

## Care and Treatment Plan: Insertion and Removal of Intrauterine Contraceptives (IUCs)

This Decision Support Tool (DST) provides clinical guidance for the insertion and removal of intrauterine contraceptives (IUCs) (see glossary for terms) by Certified Practice Nurses in Contraceptive Management (referred to as RN(C)s in this document). Only RN(C)s who have completed the [BCCNM-approved additional education](#) and meet competencies for pelvic exams, are authorized to insert and remove IUCs.

### Definition

Intrauterine contraceptives are classified as long-acting reversible contraception (LARC), which require insertion/removal by a health care professional who has additional training in an office/clinical setting. IUCs are safe, effective, and among the most cost-effective contraceptive methods available (Cason et al., 2023). There are 2 categories of IUCs available in Canada (see glossary of terms), which are covered by the universal contraceptive plan through PharmaCare:

- Hormonal IUSs (LNG-IUS)
- Copper (or non-hormonal) IUDs (Cu-IUD).

### Indications for IUCs

#### IUC Insertion

In the absence of contraindications, intrauterine contraception may be considered for any client seeking an effective, reversible, coitally independent method of contraception. IUCs may be an ideal option for clients seeking long-term contraception that is estrogen-free, delivers a low dose of progestin (LNG-IUS only), requires minimal effort to maintain, and is discreet and hassle-free. Certain types of IUCs are also indicated for the treatment of dysmenorrhea and heavy menstrual bleeding.

#### Cu-IUD for Emergency Contraception

- If the patient has a negative urine pregnancy test and there are no other contraindications, a cu-IUD can be inserted up to 7 days after the first act of unprotected intercourse (UPI) as emergency contraception (Curtis et al., 2024; Black et al., 2015, 2016).
- In addition, when the day of ovulation can be estimated, the Cu-IUD may be placed >5 days after sexual intercourse, as long as placement does not occur >5 days after ovulation.

#### IUC Removal

IUC removal is indicated for any client who is seeking to discontinue their IUC for any reason at any time, develops a contraindication, desires pregnancy or becomes dissatisfied with the method. Otherwise, the IUC is removed at the end of its active duration, as specified by the device package insert (Bratz, 2016) or when the client is no longer having symptom relief. The cu-IUD is effective for 5 - 10 years, with hormonal IUSs being effective for contraception for 5-8 years, depending on the product used (Health Canada, 2024).

IUC removal for side effects is highest with cu-IUDs due to heavy bleeding and pain and highest in LNG IUSs for hormonal side effects (SOGC, 2016). All IUCs have much higher satisfaction and continuation rates at one year than short-acting reversible contraceptives. The most common adverse event leading to removal of the cu-IUD is heavier and more painful menses. LNG IUSs are less commonly removed for irregular bleeding or pain; however, approximately 12% of patients will remove them due to hormonal side effects.

#### Action

The chief mechanism of action of all IUCs is the prevention of fertilization, which is achieved in different ways according to the IUC type (see below). In the rare instances where fertilization occurs, IUC may have postfertilization effects, including the potential inhibition of implantation (SOGC, 2016).

## Pharmacokinetics

### Cu-IUD

The presence of a foreign body and copper in the endometrial cavity causes biochemical and morphological changes in the endometrium. Copper ions adversely affect sperm motility, transport, and the acrosomal reaction, so fertilization rarely occurs. Copper ions enhance the inflammatory response and reach concentrations in the luminal fluids of the genital tract that are toxic for sperm and reduce the ability of sperm to penetrate cervical mucus (SOGC, 2016).

### LNG IUS

Hormonal IUSs contain a progestin reservoir on their vertical stem that slowly releases hormone through a rate-limiting membrane. The LNG-IUS produces a weak foreign body reaction and endometrial changes that include endometrial decidualization and glandular atrophy.

The primary mechanism of action is via changes in the amount and the viscosity of cervical mucus, which acts as a barrier to sperm penetration. Ovulation is likely inhibited in some women, but is preserved in most study subjects. Endometrial estrogen and progesterone receptors are suppressed, which results in changes in bleeding patterns and may contribute to its contraceptive effect (SOGC, 2016).

## Consultation and/or Referral

RN(C)s in contraceptive management are restricted to inserting IUCs for clients who classify as category 1 or 2 as defined by the U.S. Medical Eligibility Criteria for Contraceptive Use (Nguyen et al., 2024). The RN(C) cannot independently prescribe, insert or remove IUCs to clients who are classified as a category 3 or 4 without an order (Nguyen et al., 2024). For the purpose of this DST, RN(C)s do not insert IUCs in the immediate postpartum period up to and including 4 weeks postpartum.

