FOGSI - ICOG

Good Clinical Practice Recommendations GCPR

PREVENTION AND MANAGEMENT OF PERINEAL TEAR

Convenor – Niraj Jadav Co-Convenor – Sarita Bhalerao

Mentors – Hrishikesh D Pai, Madhuri Patel, Laxmi Shrikhande

Advisors – Sanjay Gupte, Hema Divakar

National Co-ordinators – CN Purandare, Rishma Dhillon Pai, Nandita Palshetkar, Jaydeep Tank

Co-ordinator – Surekha Tayade

SEXUAL MEDICINE COMMITTEE

FOGSI-ICOG
Good Clinical Practice Recommendations (GCPR)

Prevention and Management of Perineal Tear

Convenor—Niraj Jadav *Co-Convenor*—Sarita Bhalerao

Mentors—Hrishikesh D Pai, Madhuri Patel, Laxmi Shrikhande

Advisor—Sanjay Gupte, Hema Divakar

National Coordinator—CN Purandare, Rishma Dhillon Pai, Nandita Palshetkar, Jaydeep Tank

Coordinator—Surekha Tayade

Sexual Medicine Committee

Fogsi Good Clinical Practice Recommendations

Committee Chair-Convenor	:	Niraj Jadav
ICOG Co-Convenor	:	Sarita Bhalerao
President FOGSI	:	Hrishikesh D Pai
Secretary General	:	Madhuri Patel
ICOG Chairman	:	Laxmi Shrikhande
Advisors	:	Sanjay Gupte, Hema Divakar
National Coordinator	:	CN Purandare, Rishma Dhillon Pai, Nandita Palshetkar, Jaydeep Tank
Coordinator	:	Surekha Tayade
Contributors	:	Sujata Dalvi, Kishor Rajurkar, Kirtan Vyas, Priya Thakur, Jigyasa Dengra

Experts

Rohit Bhatt

Atul Munshi

Shanthakumari

Sudha Prasad

Anita Singh

Haresh Doshi

Vinita Singh

Ashwathkumar

Hemant Deshpande

Prandya Chegngde

Tushar Kar

Aruna Suman

Pushpa Junghare

Indranil Dutta

Ranee Thasker

JD Villiges

PURPOSE AND SCOPE

The purpose of this guideline is to provide evidence-based guidance on the prevention and management of perineal tear

GRADING	*Recommendation*	
A	Strongly Recommended	At least one randomized controlled trial (RCT) as part of a body of literature of overall good quality and consistency that addresses the specific recommendation.
B	Suggested	Availability of well-controlled clinical studies, but no RCTs are available on the topics of recommendation.
C	Unresolved	Evidence obtained from the expert committee reports of opinions and/or clinical experiences of respected authorities, which indicates an absence of the directly applicable clinical studies of good quality.
CPP	Clinical Practice Points	Evidence not sought. A practice point has been made by the guideline development group where important issues arose from the discussion of evidence-based or clinical consensus recommendations.

ANATOMY OF THE PERINEUM

- The female perineum is a diamond-shaped inferior outlet of the pelvis, bordered by the pubic symphysis anteriorly and coccyx posteriorly.
- Perineum is further divided into the urogenital triangle anteriorly and the anal triangle posteriorly.
- The **urogenital triangle** is divided into a superficial and deep perineal space by the perineal membrane.
- The **perineal membrane** is a thick fibrous sheet that spans the urogenital triangle.[1] The urethra and vagina penetrate through a hiatus in the perineal membrane to exit the vestibule.
- The **superficial perinealspace** contains the superficial perineal muscles, the erectile tissue of the clitoris, the vestibular bulbs, and the Bartholin glands.
- The **deep perineal space** lies just deep to the perineal membrane and inferior to the levator ani muscles. In the deep space lie the external urethral sphincter and the urethrovaginalis, compressor urethrae, and deep transverse perineal muscles.
- The **perineal body** marks the convergence of the bulbospongiosus muscles, superficial and deep transverse perinei, perineal membrane, external anal sphincter, posterior vaginal muscularis and fibers from the puborectalis and pubococcygeus muscles.
- Anal triangle is formed on both sides by the internal margins of the sacrotuberous ligaments, anteriorly by the superior edge of the perineal membrane and perineal body and inferiorly by the coccyx.

