



University of Colorado **Anschutz Medical Campus**

Postpartum Laceration Complications and Management

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I have nothing to disclose

Learning Objectives

- 1) Identify the incidence of OASIS tears and the association of OASIS and pelvic floor disorders
- 2) Understand postpartum pelvic floor complications in the immediate postpartum period
- 3) Understand management of postpartum pelvic floor complications



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%

Risk factors for OASIS Injuries

Vaginal
delivery

Operative
vaginal
delivery

Episiotomy

Fetal
macrosomia

Prolonged
second
stage

Fetal occiput
posterior
presentation

Increasing
maternal
age

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

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

Additional long-term sequelae

Perineal pain

Dyspareunia

Defecatory dysfunction

Urinary incontinence

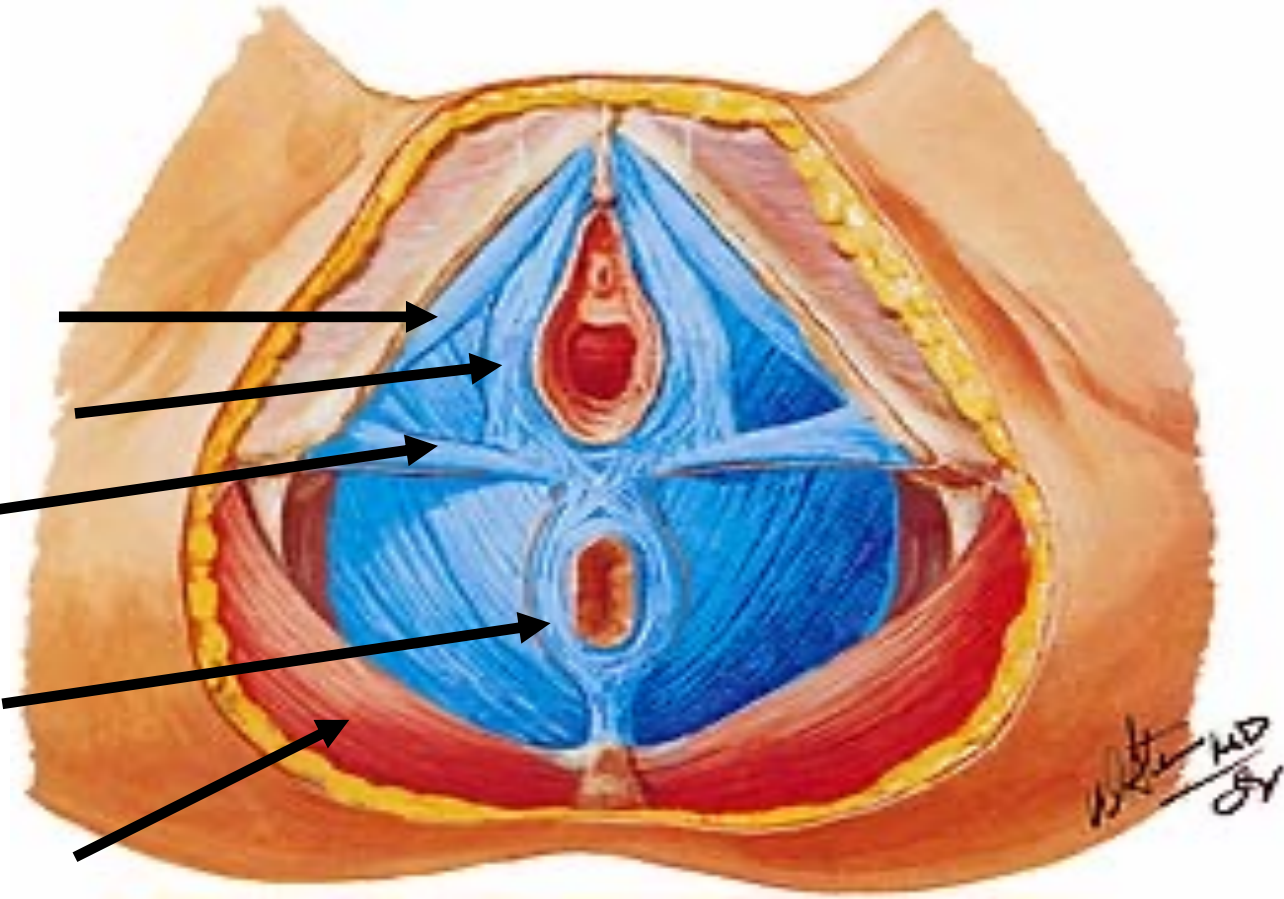
Prognosis

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

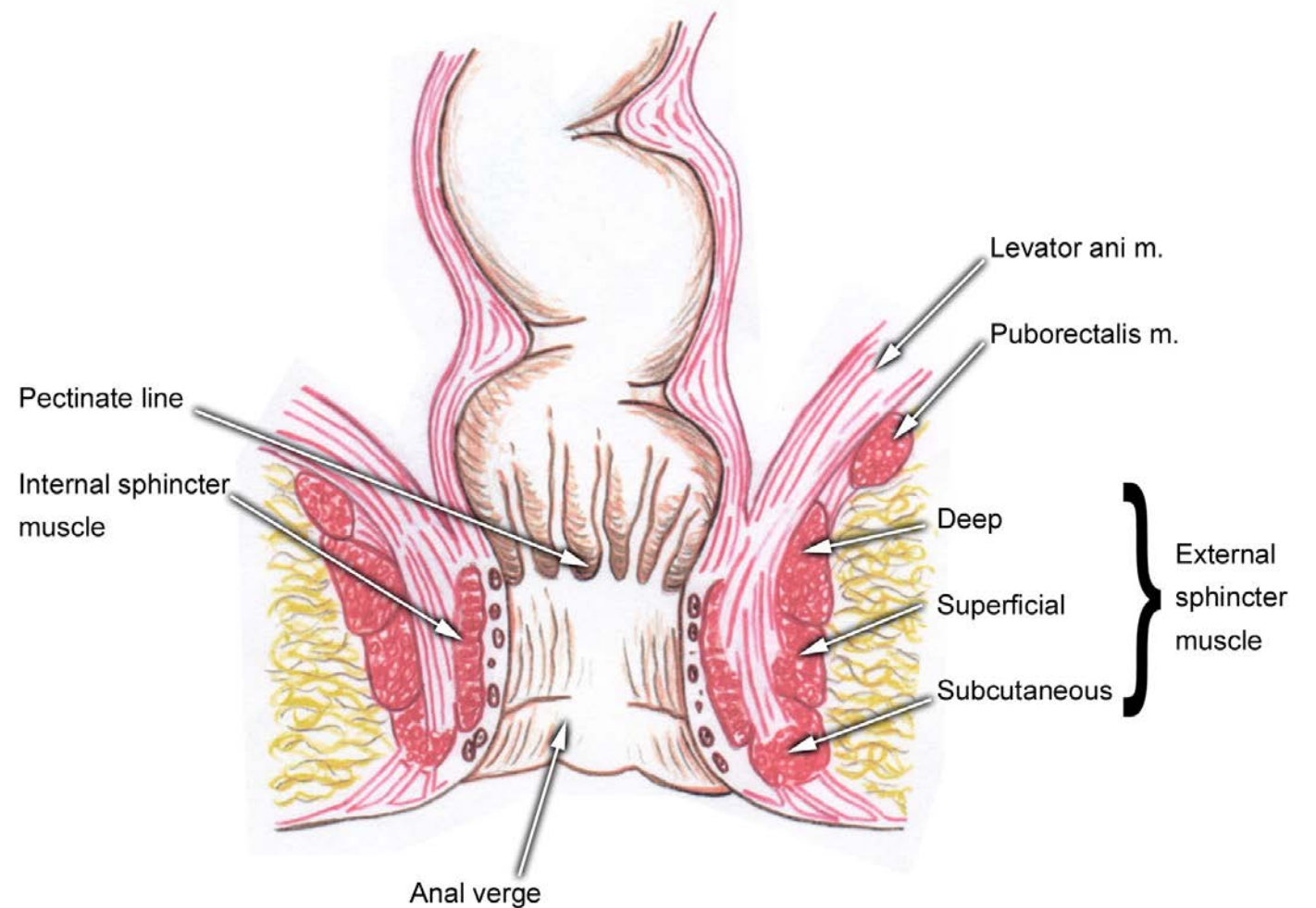
Pelvic floor muscles!

- Ischiocavernosus
- Bulbocavernosus
- Transverse perineii
- External anal sphincter
- Gluteus maximus



Anorectal Anatomy!

Internal anal sphincter is responsible for 85% of continence



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/2014reVITALizeObstetricDataDefinitionsV10.pdf>. Retrieved April 29, 2016. ←

First degree laceration

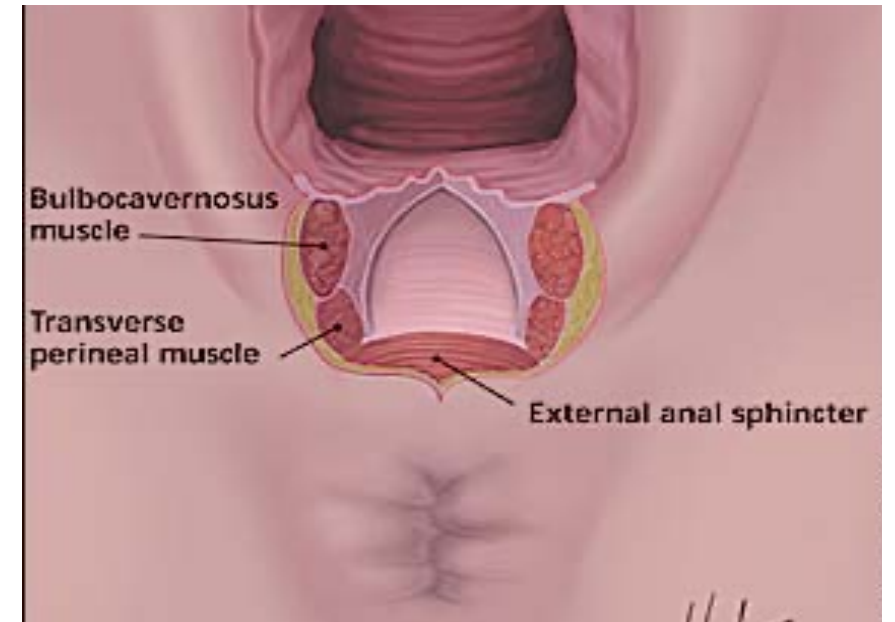
Laceration of the vaginal epithelium or perineal skin only



