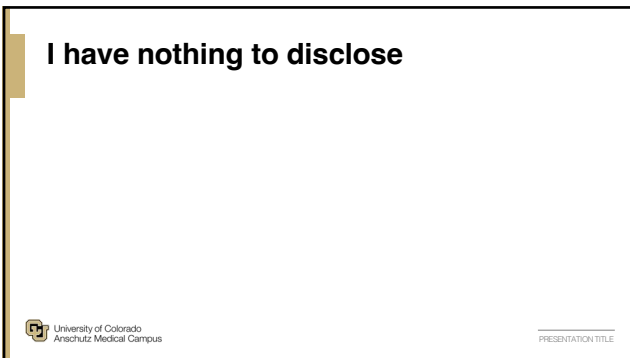
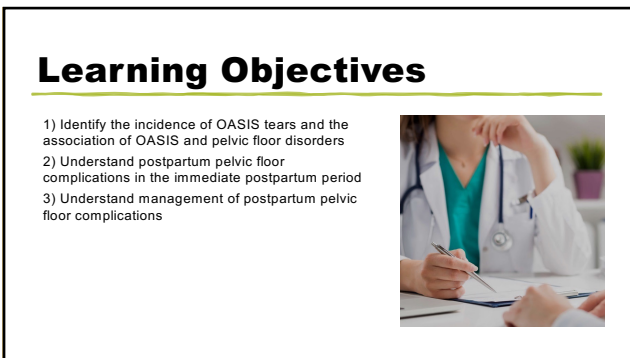




1



2



3

Incidence of OASIS injuries

- Overall OASIS risk: 6.3%
- Risk of OASIS in the first delivery: 5.7%
- Risk in parous women with no previous OASIS: 1.5%

4

Risk factors for OASIS Injuries

Vaginal delivery	Operative vaginal delivery	Episiotomy	Fetal macrosomia
Prolonged second stage	Fetal occiput posterior presentation	Increasing maternal age	

5

Operative vaginal delivery

- Forceps is associated with a greater risk of OASIS than vacuum delivery, but the data are conflicting
- In one study, OASIS occurred in 24% of vacuum-assisted deliveries compared to 4% NSVD
- In a study of over 100,000 spontaneous vaginal deliveries, OASIS occurred in 8.6% of forceps deliveries, 3.7% of vacuum-assisted vaginal deliveries, and 1.3% of NSVD
- Small cohort studies have reported the diagnosis of delayed OASIS in over 80% of women with forceps-assisted deliveries

6

Oasis injuries and pelvic floor disorders

OASIS increases the risk of subsequent loss of bowel control

Studies have reported postpartum fecal incontinence rates up to 28% in women with OASIS, compared with rates of 1 to 10% for women delivered without OASIS

7

Additional long-term sequelae

Perineal pain

Dyspareunia

Defecatory dysfunction

Urinary incontinence

8

Prognosis

For women with primary OASIS, the risk of repeat OASIS in a future vaginal delivery is approximately 3 to 5%

Women with two prior OASIS have been reported to have a 10-fold increased risk for sphincter injury in next pregnancy

9

Pelvic floor muscles!

- Ischioavernosis
- Bulbocavernosus
- Transverse perinei
- External anal sphincter
- Gluteus maximus

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PRESENTATION TITLE

10

Anorectal Anatomy!

Internal anal sphincter is responsible for 85% of continence

(5)

11

Perineal Lacerations

Box 1. Classification of Perineal Lacerations

First degree: Injury to perineal skin only

Second degree: Injury to perineum involving perineal muscles but not involving anal sphincter

Third degree: Injury to perineum involving anal sphincter complex

3a: Less than 50% of external anal sphincter thickness torn

3b: More than 50% external anal sphincter thickness torn

3c: Both external anal sphincter and internal anal sphincter torn

Fourth degree: Injury to perineum involving anal sphincter complex (external anal sphincter and internal anal sphincter) and anal epithelium

Modified from American College of Obstetricians and Gynecologists: Obstetric data definitions (version 1.0), Washington, DC: American College of Obstetricians and Gynecologists; 2014. Available at: <http://www.acog.org/~/media/Departments/Patient-Safety-and-Quality-Improvement/2014-ACOG-Obstetrics-Data-Definitions/1.0.pdf>. Retrieved April 29, 2016. ©

