Prevention and Management of Third & Fourth Degree Tears

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Prevention and Management of 3rd & 4th Degree Perineal Tears

Background

Incidence: 2-4% of all vaginal deliveries.

Risk Factors for obstetric anal sphincter injuries (OASIS) – these do not readily allow prediction or prevention:

- Birth weight over 4 kg
- Persistent occipito-posterior position
- Nulliparity
- Second stage longer than two hours
- Midline Episiotomy – when episiotomy is indicated, a careful mediolateral technique should be used with careful attention to ensure that the angle is 60 degrees away from the midline when the perineum is distended.
- Forceps delivery
- Shoulder dystocia
- Asian ethnicity

Risk of recurrent OASIS in subsequent pregnancy include

- Asian ethnicity
- Forceps delivery
- Birthweight more than 4 Kg

Can obstetric anal sphincter injury be prevented?

- Antenatal perineal massage enables perineal tissue to expand more easily during birth and is associated with a lower risk of severe perineal. Perineal massage in the second stage of labour is also associated with a reduction in the need for episiotomy and the duration in second stage of labour

- Perineal warm compress used during the second stage of labour is shown to reduce the risk of OASIS

- Clinicians should explain to women that the evidence for the protective effect of episiotomy is conflicting

- Mediolateral episiotomy should be considered in instrumental deliveries as it appears to have a protective effect on OASIS particularly for forceps birth in nulliparous women

- Where episiotomy is indicated, the mediolateral technique is recommended, with careful attention to ensure that the angle is 60 degrees away from the midline when the perineum is distended

- Some midwives following discussion with women will consider a hands-off approach when facilitating birth. However, manual perineal protection at crowning and controlled delivery of the head can be a protective measure.
  This technique includes:

  1. One hand slowing down the delivery of the head.
  2. One hand protecting the perineum

- Communication with the woman as the head is crowning is of high importance- discuss with the woman that a slow controlled birth of the head reduces perineal trauma; also discuss the importance of the woman listening to her own body and breathing rather than pushing as the baby's head crowns

- Consider performing an episiotomy (be aware of at risk groups and use of correct angle)

- The presence of two midwives during the active second stage can reduce severe perineal tears in women giving birth for the first time

Classification of perineal tears

1st degree tear:	Injury to perineal skin only
2nd degree tear:	Injury to perineum involving perineal muscles but not involving the anal sphincter
3rd degree tears:	Injury to perineum involving the anal sphincter complex
3a	<50% of external sphincter thickness torn
3b	>50% of external sphincter thickness torn
3c	internal sphincter torn as well
4th degree tear:	Injury to perineum involving the anal sphincter complex (EAS and IAS) and anal epithelium
Rectal buttonhole tear:	If the tear involves the rectal mucosa with an intact anal sphincter complex, it is by definition not a fourth-degree tear. This has to be documented as a rectal buttonhole tear. If not recognised and repaired, this type of tear may lead to a rectovaginal fistula.

Identification of obstetric anal sphincter injuries

All women who have a vaginal delivery are at risk of sustaining OASIS or isolated rectal buttonhole tears. Therefore they should be offered examination systematically, including a vaginal and digital rectal examination, to assess and classify the severity of damage as above, prior to suturing.

Repair of OASIS

General principles

- Repair should be carried out in the operating theatre
- Good anaesthesia - GA or regional anaesthesia (spinal or epidural)
- Good exposure and light are needed to be able to identify the retracted muscle of anal sphincter
- Repair should be performed by appropriately trained practitioners
- Use the specially prepared perineal pack - 'Third degree pack' that has been prepared for this purpose
- Figure of eight sutures should be avoided during the repair of OASIS because they are haemostatic in nature and may cause tissue ischaemia
- A rectal examination should be performed after the repair to ensure that the sutures have not been in advertently inserted through the anorectal mucosa. If a suture is identified it should be removed
- Repair of OASIS in the delivery room may be performed in certain circumstances after discussion with senior obstetrician.
- **Intraoperative broad-spectrum antibiotic should be used to avoid infection. Suggested regime is: IV Cefuroxime 1.5 gm + metronidazole 500mg.**