EPIDEMIOLOGY

(ACOG 2016), *53–79% of women will sustain some type of laceration at vaginal delivery*,[2] with most being first-degree and second-degree lacerations.[3]

The 1998–2010 U.S. Nationwide Inpatient Sample Survey - *a third-degree laceration rate of 3.3% and a fourth-degree laceration rate of 1.1% for women who had vaginal deliveries.*[4]

However, a systematic review noted wide variation in the reported incidence of childbirth-associated sphincter injury, estimating a true incidence of approximately 11% in women who gave birth vaginally.[5]

Sirisha Rao Gundabattula and Kameswari Surampudi reported sphincter injury was in 2.1% of vaginal births and 1.1% of all deliveries. About 20.9% of tears were 3c and 4th degree.[6]

With increased awareness and training, there appears to be an increase in the detection of anal sphincter injuries. A trend towards an increasing incidence of third- or fourth-degree perineal tears does not necessarily indicate poor quality care. It may indicate improved quality of care through better detection and reporting.

CLASSIFICATION

In 1999, Sultan proposed refining the traditional classification system for obstetric perineal lacerations.[7] The revised system provided a subclassification for third-degree lacerations **(Table 1)**.[8]

Table 1 Revised classification

First-degree	Lacerations involve injury to the perineal skin and/or vaginal mucosa. The perineal muscles remain intact.
Second-degree	Lacerations involve injury to the perineum involving perineal muscles but not involving the anal sphincter.
Third-degree	Lacerations involve injury to the perineum involving the anal sphincter complex.
Grade 3a tear	Less than 50% of external anal sphincter (EAS) thickness torn.
Grade 3b tear	More than 50% of EAS thickness torn.
Grade 3c tear	Both EAS and internal anal sphincter (IAS) torn.
Fourth-degree tear	Injury to perineum involving the anal sphincter complex (EAS and IAS) and anorectal mucosa

Modified from ACOG: Obstetric data definitions 2014

The above classification system represents a significant improvement over older systems, as it takes the internal anal sphincter (IAS) into account. However, there is no consensus regarding a recommended classification approach.

RISK FACTORS FOR PERINEAL TEAR

See **Table 2**.

Table 2 Risk factors for perineal tears[10-12]

Maternal risk factors	*Fetal risk factors*	*Intrapartum risk factors*
• Nulliparity • Asian ethnicity • ≤20 years of age • Short perineal length (<25 mm)	• Macrosomia • Shoulder dystocia • Occipito-posterior position	• Instrumental deliveries (e.g. forceps, vacuum) • Prolonged second stage of labor (>60 minutes) • Oxytocin use • Midline episiotomy • Precipitate labor

PREVENTION OF PERINEAL TEARS

During pregnancy:

- Deep squats
- Child pose yoga
- Quadruped cat
- Kegel exercise
- Perineal massage in 3rd trimester of pregnancy
- LEVEL B

During labor: Skilled birth attendant during labor is of prime importance.

EPISIOTOMY

The intention of placing an episiotomy is to increase the diameter of the vaginal outlet to facilitate the passage of the fetal head and thereby to prevent a vaginal tear.[12]

'Routine' episiotomy should be avoided in women who are not subjected to instrumental deliveries[13] (**LEVEL A)**.

An episiotomy is only recommended if there is **(LEVEL B)**:

- High chance of third- or fourth-degree perineal tear
- Soft tissue dystocia
- Need to fasten delivery of a compromised fetus
- Operative vaginal delivery
- History of female genital mutilation.

OTHER TECHNIQUES (CPP)[14]

- Perineal massage in 2nd stage of labor with mild downward pressure **(LEVEL B)**[15]
- Delivery with reverse Trendelenburg position
- Use of lubricants in 2nd stage of labor like almond oil, olive oil, or vitamin E oil
- Keeping the perineum warm by hot fomentation **(LEVEL B)**[16]
- Ask the patient to bear down during 2nd stage of labor in controlled manner and not in expulsive force-that will allow the perineal tissues to stretch
- Support the perineum in 2nd stage of labor – Manual Perineal Protection (it cannot prevent tears entirely but will reduce the severity of tears)
- Instrumental delivery option is reserved for selected cases only.