12

First degree laceration

Laceration of the vaginal epithelium or perineal skin only

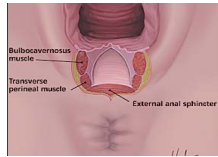


A First degree

13

Second degree laceration

Laceration of the perineal muscles, but not the anal sphincter complex



14

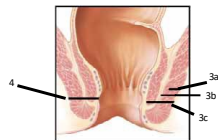
Third degree laceration

Disruption of the anal sphincter muscles

3a - <50% thickness of EAS

3b - >50% thickness of EAS

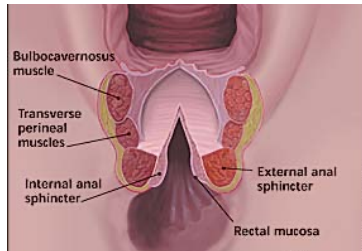
3c - IAS also involved



15

Fourth degree laceration

Disruption of the anal sphincter complex with involvement of the anal epithelium



16

Immediate repair versus delayed repair after delivery

Factors that may favor waiting 8-12 hours to repair...

- Lack of anesthesia services
- Lack of OR availability
- Inadequate training of OB provider

In one study, women were randomly assigned to immediate repair or delayed repair. Rates of fecal incontinence at 1 year were comparable

17

Antibiotics – recommendations from ACOG

01

In a randomized controlled trial in which patients received a single dose of a second-generation cephalosporin versus placebo, there were significantly lower rates of postpartum wound complications at 2 weeks (8% versus 24%, P=.04)

02

A single dose of antibiotic at the time of repair is recommended in the setting of OASIS

03

Unclear if patients need oral dose after repair

18

Aseptic technique during initial repair

- May be the most important factor to prevent breakdown
- In one study, aseptic technique at the time of initial repair with povidone-iodine powder was associated with decreased risk of breakdown – 3.5% vs. 13.5%
- The 2007 National Institute for Health and Clinical Excellence guidelines as well as the Royal College of Obstetricians and Gynaecologists recommend using aseptic techniques during perineal repair

19

Perineal care after OASIS injury to prevent infection and/or breakdown

- Hygiene
- Pain management
- Constipation prevention
- Delay of sexual activity

20

When to see patients postpartum?

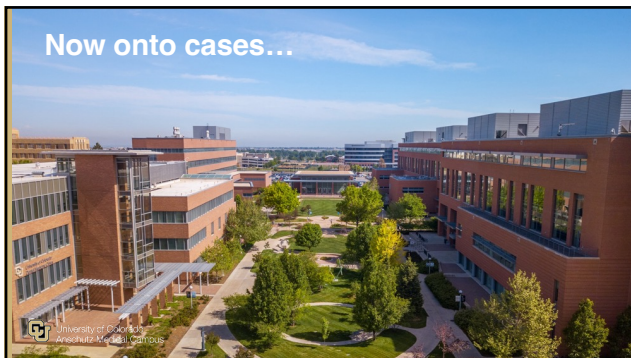
- Expert opinion recommends close follow up: 1-2 weeks postpartum
- Our practice routinely see all patient with OASIS injuries without breakdown at 6 weeks postpartum and immediately if they have a breakdown

21

Role of pelvic floor physical therapy

- Pelvic floor physical therapy has been shown to improve urinary and fecal incontinence at 12 months postpartum
- The addition of biofeedback physiotherapy has been suggested as a way to improve motor and sensory function
- We routinely refer postpartum patients with a history of OASIS injury to pelvic floor physical therapy at 8 weeks postpartum

22



23

31 year old 11 days s/p NSVD complicated by a 3c laceration presents for a perineal check to her OB

Patient states she felt "a pop down there"

No fevers at home, no foul-smelling discharge

Exam shows breakdown of her perineal laceration

24

3c breakdown 11 days postpartum

Preoperative




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The image shows a preoperative view of a perineal laceration. The laceration is a deep, vertical tear in the perineal skin, extending from the anal opening upwards. The surrounding tissue is red and inflamed. The patient is lying on their back, and the perineal area is prepped for surgery.

