe or prolonged bleeding (doubling of the usual duration or volume of menstruation)
2) Severe headache accompanied by blurred vision
3) Jaundiced skin or sclera
4) Delayed menstruation (in someone who previously has had regular periods whilst on DMPA)
5) Increased blood pressure (to a level requiring treatment)

IMPORTANT POINTS FOR SUBSEQUENT VISITS

- If the next injection of DMPA is delayed by more than 7 weeks, and the client has been having regular menstrual periods whilst on DMPA, pregnancy must be ruled out and another method of contraception (such as the condom) used until the next menstrual period. If the client has had amenorrhoea whilst on DMPA and the next due injection has been delayed by more than 7 weeks, the next injection may be given once pregnancy has been ruled out.

- Clients who have amenorrhoea as a result of receiving DMPA must be reassured that this is quite normal and without danger. The client must be given assurance that amenorrhoea is not because of pregnancy.

- In the event of spotting or inter-menstrual bleeding, the client must be reassured that this is normal, common and without danger. If the bleeding continues, the client should be referred for specialist opinion. (see under common side effects)

- Severe or prolonged menstrual bleeding (doubling of the usual duration or volume of menstruation): This is rare but important and the client will require medical attention.
A history of severe headaches (migraine) is not a contraindication to DMPA use. However, if DMPA use is associated with the onset or exacerbation of headaches, blurred vision, temporary loss of vision, flashing, seeing zigzagging lines, or speech or motor dysfunction, then a non-hormonal method of contraception is recommended. Referral will be indicated for determination of the most appropriate method.

If there are no problems and the client is keen to receive DMPA as her chosen form of contraception, DMPA may be given as per the instructions above and the client instructed to return after three months to receive her next injection. DMPA injection may acceptably be given after $9 \pm 4$ days.

At each subsequent visit, enquiry should be made regarding client satisfaction, complaints, warning signs and side effects, and investigated as necessary.

**USE OF DMPA BEFORE A FIRST PREGNANCY**

\(^1\) May be associated with delayed recovery of fertility\(^i\)

\(^\gamma\) DMPA use is not recommended in girls under the age of 15 because of its adverse effect on bone growth.

**PREGNANCY WHILST USING DMPA**

If a woman becomes pregnant whilst on DMPA, there is an increased risk of neonatal mortality caused by intrauterine growth retardation (IUGR). Such cases will therefore require more attentive antenatal care and, if necessary, prompt referral for specialist care.

**RECOVERY OF FERTILITY AFTER STOPPING DMPA**

\(^\gamma\) Resumption of fertility may take up to $9-9$ months after DMPA has been discontinued.

\(^\gamma\) DMPA injection does not cause permanent infertility.

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\(^i\) Given that it usually takes $9-9$ months for fertility to recover after DMPA is discontinued, couples who do not have children and who wish to use this form of contraception should be clearly and emphatically informed of this side effect of DMPA treatment.
۷) If the client wishes to discontinue DMPA but does not wish to become pregnant, and even though resumption of fertility may be delayed far beyond the three-month period of efficacy, she must use another form of contraception beyond this date.
IUD: Intrauterine Device
THE “COPPER-T” INTRAUTERINE DEVICE
(TCu A)

INTRODUCTION

This type of IUD is a small copper-containing device, which is inserted in the uterus and prevents pregnancy for up to ten years. This service is provided by a physician, midwife, or other trained healthcare worker.

MECHANISM OF ACTION

1) Elicits an inflammatory response in the cervix and causes injury to sperm
2) Disrupts peristalsis of Fallopian tubes and prevents sperm transports towards the ovum

EFFICACY

The efficacy of the TCu A is .

