



Update on contraception – 3

In the previous two issues the following areas were discussed in detail. The selection and commencement of a contraceptive, contraception for women aged over forty years, when and how to stop contraception at menopause and contraception for clients with medical disorders. In the next two articles we discuss new developments and frequently encountered issues when providing contraceptive services. The information will be presented in a question and answer format.

What are the different types of oral contraceptive pills available and how do you select from among them?

There are two main types of hormonal contraceptives: the combined oral contraceptive (COC) pills which contain both oestrogen and progestogens (progestogens are substances with properties similar to progesterone) and the progestogen only pills (POP). The COC is more widely used. The POP is used mainly by clients who need to avoid oestrogen.

The main features that determine the selection are given below.

- COC – higher efficacy
regularises menstruation
though it is best taken at the same time every day, the efficacy is reduced only if delayed by more than 24 hours
- POP – can be used by women who need to avoid oestrogen. eg. breast feeding
mothers within the first 6 months, older and obese women
irregular bleeding at the beginning is common
needs to be taken within 3 hours to maintain the efficacy

There has been a variety of combined oral contraceptives introduced to the market since its inception. The main differences lie in

- The amount of oestrogen contained in the pill thereby making them high, standard and low strength pills.
- Varying amount of oestrogen and progestogen in different pills in the same pill packet i.e. monophasic, biphasic, triphasic.
- The type of progestogen used which changed from the first to the second and third generation progestogens.

The evolution of the COC helps us to understand the different types of pills and their use. From the beginning progestogen in the COC was the main hormone used for contraception and oestrogen was used mainly to obtain withdrawal bleeding and cycle control. However, it did add to the contraceptive efficacy by its negative feedback effect on the anterior pituitary.

The oral contraceptive pill was introduced in the early 1960's and the early pill contained 150 µg of ethynylestradiol which assured contraceptive efficacy and good cycle control but resulted in many side effects. Therefore the oestrogen content was gradually reduced to 50 µg but further reduction was prevented as it affected the efficacy of the pill. These high strength pills (>50 µg) contained the first generation progestogens which were derivatives of 19-nortestosterone mostly norethynodrel and norethisterone. By the early 1970's the usage of these high strength pills began to decline as many adverse effects including cardiovascular disease were attributed to it.

A solution to this problem was found with the introduction of the second generation progestogens norgestrel and levonorgestrel which had a higher contraceptive potency. This higher contraceptive potency allowed further reduction of the oestrogen content in the pill to about 30-35 µg (standard strength). This reduced the risk of previously associated adverse effects and therefore increased the popularity of the pill. However, one disadvantage of this was the poor cycle control and the ensuing breakthrough bleeding. An attempt was made to correct this by changing the amount of oestrogen and progestogen in the individual pill during different phases of the cycle. These were the biphasic and triphasic pills as opposed to the monophasic pills which contained a fixed amount of oestrogen and progestogen throughout the cycle. The advantage of these phased preparations was not universally accepted.

The development of the third generation progestogens gestodene and desogestral has led to their use in the combined oral contraceptives. These have the advantage of having less androgenic activity and therefore are more suitable for clients experiencing side effects such as acne, headache, weight gain, depression and breast symptoms. These also have a higher contraceptive potency which has enabled the oestrogen content to be further reduced to 15-20 µg (low strength). However, they have a minimally increased risk of thromboembolism than the second generation progestogens. The latest progestogen to be introduced is the spironolactone

derivative drospirenone. In addition to its high potency it has both antimineralocorticoid and antiandrogenic activity. Therefore it is more suitable for clients experiencing side effects such as bloatedness, breast tenderness, weight gain and acne.

When selecting a COC pill a preparation with the lowest oestrogen that gives good cycle control and has the least amount of side effects should be chosen. It should also be easily accessible and affordable to the client.