MANAGEMENT

First-degree Perineal Lacerations

• First-degree lacerations that do not distort anatomy and are not bleeding may not need to be repaired.	Grade A[17]
• Either standard suture (polygalactin or catgut) or adhesive glue may be used to repair a hemostatic first-degree laceration.	Grade A[17]

Episiotomy and Second-degree Lacerations

• Continuous suturing of a second-degree laceration is preferred over interrupted suturing for all layers.	Grade A[9,18]
• An absorbable synthetic suture, such as polyglactin, is recommended for repair of first-degree and second-degree lacerations.	Grade A[9,18]

PREOPERATIVE WORK UP:

• Check extent of perineal trauma – perform per vaginal and per rectal examination	GCC
• Check equipment, sutures, packs.	GCC
• If needed, ensure that appropriate supervision/support is available prior to commencing the repair	GCC
• Adequate lighting	GCC
• Ensure that the wound is adequately anesthetized (10-20 mLs Lignocaine 1%) - do not inject local through the skin	GCC

OPERATIVE STEPS:
Step 1: Suturing the vagina

• Identify the apex of the vaginal wound (If not visible, place a suture at the most approachable point and pull down to see the apex)	GRADE A[18]
• Close the vaginal trauma with a loose continuous stitch	GRADE A[18]
• Continue to suture the vagina until the hymenal remnants are reached and re-approximated	GCC
• At the fourchette, insert the needle through the skin to emerge in the center of the perineal trauma.	GCC

Step 2: Suturing the muscle layer

• Check the depth of the trauma - it may be necessary to insert two layers of sutures.	GCC
• Continue to close the perineal muscle with a continuous non-locking stitch - taking care not to leave any dead space.	GRADE A[18]

Step 3: Suturing the perineal skin

• At the inferior end of the wound, bring the needle out under the skin surface	
• The stitches are placed below the skin surface in the subcutaneous layer - thus avoiding the profusion of nerve endings	GRADE A[18]
• Continue taking bites of tissue from each side of the wound until the hymenal remnants are reached	GCC
• Secure the finished repair with a loop knot tied in the vagina.	GCC

Finally

• Check the finished repair is anatomically correct	GCC
• No bleeding	GCC
• Per vaginal examination - insert two fingers	GCC
• Per rectal examination	GCC
• Check swabs and instruments	GCC
• Complete documentation	GCC

POSTNATAL CARE:

• Vitals along with repair site should be examined before shifting the patient to wards and within 2 hours.	GCC
• Broad-spectrum antibiotics to prevent infection.	GRADE A[9]
• Laxatives to reduce the risk of wound dehiscence	GRADE A[9]
• Analgesics and anti-inflammatory should be added to relieve pain in post operative care	GRADE B[9]
• Bulking agents should not be given routinely with laxatives	GRADE A[9]
• Sitz bath	GCC
• Local antiseptics	GCC
• Should be followed up after 7–10 days	GCC

Obstetric anal sphincter injuries (Third-degree or Fourth-degree Perineal Tear) (OASIS)

PREOPERATIVE WORK UP:

• All women having a vaginal delivery are at risk of sustaining OASIS or isolated rectal buttonhole tears. They should, therefore, be examined systematically, including a digital rectal examination, to assess the severity of damage, particularly prior to suturing.	GCC[9]
• Repair of third- and fourth-degree tears should be conducted by an appropriately trained clinician or by a trainee under supervision.	GCC[9]
• Repair should take place in an operating theater.	GCC[9]
• Under regional or general anesthesia, with good lighting and with appropriate instruments. If there is excessive bleeding, a vaginal pack should be inserted and the woman should be taken to the theater as soon as possible.	GCC[9]
• Repair of OASIS in the delivery room may be performed in certain circumstances after discussion with a senior obstetrician.	GCC[9]

OPERATIVE STEPS:
Step 1:

• The ends of the external sphincter are first identified and grasped with 2 temporary sutures because they often retract.	GRADE C
• The torn anorectal mucosa should be repaired with sutures using either the continuous or interrupted technique.	GRADE B[9,17,19]
• Synthetic absorbable suture 2-0 or 3-0 polyglactin should be used to repair the anorectal mucosa. • Knots must absolutely be tied externally to the anal canal.	GRADE A[9,20]
• The anal mucosa is very thin. The mucosal repair is gradually and slowly performed with a submucosal continuous suture, and stopped just at the anal margin limit, then knots are tied.	GRADE C

Step 2:

• Where the torn internal anal sphincter (IAS) can be identified, it is advisable to repair this separately with interrupted or mattress sutures.	GRADE B[9,21]
• This step is performed with asynthetic absorbable 2-0 polygalactin suture or 3-0 polydioxanone (PDS) can be used with equivalent outcomes.	GRADE A[9,20]