ADVANTAGES

- High efficacy
- Fertility resumes as soon as IUD is removed
- Provides long-term contraception (10 years)
- No need for daily reminders
- No effect on breastfeeding
- No hormonal effects or complications
- May be used in early menopause
- Does not interfere with sexual intercourse
- Does not interact with other drugs

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1 Given that monitoring IUDs relies on six-monthly examinations, it is an appropriate method of contraception for pre-menopausal women. Irregular menstrual periods during the climacteric may necessitate consultation with a specialist. If menopause occurs before the age of 55, the IUD should be removed after years; if menopause occurs after the age of 55, the IUD should be removed after one year.
DISADVANTAGES

- Needs to be inserted and removed by a trained individual
- Spontaneous expulsion
- Does not prevent sexually transmitted infections
- Requires periodic examination

COMMON SIDE EFFECTS AND THEIR MANAGEMENT

i) Menorrhagia and dysmenorrhoea
The client should be reassured that this problem usually resolves 1-3 months after IUD insertion. If necessary, treatment may be initiated with indomethacin, mefenamic acid (7X10 mg capsules three times a day for five days), etc., and iron. If this treatment fails to resolve the problem, further investigation is required and the IUD may need to be removed.

ii) Irregular bleeding and inter-menstrual spotting
The client should be reassured that the problem will disappear within 3-6 months. If it persists beyond 3 months, then referral to a gynaecologist is indicated.

iii) Increased vaginal secretions
The vaginal secretions should be examined and then treatment initiated. The client may be referred to a gynaecologist if necessary (infected secretions are smelly, accompanied by itching or burning and of a different colour to non-infected secretions).

UNCOMMON SIDE EFFECTS AND THEIR MANAGEMENT

i) Pelvic inflammatory disease (PID)
PID is usually seen in the first 3-7 days after IUD insertion. The main cause of PID is failure to detect a pre-existing infection and failure of sterile precautions during insertion. The clients should be referred to a hospital.
ii) Perforation of the uterus during IUD insertion
Perforation occurs in two forms:

a. With clinical signs
   Usually occurs when a histerometer is used to measure the depth of the uterus or during insertion itself, and the client experiences pain

b. Without clinical signs
   Is not associated with any clinical signs and is only suspected when the IUD's string is felt to be shorter than expected

When perforation is suspected, the IUD should as far as possible be removed and the client referred to a hospital or a gynaecologist.

ABSOLUTE CONTRAINDICATIONS

- Suspected or confirmed pregnancy
- History of hospitalisation for PID
- Abnormal uterine anatomy
- Wilson's disease or copper allergy (for IUDs that contain copper)
- Immune dysfunction
- Treated cervical neoplasia
- Fibroid that distorts uterine anatomy
- Severe menstrual bleeding (menorrhagia; clots expelled) or severe anaemia
- Unexplained vaginal bleeding
- Disorders of coagulation
- History of ectopic pregnancy
- Suspected or confirmed uterine or cervical malignancy
- Abnormal pap smear
- In the interval between the treatment and follow-up of a hydatidiform mole (at least 1 year)

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iii The clinical features of PID include pain, cervical tenderness on movement, adnexal tenderness, high leukocyte count, fever… (Leucorrhoea, erosion and cervical secretions alone do not prove the presence of PID). 

iii Infectious vaginitis without cervicitis is not a contraindication to IUD insertion. These people should be worked up for sexually transmitted infections.
RELATIVE CONTRAINDICATIONS

- No previous pregnancy
- Pelvic tuberculosis

- History of PID without need for hospitalisation
- Multiple exposure (either the client or her partner has a large number of other sexual partners)\textsuperscript{iv}
- Valvular heart disorders, which require antibiotic prophylaxis before IUD insertion
- Current or previous (recent) episode of sexually transmitted infection
- Postpartum endometritis or septic abortion during the preceding three months
- Untreated cervicitis\textsuperscript{v} or vaginitis\textsuperscript{vi}

**N.B.** – IUD insertion in women with diabetes requires monitoring.

**WHEN TO START USING THE IUD**

1. **During the menstrual period**: Given that pregnancy is ruled out, the cervix is soft, and the procedure is more easily carried out, IUD insertion is recommended during the first 6 days of the menstrual period. Any pain or bleeding that results from IUD insertion will be covered by the pain and bleeding of the menstrual period.

