ROUTINE VS. SELECTIVE EPISIOTOMIES CAUSING SEVERE PERINEAL TEARS

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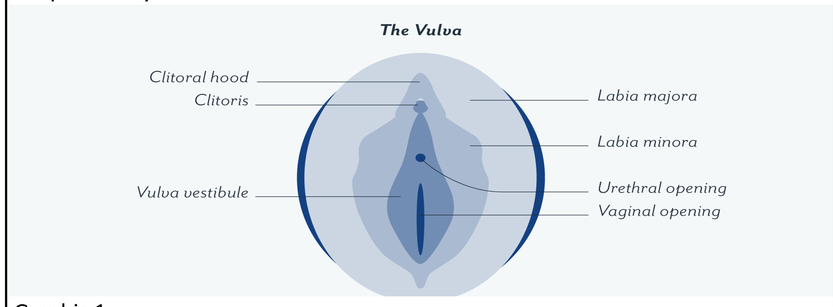
INTRODUCTION

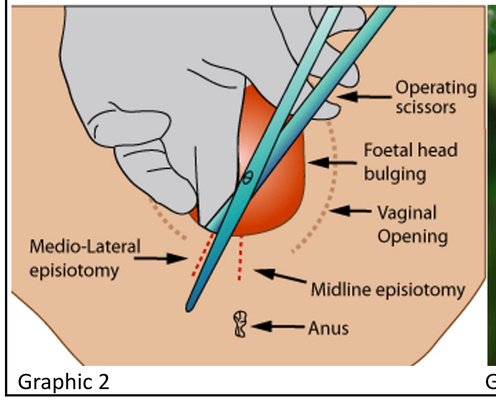
- A consequence of vaginal birth is severe perineal tearing, including third- and fourth-degree tears. Respectively, these tears extend into and through the anal sphincter.
- Potential consequences of tears: surgical repair, prolonged healing, fecal incontinence and painful intercourse.[2]
- According to several large studies, nulliparous women with severe perineal tears have a 5x increase in risk for a severe tear in subsequent pregnancies.[4,5,6,7]
- Nulliparous refers to women who have never given birth while multiparous refers to those who have had previous deliveries.
- How have tears been prevented medically? The use of an episiotomy procedure, either routinely or as needed.
- What's an episiotomy? An incision of the vaginal opening
- How is it performed? posteriorly at midline or mediolaterally.[1]
- When is it performed? Routine episiotomies are systematically carried out in the second stage of labor, while selective episiotomies are only performed in critical circumstances.
- Research is limited on selective versus routine episiotomies in nulliparous women.
- Current research on multiparous women shows there's less perineal trauma with selective compared to routine.[3]
- An in-depth review of research regarding the appropriate type of episiotomy is needed for first time mothers.



Graphic 1

CLINICAL QUESTION

Does the use of routine episiotomies reduce the chances of third- and fourth-degree perineal tears when compared to selective episiotomies in nulliparous women?



Graphic 2

Graphic 3

METHODS

- Google Scholar and the PubMed databases were searched in September 2019
- Terms searched: episiotomy, selective episiotomy, routine episiotomy, nulliparous, perineal tears, third-degree tears, fourth-degree tears, mediolateral episiotomy, and midline episiotomy.
- Results: 28 articles from PubMed and 236 articles from Google Scholar.
- Rejected results: study duplicates, meta-analyses, cohort studies, languages other than English, those not comparing perineal tears, and without clear conclusions.
- Of the remaining studies, 3 were chosen based on the study quality.
- Studies meeting criteria:
  - "A randomized control trial evaluating the prevalence of obstetrical anal sphincter injuries in primigravida in routine versus selective mediolateral episiotomy" by Sulaiman and associates
  - "Selective vs. routine midline episiotomy for the prevention of third- or fourth-degree lacerations in nulliparous women" by Rodriguez and associates
  - "Routine vs selective episiotomy: a randomized controlled trial" by Belazin and associates.
- Calculations: p-values and number needed to treat (NNT).