A First degree

Second degree laceration

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



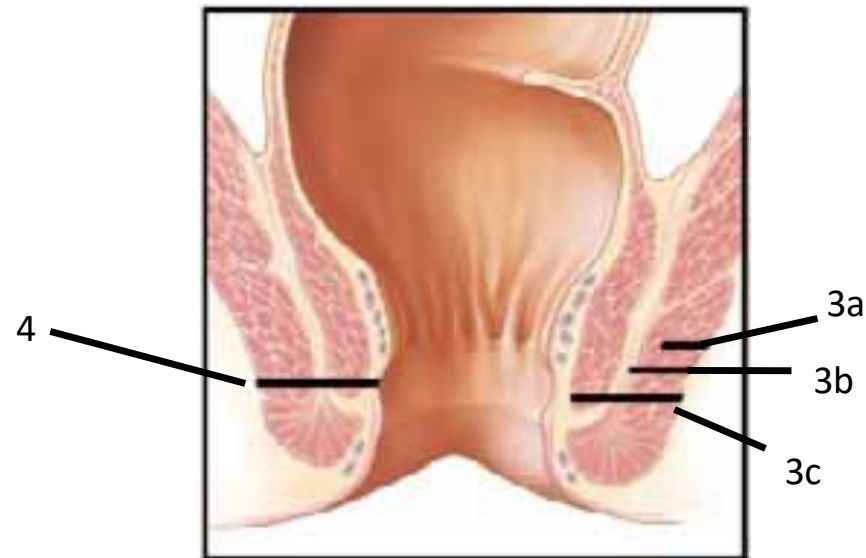
Third degree laceration

Disruption of the anal sphincter muscles

3a – <50%
thickness of EAS

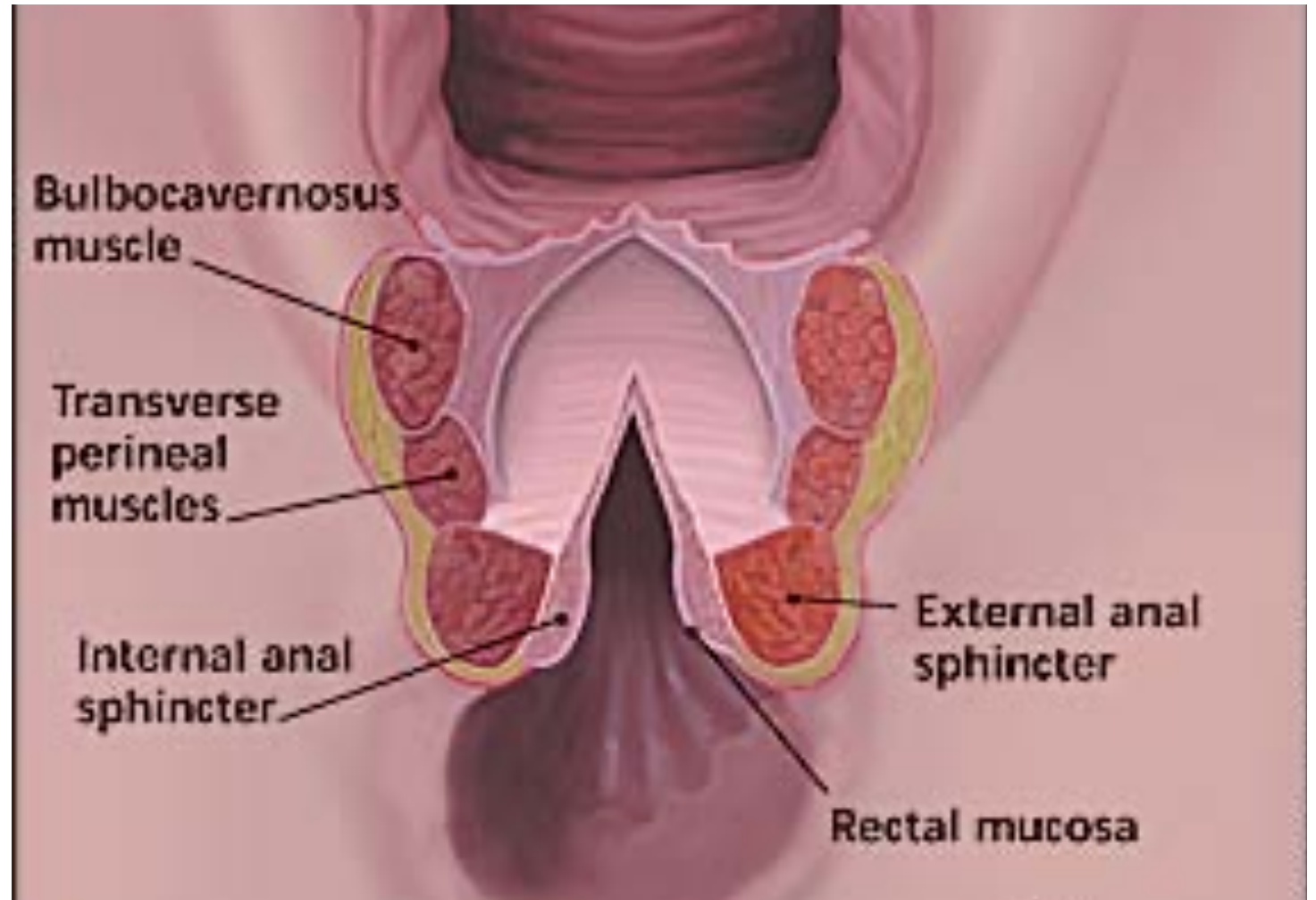
3b – >50%
thickness of EAS

3c – IAS also
involved



Fourth degree laceration

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



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

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



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

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

Hygiene

Pain
management

Constipation
prevention

Delay of
sexual
activity

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 8 weeks postpartum and
immediately if they have a
breakdown

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

Now onto cases...