2. **Post-partum (vaginal or caesarean delivery)**: The minimum interval between a vaginal or caesarean delivery and IUD insertion is 5 weeks. Breastfeeding is not a contraindication to IUD insertion, nor will the latter affect the quality or quantity of breast milk produced.

\textsuperscript{iv} Special instruction is necessary for this group
\textsuperscript{v} If IUD insertion is planned after an episode of purulent cervicalitis, IUD insertion should occur at least three months after completion of treatment.
\textsuperscript{vi} Vaginitis without purulent cervicalitis is not a contra-indication to IUD insertion. However, sexually transmitted infections should be ruled out in this group.
After abortion or curettage: After a first-trimester abortion or curettage, and assuming the abortion was non-septic, IUD insertion is permitted during the first 5 days after abortion or curettage. If abortion or curettage occurs after the 17th week of gestation, IUD insertion must be delayed for at least 6 weeks, until a specialist has properly appraised the client.

In breastfeeding, amenorrhoeic mothers: IUD may be inserted after 6 weeks postpartum after β-HCG measurement has ruled out pregnancy.

RECOMMENDED CLINICAL AND LABORATORY WORKUP

1. Pelvic examination to assess the size and position of the uterus and adnexae.

2. Assessment for absolute and relative contraindications.

SUBSEQUENT VISITS

1) Visualising the IUD string (there is no need for self-examination): Visualisation of the IUD string takes place following completion of the first menstrual period after IUD insertion, and every 6 months thereafter (outside menstrual periods). Please note that spontaneous expulsion is likely during the first few months after insertion, especially during the menstrual period. If the length of the IUD string has increased or the device is seen to be about to be extruded, then an attempt should be made to remove it. Immediately upon removal of the IUD, and if the conditions are appropriate (the client is not pregnant, there is no evidence of infection, and the

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vii In the event of a septic abortion or post-abortion sepsis, treatment must be initiated and IUD insertion deferred for at least 3 months.
viii The client must be assessed for uterine anatomical anomalies by a gynaecologist.
ix Atypical uterine anatomy is an absolute contraindication to IUD insertion. A uterine depth of 9-10cm is considered suitable for IUD insertion.
client wishes to continue with the IUD), then a new IUD may be inserted.

7) **Pelvic Examination** to assess client for secretions and uterine/adnexal tenderness.

8) **Pap smear** according to national guidelines.

9) **Client Satisfaction** should be ascertained, including difficulties using IUD, request for change of method, and reminding the client of warning signs necessitating immediate referral.

**N.B.** – In the event of the client experiencing any complications, warning signs or symptoms, the client must come to the service delivery centre at one.

**WARNING SIGNS AND THEIR MANAGEMENT**

i) **IUD string cannot be visualised or felt:**

If the IUD string cannot be visualised, then an ultrasound is indicated to rule out pregnancy, rupture of the IUD string, rupture of the uterus, or IUD penetration into the abdominal cavity. If the findings on ultrasound are positive, then referral to a specialist is indicated.

ii) **Delayed menstrual period:**

Delayed menstrual period is an indication for pregnancy testing. If a pregnancy test is positive while the client is using an IUD, then the type of pregnancy must be established (intrauterine or ectopic). IUD does not increase the risk of ectopic pregnancy, but the latter must always be suspected and ruled out when a pregnancy occurs with an IUD.

iii) **In the event of:**

a. **Intrauterine pregnancy:** If the woman is in the first half of her pregnancy and the IUD string can be visualised, then an attempt should be made to remove the device. If this is unsuccessful, then the client should be referred to a specialist. If the woman is in the second half of her pregnancy, then regardless of the IUD string being visualised or not she must be referred to a specialist.
b. **Ectopic pregnancy:** The woman must be immediately referred to a hospital.