### Relative Contraindications - MEC 3

As per the U.S. Medical Eligibility Criteria for Contraceptive Use, Category 3 (Nguyen et al., 2024):

- Past history of progestin receptor-positive breast cancer > 5 years ago (LNG-IUS)
- Severe decompensated cirrhosis, hepatocellular adenoma, or malignant hepatoma (LNG-IUS)
- Complicated solid organ transplantation (i.e., graft failure, rejection, cardiac allograft vasculopathy)
- Postpartum 48 hours to < 4 weeks

### Absolute Contraindications - MEC 4

As per the U.S. Medical Eligibility Criteria for Contraceptive Use, Category 4 (Nguyen et al., 2024):

- Pregnancy
- Current pelvic inflammatory disease (PID) or purulent cervicitis
- Puerperal sepsis
- Immediately postseptic abortion
- Known distorted uterine cavity
- Abnormal vaginal bleeding that has not been adequately evaluated
- Cervical or endometrial cancer awaiting treatment
- Malignant trophoblastic disease with persistently elevated  $\beta$ -human chorionic gonadotropin levels and active intrauterine disease
- Current progestin receptor-positive breast cancer (for LNG-IUS)
- Pelvic tuberculosis

## Additional Consultation/Referral for IUC Removal

Consultation or referral may be required for appropriate treatment prior to considering IUC removal in these cases.

### 1. Concerning Symptoms

Clients presenting with unmanageable pain, heavy bleeding, fever or chills and are requesting removal of the IUC due to these symptoms should be referred to an NP/MD for further investigation prior to removal. Examination and

investigations should be performed to exclude the possibility of infection, malposition (including perforation), and pregnancy (SOGC, 2016).

## 2. Difficult IUC Removal

RN(c)s are authorized to manage IUC removal when IUC strings are visible in the cervical os and are easily removable with gentle, steady traction. If the strings are not visible, it is reasonable to attempt to locate the strings using methods that do not involve entering the uterus (for example, using a cytobrush just inside the cervical os). If the IUC is not removable with gentle traction or the IUC does not come out intact, the client should be referred to an NP/MD for further investigation.

## 3. Malpositioned IUCs

IUC malposition includes low-lying IUCs or embedment (malrotation, partial or complete perforation) (SOGC, 2016). Any suspicion of malposition, embedment, or more than gentle traction for removal requires referral or transfer of care to an NP/MD for further investigation or decision to remove the IUC. A low-lying IUC is dynamic, and the patient's symptoms and desire for effective contraception must be prioritized.

## 4. Removal of an IUC with Sexually Transmitted Infections (STI) or PID

RN(c)s require a certified practice designation in Reproductive Health: STIs to diagnose and treat STIs.

If an STI is diagnosed after the IUC is in place, it may be treated without removing the IUC. Appropriate antibiotic therapy should be initiated for a client using an IUC (and their sexual partners) diagnosed with an STI according to the Canadian Guidelines on STI (Government of Canada, 2025). If the client wishes IUC removal, it should be done after 48-72 hours after antibiotics have been initiated to avoid the potential of bacterial spread (Curtis et al., 2024; SOGC, 2016).

In cases where there is no improvement 48-72 hours after initiation of antibiotic therapy, consider referral to an NP/MD for IUC removal (SOGC, 2016). In cases of PID, the client requires referral or transfer of care to an NP/MC for further IUC management. Treatment outcomes do not generally differ between clients with PID who retain the IUC and those who have the IUC removed; however, appropriate antibiotic treatment and close clinical follow-up are necessary (Curtis et al., 2024).

## 5. Pregnancy

RN(c)s do not remove IUCs from clients who are pregnant. Pregnancy status must be assessed and ruled out prior to any IUC removal, and urgent referral is required.

In clients who conceive with an IUC in place, early IUC removal improves outcomes but does not eliminate risks, such as miscarriage, intrauterine fetal death, intrauterine growth restriction, preterm birth, and preterm premature rupture of membranes (SOGC, 2016).

Pregnant clients are referred to an NP/MD to discuss the risks and benefits of IUC removal while pregnant.

## Procedural Considerations

### IUC Insertion

- IUC can be inserted at any time during the menstrual cycle as long as it is reasonably certain that a woman is not pregnant (Curtis et al., 2024; SOGC, 2024). If a patient has had unprotected sex in the last 7 days prior to insertion, consider a well-documented informed consent discussion around the risk of insertion to a pregnancy, balanced with a review of its ability to act as emergency contraception and the risk of unintended pregnancy with delaying insertion.