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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

3c breakdown 11 days postpartum

Preoperative



Risk of wound complications following OASIS injury

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

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

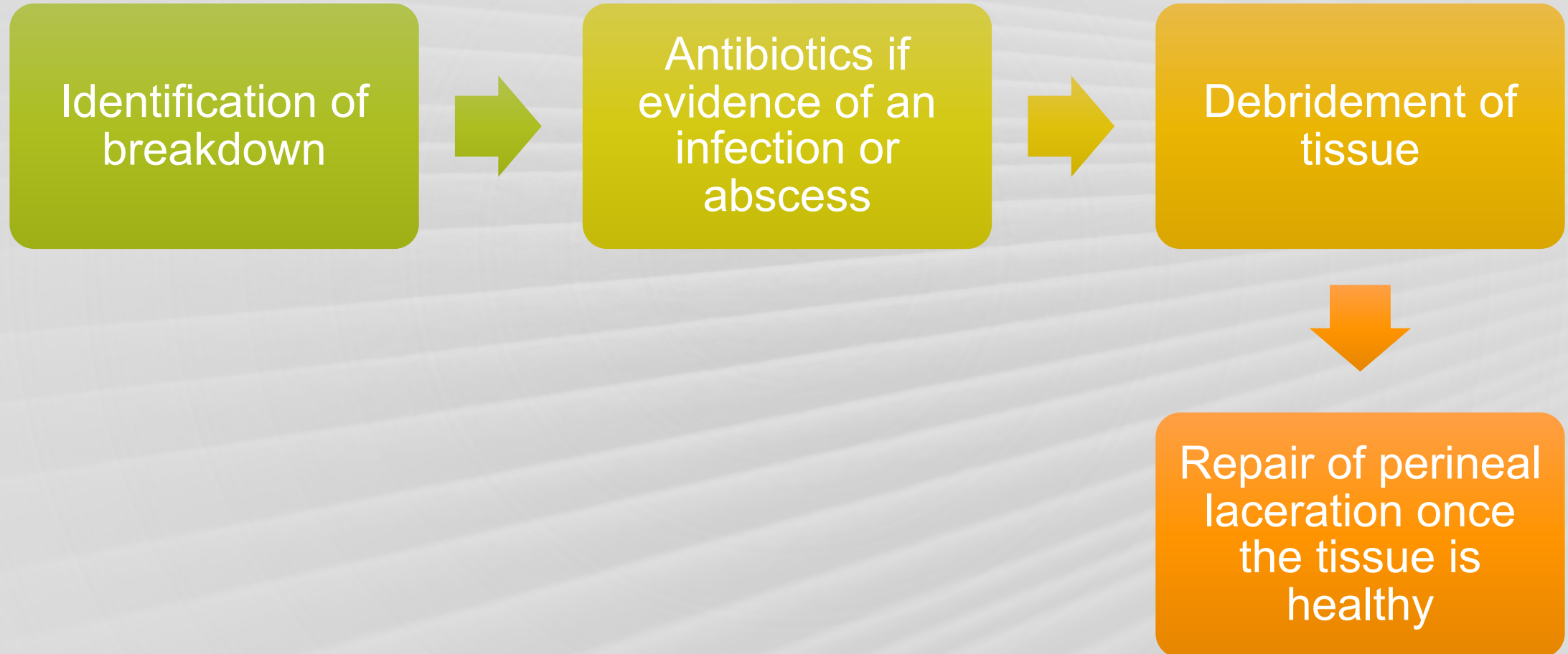
Symptoms requiring evaluation

Severe pain

Foul smelling discharge

Fecal incontinence

Approach to repair of perineal laceration breakdown



Timing of Repair?

- ACOG does not give specific recommendations
- From Pearls of Excellence: “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

Timing of repair?