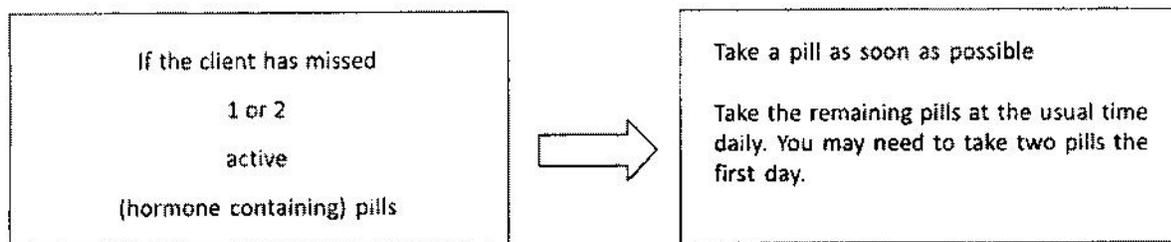
What should a client do if she misses one or more COC pills?

Advice given to clients who misses one or more pills has changed during the past few years. The current

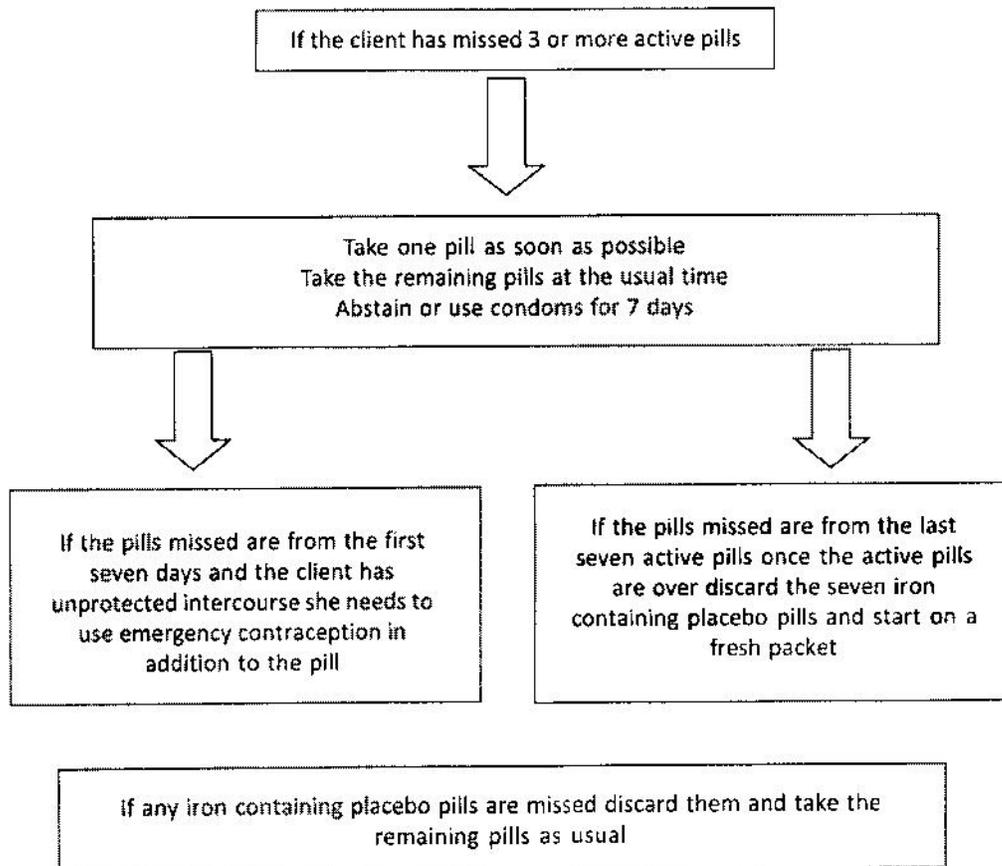
recommendations for the standard strength (30-35 µg ethynylestradiol) pill are given below [1]

It is based on three important observations

- 1) Missing three or more hormone containing pills (active pills) at any time during the cycle may cause ovulation to take place.
- 2) For ovulation to be inhibited at least seven active pills need to be taken consecutively.
- 3) The risk of pregnancy is greatest when pills are missed at the beginning or at the end of active pills, as it extends the hormone free interval (the period during which hormone containing pills are not taken).



Since the client has missed less than 3 pills there is no risk of ovulation and therefore no back up method is required.