How to repair 3rd and 4th degree tear

- The torn anorectal mucosa should be repaired with 3/0 polyglactin sutures using either the continuous or interrupted technique

- Where the torn IAS can be identified, it is advisable to repair this separately with interrupted or mattress sutures using 3-0 PDS or 2-0 polyglactin without any attempt to overlap the IAS

- For repair of a full thickness EAS tear, either an overlapping or an end-to-end (approximation) method can be used with equivalent outcomes.
  For partial thickness (all 3a and some 3b) tears, an end-to-end technique should be used. 3-0 PDS or 2-0 polyglactin should be used

- When obstetric anal sphincter repairs are being performed, the burying of surgical knots beneath the superficial perineal muscles is recommended to minimise the risk of knot and suture migration to the skin

- Perineal body muscles are sutured with 2/0 Vicryl/vicryl rapide Interrupted/continuous

- Vaginal epithelium is sutured with 2/0 Vicryl rapide continuous non locking

- Perineal skin is approximated with 2/0 Vicryl rapide subcuticular suture.

NB*: Remember that the anal canal is at least 2cm long and the surgeon should try to maintain the length as well as the circumferential integrity*

- **If a vaginal pack is inserted, ensure a green band is placed on woman's wrist – to be removed when vaginal pack is removed**

Endo to end

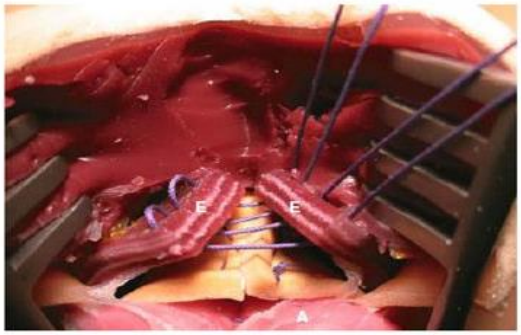


FIGURE 4.9. End-to-end repair of the external sphincter (*E*) using two mattress sutures (*I* internal sphincter, *A* anal epithelium).

Overlap

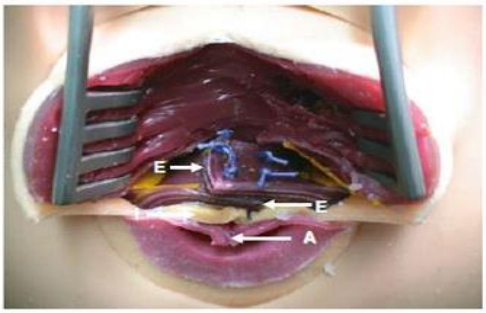
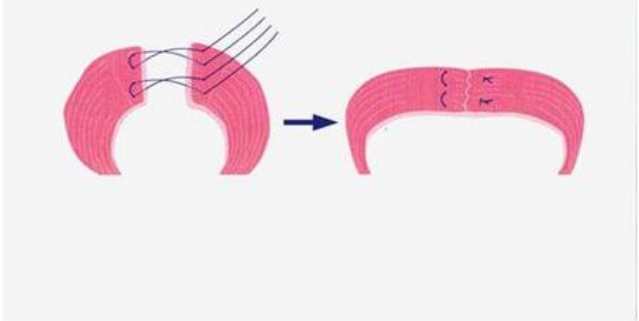


FIGURE 4.6. Repair of a fourth degree tear (demonstrated on a model) using the overlap repair technique of the external sphincter (*E*). The anal epithelium (*A*) and the internal sphincter (*I*) have also been repaired.

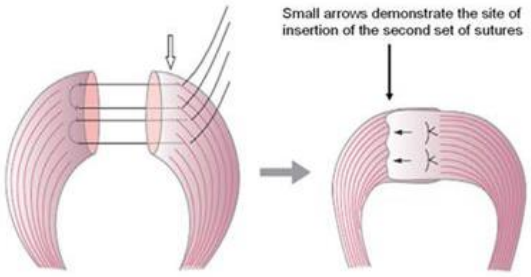
Approach to repair—3rd & 4th degree

- Indication for consult to Ob/Gyn

End-to-end primary anal sphincter repair
using figure-of-eight sutures
Sultan AH et al 1999 (BJOG)



Primary overlap anal sphincter repair
Sultan AH 2006 (redrawn from Sultan et al 1999)



Immediate aftercare (see 3rd & 4th degree proforma)

Explanation of the nature of the injury and the repair performed:

Postoperative: Oral Cefalexin + Metronidazole for 7 days
Stool softeners: Lactulose 10 ml tds x 2 weeks
Bulking agent: should not be given routinely with laxatives
Stress the need to avoid constipation – encourage fluids/fibre intake etc.
Advice on hygiene – especially following defecation.