Main factor is
treatment of
infection



Once the infection
is treated, the
laceration can be
repaired



3c
breakdown 6
weeks
postpartum

Preoperative



Postoperative – Vaginal Repair



Postoperative – Sphincter Repair



3c
breakdown –
Preoperative

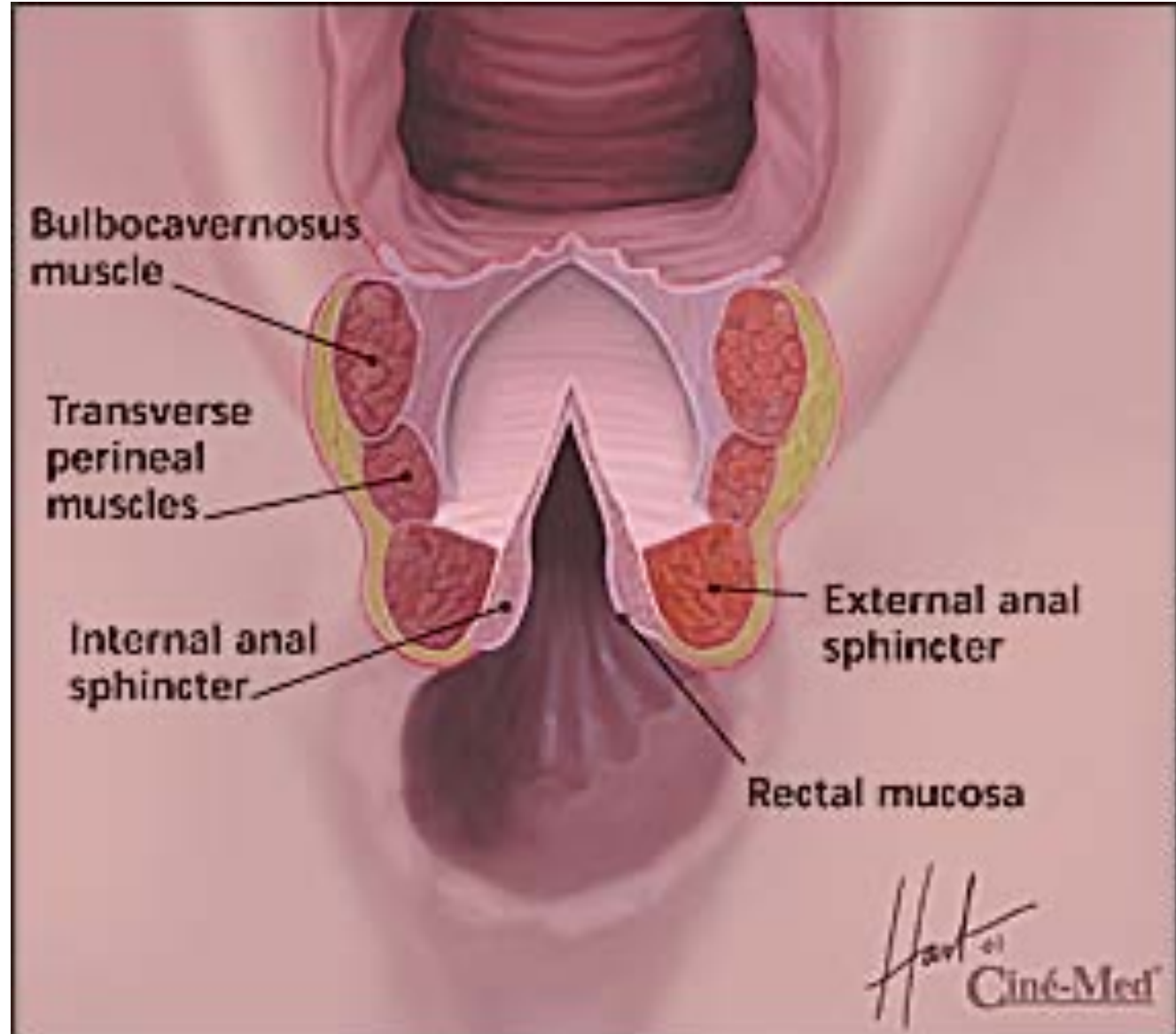


**4th Degree
breakdown
Preoperative**



Fourth Degree Laceration Repair

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

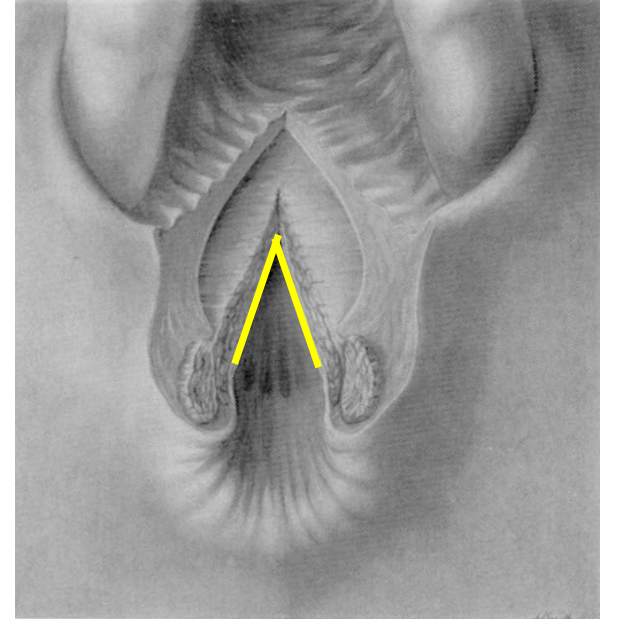


Internal Anal Sphincter

The IAS is the rubbery layer overlying the rectal mucosa

Repair with interrupted sutures

Use delayed absorbable suture material (2-0 PDS)



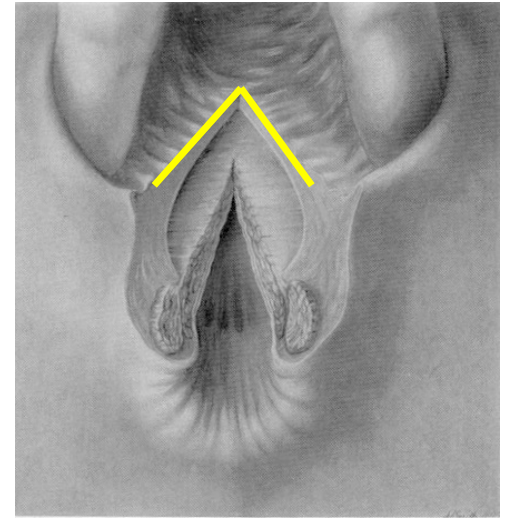
External Anal Sphincter

Repair EAS with interrupted sutures (PISA)