*It should be noted that:*

- If the woman decides to continue the pregnancy with the IUD in place, she must be advised to seek medical advice or, preferably, go to a hospital immediately if any of the signs of sepsis – fever, flu-like symptoms, abdominal pain, or bleeding – occurs.

- The risk of septicaemia is increased in case of abortion, especially in the second trimester, with an IUD in place.

- If a pregnancy continues to term with an IUD in place, the presence of the IUD inside the uterus will not cause any foetal anomalies.

*iv) Signs and symptoms:* The client must be referred to a hospital if signs of pelvic inflammatory disease – lower abdominal pain, purulent or foul-smelling vaginal discharge, fever and rigors, vomiting, and cervical excitation – occur.

*v) Reproductive tract malignancies:* If any type of reproductive tract malignancy is detected and confirmed, the IUD must be removed and the client referred to a specialist.

**FOLLOW-UP**

IUD follow-up visits fall into two categories:

- Control visits – one month after IUD insertion (at the end of a menstrual period) and every six months thereafter - following a menstrual period – in order to check for an intact IUD string.

- Removal visits – once the efficacy of the IUD has ended, and for insertion of a new IUD.
REMOVAL OF THE IUD

If the client wishes to have the IUD removed before the end of its lifetime and does not wish to become pregnant, she must have the IUD removed during the first five days of her menstrual period and to begin immediately using another form of contraception after the IUD has been removed. If the IUD is removed at a time other than during the menstrual period, there is a risk of pregnancy and, if the client has had sexual intercourse during the preceding 72 hours, emergency contraception will be necessary.
Tubal Ligation (TL)
TUBAL LIGATION (TL) – TUBECTOMY

INTRODUCTION

Tubal ligation is a simple operative procedure that carries little risk. In this operation, the client’s fallopian tubes are ligated under local or general anaesthesia. This is performed usually as an outpatient procedure – though it sometimes requires overnight admission – by a gynaecologist or a general surgeon.

MECHANISM OF ACTION

Closure of the fallopian tubes prevents sperm reaching the ovum, and thus fertilisation.

EFFICACY

The failure rate for TL during the first year is ³•·%–³•·% percent. The risk of pregnancy increases ³•·-fold in women who are younger than ³•·. Ten-year efficacy is ³•·% with this method.

ADVANTAGES

- Permanent
- High efficacy
- No need for reminders and repeated visits
- No long-term effect on the client’s health
- No effect on sexual relations
- Decreases risk of ovarian cancer

DISADVANTAGES

- Need for surgery
- Expensive
Reversal procedure is difficult.

**UNCOMMON SIDE EFFECTS OF TUBAL LIGATION AND THEIR MANAGEMENT**

1. Changes in menstrual bleeding
2. Increased risk of ectopic pregnancy if fertilisation occurs
3. Ovarian cyst formation
4. Anaesthetic complications (very low risk)

In the event of any of these rare complications (item 1-4), the client should be referred to a gynaecologist.

**INDICATIONS FOR DEFERRING TUBAL LIGATION**

- Pelvic inflammatory disease during the preceding 3 months
- Malignant trophoblastic disease
- Recent history of acute heart disease
- Deep venous thrombosis or pulmonary embolism
- Unexplained vaginal bleeding
- Obstetric complications, such as severe pre-eclampsia, eclampsia, prolonged rupture of membranes (more than 48 hours), puerperal fever, postpartum complications (e.g. haemorrhage), and sepsis at other anatomical locations (unfavourable physical condition).
- Active sexually transmitted infection
- Pelvic malignancies

**IMPORTANT POINTS**

- Tubal ligation may be performed once any of the above complications have been resolved.
- Before the procedure, both the client and her spouse must be advised of the low probability of success, expense and technical difficulty of any reversal procedure.