#### How to be reasonably certain that a patient is not pregnant (Curtis et al., 2024; SOGC, 2016)

A health care provider can be reasonably certain a patient is not pregnant if the patient has no symptoms or signs of pregnancy and meets any one of the following criteria:

- ✓ is ≤7 days after the start of normal menses
- ✓ has not had sexual intercourse since the start of the last normal menses
- ✓ has been correctly and consistently using a reliable method of contraception

- ✓ is ≤7 days after spontaneous or induced abortion
- ✓ is within 4 weeks postpartum
- ✓ is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [ $\geq 85\%$ ] of feeds are breastfeeds), amenorrhoeic, and <6 months postpartum

- IUC can be inserted at any time during the client's cycle. Although the advantages of inserting the IUC during or shortly after menses include ruling out pregnancy and the masking of insertion-related bleeding, there is no evidence to support the common practice of inserting the IUC only during menses (SOGC, 2016).
- Bimanual examination and cervical inspection should be performed to assess uterine position and size as well as any uterine or cervical abnormalities that might preclude IUC use.
- STI testing should be performed on clients at high risk for STI infection prior to or at the time of insertion; however, it is not necessary to delay IUC insertion until the results are available. STI screening on the day of insertion is a reasonable strategy. RN(C)s who do not hold certified practice in reproductive health: STIs will need to consult and refer for STI testing.
- To minimize the risk of infection at the time of IUC insertion, a "no-touch" technique should be used whereby any instrument that will pass through the cervix, including the IUC itself, does not touch any nonsterile surface. The cervix may be cleansed with iodine or chlorhexidine, although there is no evidence that these techniques decrease the risk for post-insertion infection.
- A tenaculum should then be applied to the cervix, and gentle traction applied. This decreases the angle between the cervix and the body of the uterus, which improves ease of insertion and may help to decrease the risk of IUC malposition or uterine perforation.
- The uterus should first be sounded with a disposable or sterilized reusable to measure the uterus and set the IUC flange to the correct length to decrease the risk of perforation
- The IUC inserter should not be used to sound the uterus to avoid IUC contamination in the event that it is not possible to pass through the cervix.
- Once the IUC has been inserted to the level of the fundus, the IUC strings should be trimmed to at least 2 to 3 cm beyond the external cervical os.

### Procedural Pain Control

- Before IUC placement, all patients should be counselled on potential pain during placement as well as the risks, benefits, and alternatives of different options for pain management. A person-centred plan for IUC placement and pain management should be made based on patient preference. When considering patient pain, it is important to recognize that the experience of pain is individualized and might be influenced by previous experiences, including trauma and mental health conditions, such as depression or anxiety (Curtis et al., 2024).
- Pain relief options should be offered for insertion, which may include oral analgesics or local anesthetics (Curtis et al., 2024; SOGC, 2024). The SOGC Statement on Intrauterine Devices, Counselling and Pain Management include recommendations for both oral, topical and parenteral medications.
- At the time of insertion, lidocaine (paracervical block 1-2% or topical cream/spray) for IUC placement might be useful for reducing patient pain (Curtis et al., 2024).

### IUC Removal

IUC removal is completed in a clinical setting with a speculum exam to visualize the cervix. IUC removal is completed by grasping the strings with long Kelly forceps (also known as Bozeman), ring forceps, or a similar instrument, and gently pulling the IUC out in one swift maneuver (Bratz, 2023; SOGC, 2016).

Clinicians should immediately examine the IUC post removal to ensure that it is intact (Bratz, 2023).

### Assess and Document:

- Indication for removal
- Type of IUC
- Pregnancy status
- Previous STI testing & Results

- Need for bridging contraception
  - If bridging is required, consider deferring IUC removal for 7 days while alternative contraception is started.
  - There is a pregnancy risk if unprotected sex has occurred in the 7 days preceding removal.
- Patient response to removal, questions/concerns

## Precautions and Considerations

### Common Possible Side effects of having an IUC include:

Cu-IUD:

Most users experience the following:

- Increased menstrual cramping and heavier bleeding up to 50% with Cu-IUD

LNG-IUS:

1-10% of users may experience the following:

- Irregular bleeding/spotting for 2-6 months post-insertion.
- Headache
- Acne/oily skin
- Mood changes
- Abdominal/pelvic pain
- Breast pain
- Increased/change in vaginal discharge

### Common Possible Side effects of IUC removal

Possible side effects are typically mild and transient, and may include but are not limited to (SOGC, 2016):

- Mild cramping post removal
- Transient spotting

Acetaminophen, Ibuprofen, Naproxen, and heating pads can help to reduce post-removal cramping (Healthline, 2023).

