

## Review Article

### THREE TYPES OF CURETTAGE: A LITERATURE REVIEW

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#### ABSTRACT

Curettage is a surgical procedure that is often performed in the field of obstetrics and gynecology. Some cases that require curettage include removing placental tissue after an abortion or childbirth and removing polyps or hyperplastic endometrium. In addition, curettage can be used as a diagnostic procedure. Before the curettage procedures, the operator must conduct an internal examination to identify the uterus' location, the cervix's condition, and size. In general, curettage is relatively safe and easy to do. However, this procedure still allows for several complications, such as cervical lacerations, bleeding, infection, and perforation.<sup>1,2</sup> In its implementation, several curettage approaches are further described in this literature review.

**Keywords:** Curettage, obstetrics and gynecology, diagnostic procedure.

#### INTRODUCTION

Curettage (Dilatation & Curettage/D&C) cleans the products of conception using a curettage tool (scouring spoon). Before carrying out the curettage, the operator must conduct an internal examination to determine the uterus's location, the cervix's condition, and the uterus's size to prevent the occurrence of an accident hazard, for example, perforation. The transcervical approach to surgical abortion requires that the cervix is first dilated (dilated), and then the pregnancy is evacuated by mechanically scraping the contents out (sharp curettage), by suctioning out the contents (suction curettage), or both. In general, the purpose of curettage can be divided into diagnostic and therapeutic purposes. The diagnosis aspect of curettage procedures is to carry out a little tissue lining the uterine lining to identify the cause of abnormal bleeding. In the therapeutic aspect, it aims to stop bleeding that occurs in miscarriages, myomas, and polyps or due to hormonal disorders by removing the inner lining of the uterus.<sup>3,4</sup>

The desire to maintain a viable intrauterine pregnancy is an absolute contraindication of this procedure. Some relative contraindications include coagulopathy, the use of anticoagulants, uncontrolled hypertension, and asthma. If a molar pregnancy is suspected, this procedure must be performed in the operating room to control anesthetic complications and the potential for significant bleeding. Scheduled or elective curettage should be postponed in patients with known active pelvic infections. However, in cases of septic or endometriotic abortion with possible products of conception remaining, the surgeon should proceed with uterine evacuation.<sup>2,5</sup>

#### PRE-PROCEDURE EXAMINATIONS

##### Medical history

First-trimester abortions in women with certain medical conditions are advised to provide referrals for women with chronic medical illnesses. Women with uncontrolled medical conditions may require referral to

their primary care provider for pre-procedure management or referral for inpatient procedures. The risk of having the procedure performed in an uncontrolled medical condition must be weighed against the risk of delaying the procedure because abortion complications increase with gestational age.<sup>5,6</sup>

A history of bleeding disorders poses challenges when performing a first-trimester abortion. Women with von Willebrand disease (vWD) have an increased risk of bleeding, and women with severe vWD must have the procedure in the hospital.<sup>6</sup> No studies have evaluated the effect of antiplatelet agents on bleeding during the curettage. If possible, women should stop using antiplatelet agents five days before the procedure. For women taking anticoagulation with heparin, low molecular weight heparin, or warfarin, the risks of switching to anticoagulation versus continuing anticoagulation must be balanced. A small study compared women who were on anticoagulants with those who were not and found that although women taking anticoagulants have increased blood loss during the procedure, it is not clinically important; there was no significant difference in post-procedure hemoglobin between the groups. However, this study was limited due to the small sample size, and most women receiving anticoagulation had sub therapeutic levels of low molecular weight heparin or sub therapeutic international normalized ratios at the time of the procedure. In the authors' practice, they perform first-trimester uterine aspiration in anticoagulated patients in the outpatient setting.<sup>5</sup>

##### Clinical examinations and another testing

Accurate gestational age estimation is essential before performing a surgical abortion to assess the proper amount of dilation and cannula size required, to determine whether cervical ripening is indicated, and to avoid performing the procedure beyond the competence and training of the provider. A bimanual examination is vital for estimating gestational age based on uterine size and evaluating the uterine position. Gestational age can be calculated by the last menstrual period, which correlates with uterine size on bimanual examination or by ultrasonography. If the last menstrual period did not match the clinical examination, uterine fibroids are present, or if the physical examination is limited by obesity, ultrasonography can help determine gestational age. An ultrasound can also help identify an ectopic pregnancy or uterine anomaly before the procedure. After the

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procedure, if gestational age-appropriate products of conception are not identified, ultrasonography should be performed to assess retained products or other abnormalities. Intra-procedural ultrasound is used frequently and can assist the provider during difficult dilation to visualize the cervical passage or to assess the uterine cavity when an anomaly is present. When ultrasound is performed, the location of the pregnancy, gestational age, number of fetuses, and presence of cardiac activity should be documented. However, data on the benefits of using routine ultrasound during abortion care are limited, with one review.<sup>5,7</sup>