Follow-up:

All women who suffer a third/fourth degree perineal tear should have a:

- Referral to Suite 17 arranged prior to discharge from hospital.
- Clinic appointment arranged in 6 – 12 weeks' time for discussion regarding symptoms if any and future plans for childbirth
- Detailed explanation of the extent of trauma prior to discharge and advised that if there is concern about infection or poor bowel control, they should see their midwife or GP and be referred to hospital.
- If a woman is experiencing incontinence or pain at follow-up, referral to a specialist gynaecologist or colorectal surgeon should be considered.
- The effect of the repair may deteriorate over time (even as late as 12 months later) so women must be advised to report any future deterioration to their GP.

Future pregnancies

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

Appendix 1

Third and Fourth degree Tear – OASI clinic Referral form

GIG CYMRU NHS WALES Bwrdd Iechyd Prifysgol Bae Abertawe Swansea Bay University Health Board	Patient's Name Hospital No.

Anaesthesia: **Location:** **Date** **Time of Repair:**	**Spinal /GA / Epidural** **Operating Theatre / Delivery Room**	**Delivery Details** **Mode of delivery:** **Live Birth YES/ NO**

1. Findings and Repair Technique

	Extent of Injury Classification	Suture Material	Method of Repair
Vaginal Mucosa	1°	Vicryl Rapide 2/0	Continuous locking / non locking
Perineal body	2°	Vicryl 2/0	Interrupted / Continuous
External Anal Sphincter	3A<50% ☐ 3B>50% ☐	Vicryl 2/0 / PDS 3/0	End to end / overlap
Internal Anal Sphincter	3C	Vicryl 2/0 / PDS 3/0	End to end
Anal Mucosa	4°	Vicryl 3/0	Interrupted / Continuous

2. Postoperative Management

	Prescribed
Lactulose 10mls twice per day	**Yes / No**
Intra-op IV antibiotics: _____	**Yes / No**
Post-op: Cefalexin 500 mgs tds & Metronidazole 400 mgs tds 1/52	**Yes / No**
Other antibiotics: _____	**Yes / No**
Ibuprofen Dose _____ orally 3 times a day for 5-7 days.	**Yes /No**
Paracetamol 1 gm 3-4 times a day for 5-7 days	**Yes / No**

Signature: **Grade:** **SpR (ST ____) / Trust Grade / Consultant**

3. Ward Management

Discharge and Follow Up (to be completed and signed by midwife discharging):

Bowels Opened Y/ N TTO:- Lactulose Y/N Analgesia Y/ N Antibiotics Y/ N

Pelvic Floor Exercise and Third / Fourth Degree Tear leaflets given Y/ N

Email/post a Copy – to Suite 17 OASI Clinic Singleton for Telephone follow up in 1 week **Y/ N**

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References

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Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	Prevention and Management of Third and Fourth Degree Tears
Name(s) of Author:	M. Dey
Chair of Group or Committee approving submission:	Labour Ward Forum
Brief outline giving reasons for document being submitted for ratification	To update current guideline to reflect change in service
Details of persons included in consultation process:	Labour Ward Forum members
Name of Pharmacist (mandatory if drugs involved):	N/A
Issue/Version No:	4
Please list any policies/guidelines this document will supercede:	Version 3 Guideline for the Management of Third & Fourth Degree Tears February 2019
Date approved by Group:	October 2023
Next Review / Guideline Expiry:	October 2026
Please indicate key words you wish to be linked to document:	Third, fourth, perineal, tear, episiotomy, suture
File Name: Used to locate where file is stores on hard drive	Z:\npt_fs2\Maternity Incidents Stats Etc\Policies\Ratified - Obs