25

Risk of wound complications following OASIS injury

- 25% - wound breakdown
- 20% - wound infection
- Most complications occur in the first 2 weeks

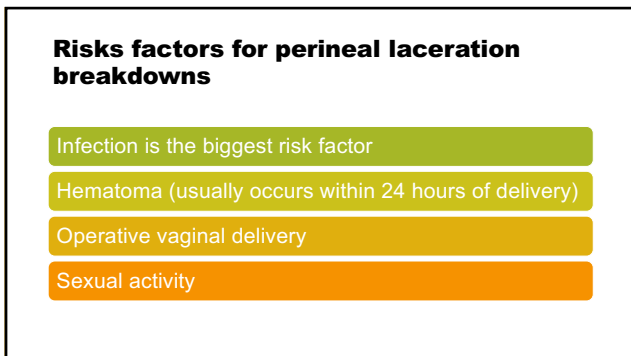


The infographic features a green background with a white circle containing the text. A dashed blue line forms a partial circle around the text. A small yellow circle is positioned at the bottom right of the white circle.

26

Risks factors for perineal laceration breakdowns

- Infection is the biggest risk factor
- Hematoma (usually occurs within 24 hours of delivery)
- Operative vaginal delivery
- Sexual activity



The infographic has a white background with a black border. The text is arranged in a list format. Each list item is enclosed in a colored rectangular box: light green for 'Infection is the biggest risk factor', light yellow for 'Hematoma (usually occurs within 24 hours of delivery)', light orange for 'Operative vaginal delivery', and dark orange for 'Sexual activity'.

27

Symptoms requiring evaluation

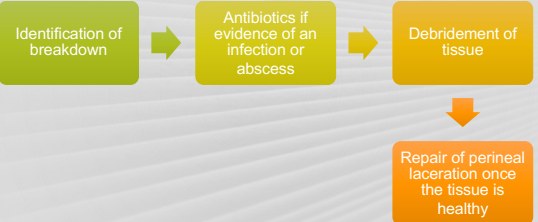
Severe pain

Foul smelling discharge

Fecal incontinence

28

Approach to repair of perineal laceration breakdown

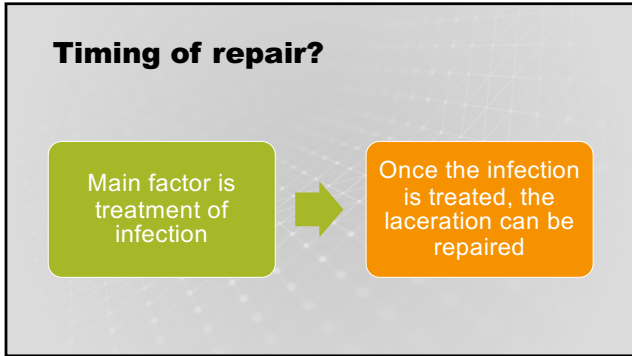


29

Timing of Repair?

- ACOG does not give specific recommendations
- From Pearls of Exoexcellence: "Controversy exists regarding immediate versus delayed repair of all perineal breakdown...Conventional practice has been to delay repair for two to three months to ensure complete tissue recovery prior to attempted repair and allow for possible spontaneous healing. Delayed repair is challenging for patients who often suffer from anal incontinence, inability to resume sexual activity, and pain...Once all signs of infection had completely resolved, a repair was performed. In these series, perineal repair was attempted as early as 7 to 10 days following delivery. There is currently insufficient evidence to provide a definitive recommendation for early or delayed repair for perineal wound dehiscence."
- Many studies in the 1990s showed similar outcomes of early repairs of the anal sphincter complex after laceration breakdown versus the traditional 3-4 month delayed repair
- One study performed between 2013 and 2018 showed successful early repair of anal sphincter laceration breakdown versus delayed repair