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1. In vitro fertilisation (IVF) technology has greatly increased the chances of fertility in women who have undergone tubal ligation.
2. Tubal ligation should be deferred to 3 months after treatment is completed for pelvic inflammatory disease.
o This method is appropriate for couples who have completed their family and enjoy a stable relationship. Consent must be obtained pre-operatively from both the client and her spouse.

o There are no other indications for TL deferral outside the aforementioned. The client should be counselled in light of her age and the number and age of her children.

**TIMING OF PROCEDURE**

\(\text{\checkmark}\) Once pregnancy has been excluded, TL may be carried out at any time during the menstrual cycle, although the first two weeks of the cycle is a more suitable time.

\(\text{\checkmark}\) After vaginal delivery

\(\text{\checkmark}\) During caesarean section (technically very easy)

**N.B.** – After an abortion or \(\text{\checkmark}\) days postpartum are not suitable times for TL.

**OPERATIVE TECHNIQUE**

There are two main methods of tubal ligation.

\(\text{\checkmark}\). **The abdominal approach (\(\checkmark\) types):**

a. Laparoscopy

b. Laparotomy

c. Mini-laparotomy

In these methods, the fallopian tubes are first located through a small (\(\text{\checkmark}\) cm), lower abdominal incision, then a small segment is excised and the free ends closed with sutures, rings, clips or electrocautery. In most countries nowadays, TL is performed laparoscopically.

\(\text{\checkmark}\). **The vaginal approach (colpotomy):** Uncommon.

**RECOMMENDED CLINICAL AND LABORATORY WORK-UP**

\(\text{\checkmark}\) History and examination

\(\text{\checkmark}\) Pregnancy test
۷) Other investigations (in accordance with the guidelines for outpatient surgery issued by the Undersecretary for Health)
۸) Pelvic examination
۹) Blood pressure
۰) Pap smear – in accordance with national guidelines

PREOPERATIVE INSTRUCTIONS

۰ No oral intake for ۸ hours pre-operatively
۹ No medication for ۴۲ hours pre-operatively, unless specifically prescribed by a physician
۰ Bathe the night before surgery
۰ Wear clean, comfortable clothes
۰ No make-up or jewellery
۰ Someone to accompany the client back home (if possible)

POSTOPERATIVE INSTRUCTIONS

۰ Daily bath
۰ Analgesia for post-operative pain
۰ Keep the incision site clean and dry
۰ Avoid sexual intercourse for at least one week after the procedure – if pain persists for more than one week post-operatively, then sexual intercourse should be avoided until the pain has resolved.
۰ Avoid lifting heavy objects for one week.
۰ There is no need to use another method of contraception.

WARNING SIGNS AND THEIR MANAGEMENT

۱) Fever >۷۸°C
۲) Pain or swelling of the operative site or bloody and/or purulent discharge at the incision site
۳) Abdominal pain that is not resolving or is worsening
۴) Diarrhoea
۵) Fainting
In the event of any of these complications, the client must be immediately referred to a hospital.

**FOLLOW-UP VISITS AND ACTIONS**

1) A follow-up is scheduled for $\sqrt{4 \times 4}$ days postoperatively to remove sutures and conduct a postoperative examination.
2) TL in a client with an IUD in place: the IUD should be removed during the first menstrual cycle after TL.
3) Assessment of client satisfaction with surgery, complications, warning signs, guidance and counselling (if the client has any particular problems) are an intrinsic part of the follow-up routine.

**PREGNANCY IN WOMEN WHO HAVE UNDERGONE TUBAL LIGATION**

Pregnancy is extremely rare in women who have undergone TL. However, in the event of delayed menstrual period, nausea, breast tenderness, pelvic pain or tenderness, or vaginal bleeding, the client should be assessed appropriately.

Pregnancy after TL is possible without any technical difficulty in the TL procedure. Given that approximately $0.2\%$ of post-TL pregnancies (if performed by electrocautery) are ectopic, ectopic pregnancy must be ruled out in any suspected pregnancy; this requires referral to a gynaecologist.