## Adverse Effects

### Warning and Precautions

#### IUC Insertion

Possible risk of IUC insertion may also include the following (Black et al., 2016):

#### Uterine Perforation

- Partial and complete uterine perforations are rare but serious complications of IUC insertion, occurring at a rate of 0.3 to 2.6 per 1000 insertions.
- If uterine perforation of an instrument or the IUC is strongly suspected at the time of insertion, stop the insertion procedure, remove the IUC (if inserted) and consider transfer to ER if the patient is unstable. If they are stable, you are not able to immediately remove the IUC, or are unsure of perforation, refer to an MD for urgent assessment.
- The risk of uterine perforation decreases with inserter experience but is higher in postpartum and breastfeeding women

#### Infection

- The risk of PID is increased slightly in the first month IUC insertion, but the absolute risk is low.
- Exposure to sexually transmitted infections and not the IUC itself is responsible for PID occurring after the first month of use. (II-2)

## Expulsion

- Expulsion of the IUC is most common in the first year of use (2% to 10% of IUC users), particularly in the first 3 months of use.
- Remind clients to feel the strings periodically and complete a follow-up appointment between 4 – 12 weeks post-insertion.

## Failure

- Although rare, if a client becomes pregnant with an IUC in situ, the possibility of ectopic pregnancy must be excluded with an urgent referral for pregnancy assessment.

## IUC Removal

Serious side effects from IUC removals are rare (Bratz, 2016). Vasovagal reactions may occur with corresponding bradycardia when engaging with the cervix (feeling faint/passing out) (Lanzola & Ketvertis, 2023). Nulliparous people or persons who experience increased pain are at higher risk of experiencing a vasovagal reaction (Lanzola & Ketvertis, 2023). Vasovagal reactions are managed symptomatically (Lanzola & Ketvertis, 2023).

A seizure may also occur in individuals with a seizure disorder (Bayer Pharmaceuticals, 2023).

## Client Education Specific to IUC Insertion and Removal

### IUC Insertion

Counsel clients that they may experience temporary pain and/or discomfort after IUC Insertion is completed. Clinicians may recommend taking an over-the-counter pain medication (such as naproxen) prior to IUC insertion. It is common that people may experience cramping and/or spotting after the insertion.

#### Follow up

Counsel clients that a follow-up visit is suggested 4 to 12 weeks postinsertion, to allow for the exclusion of infection and expulsion, an assessment of bleeding patterns, an assessment of client and partner satisfaction, a clinical examination and string check, and an opportunity to reinforce the issue of condom use for protection against STIs (SOGC, 2016).

Clients with IUCs should be instructed to contact their health care provider if any of the following occurs:

- They cannot feel the IUC strings when they previously could
- Them or their partner can feel the lower part of the IUC
- Suspected pregnancy
- Amenorrhea with a Cu-IUD
- Experiences persistent abdominal pain, fever, or unusual vaginal discharge
- They or their partner feels pain or discomfort during intercourse
- They experience a sudden change in their menstrual periods (in either volume of bleeding or discomfort)
- They wish to have the device removed

### IUC Removal - Consideration of an Ongoing Contraceptive Plan

Clients should be informed that fertility can return as soon as the IUC is removed. Clients who do not desire pregnancy should be counselled appropriately on safe and effective contraceptive methods.

## Prescribing and/or Dispensing

Follow BCCNM [limits and conditions for certified practice](#) and [Registered nurses \(certified\) standards for prescribing medications](#)

For additional prescribing and/or dispensing of IUCs, refer to the DST 800: Assessment and Diagnostic Guideline: Contraceptive Management.

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## Glossary of Terms

There are a variety of terms and acronyms used for different intrauterine contraceptives. They are often used interchangeably and appear differently across the literature. You may see the following:

- IUD – Intrauterine Device (most widely used term)
- IUC – Intrauterine Contraception (Used for this DST)
- IUS – Intrauterine System (mostly commonly used when referring to hormonal IUDs)

## Medication type-specific acronyms:

- LNG-IUS - refers to Levonorgestrel Intrauterine System (most recognized product brand names being the Mirena™ and Kyleena™)
- Cu-IUD – refers to copper IUDs – there are many different brands of copper IUDs, as well as sizes and amounts of copper that are in them.