If three or more active pills have been missed ovulation may take place. A back up method is therefore required until seven active pills are taken which will inhibit ovulation.

When pills are missed on the first seven days as it extends the hormone free interval ovulation may take place and if the client has unprotected intercourse emergency contraception i.e. emergency pill or IUD is needed to prevent conception.

If pills are missed in the last two rows of the pack it may increase the pill free interval to more than seven days and cause ovulation. Inactive placebo pills should be discarded to avoid this.

Above instructions are for clients using the standard strength (30-35 µg ethinylestradiol) COC. The clients using low strength COC (15-20 µg ethinylestradiol) will have a higher chance of ovulation if they miss the pill. Therefore the instructions to them are as follows:

- 1) If they miss one pill the instructions are the same as that for clients who have missed one or two pills of the standard strength.
- 2) If they miss two or more pills it is the same as that for clients who have missed three or more pills of standard strength.

What are the new instructions regarding the grace period for depot medroxy progesterone acetate?

The depot medroxy progesterone acetate (DMPA) injections need to be repeated after a 90 day interval if continuation of contraception is required. In the event of a client late for her repeat injection the previous instructions were that if she was within 14 days (2 weeks) of the due date for her injection it could be repeated with no special precautions being taken. This grace period has now been extended up to 28 days (4 weeks) [2]. Therefore a client who comes within 28 days of her due date for the injection, does not require sign of pregnancy prior to the injection and does not need to use a back up method. However, this does not mean that it is advisable for the interval between injections to be routinely extended by 4 weeks. If the client comes any time after 4 weeks of the due date pregnancy needs to be excluded before the injection and a back up contraceptive method advised for the first 7 days.

What are the new instructions regarding the use of the levonorgestral containing emergency pill?

As mentioned in the introduction to this series of updates, in spite of the high prevalence in contraception we still have a large number of unplanned pregnancies with its associated consequences. Emergency contrace-

ption if available and used at the appropriate time may help to prevent many of these unplanned pregnancies. There are no medical contraindications to the use of the emergency contraceptive pill. It is safe and suitable for all women including those who cannot use other hormonal contraceptives because of the short duration of use. It can be used by breast feeding mothers and do not cause birth defects in case of a failure resulting in pregnancy. The emergency pill should not be used for continued contraception. It is important to discuss other methods of continued contraception eg. COC, IUD, DMPA following the use of emergency contraception as they provide more effective contraceptive cover.

The initial instructions for the use of contraceptive pills containing 0.75 mg of levonorgestral was two doses taken 12 hours apart, within 72 hours (3 days) of unprotected intercourse. The present recommendation is that both pills can be taken at once i.e. levonorgestral 1.5 mg as a single dose. This does not increase the side effects or reduce the efficacy significantly [3]. It is also recommended to be used up to 120 hours (5 days) after the act of unprotected intercourse. However, the efficacy can be increased by using it as early as possible.

What advice can be given for clients who do not wish to use the modern methods of family planning?

These clients need to be made aware that the modern methods of family planning i.e. condoms, OCP, injectables, implants, IUD and sterilisation are safe and highly effective. However, if they do not wish to use any of them a fertility awareness method can be used. One of the methods is described below.

Standard days method [4].

This method even if correctly and consistently used, has a failure rate of about 5% over the first year. It can only be used by women who have most of their menstrual cycles 26 to 32 days long. If there are more than two longer or shorter cycles within a year this method is unsuitable.

In this method the woman keeps track of the days of her menstrual cycle, counting the first day of her monthly bleeding as day 1. She needs to avoid unprotected vaginal sex from day 8 to day 19. She should aid her memory by marking these days on a calendar.

What is dual protection?

Unplanned pregnancies and sexually transmitted infections (STIs) both occur due to unprotected intercourse. Therefore when providing contraception it is always important to think about the risk of STIs including HIV. Dual protection is adoption of strategies which help to protect clients from both STIs and unplanned pregnancies. Following are some dual protection strategies.