Step 3:

• The vaginal wall suture is initiated in order to get a better exposition and to decrease vaginal bleeding.	GCC
• A 2-0 polygalactin continuous suture is used in the beginning with the vaginal superior angle. And stopped till the external anal sphincter.	GRADE A[20]

Step 4:

• At first, the muscle ends previously grasped with the 2 temporary sutures must be tracked.	GCC
• For the repair of a full thickness external anal sphincter (EAS) tear, either an overlapping or an end-to-end (approximation) method can be used with equivalent outcomes.	GRADE A[9,22,23]
• For partial thickness (all 3a and some 3b) tears, an end-to-end technique should be used.	GRADE B[9,21]
• When obstetric anal sphincter repairs are being performed, the burying of surgical knots beneath the superficial perineal muscles should be done to minimize the risk of knot and suture migration to the skin.	GRADE[9,21]
• Figure-of-eight sutures should be avoided during the repair of OASIS because they are hemostatic in nature and may cause tissue ischemia.	GCC[9]
• When the repair of the EAS and/or IAS muscle is being performed, either 2-0 polyglactin or 3-0 PDS can be used with equivalent outcomes.	GRADE A[9,20]

Step 5:

• Continue the suturing of the lower part of the vaginal wall. • The process is stopped just before the hymeneal remnants, as for a usual second-degree perineal tear.	GCC

Step 6:

• The perineal muscles and subcutaneous tissue are repaired with 2-0 polyglactin suture.	GRADE A

Step 7:

• The perineal skin is approximated with a subcuticular or interrupted polyglactin suture.	GRADE A

Finally:

• A rectal examination should be performed after the repair to ensure that sutures have not been inadvertently inserted through the anorectal mucosa. If a suture is identified, it should be removed.	GCC
• The repair assessments must be documented in the woman's medical record notes.	GCC
• Nil per oral for 24 hours, liquids to be started gradually.	GCC
• Vitals along with repair site should be examined before shifting the patient to wards and within 2 hours.	GCC
• The use of broad-spectrum antibiotics is recommended following the repair of OASIS to reduce the risk of postoperative infections and wound dehiscence.	GRADE A[9,17,23]
• The use of postoperative laxatives is recommended to reduce the risk of wound dehiscence. Should be started after 48 hours.	GRADE A[9,17,23]
• Analgesics and anti-inflammatory should be added to relieve pain in postoperative care.	GRADE B[9]
• Sitz bath	GCC
• Antiseptic ointment	GCC
• Bulking agents should not be given routinely with laxatives.	GRADE A[9,23]
• Should be followed up after 7–10 days.	GCC
• Women should be advised that physiotherapy following repair of OASIS.	GCC
• Women who have undergone obstetric anal sphincter repair should be reviewed at a convenient time (usually 6–12 weeks postpartum).	GCC
• If a woman is experiencing incontinence or pain at follow-up, referral to a specialist gynecologist or colorectal surgeon should be considered.	GCC

Future deliveries

• All women who sustained OASIS in a previous pregnancy should be counseled about the mode of delivery and this should be clearly documented in the notes.	GCC[9]
• The role of prophylactic episiotomy in subsequent pregnancies is not known and, therefore, an episiotomy should only be performed if clinically indicated.	GCC[9]
• All women who have sustained OASIS in a previous pregnancy and who are symptomatic or have abnormal endoanal ultrasonography and/or manometry should be counseled regarding the option of elective cesarean birth.	GCC[9]

Important Points

- Perineumis divided into the urogenital triangle anteriorly and the anal triangle posteriorly.
- With increased awareness and training, there appears to be an increase in the detection of anal sphincter injuries.
- There is no consensus regarding a recommended classification approach.
- There are various maternal, fetal and labor risk factors which make a parturient woman prone for perineal tear. These factors should be identified beforehand to prevent such tears.
- Perineal tears can be prevented with selective and judicious use of episiotomy, warm compress, and perineal massage during delivery.
- All women having a vaginal delivery are at the risk of sustaining OASIS or isolated rectal buttonhole tears. They should, therefore, be examined systematically, including a digital rectal examination, to assess the severity of damage, particularly prior to suturing.
- First-degree lacerations that do not distort anatomy and are not bleeding may not need to be repaired.
- Continuous suturing is preferred over interrupted suturing.
- Suturing to be done in layers.
- Figure-of-8 sutures to be avoided
- An absorbable suture, such as polyglactin or catgut, is recommended.
- Identify the apex of the vaginal wound and start suturing from above it.
- A rectal examination should be performed after the repair to ensure that sutures have not been inadvertently inserted through the anorectal mucosa. If a suture is identified, it should be removed.