RESULTS

	Study #1 Rodriguez	Study #2 Sulaiman	Study #3 Belazin
Objective	To determine whether selective midline episiotomy prevents third- or fourth-degree perineal lacerations	To determine the prevalence of third- and fourth-degree perineal tears, referred to as obstetrical anal sphincter injuries, in primigravida in routine versus selective mediolateral episiotomy.	To determine if the routine use of episiotomies were advantageous over selective use of episiotomies in reducing the rates of severe perineal trauma during vaginal delivery.
Study Type	RCT	RCT	RCT
Sample Size	446	171	2606
Type of Episiotomy	Midline	Mediolateral	Mediolateral
Standard Treatment	Routine episiotomy	Routine episiotomy	Routine episiotomy
Conclusion	Selective midline episiotomy in nulliparous patients resulted in a significant reduction in the risk of third-degree perineal lacerations.	No statistical significance was found. Routine mediolateral episiotomy was associated with a higher prevalence of third- and fourth-degree perineal tearing.	No statistically significant results in the rate of third- or fourth-degree perineal tearing.
NNT	19 (95% CI)	40 (95% CI)	315 (95% CI)

Graphic 4

CONCLUSIONS

- A decision on whether selective vs. routine episiotomies are better in the setting of vaginal delivery cannot be distinguished.
- This is due to the variation in statistical significance seen throughout the studies.
- Despite the variation amongst these studies there was a trend of increased severe perineal tears in the presence of routine episiotomies vs. selective episiotomies.
- In conclusion, it is necessary for more research in order to make a distinction between the risks and benefits of selective vs. routine episiotomies in nulliparous vaginal delivery.

REFERENCES

1. Episiotomy. John Hopkins Medicine Web site. https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/episiotomy. Accessed Oct 30, 2019.
2. Vaginal tears in childbirth. Mayo Clinic Web site. https://www.mayoclinic.org/healthy-lifestyle/labor-and-delivery/multimedia/vaginal-tears/sls-20077129. Updated 2019. Accessed Oct 28, 2019
3. Carroli G, Mignini L. Episiotomy for vaginal birth. *Cochrane Database Syst Rev*. 2009;(1):CD000081. Published 2009 Jan 21. doi:10.1002/14651858.CD000081.pub2
4. Spydslaug A, Trogstad LIS, Skrondal A, Eskild A. Recurrent risk of anal sphincter laceration among women with vaginal deliveries. *Obstet Gynecol.* 2005;105:307–13.
5. Baghestan E, Irgens LM, Bordahl PE, Rasmussen S. Risk of recurrence and subsequent delivery after obstetric anal sphincter injuries. *BJOG.* 2012;119:62–9.
6. Elfaghi I, Johansson-Ernste B, Rydhstroem H. Rupture of the sphincter ani: the recurrence rate in second delivery. *BJOG.* 2004;111:1361–4.
7. Jango H, Langhoff-Roos J, Rosthoj S, Sakse A. Risk factors of recurrent anal sphincter ruptures: a population-based cohort study. *BJOG*. 2012;119:1640–7.
8. Rodriguez A, Arenas EA, Osorio AL, Mendez O, Zuleta JJ. Selective vs routine midline episiotomy for the prevention of third- or fourth-degree lacerations in nulliparous women. *American Journal of Obstetrics and Gynecology*. 2008;198(3):285.
9. Berkowitz MD, Foust-Wright MD. Approach to episiotomy. Post TW, ed. UpToDate.Waltham, MA: UpToDate Inc. https://www.uptodate.com/contents/approach-to-episiotomy?search=episiotomy&source=search_result&selectedTitle=1~59&usage_type=default&display_rank=1#H2717687518 (Accessed on October 30, 2019)
10. Sulaiman AS, Ahmad S, Ismail NAM, Rahman RA, Jamil MA, and Dali AZM. A randomized control trial evaluating the prevalence of obstetrical anal sphincter injuries in primigravida in routine versus selective mediolateral episiotomy. *Saudi Med J*. 2013;34(8):819-823.
11. Belazin J, Campodonico L, Carroli G, and Gonzalez L. Routine vs selective episiotomy: A randomised controlled trial. *The Lancet*. 1993;342(8886):1517-1518. doi: 10.1016/S0140-6736(05)80085-6.
12. Vaginal Diagram https://helloclue.com/articles/cycle-a-z/vaginas-101
13. Episiotomy http://theconversation.com/episiotomy-during-childbirth-not-just-a-little-snip-36062
14. Flower: https://www.womenshealthmag.com/health/a19956532/vaginal-sores-and-bumps-to-know/
15. Pregnant bellies https://www.endocrineweb.com/sites/default/files/imagecache/gallery-large/wysiwyg_imageupload/37373/2018/04/17/PregnantWomen_55292191_M.jpg