- 1) Use a male or female condom correctly with every act of intercourse helps to prevent both unplanned pregnancies and STIs.
- 2) Use condoms consistently and correctly in addition to another family planning method. It adds extra protection in case a condom is not used or used incorrectly.
- 3) If both partners know that they are not infected, use any method of contraception to prevent a pregnancy and stay in a mutually faithful relationship. This depends on good communication and trust between partners.

Other dual protection strategies which do not involve using contraceptives are engaging in safe sexual intimacy that avoids intercourse and prevents semen and vaginal fluids coming in contact with each other's genitals and avoiding sexual activity when it might be risky. Whenever

these strategies are used it is best to have condoms on hand to use in case one of the partners loses self control.

What are the important steps in the use of a male condom?

Condoms have the advantage of being widely available, not having any adverse effects or complications and can be used by any couple as there are no medical contraindications. In addition it provides protection against STIs. Its main draw back is that its efficacy is dependent on its correct use during every act of intercourse. If used correctly and consistently, the failure rate is about 2 per 100 women over the first year. However, failure rate rises to about 15 per 100 women in the manner commonly used [4]. Therefore it is important to learn the correct method of using a condom in order to obtain high efficacy. Given below are 5 basic steps with details that need to be adhered to during the use of male condom.

Basic step

1. Use a new condom for each act of sex
2. Condom should be worn before there is any contact between the vagina and the penis
3. Unroll the condom all the way to the base of the erect penis
4. Immediately after ejaculation while the penis is erect hold the condom at the rim and remove the penis from the vagina
5. Dispose the used condom in an appropriate manner

Important details

Tear open the packet carefully
Do not use anything that can damage the condom eg. teeth, scissors
Press the "teat" at the end of the condom with the fingers and place the condom over the erect penis with the rolled side out

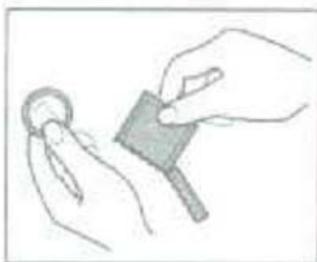
The condom should unroll easily and make sure that the condom covers the penis completely

Slide the condom off avoiding spilling of semen

If having sex again use a new condom

Can wrap it up and discard, burn or bury

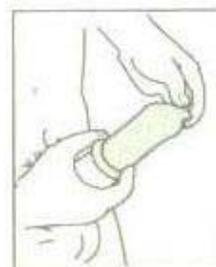
Do not throw in to a flush toilet as it can block the plumbing



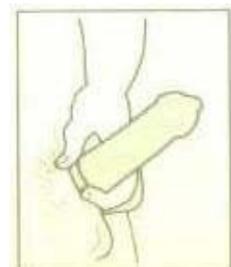
STEP 1



STEP 2



STEP 3

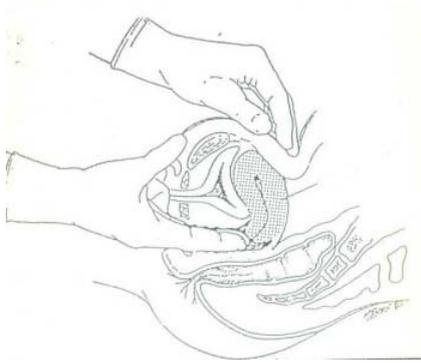


STEP 4

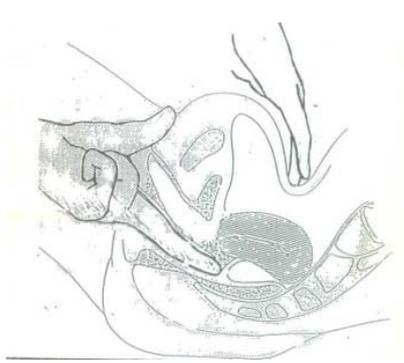
What are the important steps in an intra uterine device (IUD) insertion?

IUD is a cost effective and long term reversible method of contraception. In the recent past the gaps in the service provision for sterilization in Sri Lanka has been highlighted. IUD is a good alternative. If the IUD is to be popularised it needs proper insertion to give a 98% efficacy and minimise complications. Given below are some important steps in IUD insertion.