**Table 1.** Pre-procedure testing<sup>5</sup>

Preprocedure testing	
Confirm pregnancy	<ul style="list-style-type: none"> <li>• Confirm pregnancy by urine pregnancy test or ultrasound.</li> </ul>
Determine Rh(D) status	<ul style="list-style-type: none"> <li>• Check Rh(D) antigen status before the procedure.</li> <li>• If Rh(D) negative, offer 50 mcg of anti-D immune globulin at the time of the procedure or within 72 h of uterine aspiration to prevent sensitization. A 300-mcg dose of Rho(D) immune globulin may be given if that is all that is available.</li> </ul>
STI screening	<ul style="list-style-type: none"> <li>• The Centers for Disease Control and Prevention recommends routine chlamydia screening for all women younger than 26 y.</li> <li>• Older women at a high risk for sexually transmitted infections or those that request testing may also be screened.</li> <li>• As long as there is not evidence of cervicitis, testing and the procedure can be performed on the same day.</li> </ul>
Anemia screening	<ul style="list-style-type: none"> <li>• Women with a history of anemia or risk factors can be screened with hemoglobin testing before the procedure.</li> <li>• Significant or symptomatic anemia is considered a relative contraindication to an outpatient abortion depending on the facility.</li> </ul>

**SHARP D&C**

Sharp curettage, or in combination with hysteroscopy, can evaluate abnormal uterine bleeding in women. Sharp D&C is needed to evaluate the uterine cavity. In addition, this action can help remove endometrial hypertrophy. In cases with suspected ectopic pregnancy, a sharp D&C is sometimes used to assess the presence or absence of intrauterine trophoblastic tissue. Sharp D&C indications vary, and diagnostic determinations also vary. Antibiotic administration before the procedures is not needed. However, because of the risk of pelvic infection, antibiotics are usually given twice daily for ten days. Due to the low risk of bowel injury, preoperative enemas are not mandatory.<sup>8,9</sup>

**a. Anesthesia and patient positioning**

This procedure is usually performed in an outpatient setting under general, regional, or local nerve blockade combined with intravenous sedation. The patient was positioned in the dorsal lithotomy position. A bimanual examination is performed to determine the uterine size and inclination with vaginal instruments before the procedure begins. This action allows the insertion of instruments along the long axis of the uterus to prevent perforation.<sup>4,9</sup>

**b. uterine sounds**

Vaginal exposure can be done with a Graves speculum or vaginal retractor. The anterior lip cervix is grasped with a single-tooth tenaculum to stabilize the uterus during the Sharp D&C procedure. The Simpson uterine sound is held like a pencil with the thumb and the other two fingers. The sound is guided slowly through the cervical os, into the uterine cavity, and up to the fundus. Importantly, instruments should not be forced because this increases the risk of perforation.<sup>8,9</sup>

**c. Uterine dilation**

Increasing caliber Dilators are successfully inserted to open the endocervical canal and internal cervical os. The thumb holds the dilator of Hegar, Hank, or Pratt and the first two fingers, while the fourth and fifth fingers and the heel of the hand rest on the

perineum and buttocks. Each dilator advances gently and gradually through the internal cervical os. Serial dilatation continues until the cervix admits the selected curette.<sup>8,9</sup>

**d. Uterine curettage**

Before curettage, a non-adhesive piece of wound dressing (Telfa, The Kendall Company, Mansfield, MA) is placed in the vagina below the cervix. The uterine curette is then inserted and advanced into the fundus, following the body's long axis. On reaching the fundus, the sharp surface of the curette is positioned to make contact with the adjacent endometrium. Pressure is exerted against the endometrium as the curette is pulled toward the internal cervical os. Upon reaching the os, the curettage is directed to the fundus and positioned adjacent to the curettage pathway. In this way, the surgeon tries to sample the entire surface of the uterus. After going through several series, the network is collected in isthmus regions matched into Telfa pads.<sup>8,9</sup>

**e. Uterine exploration**

Because uterine polyps, both large and small, maybe missed with sharp curettage, uterine exploration with Randall kidney stone forceps is warranted in women undergoing evaluation of abnormal bleeding. Closed forceps are inserted into the endometrial cavity. Upon reaching the fundus, the forceps are opened against the uterine walls, closed, and removed from the endometrium. This fashion explores anterior, posterior, proximal, and distal cavity surfaces.<sup>8,9</sup>

**f. Post-operative**

Recovery from sharp D&C is typically fast and without complications. Light bleeding or spotting is expected, and patients may resume normal activities at their paces.<sup>8,9</sup>

**SUCTION D&C**

Suction D&C can be done for cases of incomplete abortion and does not require cervical dilation to complete the procedure. This procedure is the most commonly used method of expelling first-trimester products of conception. Vacuum aspiration, the most common suction curettage, requires a rigid cannula attached to an electrically powered vacuum source. Alternatively, manual vacuum aspiration uses a similar cannula attached to a hand-held syringe for the vacuum source. Suction D&C was preceded by transvaginal sonography. This imaging modality helps document the pregnancy's viability, site, and size.<sup>10</sup> Blood typing is performed to assess Rh status in addition to sonographic evaluation. Administering immunoglobulin 50 or 300 g (1,500 IU) intramuscularly within 72 hours after termination of pregnancy in Rh-negative women may reduce the risk of isoimmunization in subsequent pregnancies.<sup>9,11</sup>