No clear data on suture type

Vicryl

PDS/Delayed absorbable



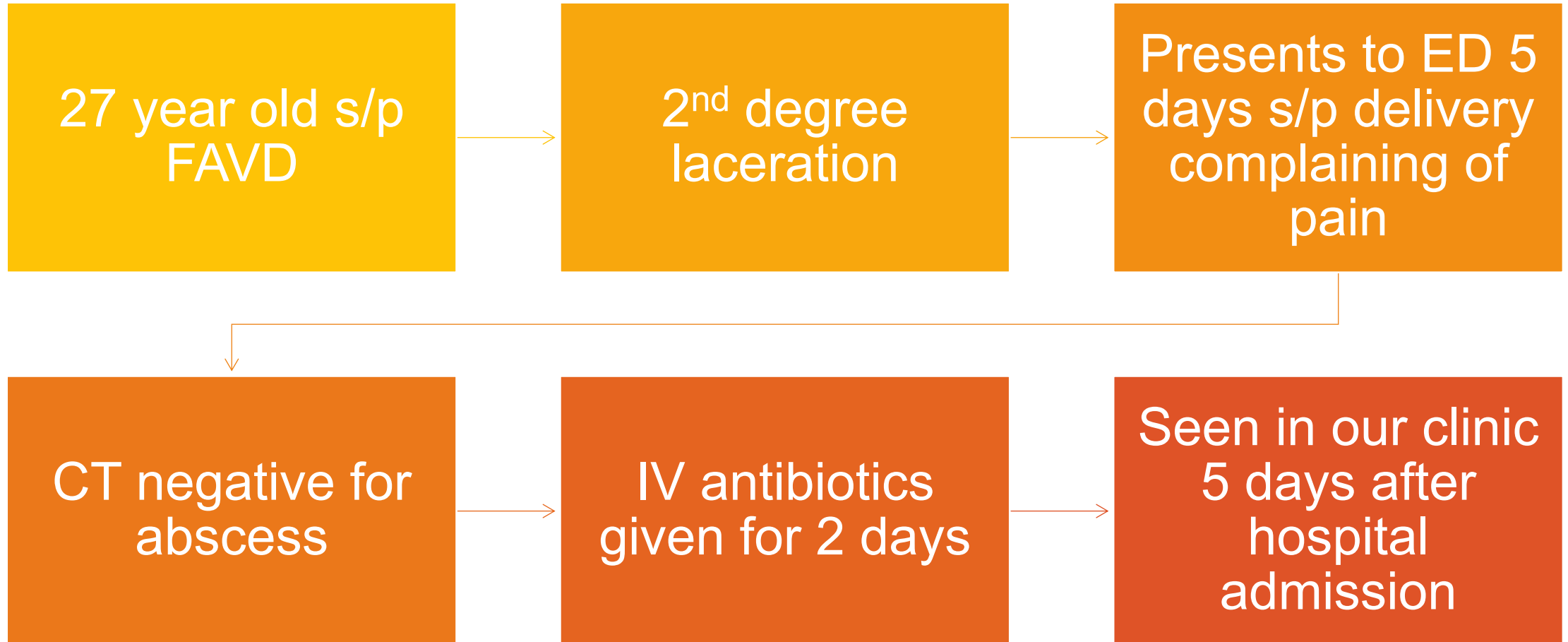


Cloaca



Cloaca

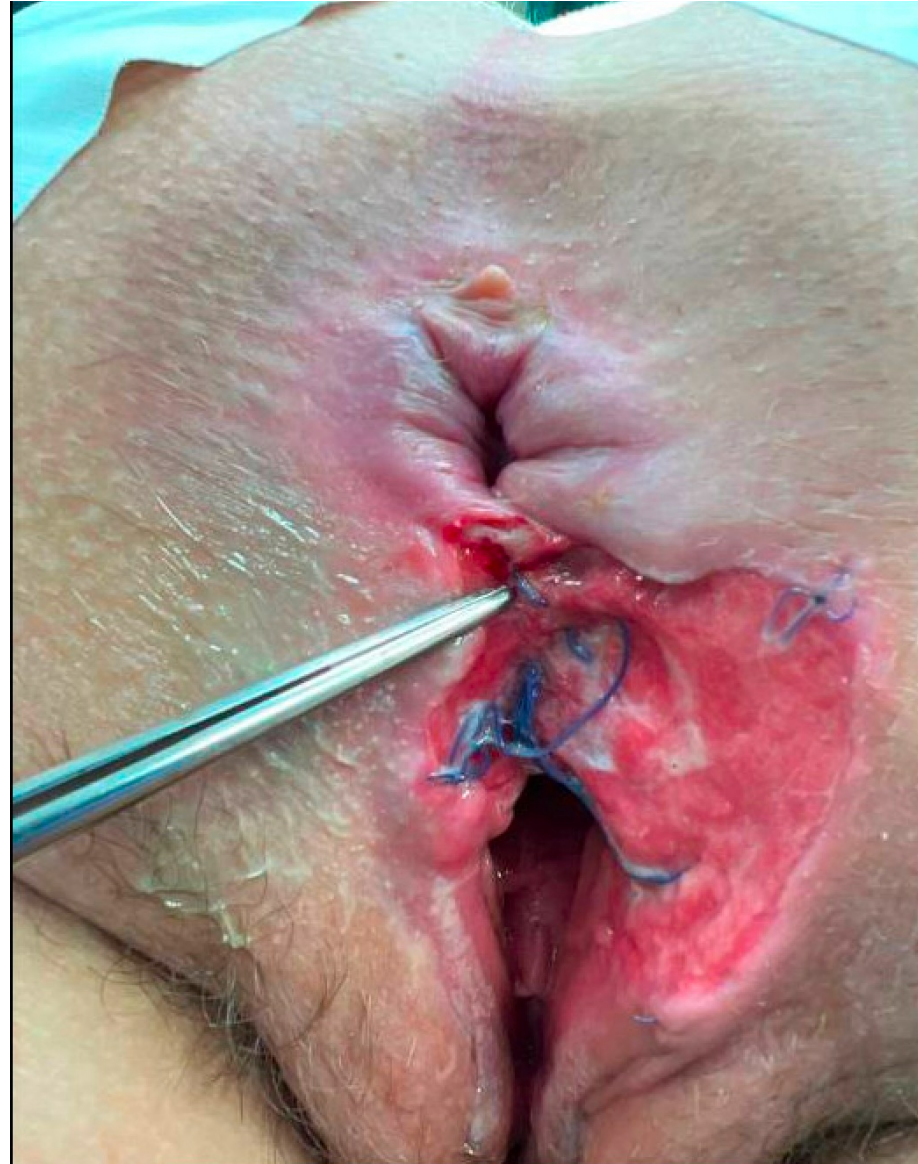