REFERENCES

1. Mirilas P, Skandalakis JE. Urogenital diaphragm: an erroneous concept casting its shadow over the sphincter urethrae and deep perineal space. J Am Coll Surg. 2004;198(2):279-90.
2. Rogers RG, Leeman LM, Borders N, et al. Contribution of the second stage of labour to pelvic floor dysfunction: a prospective cohort comparison of nulliparous women. BJOG. 2014;121(9):1145–53; discussion 1154.
3. de Castro Monteiro MV, Pereira GMV, Aguiar RAP, et al. Risk factors for severe obstetric perineal lacerations. Int Urogynecol J. 2016;27(1):61–7.
4. Friedman AM, Ananth CV, Prendergast E, et al. Evaluation of third-degree and fourth-degree laceration rates as quality indicators. Obstet Gynecol. 2015;125(4):927–37.
5. Thiagamoorthy G, Johnson A, Thakar R, et al. National survey of perineal trauma and its subsequent management in the United Kingdom. Int Urogynecol J. 2014;25(12):1621–7.
6. Gundabattula SR, Surampudi K. Risk factors for obstetric anal sphincter injuries (OASI) at a tertiary centre in south India. Int Urogynecol J. 2018;29(3):391-6.
7. Sultan AH. Obstetric perineal injury and anal incontinence (editorial). Clin Risk. 1999;5(6):193-6.
8. American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics. Practice Bulletin No. 165 Summary: Prevention and Management of Obstetric Lacerations at Vaginal Delivery: Correction. Obstet Gynecol. 2016;128:(1):e1-15.
9. Aigmueller T, Umek W, Elenskaia K, et al. Guidelines for the management of third and fourth degree perineal tears after vaginal birth from the Austrian Urogynecology Working Group. Int Urogynecol J. 2013;24(4):553–8.
10. Williams A, Tincello DG, White S, et al. Risk scoring system for prediction of obstetric anal sphincter injury. BJOG. 2005;112(8):1066–9.
11. Kalis V, Laine K, de Leeuw JW, et al. Classification of episiotomy: towards a standardisation of terminology. BJOG. 2012;19(5): 522–6.
12. Verghese TS, Champaneria R, Kapoor DS, et al. Obstetric anal sphincter injuries after episiotomy: systematic review and meta-analysis. Int Urogynecol J. 2016;27(10):1459–67.
13. Shmueli A, Benziv RG, Hiersch L, et al. Episiotomy – risk factors and outcomes. J Matern Fetal Neonatal Med. 2017;30(3):251–6.
14. Jiang H, Qian X, Carroli G, et al. Selective versus routine use of episiotomy for vaginal birth. Cochrane Database Syst Rev. 2017; 2(2):CD000081.
15. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Provision of routine intrapartum care in the absence of pregnancy complications. East Melbourne, Vic: RANZCOG, 2017.
16. Aasheim V, Nilsen ABV, Reinar LM, et al. Perineal techniques during the second stage of labour for reducing perineal trauma. Cochrane Database Syst Rev. 2017;6(6):CD006672.
17. Committee on Practice Bulletins-Obstetrics. ACOG Practice Bulletin No. 198: Prevention and Management of Obstetric Lacerations at Vaginal Delivery. Obstet Gynecol. 2018;132(3):e87-102.
18. Sultan AH, Thakar R. Lower genital tract and anal sphincter trauma. Best Pract Res Clin Obstet Gynaecol. 2002;16(1):99-115.
19. Williams A, Adams EJ, Tincello DG, et al. How to repair an anal sphincter injury after vaginal delivery: results of a randomised controlled trial. BJOG. 2006;113(2):201-7.
20. Mahony R, Behan M, O'Herlihy C, et al. Randomized, clinical trial of bowel confinement vs. laxative use after primary repair of a third-degree obstetric anal sphincter tear. Dis Colon Rectum. 2004;47(1):12-7.
21. Buppasiri P, Lumbiganon P, Thinkhamrop J, et al. Antibiotic prophylaxis for third- and fourth-degree perineal tear during vaginal birth. Cochrane Database Syst Rev. 2010;(11):CD005125.
22. Sultan AH, Monga AK, Kumar D, et al. Primary repair of obstetric anal sphincter rupture using the overlap technique. Br J Obstet Gynaecol. 1999;106(4):318-23.
23. Eogan M, Daly L, Behan M, et al. Randomised clinical trial of a laxative alone versus a laxative and a bulking agent after primary repair of obstetric anal sphincter injury. BJOG. 2007;114(6):736-40.