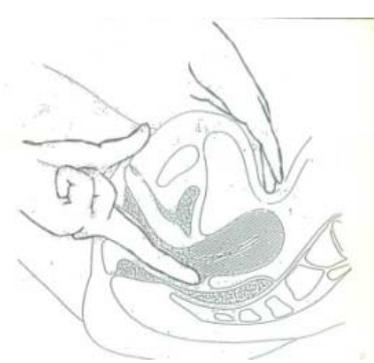
- 1) Get the client to void urine before the procedure.
- 2) Clean and drape the client.
- 3) Perform a bimanual examination to exclude pregnancy, to detect any abnormality in the pelvic organs and to ascertain the position of the uterus.



Anteverted uterus

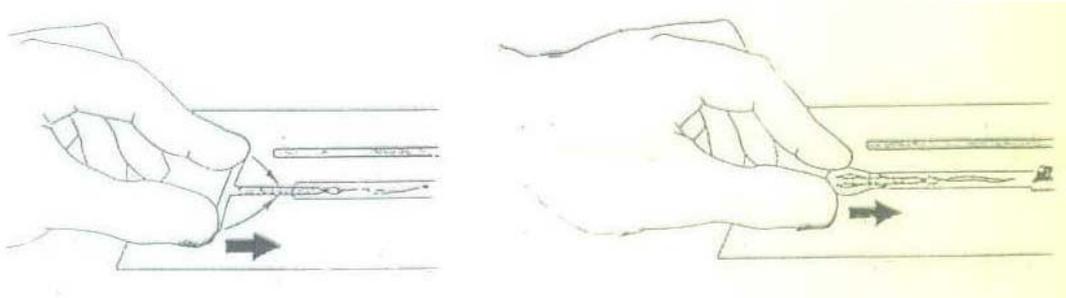


Retroverted uterus

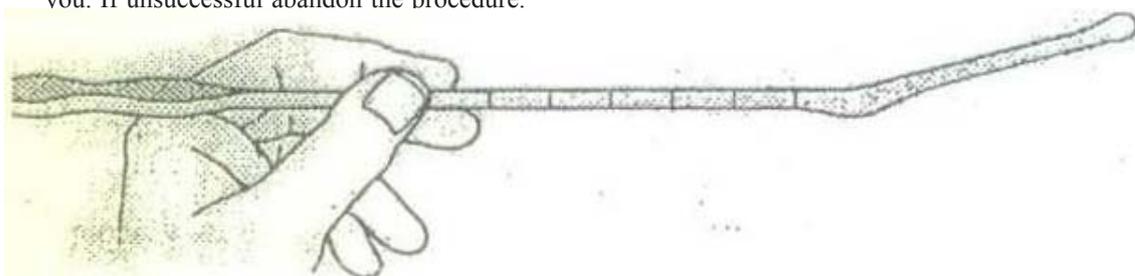


Axial uterus

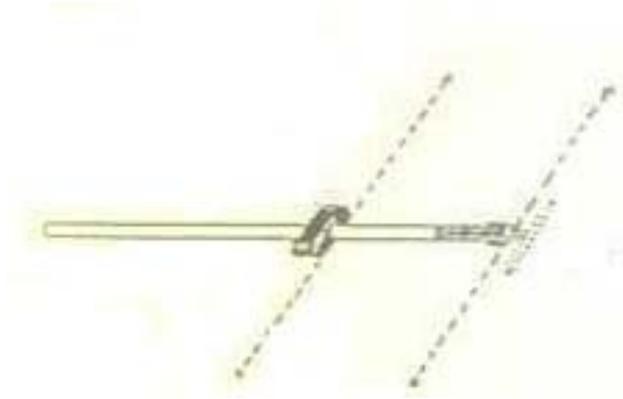
- 4) After wearing a sterile gloves, load the IUD. Push the ends of the horizontal arms of the “T” well in to the tube until only the Cu covered parts are seen. This helps to make the tip of the loaded IUD narrow.



