IUDs and Endometrial Biopsy

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IUDs are low maintenance, inexpensive, reversible and underutilized in Canada. They are used by 13% of women worldwide, but by only 1.5% of women 15- to 45-years-of-age in Canada.

Negative perceptions of IUDs persist that stem from the 1970s Dalkon Shield, a multifilament thread IUD that predisposed women to pelvic inflammatory disease (PID). Also, both patients and physicians harbour misperceptions about how IUDs work (they involve both pre- and post-fertilization mechanisms of action) and about the associated risks of PID and ectopic pregnancy.

IUD models

In Canada, two basic IUD models are available: copper devices (Figure 1) and the levonorgestrel hormone-releasing intrauterine system (Figures 2 and 3). The levonorgestrel hormone-releasing intrauterine system has a five year lifespan, while the copper IUDs last three to five years. Both have use failure rates that are better than actual use failure rates for OCs. Copper devices cost $60 to $90 and levonorgestrel hormone-releasing intrauterine systems cost $380. Both are cheaper than an equivalent number of cycles of OCs.

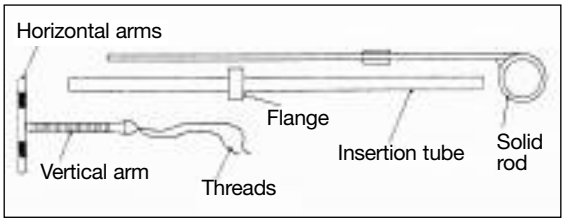

Figure 1. Copper-releasing IUD.

Candidates

Ideal IUD candidates are parous and in stable, mutually monogamous relationships. IUDs are ideal for breastfeeding women or those with contraindications to estrogen. Nulliparity is not a contraindication but may be associated with higher expulsion rates and make insertion more challenging.

Side-effects

Adverse effects include cramping, bleeding, or expulsion. PID and resultant infertility can occur with IUDs but it is STIs that cause the PID, not the IUD itself. Nor do IUDs inhibit ectopic pregnancy and, in the rare event of pregnancy with an IUD *in situ*, the risk of an ectopic pregnancy is 15% to 20%.

Contraindications

Contraindications include active or recent PID, a lifestyle placing a woman at risk for STIs, pregnancy, unexplained vaginal bleeding, or an abnormal uterine cavity or depth < 6 cm.

Hormone-releasing IUDs are contraindicated in hormone responsive cancers or active liver disease and copper allergy contraindicates copper devices.

Placement

IUDs can be inserted anytime during the cycle, provided the patient is not pregnant and has no STI. It is prudent to document a negative pregnancy test if the IUD is not inserted during menses. Neither routine antibiotic prophylaxis nor subacute bacterial endocarditis (SBE) prophylaxis is necessary.

IUDs may safely be inserted immediately after pregnancy termination and this practice improves compliance.

Insertion is a simple office procedure and requires sterile speculum, antiseptic solution, ring forcep, tenaculum, flexible uterine sound, scissors and local anesthetic. Patients should be instructed about finding IUD strings at the top of the vagina and informed consent obtained. Patients can be premedicated with 600 mg of ibuprofen or with 200 mcg of misoprostol per vagina to soften or dilate the cervical os (if difficult cervical access is anticipated).

A nonsterile bimanual exam determines size, position and uterocervical angulation. Under sterile conditions the cervix is then visualized with a sterile speculum. Because IUD insertion is painful and can cause syncope, the cervix should be frozen before the tenaculum is applied, a very simple procedure to perform. A 1 cc to 2 cc injection of 1% lidocaine is given through a long spinal needle to raise a superficial bleb at the 12 o'clock position on the anterior cervix. Having the patient cough as you inject prevents them from having pain from the injection and not seeing the syringe also helps. Alternatives include 5% lidocaine gel or 20% benzacaine spray (with extended nozzle) for five seconds.

Once frozen, the cervix is easily stabilized with a tenaculum applied to the anterior cervical lip in the horizontal plane. Gentle traction gives the operator a firm but painless anchor by which to straighten the uterocervical angle. The uterus can then be sounded with a flexible sound, traction reducing the chances of posterior perforation through the lower uterine segment.

Once the sound meets the fundus determining the depth of the cavity (typically 6 cm to 9 cm), match the guard on your IUD insertion device to the same uterine depth and promptly insert the IUD device.

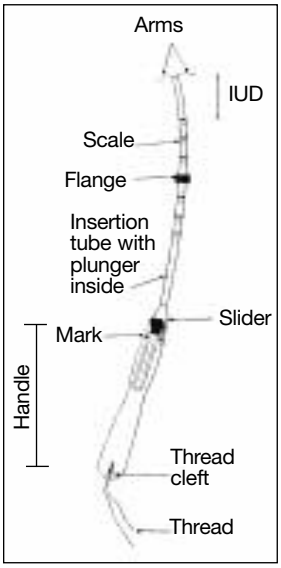

Figure 2. Hormone-releasing IUD.

Figure 3. Hormone-releasing IUD in position.

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Insertion methods

Each IUD has its own insertion instructions to follow. The simplest copper device has no insertion rod and a simple push-pull mechanism. Some copper IUDs require loading by folding the arms into the insertion tube and are delivered by pushing the inserter rod to release the device.

The levonorgestrel hormone-releasing intrauterine system is first loaded. The threads are pulled to draw the IUD into the inserter tube and fixed in the cleft. Set the flange based on the measurement of the uterine depth by sounding. The device is inserted until the flange is 2 cm from the os (allowing room for the IUD arms to open). Release the arms by pulling the slider back to the marked mid position on the handle. The device is then pushed upwards until the flange touches the os and the system is released into the fundus by pulling the slider back completely.

Each device has package instructions and all threads should be cut to 2 cm to 3 cm in length for patient and partner comfort.

A similar method is used for endometrial biopsy in the presence of abnormal uterine bleeding, post-menopausal bleeding, or to detect hyperplasia. It provides a tissue sample equal or superior to dilation and curettage. Once the cervix is frozen and the tenaculum applied, an endometrial suction catheter is inserted through the os to the fundus. The operator then withdraws the internal piston of the catheter, thereby creating suction. The catheter tip can be rotated and twisted in several up and down excursions within the cavity to ensure adequate tissue sampling. Contraindications to endometrial biopsy include:

- Infection
- Pregnancy
- Coagulopathy
- Cervical cancer

Morbid obesity, severe pelvic relaxation or descent, or cervical stenosis may make the procedure technically challenging.

Risk of insertion

With IUD insertion, the risk of perforation (most likely during insertion) is 0.1% to 0.3%. The risk of expulsion, although low, is highest in the first two weeks following insertion. Follow-up visits to check strings is likely unnecessary.

In the event of lost strings, rule out pregnancy. A cytobrush gently inserted into the cervical canal frequently locates the lost thread or an ultrasound can be performed to locate the device.

Pregnancy

In the event of pregnancy with an IUD *in situ*, rule out ectopic. If the strings are visible, the IUD can be safely removed early in pregnancy. If the strings are not visible, locate the IUD with ultrasound before removal.

Conclusion

Almost half of all pregnancies are unplanned and half of these unwanted. The average woman spends at least 20 to 30 years trying to avoid pregnancy and available contraceptive options can be problematic for many women. The IUD is an excellent option for the right candidate and insertion is a skill with which family doctors should become comfortable and adept. Dx