



Review Article

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An Overview on Episiotomy: Indications, Risk Factors, and Complications

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ABSTRACT

Background: An episiotomy is a surgical obstetric intervention that is considered when a high risk of a third- or fourth-degree laceration or a concerning fetal heart tracing necessitating an expedite vaginal delivery. *Objectives:* Episiotomy is an important procedure in the clinical practice of many obstetricians, therefore, in this paper, we will review the proper literature discussing indications, risk factors, complications, and management of episiotomy. *Methodology:* PubMed database was used for articles selection, and the following keys were used in the search: episiotomy, indications, risk factors, complications. *Review:* An increased risk of perineal injury and wound-healing complications favors the restricted use of episiotomy. The judgment to perform episiotomy should be made on a case-by-case, although episiotomy may be helpful in some clinical settings. *Technique-wise,* a mediolateral approach is favored over a median one due to the lower risk of anal sphincter laceration. *Infections, pain, and dyspareunia* are among the most reported complications of episiotomy. *Future vaginal delivery* might become complicated due to a previous episiotomy. *Conclusion:* Knowledge of the indications, risk factors, and subsequent short- and long-term complications is vital to any practicing obstetrician.

Key words: Episiotomy, Indications, Risk Factors, Complications

INTRODUCTION

An episiotomy is a surgical obstetric intervention that is considered when a high risk of a third- or fourth-degree laceration or a concerning fetal heart tracing necessitating an expedite vaginal delivery [1, 2]. It is usually performed medianly or mediolaterally using scissors or scalpel, though an episiotomy approached mediolaterally carries an increased risk for third- or fourth-degree perineal tears [1, 3, 4]. Injuries to the perineum (i.e. lacerations) during labor are linked to significant morbidity for mothers [5-7]. The majority of vaginal deliveries some type of traumatic injury to the genitourinary tract in the form of spontaneous perineal tear or episiotomy [8]. Episiotomy may result in devastating adverse effects. For example, an extension of the episiotomy incision, hemorrhage, hematoma, infection, and sexual dysfunction [9].

The role of episiotomy on the risks of pelvic floor relaxation, pelvic organ prolapse, urinary incontinence, and dyspareunia remains uncertain [10, 11]. The reason many obstetricians continue to perform episiotomies is the perception of decreased risk traumatic perineal injuries as compared with spontaneous tears while many advocates limiting the usage of episiotomy due to many risks and doubtful benefits associated with it [12, 13].

Since 2006, the American Congress of Obstetricians and Gynecologists (ACOG) recommends against the routine practice of episiotomy during childbirth. Since then, the rate of episiotomy in the United States has dropped to 11.6% in 2012, almost 6% lower than the rate in 2006. The World Health Organization recommendations suggest an episiotomy rate of 10% [14]. Canadian episiotomy rates dropped have also dropped during approximately the same period [15]. Episiotomy is an important procedure in the clinical practice of many obstetricians, therefore, in this paper, we will review the proper literature discussing indications, risk factors, complications, and management of episiotomy.

METHODOLOGY

PubMed database was used for articles selection, and the following keys were used in the search: episiotomy, indications, risk factors, and complications. In regards to the inclusion criteria, the articles were selected based on the inclusion of one of the following topics; episiotomy, indications, risk factors, and complications. Exclusion criteria were all other articles, which did not have one of these topics as their primary endpoint.

Review

Risk Factors

A study conducted in the US found that white race and commercial insurance were significantly associated with receiving episiotomy [16]. In addition, healthcare providers practicing in rural hospitals or academic centers were more cautious to perform episiotomy. In contrast, other reports found that privately practicing doctors have 2- to 4-fold increased application of surgical intervention (i.e. episiotomy) during childbirth when compared with trainees, academic faculty, or midwives [16-18].

Surgical Approach

Broadly, episiotomies can be divided according to the surgical technique utilized by the healthcare provider (i.e. physician, midwife) into an episiotomy and mediolateral episiotomy. A midline (i.e. vertical towards the anal sphincter) is typically referred to as a 'midline episiotomy while an incision with a lateral direction of the ipsilateral ischial tuberosity is typically referred to as a 'mediolateral episiotomy [19-22]. Table 1 summarizes the advantages and disadvantages of both surgical approaches.

Classically, physicians trained in North America favor an episiotomy with a midline approach while those trained in Europe sway towards a mediolateral approach. While the timing, technique, and repair type have been the subjects of dispute, it is clear that not all episiotomies are the same [19, 21].

Table 1: Comparison of Midline and mediolateral episiotomies

Characteristic	Midline	Mediolateral
Surgical repair	Easy	More difficult
Faulty healing	Rare	More common
Postoperative pain	Minima	Common
Anatomical results	Excellent	Occasionally faulty
Blood loss	Less	More
Dyspareunia	Rare	Occasional
Extension	Common	Uncommon

Indications

Performing an episiotomy depends greatly on the healthcare personnel's judgment and complexity of presenting clinical settings [23]. Episiotomy remains a healthy option in situations where a prompt extension of the birth outlet would be beneficial to mother or newborn.

One noticeable indication for episiotomy occurs when there is an abnormal fetal heart rate tracing that does not respond to resuscitative measures. While episiotomy is helpful in such situations, it is only beneficial if the labor is blocked by perineal tissue [24].

Similarly, when an operative vaginal delivery (i.e. placement of the forceps or vacuum extractor in women with a narrow vaginal outlet) is indicated, episiotomy can be used to facilitate instrumental placement although many recommend against it [23, 25, 26].

Shoulder dystocia is a known complication of vaginal delivery where a bony impaction occurs between the fetus's shoulder and the mother's pelvis. It can be extremely challenging to manage. Episiotomy can be utilized to increase space to allow less-restrictive manipulation of the fetus to facilitate delivery. Although it can be beneficial in the case of posterior shoulder impaction, it does not assess anterior shoulder impaction [27].

Complications

As for any surgical intervention, episiotomy carries a risk for many adverse effects. For instance, a study found that perineal laceration was three centimeters longer in patients who received an episiotomy compared to those who did not (i.e. spontaneous laceration) [28], while another report found that episiotomy was an independent risk factor for the breakdown of perineal repair [29]. Table 2 summarizes the major complications associated with episiotomy.

Table 2: Major complications attributed to episiotomy

Short-term complications	Long-term complications
Perineal lacerations	Chronic infections
Hemorrhage	Anorectal dysfunction
Wound site edema	Urinary incontinence
Wound site infection	Pelvic organ prolapse
Anal sphincter damage	Sexual dysfunction
Urethral and bladder injury	
Hematoma	
Pain	
Episiotomy dehiscence	

Effects on subsequent deliveries

It is apparent that the first-delivery episiotomy increases the risk of complex laceration in future vaginal deliveries. A study that investigated episiotomy at first delivery compared to no episiotomy found that women with a previous episiotomy were approximately three times more likely to develop severe perineal tears during the next delivery [30].

CONCLUSION

In conclusion, episiotomy is a surgical technique used to enlarge the birth canal by incising the perineum during the last part of the second stage of labor to facilitate vaginal delivery. An increased risk of perineal injury and wound-healing complications favors the restricted use of episiotomy. Although episiotomy may be helpful in some clinical settings, the judgment to perform episiotomy should be made on a case-by-case basis. Technique-wise, a mediolateral approach is favored over a median one due to the lower risk of anal sphincter laceration. Infections, pain, and dyspareunia are among the most reported complications of episiotomy. Future vaginal delivery might become complicated as a result of a previous episiotomy.

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