

# Management of uterine perforation

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## ABSTRACT

Uterine perforation, although extremely rare, can have lifelong consequences. Any procedure that can cause perforation has to take into account the risk of damage to the uterine wall. As this is a blind method, adequate training and certification is necessary, before trainees can performed hysteroscopy, D&C (dilatation and curettage), coil insertion independently.

**Keywords:** uterine perforation, dilatation, curettage

## INTRODUCTION

Dilatation and curettage, evacuation of missed miscarriage, termination of pregnancy, hysteroscopy, coil insertion, bears a small but certain risk of uterine perforation. Uterine perforation can lead to severe consequences in terms of morbidity and mortality. Therefore, prompt recognition and management are mandatory for a good clinical outcome. However, according to RCOG, surgical management of miscarriage is uncommon, with an incidence of less than 1/1000 [1].

## UTERINE PERFORATION

Uterine perforation can occur at any location, most commonly at the fundus and anterior part. These are usually less serious complications, causing mild bleeding. However, perforations at the internal os or lateral side can involve uterine vessels, bowels, bladder, ureter. Termination of pregnancy is the most frequent procedure associated with

uterine wall damage and perforation [2]. Hysteroscopic surgery is accountable for 1.6% of perforations [3]. Up to 15% of perforation caused by placement of an intrauterine device can involve pelvic viscera. In the USA 9% of women that had a clinically recognised Termination of pregnancy had a hysterectomy. It is challenging to obtain strong data as this complication is uncommon, and follow up studies are difficult to conduct [4].

All patient with uterine perforations should be informed about the risk of uterine rupture and in turn, they should inform the midwife or doctor looking after them during antenatal care [5,6]. The majority of doctors will recommend a caesarean section, although trials of labour with successful vaginal birth have been reported.

As it was aforementioned, the seriousness of the perforation is related to the site of the incident. As specified in table 1, the most frequent site is the anterior wall, followed by the cervical canal.

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**TABLE 1.** Perforation sites [4]

Common site of perforation	Incidence
Site of perforation	
Anterior region	40
Cervical canal	36
Left lateral wall	21
Right lateral wall	17
Posterior	13
Fundus wall	13

The most common tool causing perforation of the womb is the suction cannula, followed by Hegar dilators.

**TABLE 2.** Incidence of uterine perforation with the use of various instruments [7]

Instrument	Incidence
Suction canula	51,3%
Hegar dilator	24,4%
Curette	16,2%

## RISK FACTORS OF UTERINE PERFORATION

These factors can be operator dependant, related to the surgeon 's expertise, uterine related as the uterus can be retroverted, acutely anteverted or a small postmenopausal women. A tight cervix can be a redoubtable hurdle for the dilator. Other's factors are multiparous uterus, infection, pyometra, scarred uterus, fibroid, anomalous uterus, Asherman syndrome or advanced gestation [8-10].

There is a tiny number of surgeons that have never perforated a uterus, if there is one. As this is a blind procedure, competence comes with practice and experience. Different studies have reported several times an increase of perforation when trainees performed this procedure. Therefore, whenever residents doctors are performing this procedure adequate supervision is necessary [11].

## PREVENTION

First step in performing a curettage is a risk evaluation – postmenopausal women with a small womb have an increased chance of perforation. In high-risk cases a medical termination of pregnancy can reduce the risk. Prostaglandin administration prior to the procedure can decrease cervical resistance [12]. This is a well-established fact, with signif-

icant reductions in dilatation force, haemorrhage and uterine or cervical trauma [13].

## MANAGEMENT

Depending on the type of instrument used and the procedure carried out with a perforation up to 5 mm, can be managed conservatively with antibiotics or observation [14]. When it is bleeding, or avulsion than laparoscopy is necessary. A perforation during usage of laser fibre or resection loop demands a prompt laparoscopy. A urinary catheter will help monitor fluid balance and notice haematuria if there is a bladder injury. A small uterus perforation with no bleeding does not require any extra measures. Cauterisation during laparoscopy is another method for treating minor bleeding. In case of continuing bleeding and haemorrhage, extension in broad ligament laparotomy is necessary. Suturing of the perforation should be done firstly laparoscopically. If suspected bowel or bladder injury occurs, early assistance should be sought from a surgeon colleague. In some instances, hysterectomy is necessary, more often when laparotomy /laparoscopy is delayed, as the tissue becomes more edematous and the haematoma is quickly expanding. Any hospital should have in place a protocol for uterine perforation, which has to include: admittance, antibiotics, close observations for 24 hours [1]. Over the following 24 hours, temperature, blood pressure and bowel sounds must be monitored. Patients should be discharged after 24 hours if asymptomatic with instructions to return if any symptoms develop. Tobias Gonzalez et al. reported a case with myometrial embedded fetal parts that was laparoscopically treated and sutured [15].

## CONCLUSIONS

Any obstetrician from their early days in this field should bear in mind that even a simple, routine procedure such coil insertion can have devastating consequences with lifelong morbidity and mortality. Appropriate training with supervision, assessment of risk factors and the use of cervical preparation can all help to reduce the risk of perforation Therefore, continuous practice and a strict protocol should be in place.

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