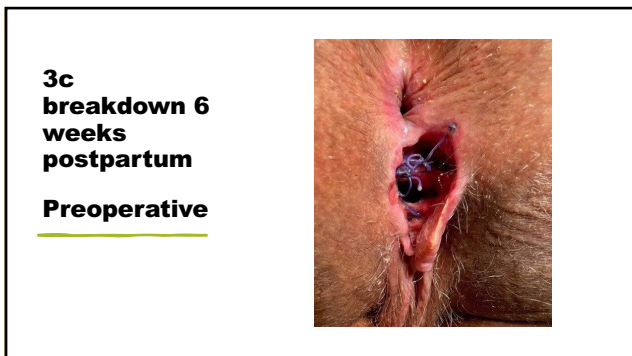
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31



32



33

**Postoperative -
Vaginal Repair**



34

**Postoperative -
Sphincter
Repair**



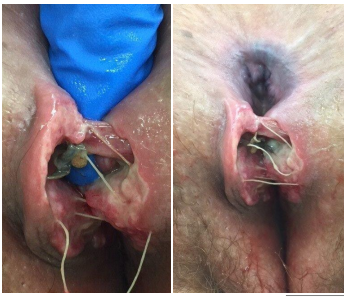
35

**3c
breakdown -
Preoperative**



36

4th Degree breakdown
Preoperative



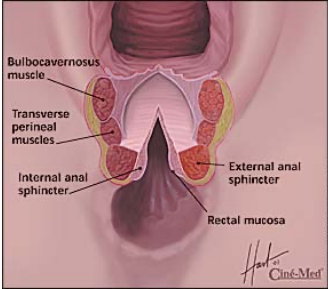
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Fourth Degree Laceration Repair

- Rectal Mucosa
 - Reapproximate anal mucosa with 4-0 vicryl interrupted or running suture
 - Place first suture 1cm above apex

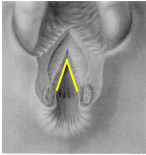


Hart
© 2003 BROOKS HART

38

Internal Anal Sphincter

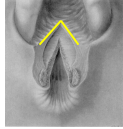
The IAS is the rubbery layer overlying the rectal mucosa
Repair with interrupted sutures
Use delayed absorbable suture material (2-0 PDS)



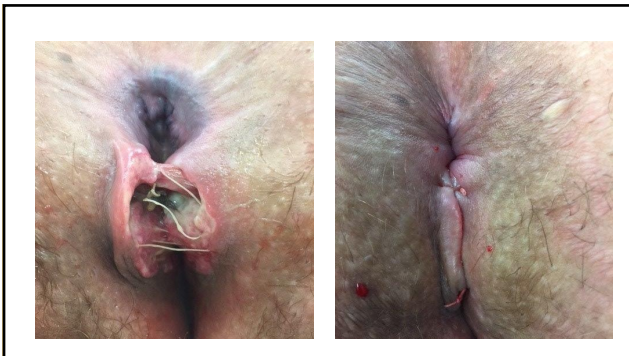
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External Anal Sphincter

Repair EAS with interrupted sutures (PISA)
No clear data on suture type
Vicryl
PDS/Delayed absorbable

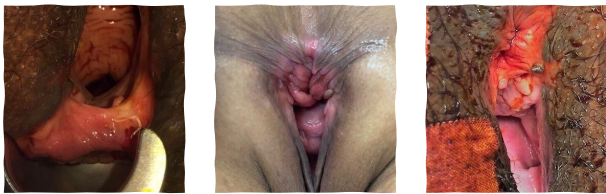


40



41

Cloaca



42

Cloaca



43

27 year old s/p
FAVD

2nd degree
laceration

Presents to ED 5
days s/p delivery
complaining of
pain

CT negative for
abscess

IV antibiotics
given for 2 days

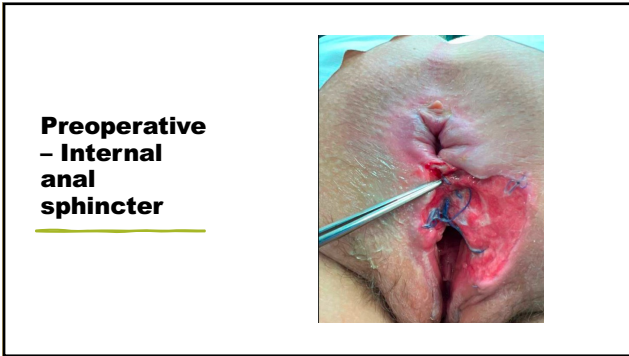
Seen in our clinic
5 days after
hospital
admission