**RECOMMENDED AGE FOR TUBAL LIGATION**

TL is very suitable for multiparous women over the age of 30. For candidates who are younger than 30, the decision to carry out TL should be based on the probability of divorce, remarriage, etc, and should therefore follow careful counselling and consideration.
Non-Scalpel Vasectomy (NSV)
NON-SCALPEL VASECTOMY (NSV)

INTRODUCTION

Non-scalpel vasectomy (NSV) is a method of male sterilisation, and is therefore irreversible. It is performed as a simple outpatient procedure, which usually lasts no more than 15 minutes. During the procedure, the vas deferens is ligated on both sides through a small incision in the scrotal sac.

MECHANISM OF ACTION

Closure of the vas deferens prevents the entry of sperm into seminal fluid, which therefore will not contain any sperm and cannot bring about fertilisation.

Efficacy

Vasectomy is one of the most effective methods of contraception. With proper follow-up, including two postoperative semen analyses to confirm azoospermia, the success rate is close to 100%.

ADVANTAGES

- High efficacy
- Permanent
- Does not interfere with sexual relations
- No need for reminders and repeated visits
- No negative effect on male potency, libido, or secondary sexual characteristics (facial hair, voice…)
- No long-term detriment to the health of the individual
- No effect on the volume or appearance of male ejaculate or quality of sexual intercourse
- Increased sexual pleasure because eliminates anxiety over unwanted pregnancy
Greater efficacy, less need for pre-and postoperative care, greater probability of successful reversal, shorter duration of procedure, ability to confirm success of procedure, and fewer complications in comparison with TL.

COMMON SIDE EFFECTS AND THEIR MANAGEMENT

Vasectomy does not have any significant long-term, systemic complications, and complications are usually associated with the procedure itself. These include pain, burning or and slight bruising at the operative site, which usually resolve one week postoperatively at the latest.

UNCOMMON SIDE EFFECTS AND THEIR MANAGEMENT

1) Haematoma
2) Infection at the incision site
3) Septic epididymo-orchitis.
4) Congestive epididymitis and chronic testicular pain

In the event of any of the aforementioned rare complications, the client should be referred to a specialist NSV centre.

ABSOLUTE CONTRAINDICATIONS

There is no absolute contraindication to NSV. But there are indications for “greater care”, “deferral” and “referral to a specialist centre”.

INDICATIONS FOR GREATER CARE

There are indications for NSV being performed with greater care:

- Scrotal injury or a history of scrotal surgery
- Large varicocele or hydrocele
- Unilateral undescended testis (NSV is initially performed on the descended side and after 1 month, if semen analysis shows sperm, on the undesended side)
INDICATIONS FOR DEFERRAL

There are indications for deferring NSV until any of the following underlying problems has been resolved:

- Active sexually transmitted infection
- Inflammation of the urethral meatus or glans penis, seminiferous tubules or testes
- Infection of the scrotal skin
- Acute systemic infection or severe gastroenteritis
- Filariasis or elephantiasis
- Epididymitis and/or orchitis

INDICATIONS FOR REFERRAL

There are indications for referring an NSV candidate to a hospital to undergo the procedure:

- Inguinal hernia
- Bilateral undescended testes
- Coagulopathy
- AIDS
- Testicular mass
- Hypersensitivity to lidocaine

NSV OPERATIVE TECHNIQUE

NSV is performed using two specialized instruments – a dissecting forceps and a ringed clamp – as well as a pair of straight scissors and haemostat clamp. •,Δcc of a ½ or ¼% solution of lidocaine without adrenaline is injected epidermally, and Δcc on each side to anaesthetise the scrotum, skin and right and left vasa deferentia. Both vasa deferentia are mobilised through a small incision in the scrotum and ligated at two points 1 cm apart using silk sutures. The length of vas deferens between the sutures is then excised.
No particular laboratory test is required before NSV. The history and clinical examination should pay special attention to the genital system.

