

# Abdominal incisions in gynecology

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## ABSTRACT

Wound infection post-surgery contributes extensively at the healthcare cost, translated not only by the direct care, but also for the medical leave that most patients request it. Every step is essential for achieving a successful surgery. A suitable incision is most helpful for both patient and surgeon alike. This review focuses on the multiple types of incisions used in gynecological field.

**Keywords:** abdominal surgery, gynecology, incisions

## INTRODUCTION

An abdominal incision is a lasting mark for life. It is what a patient firstly and noticeably sees regarding the surgery. In deciding the type of the incision, there should be a thorough assessment, considering patient physical features, underlying pathology, malignancy, and comorbidities. This article aims to familiarise the healthcare professionals with different types of openings, stitches and sutures methods.

## SKIN CLEANING

The incidence of skin infection post-surgery is lower than 5% for all types of incisions. This incidence is patient and surgical technique related. The single, most important factor in reducing skin infections is preoperative cleaning with antiseptics (1.3% vs 2.3%). It is possible that these figures are an un-

derestimation as many cases appear after the patient's discharge. Depilatory preparations have no significant effect in terms of sickness (1,2).

## SKIN INCISION

The monopolar surgical device should not be used for skin incisions. The same scalpel can be used at skin and deep incisions as well. Vertical incisions used in gynaecology have no names, whereas transverse incisions bear the name of the surgeon that described them (3).

## TRANSVERSE INCISIONS

Transverse incision performed more common, mostly due to caesarean section, alongside its cosmetic results and decreased pain, can also have disadvantages (4).

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Article History:

Received: 4 December 2021

Accepted: 30 December 2021

**TABLE 1.** Advantages and disadvantages of the transverse incision

<ul style="list-style-type: none"> <li>• Advantages of the transverse incision</li> <li>• Increases strength</li> <li>• Decreased pain</li> <li>• Less interference with respiration</li> <li>• Cosmetic outcome</li> </ul>
<ul style="list-style-type: none"> <li>• Disadvantages of the transverse incision</li> <li>• Increases bleeding</li> <li>• Less visibility for the entire abdomen</li> <li>• Increased risk of seroma or haematoma</li> </ul>

**PFANNENSTIEL INCISION**

It was introduced in 1900 by Herman Pfannenstiel to reduce hernia in gynecologic and urology surgery. It is a 10-15 cm long incision, curve, 2 cm above the pubic bone. With sharp dissection, the rectus sheet is opened followed by rectus muscles not cut (5).

**JOEL LE COHEN INCISION**

Introduced in 1954 initially for abdominal hysterectomies, it was adopted by many obstetricians. It involves a 3 cm straight incision, below the level of anterior superior iliac spine, followed by blunt digital dissection of adipose tissue and rectus sheath (5,6).

**KUSTNER INCISION**

A faintly curved skin incision is done below the anterior superior iliac spine stretching at the level of the pubic hairline. The main concern is crossing the superficial branches of the inferior epigastric vessels (7).

**CHERNEY INCISION**

The Cherney incision – transection of the rectus muscle at the insertion point on the pubic bone – is rarely performed, more common for hypogastric ligation and access to the space of Retzius (8).

**MAYLARD INCISION**

This is a muscle cutting technique; all abdominal layers are cut transversely at 3- 8 cm above the pu-

bic bone. The fascia is dissected together with the muscle. The peritoneum is opened in a transverse fashion. If there is impaired circulation in the lower extremities, Maylard cut should be avoided as it damages the inferior epigastric artery (9).

**MOUCHEL INCISION**

Mouchel incision is made at the upper limit of the pubic hair, lower than Maylard. As a result, muscles are split just above the inguinal canal.

**VERTICAL INCISIONS**

Vertical incisions are performed in an emergency as they are quick and clean, allowing for the rapid delivery of the fetus.

**TABLE 2.** Advantages and disadvantages of vertical incisions (4)

<p>Advantages of vertical incision</p> <ul style="list-style-type: none"> <li>• Less bleeding</li> <li>• Quick and easy access</li> <li>• Minimum nerve damage</li> <li>• Extendable</li> </ul>
<p>Disadvantages of vertical incision</p> <ul style="list-style-type: none"> <li>• Hernia and wound dehiscence</li> <li>• Poor cosmetic outcome</li> <li>• Increased infection rate</li> </ul>

**CONCLUSIONS**

Multiple articles have published data regarding the optimum way of the incision. Comparison between the Joel-Cohen with Pfannenstiel incision found that Joel-Cohen is associated with better results and it is associated with fewer cases of infection, morbidity, quicker operating time, less intra-operative haemorrhage and adhesion development, and reduction in reduction hospital stay, wound infection and minimal analgesia requirements. As most tissue have a certain amount of elasticity, Le Cohen technique is superior because blood vessels and nerve remain intact. This is also translated in less trauma and faster recovery.

*Conflict of interest:* none declared  
*Financial support:* none declared

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