44

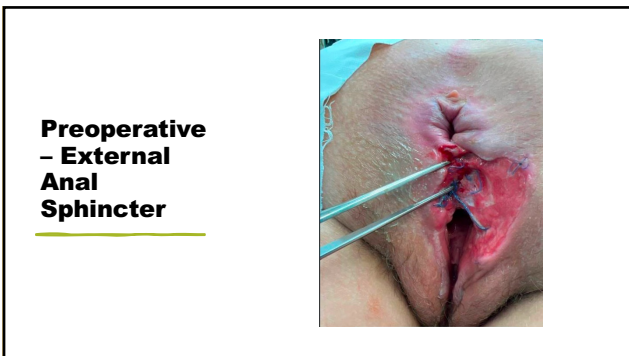
Preoperative



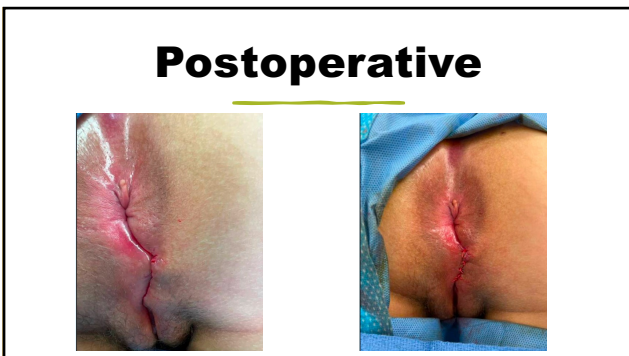
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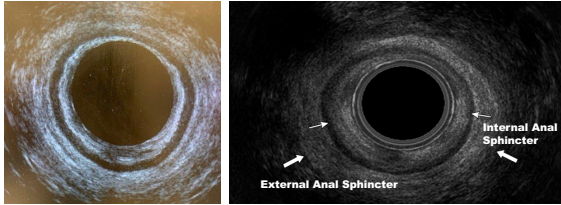
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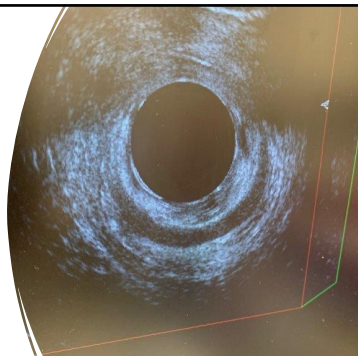
Endoanal Ultrasound

- Useful in diagnosing internal and external sphincter defects
- May be useful immediately postpartum or for undiagnosed injuries later in life



49

Endoanal ultrasound – anterior defect



50

Endoanal ultrasound – should we perform on all patients?

- In a randomized controlled trial, women with lacerations were allocated to either clinical examination and laceration repair or endoanal ultrasound and laceration repair.
- No differences reported in fecal incontinence symptoms at 3 months or 1 year postpartum
- In one study, 24% of women diagnosed with a sphincter tear by endoanal ultrasound did not have confirmation of anal sphincter damage at the time of surgery, which may describe a high false positive rate for sphincter injury
- Not routinely performed in postpartum population

51

What to do in subsequent pregnancies?

- Expert opinion recommends that if a woman had a breakdown of her laceration repair, suffered fecal incontinence post delivery, or expressed suffering psychological trauma from her birthing experience that it is reasonable to offer her a planned cesarean section
- Decision made based on clinical presentation and symptoms

52

Takeaway points

- Overall incidence of OASIS injury is 6.3%
- Operative delivery is a major risk factor for OASIS injuries
- Fecal incontinence occurs in 28% of women after OASIS injuries
- Aseptic technique and antibiotics at the time of initial repair decreases risk of breakdown
- Infection is the main risk factor for breakdown of laceration repair
- Once infection has been treated, immediate repair of laceration may be warranted
- Pelvic floor physical therapy has been proven to improve urinary and fecal incontinence at 1 year postpartum
- Refer to urogynecology!!

53

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54

