Perineal Laceration Repair

Todd Shaffer, MD, Professor and Program Director, University of Missouri Kansas City Family Medicine Residency Program, Kansas City
ACTIVITY DISCLAIMER

The material presented here is being made available by the American Academy of Family Physicians for educational purposes only. This material is not intended to represent the only, nor necessarily best, methods or procedures appropriate for the medical situations discussed. Rather, it is intended to present an approach, view, statement, or opinion of the faculty, which may be helpful to others who face similar situations.

The AAFP disclaims any and all liability for injury or other damages resulting to any individual using this material and for all claims that might arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by a physician or any other person. Every effort has been made to ensure the accuracy of the data presented here. Physicians may care to check specific details such as drug doses and contraindications, etc., in standard sources prior to clinical application. This material might contain recommendations/guidelines developed by other organizations. Please note that although these guidelines might be included, this does not necessarily imply the endorsement by the AAFP.
Objectives

1. Classify perineal lacerations as first, second, third or fourth degree tears.

2. Demonstrate proficiency in suturing tears to the perineal skin, muscles and vaginal tissues.
Written permission has been received to use the following slides from the Advanced Life Support in Obstetrics (ALSO®) Provider Course Syllabus. The American Academy of Family Physicians owns the ALSO Program and it’s copyright.
Reference to laceration repair dates back to Hippocrates

Incidence of lacerations was increasing but has stabilized

Parallels the use of episiotomy

Repair technique has been fine tuned using an evidence based approach
Associated Factors I

- Episiotomy
  - midline > mediolateral
- Delivery with stirrups
  - delivery table, lithotomy position
- Operative delivery
  - forceps > vacuum
- Increasing birth weight
Associated Factors II

- Prolonged 2nd stage of labor
- Nulliparity
- OT or OP positions
- Anesthesia - local and epidural
- Younger age
- Use of oxytocin
## Classification of Lacerations

<table>
<thead>
<tr>
<th>Degree of laceration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First degree</td>
<td>Superficial laceration of the vaginal mucosa or perineal body</td>
</tr>
<tr>
<td>Second degree</td>
<td>Laceration of the vaginal mucosa and/or perineal skin and deeper subcutaneous tissues</td>
</tr>
<tr>
<td>Third degree</td>
<td>Second degree laceration with laceration of the capsule and part (but not all) of the external anal sphincter muscle</td>
</tr>
<tr>
<td></td>
<td>As above with complete laceration of the external anal sphincter muscle</td>
</tr>
<tr>
<td>Fourth degree</td>
<td>Laceration of the rectal mucosa</td>
</tr>
</tbody>
</table>
Prevention

- Avoid operative delivery
  - Vacuum if needed
- Avoid episiotomy
- Antenatal perineal massage
- Lateral birth position
- Perineal warm packs during 2\textsuperscript{nd} stage
Prior to Repair

- Evaluate laceration
- Prepare equipment
  - Instruments
  - Sutures
- Call for assistance
- Provide
  - Analgesia
  - Lighting
  - Visualization
Equipment

- Sponges
- Vaginal pack
- Irrigation
- 2 Allis clamps
- Needle holder

- Sharp tooth tissue forceps
- Sutures
  - Polyglycolic acid derivative
  - 2-0 & 3-0
- Local anesthesia
Anesthesia

- Provide perineal analgesia
- Local vs. pudendal vs. regional vs. inhalation
- Anesthetics:
  - Lidocaine
  - Bupivacaine
  - Chloroprocaine
Innervation of Perineum

- Ilioinguinal and genitofemoral nerve
- Dorsal nerve of clitoris
- Labial nerve
- Inferior rectal nerve
- Perineal branch posterior femoral cutaneous nerve
- Coccygeal and last sacral nerve
Rectal Mucosa

- Identify apex
- Begin closure above apex
- Close with running or interrupted 3-0 polyglycolic suture
- Transmucosal sutures not recommended
**Internal Anal Sphincter Closure**

- Identify the internal anal sphincter
  - Longitudinal fibromuscular layer
  - Between the rectal mucosa and the external anal sphincter
- Close with running locked 3-0 polyglycolic suture
Rectovaginal Septum

- Goal:
  - Decreased dead space
  - Strengthened septum
- Reapproximate rectovaginal fascia
- Run 2-0 polyglycolic suture
- Repair may occur before or after external anal sphincter
- Avoid entry into rectal lumen
External Anal Sphincter

• End-to-end traditional
  ‣ Taught as primary method in ALSO
• Overlap a newer technique
• Some heterogeneity in the evidence but the end-to-end technique seems to have better continence outcomes
External Anal Sphincter: end-to-end

- Identify ends of sphincter
- Grasp with Allis clamps
- Reapproximate with at least four 2-0 polyglycolic sutures
- Don’t strangulate
External Anal Sphincter:

- Similar to end-to-end
- Grasp with Allis clamps
- Reapproximate with at least four 2-0 polyglycolic sutures
- Overlap muscle as shown
• Begin above apex
• Use polyglycolic suture
• Close to hymeneal ring
• Suture placed deep enough to repair rectovaginal septum but not into rectal lumen

Vagina
Perineal muscles

- Hymenal ring
- Rectovaginal septum
- Torn ends of bulbocavernousus muscle
- Torn ends of transverse perineal muscle
- External anal sphincter
Perineal Body

- New suture, or continue with vaginal suture
- Assess defect
- Close in 1 or 2 layers
- Place “crown stitch” and complete closure
Repair of perineal body muscles: Bulbocavernosism (bulbospongiosism)
Perineum Skin

- Continue stitch as a subcuticular closure
- Transepithelial stitches not recommended due to increased pain
- Leaving skin unsutured is an option if minimal gap after muscles repaired
- Complete closure by bringing suture into vagina for tying
Evaluation of Surgical Repair

- Assure correct sponge, instrument count
- Vaginal exam to assess repair, look for other lacerations
- Rectal exam for:
  - Palpable defects
  - Intact rectal sphincter
    - “Squeeze my finger”
- Consider need to revise repair if problems noted, but may not be beneficial in case of suture in rectal lumen
- Prepare operative note
The Complicated Repair

- Lateral and multidirectional extensions
- Hemorrhage
- Pain

Consider:
- Additional anesthesia or regional anesthesia
- Additional assistance
- Consultation
Complications

- Infection
- Dehiscence
- Hematoma
- Rectovaginal fistula
- Rectocutaneous fistula
- Perineal abscess
- Anal incontinence
- Dyspareunia
Etiology of Complications I

- Infection
- Hematoma
- Poor tissue approximation
- Obesity
- Poor perineal hygiene
- Malnutrition
- Anemia
- Constipation
- Blunt or penetrating trauma
Etiology of Complications II

- Forceful coitus
- Cigarette smoking
- Inflammatory bowel disease
- Connective tissue disease
- Prior pelvic radiation
- Hematologic disease
- Endometriosis
Summary

- Avoid episiotomy and operative vaginal delivery
- Identification of depth of laceration and anatomy is essential
- Ensure adequate lighting
- Provide hemostasis and good approximation of tissue planes
- Examine repair and rectum
- Stay vigilant for post-op infection and treat judiciously
Evaluate sessions at

www.aafp.org/nc/evals

For each evaluation completed, you will be entered into a prize drawing for a $100 gift card.
Keep Up with National Conference

www.facebook.com/aafpnc

@aafpnc
(and use the hashtag #aafpnc)