Preoperative



Preoperative - Internal anal sphincter



Preoperative - External Anal Sphincter

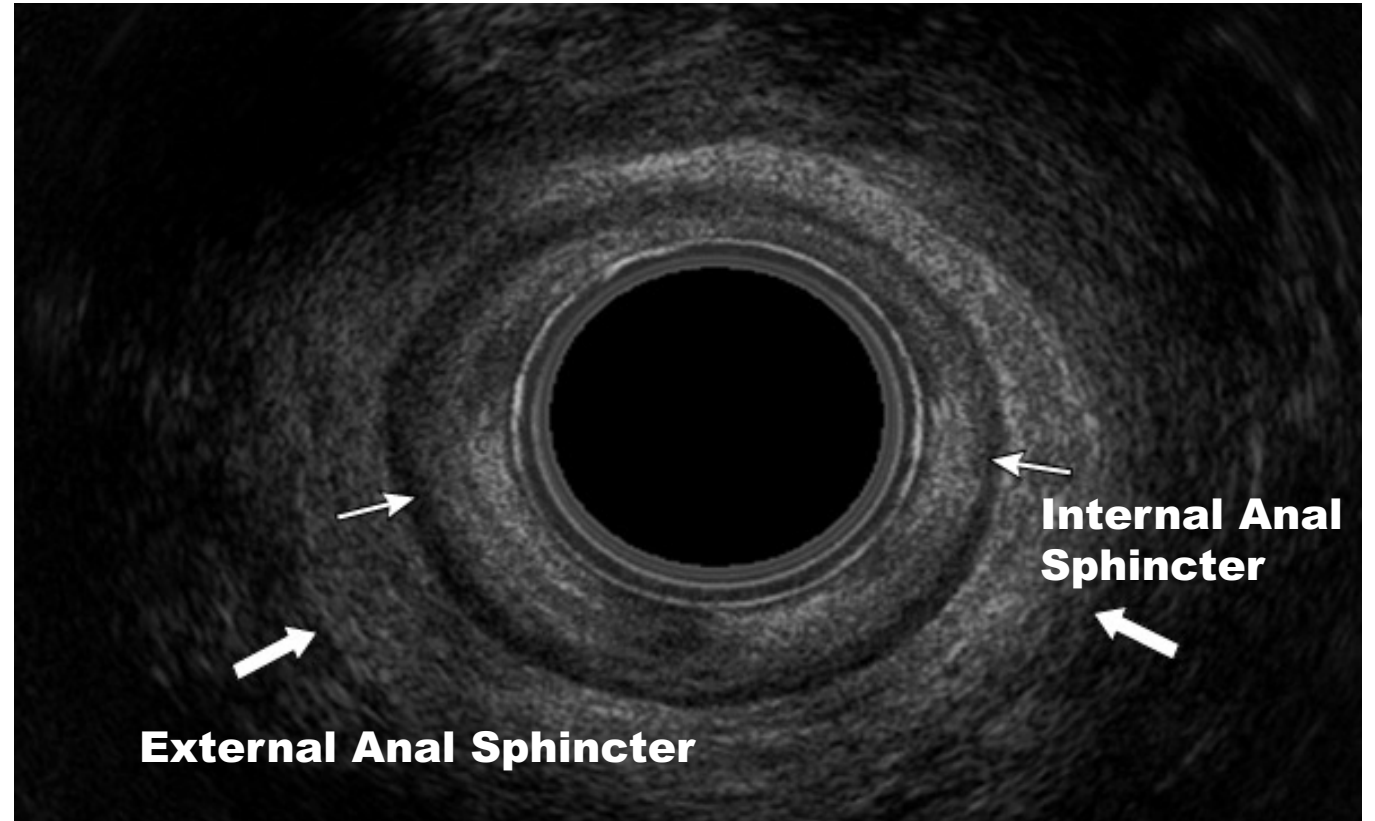
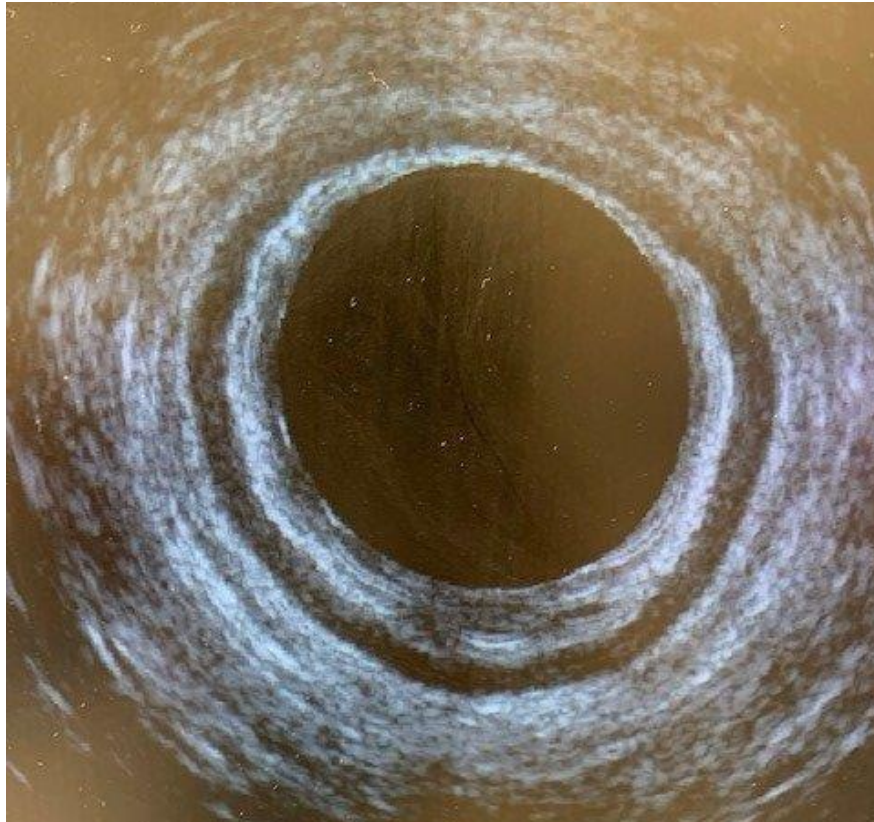