**a. Instruments**

Suction D&C requires an electric suction unit; rigid, translucent, large-bore sterile suction tubing; and sterile Karman suction cannulas. For most first-trimester evacuations, a no. 8 to 12 Karman cannulas is sufficient.<sup>9,11</sup>

**b. Anesthesia and patient positioning**

In cases without maternal systemic abnormalities, this procedure does not require hospitalization. The anesthesia required varies, from general, paracervical block with intravenous sedation. The patient is positioned in the dorsal lithotomy position.<sup>9,11</sup>

**c. Uterine sounds**

A Simpson uterine sound is placed through the os and into the uterine cavity to measure the depth and inclination of the cavity before dilating.<sup>9,11</sup>

## d. Uterine dilation

A Graves speculum is placed in the vagina to allow access to the cervix. In incomplete or inevitable abortion cases, the cervical os will already be dilated. Alternatively, metal Pratt, Hegar, or Hank dilators of sequentially increasing diameter are placed through the external and internal os to dilate the cervix gently.<sup>9,11,12</sup>

## e. Uterine evacuation

The cannula is inserted through the open cervix and into the endometrial cavity. The suction unit is turned on, and the contents of the uterus are removed. The suction cannula is moved toward the fundus and then back toward the os and rotated circularly to cover the entire surface of the uterine cavity. The tissue is collected in a container at the distal end of the tube and sent for pathological evaluation to rule out a hydatidiform mole. The suction unit is turned off before cannula removal. After the opening of the cannula is cleaned of clogging tissue, it can be reinserted, and the curettage is complete.<sup>9,11,12</sup>

## f. Uterine curettage

Although no more tissue is aspirated, a gentle sharp curettage should follow to remove any remaining placental or fetal fragments.<sup>9</sup>

## g. Post-operative

Recovery from suction D&C is usually quick and uncomplicated. The patient can resume normal activities. However, sexual intercourse is usually possible after the first post-operative week. Ovulation can continue as early as two weeks after the end of pregnancy. Thus, if contraception is desired, the method should be started soon after the abortion.<sup>9,11,12</sup>

## DILATATION & EVACUATION (D&E)

At 16 weeks gestation, the fetus's size and structure necessitate using this technique (Dilatation & Evacuation/D&E). Cervical dilation is performed with metal or hygroscopic dilators. A large-bore vacuum curette is needed to achieve complete removal of the fetus. The combination with sonography imaging during surgery gives a good outcome.<sup>9</sup>

## a. Assessment of gestational age

Accurate gestational age assessment is a critical step before D&E so that providers do not accidentally start the procedure without adequate cervical preparation. Accurate gestational age assessment can help providers decide about inducing fetal death to avoid transient fetal survival or help operators plan referrals. Transient fetal survival can disturb staff, women, and their families. It can also lead to unforeseen medical, social, and legal consequences.<sup>13</sup>

## b. Prophylactic antibiotics

Prophylactic antibiotics are recommended for all women before a D&E procedure to reduce the risk of post-abortion infection. Because the infection rate after D&E is low, the inability to administer antibiotics should not limit access to abortion. Some providers initiate antibiotics at the time of placement of osmotic dilators, while others administer perioperative doses; no studies have compared the start times of different antibiotics and post-abortion infections. The American Congress of Obstetricians and Gynecologists (ACOG) recommends Doxycycline, 200 mg orally, 1 hour before the procedure as a prophylactic antibiotic.<sup>14</sup>

## c. Procedures

- Place traction on the tenaculum to bring the cervix down to the vagina

- Recheck adequacy of dilation by attempting to pass the largest diameter dilator without using force
- Mechanically dilate the cervix, as needed, to achieve desired/necessary amount
- Perform uterine aspiration with the largest cannula available (12- 16mm) and aspirate the amniotic fluid
- Maintaining gentle traction on the tenaculum to straighten the cervical canal, pass the closed forceps through the cervix in a vertical direction
- As soon as the forceps pass through the internal os, gently open it as wide as possible. While opening the forceps, drop the hand and forceps in the direction of the floor to angle the jaws of the forceps into the anterior lower-uterine segment
- To evacuate the tissue, close the forceps around the fetal tissue and rotate it 90 degrees to assist with disarticulation before withdrawing

## d. Observations

There is no mandatory length of time a woman will need to stay in the facility after undergoing a D&E. Usually, one hour is sufficient to show stable vital signs, better pain control, and minimal vaginal bleeding. The woman should be able to lie down or be in a position comfortable for her during recovery.<sup>13</sup>

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