ANNEXURES

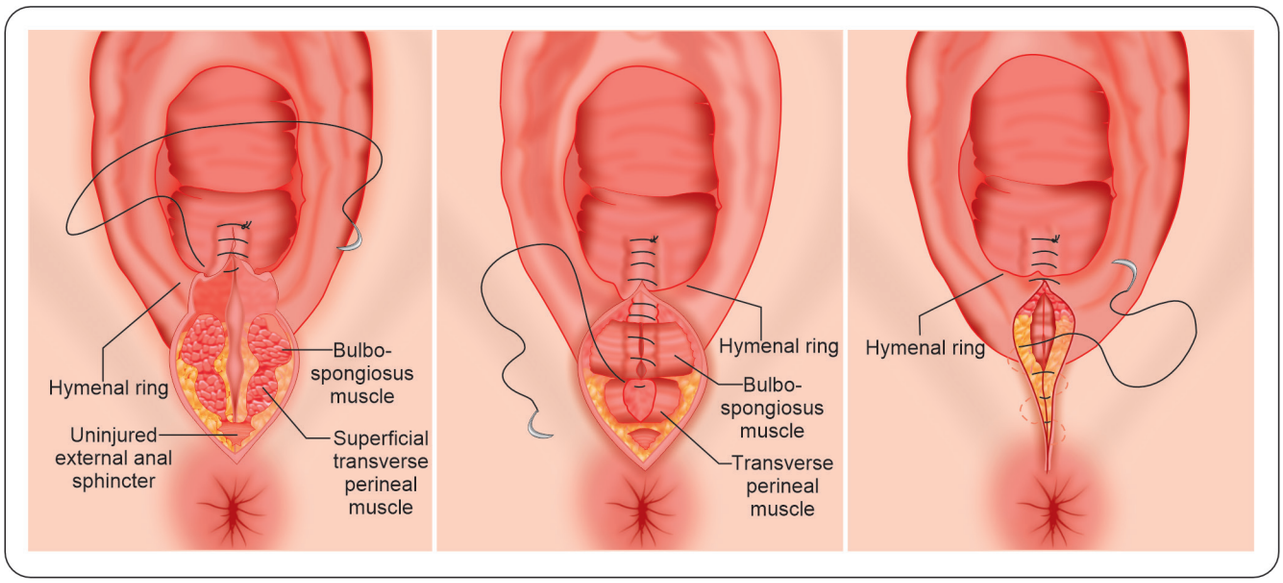

Fig. 1: 2nd-degree perineal tear repair

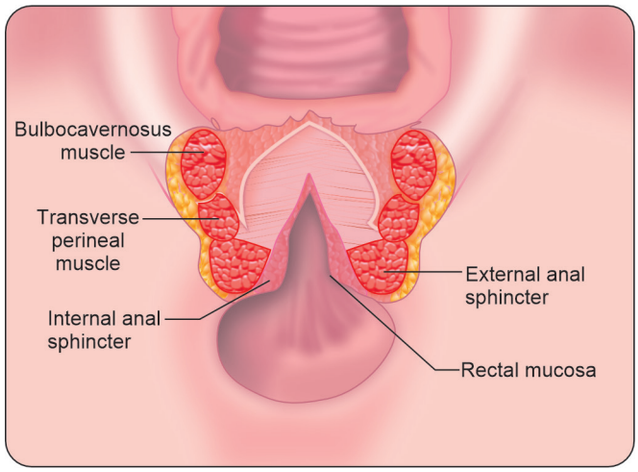

Fig. 2: OASIS

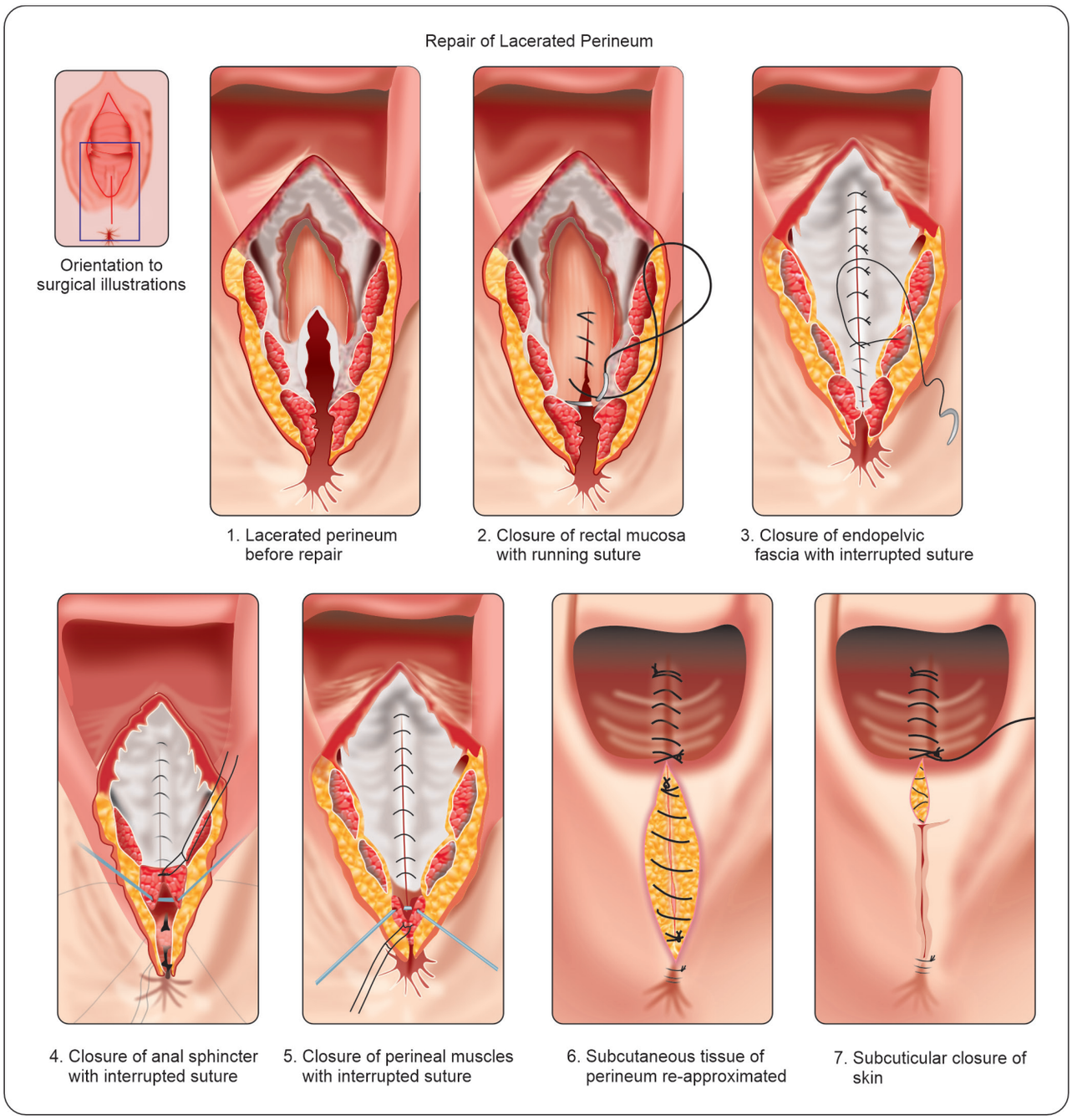

Fig. 3: OASIS REPAIR

Disclaimer - These recommendations for "PREVENTION AND MANAGEMENT OF PERINEAL TEAR" have been developed, to be of assistance to obstetricians, gynecologists, consulting physicians and general practitioners by providing guidance and recommendations for managing women with anemia and suffering from hemorrhagic conditions. The recommendations included here shouldn't be viewed as being exclusive of other concepts or as covering all legitimate strategies. The suggestions made here are not meant to dictate how a particular patient should be treated because they neither set a standard of care nor do they guarantee a particular result. To diagnose patients, choose dosages, and provide the best care possible while also taking the necessary safety precautions, clinicians must rely on their own experience and knowledge. The writers or contributors disclaim all responsibility for any harm and/or damage to people or property resulting from the use or operation of any techniques, goods, guidelines, or ideas presented in this content.