Postoperative

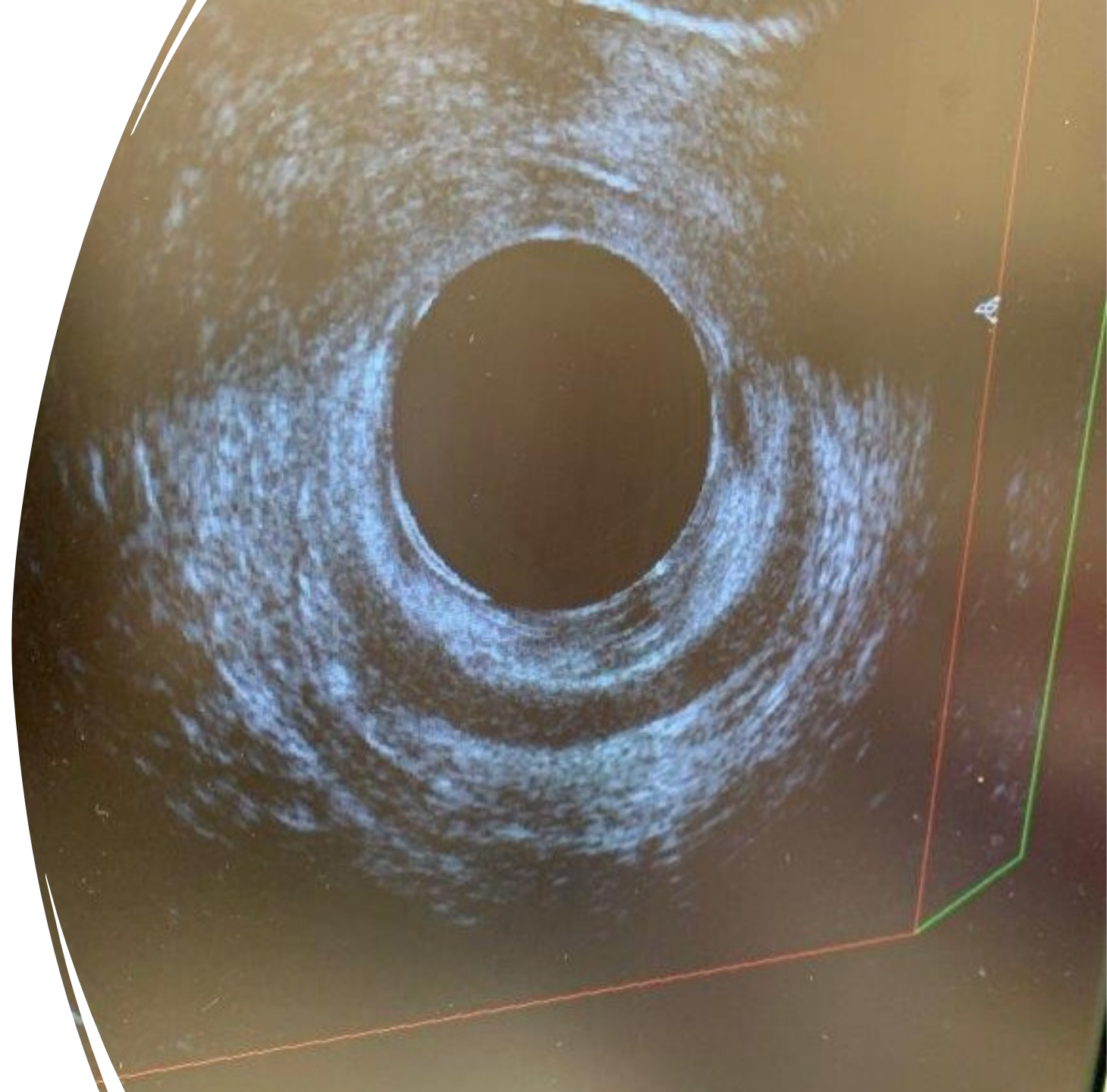


Endoanal Ultrasound

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



**Endoanal
ultrasound
– anterior
defect**



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

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

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!!

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THANK YOU!