

## Preventing pregnancy: a fresh look at the IUD

**Background and epidemiology:** According to US data, 49% of pregnancies are unintended.<sup>1</sup> The typical American woman achieves her desired family size by age 31 and then spends the next 20 years until menopause trying to avoid pregnancy. In Canada the induced abortion rate is about 32 per 100 live births.<sup>2</sup> This means that at least 1 in 4 pregnancies is unintended and unwanted.

For women in long-term monogamous relationships the IUD offers an excellent contraceptive option. Worldwide, over 100 million women have used the IUD, yet in Canada less than 1.5% of women aged 15–45 use it. Unfortunately, negative publicity about a particular IUD — the Dalkon Shield — in the 1970s raised many questions about the safety of all IUDs. In addition, myths predominate over evidence, such as the misperceptions that IUDs increase the risk of ectopic pregnancy and the long-term risk of pelvic inflammatory disease (PID).<sup>3</sup> A major task is to provide correct information to women and health care professionals and to increase the availability and use of this effective method of contraception.

Many IUD models exist. In Canada, 2 basic models are available: a copper-releasing device (Nova-T or Flexi-T) and a levonorgestrel-releasing intrauterine system (Mirena). Both elicit foreign-body reactions. The copper inhibits sperm transport and mobility.<sup>4</sup> The levonorgestrel changes cervical mucus, endometrial morphology and ovarian function.<sup>5</sup> In a large randomized trial, the copper IUD was found to have a failure rate of 1.26 per 100 woman-years and was associated with a rate of ectopic pregnancy of 0.25 per 100 woman-years; the corresponding rates for the levonorgestrel system were 0.09 and 0.02 per 100 woman-years.<sup>6</sup> These failure rates are better than actual-use failure rates for oral contraceptives.<sup>7</sup>

Moreover, the IUD is an inexpensive, low-maintenance and reversible method of contraception. It can stay in

place for 3–5 years. After 3 years, both the copper device (\$90) and the Mirena system (\$385) work out to be cheaper than 39 cycles of oral contraceptive (\$18/cycle).

**Clinical management:** An IUD can be a good option for many women, particularly those who are breast-feeding or who cannot use estrogen-based methods because of cigarette smoking or hypertension. The Mirena system offers particular advantages for women with heavy menstrual flow. But IUDs are not for everyone. Common side effects are bleeding and dysmenorrhea; the 5-year cumulative termination rate because of bleeding problems is up to 20% for the copper IUD and up to 14% for the levonorgestrel system.<sup>6</sup> Certain complications (e.g., PID, expulsions, pregnancy-related complications) make screening critical for identifying women at risk of IUD-associated complications. The small risk of PID<sup>8</sup> is attributable to a transient risk at time of insertion<sup>9</sup> and to exposure to STDs subsequent to insertion.<sup>3,8,9</sup> Strict screening for STD risk before insertion, a sepsis during insertion and leaving the IUD in place for its lifespan can reduce the risk of PID.<sup>7</sup> Between 2% and 10% of IUD users spontaneously expel their IUD within the first year; risk factors include nulliparity, heavy periods or severe dysmenorrhea.<sup>9</sup> In the rare event of a woman becoming pregnant while using an IUD, the risk of ectopic pregnancy is about 15%–20%.<sup>7</sup>

The World Health Organization has drafted eligibility guidelines for IUD users. They include refraining from providing an IUD for a woman with active, recent or recurrent PID, a known or suspected pregnancy, or an anatomically distorted uterus. They advise exercising caution in considering an IUD for women with risk factors for PID or STDs, with undiagnosed abnormal vaginal bleeding or with impaired immune responses. They advise that IUD

use not be restricted because of a previous PID or ectopic pregnancy, provided the woman is not currently at risk of STDs.<sup>7</sup>

**Prevention:** Inserting an IUD is a simple office procedure that can be performed by primary care health providers accustomed to office gynecological procedures. Access to good knowledge, a sterilizer, proper equipment (e.g., a tenaculum) and a mentor to demonstrate and supervise several insertions are prerequisites. There is currently a deficit of health care providers trained to offer this primary care service. Interested health care providers will find a more comprehensive review of the literature in the updated consensus statements to be released this fall by the Society of Obstetricians and Gynaecologists of Canada (<http://sogc.medical.org/index.html>).

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