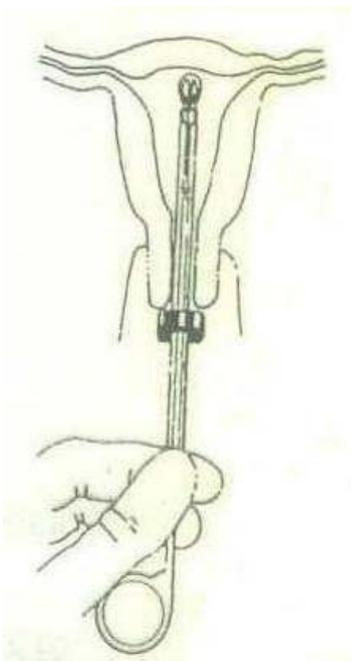
- 5) Insert the speculum and clean the cervix
- 6) While holding the cervix with the vulsellum, guide the sound through the cervical os until it meets a resistance at the uterine fundus. The following are important during this step.
 - a) Apply the vulsellum forceps on the cervix by closing the jaws of the forceps slowly only to the first notch to minimise discomfort.
 - b) The sound should be passed by holding it between the index finger and thumb and gently advancing it through the cervix using the knowledge acquired during the bimanual examination to decide on the direction. Do not let the sound touch the side walls of the vagina.
 - c) If there is resistance at the cervical os try applying gentle traction on the vulsellum which will help to align the uterine cavity with the cervical canal. Do not try to push the sound using force but allow the sound to guide you. If unsuccessful abandon the procedure.



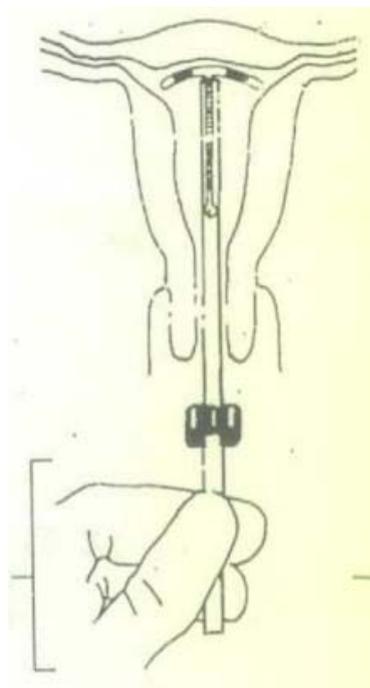
- 7) Remove the sound noting the depth and the direction of the uterine cavity.
- 8) Take the loaded IUD and set the depth gauge to the length of the uterine cavity while keeping the horizontal axis of the depth gauge and the horizontal arms of the "T" in the same plane.



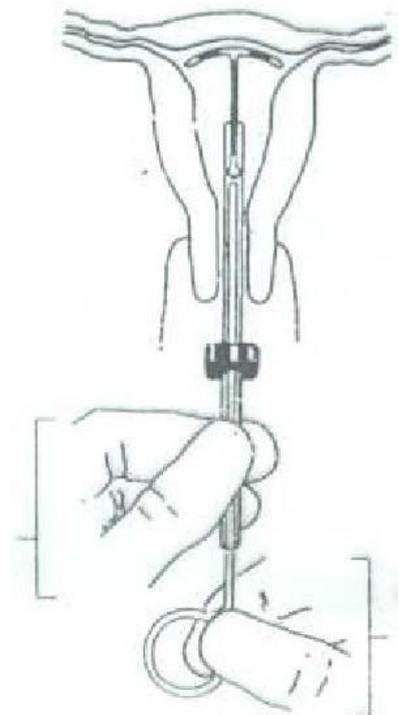
- 9) Advance the loaded IUD into the uterine cavity in the same way that the sound was inserted until it meets the resistance at the fundus. If the measurement of the uterine cavity was correct the depth gauge should be touching the cervix.
- 10) Holding the plunger firm, pull the tube as far back as possible to release the IUD.
- 11) Remove the plunger and push the tube back again until the depth gauge touches the cervix. This ensures that the IUD is placed high up in the cavity. (Often the threads of the IUD get trapped between the plunger and the barrel causing the IUD to get pulled down during step 10)
- 12) Remove the tube and cut the threads.



(9)



(10)



(11)

References

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4. Family Planning. A global hand book for providers. World Health Organization 2007.

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