POSTOPERATIVE INSTRUCTIONS

- Rest for three days
- Avoid operative site contact with water for seven days
- No sexual intercourse for eight days
- Wear tight underwear or scrotal support and avoid heavy work for one week

WARNING SIGNS AND THEIR MANAGEMENT

The client should be instructed to seek immediate help at a specialized NSV centre if he notices any of the following warning signs:

1) Fever >101°F within five weeks of the procedure, and especially during the first week after NSV
2) Severe pain at the site of operation which does not respond to ordinary analgesia
3) Bloody or purulent discharge at the incision site
4) Excessive swelling of the scrotum

ITEMS TO CONSIDER DURING FOLLOW-UP

- The client should be seen again by the treating surgeon one week after NSV.
- The client should be assessed for azoospermia after three months. During this time and until the results of semen analysis have confirmed azoospermia, the client should use a reliable method of contraception – such as the condom. To be certain of success, a further semen analysis should be performed after another month (9 months after NSV).

REVERSAL OF NSV
NSV is a permanent method of contraception (sterilisation) and clients who wish to have further children should not under any circumstances opt to have a vasectomy. In rare cases, clients may wish to undergo a procedure known as vasectomy reversal.

Vasectomy reversal is a microscopic procedure in which the severed ends of the vasa deferentia are surgically reconnected. The success rate of vasectomy reversal is between 50% and 80% percent, with more than 90% of cases reporting sperm in the semen postoperatively.
The Condom
THE CONDOM

INTRODUCTION

The condom is a form of contraception made from latex rubber. The condom is the only method of both contraception and prevention of sexually transmitted infections, including HIV. Condoms are available in different sizes, shapes and colours, and are prescribed by trained healthcare workers.

MECHANISM OF ACTION

The condom acts as a barrier to semen entry into the vagina and thus prevents sperm reaching the ovum.

EFFICACY

With correct use, the condom has an efficacy of around 95%.

ADVANTAGES

- Prevents transmission of sexually transmitted infections, including HIV
- Decreases risk of cervical cancer
- No age restriction to use
- Helps prevent premature ejaculation
- Easy to use, with no local or systemic side effects
- No hormonal effect
- May be used immediately after birth
- Does not affect breastfeeding

DISADVANTAGES

- Hypersensitivity in some users
- Reduced sexual pleasure because of reduced sensation
- Must be used after erection
May slip off or break during intercourse

CONTRAINDICATIONS

- Hypersensitivity to latex or the onset of irritation in either partner
- Anomalies of the male genitalia

IMPORTANT CONSIDERATIONS IN USING CONDOMS

1) A new condom must be used each time the client has sexual intercourse
2) The user must examine the condom before use to confirm its patency
3) The condom must be pulled over the erect penis before sexual intercourse begins
4) The condom must be removed immediately after ejaculation. For this, the user must hold the base of the condom over the still-erect penis and remove it.
5) Avoid using oil-based lubricants (Vaseline, vegetable oils…) as they damage the condom and increase the risk of rupture during intercourse. The risk of damage and therefore rupture is also increased if the client’s partner is being treated with a vaginal cream or ointment. Application of the cream or ointment must be deferred to after sexual intercourse.
6) Care must be taken not to scratch and pierce the condom with one’s nail or jewellery during use.
7) Care must be taken not to leave the condom inside the vagina after intercourse.
8) Avoid using condoms that are brittle, past their sell-by date, whose shape or colour has changed, or whose covering has been damaged.

IMPORTANT CONSIDERATIONS DURING FOLLOW-UP

1) The client should be advised to return for a new prescription after 3-4 weeks.
2) The client should be carefully questioned about satisfaction with his chosen method, any complaints, and appropriate usage.
۷) The client’s familiarity with emergency contraception should be ascertained and training provided as appropriate.
۸) The client should be provided with emergency contraception if he or she does not already possess it (in accordance with the relevant guidelines).

**STORING CONDOMS**

Condoms must be stored away from sunlight, heat, humidity, fluorescent lighting, and ultraviolet light, in a cool, dark place.