South Australian Perinatal Practice Guidelines

Perineal repair

This guideline is based on the NICE recommendations for Intrapartum care: care of healthy women and their babies during childbirth. Perineal care. NICE clinical guideline 55; RCOG press; 2007. p. 189-198.

Literature review

- Level I evidence shows that a rapidly absorbable synthetic suture material (e.g. vicryl rapide or caprosyn) is associated with less short-term pain, less suture dehiscence and less need for resuturing of the perineum up to 3 months postpartum[2]
- The continuous suturing techniques for perineal closure, compared to interrupted methods, are associated with less short term pain. If the continuous technique is used for all layers (vagina, perineal muscles, skin) compared to perineal skin only, the reduction in pain is even greater[3]
- There is limited evidence that not suturing first or second degree perineal trauma is associated with poorer wound healing at 6 weeks. There is no evidence as to long-term outcomes[4]
    - Women should be advised that in the case of first-degree trauma, the wound should be sutured in order to improve healing, unless the skin edges are well opposed
    - Women should be advised that in the case of second-degree trauma, the muscle should be sutured in order to improve healing
- A two-stage repair (where the skin is opposed but not sutured) is associated with no differences in the incidence of repair breakdown but is associated with less dyspareunia at 3 months[5]
- Studies have shown that rectal nonsteroidal anti-inflammatory drugs (NSAIDs) reduce immediate perineal pain following perineal repair of first- and second-degree trauma and the need for additional oral analgesia. Rectal NSAIDs should be offered routinely unless contraindicated[6]

Classification of tears

First Degree:

- Injury to the perineal skin only

Second Degree:

- Injury to the perineum extending into the perineal muscles but not the anal sphincter (either external [EAS] or internal anal sphincter[IAS])

Third degree:

- Injury to the perineum involving the anal sphincter complex:
    - 3a: Less than 50 % of EAS thickness torn
    - 3b: More than 50 % of EAS thickness torn
    - 3c: Both EAS and IAS torn[7]

For further information refer to the PPG ‘third and fourth degree tears’

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Fourth Degree:

- Disruption of the anal sphincter complex (EAS and IAS) and anal epithelium[7]. Occasionally there can be an anal or rectal mucosa tear behind an intact sphincter. Rectal examination before repair is recommended[8]

For further information refer to the PPG 'third and fourth degree tears'

Competency in perineal repair

- All relevant healthcare professionals should attend training in perineal / genital assessment and repair, and ensure that they maintain these skills
- An registered midwife who has achieved competency in perineal repair may repair first and second degree tears, episiotomies and uncomplicated labial tears
- Third and fourth degree repairs should be undertaken by an obstetrician or a registrar trained to repair third and fourth degree tears after discussion with a consultant (For further information refer to the PPG 'third and fourth degree tears')

Assessment

- Before assessing for genital trauma, healthcare professionals should:
  - Explain to the woman what they plan to do and why
  - Offer inhalational analgesia
  - Ensure good lighting
  - Position the woman so that she is comfortable and so that the genital structures can be seen clearly (usually in lithotomy)
- The initial examination should be performed gently and with sensitivity and may be done in the immediate period following birth
- If genital trauma is identified following birth, further systematic assessment should be carried out, including a rectal examination
- Systematic assessment of genital trauma should include:
  - Further explanation of what the healthcare professional plans to do and why
  - Confirmation by the woman that tested effective local or regional analgesia is in place
  - Visual assessment of the extent of perineal trauma to include the structures involved, the apex of the injury and assessment of bleeding
  - A rectal examination to assess whether there has been any damage to the external or internal anal sphincter if there is any suspicion that the perineal muscles are damaged
- The timing of this systematic assessment should not interfere with mother–infant bonding unless the woman has bleeding that requires urgent attention
- The woman should usually be in lithotomy to allow adequate visual assessment of the degree of the trauma and for the repair. This position should only be maintained for as long as is necessary for the systematic assessment and repair
- The woman should be referred to a more experienced healthcare professional if uncertainty exists as to the nature or extent of trauma sustained
- The systematic assessment and its results should be fully documented, possibly pictorially

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- Repair of the perineum should be undertaken as soon as possible to minimise the risk of infection and blood loss
- Perineal repair should only be undertaken with tested effective analgesia in place using infiltration with up to 20 mL of 1 % lignocaine or equivalent (e.g. 1 % lignocaine with adrenaline), or topping up the epidural
    - 1 % lignocaine is preferred for labial tears (the use of a vasoconstrictor such as adrenaline may increase the risk of tissue ischaemia)
    - If an epidural top up is used, the perineal wound may be infiltrated with either sodium chloride 0.9 % or local anaesthesia to mimic tissue oedema and minimise over-tight suturing[9]
- If the woman reports inadequate pain relief at any point this should immediately be addressed
- Women should be advised that in the case of first-degree trauma, the wound should be sutured in order to improve healing, unless the skin edges are well opposed
- Women should be advised that in the case of second-degree trauma, the muscle should be sutured in order to improve healing
- When repairing the muscle layer in second-degree trauma, ensure the repair finishes just beneath the skin layer. If the skin is opposed to a less than 0.5 cm gap following suturing of the muscle in second-degree trauma, there is no need to suture it
- Where the skin does require suturing, this should be undertaken using a continuous subcuticular technique
- Perineal repair should be undertaken using a continuous non-locked suturing technique for the vaginal wall and muscle layer
- An absorbable synthetic suture material should be used to suture the perineum
- Rectal non-steroidal anti-inflammatory drugs (e.g. diclofenac 100 mg) should be offered routinely following perineal repair of first- and second-degree trauma provided these drugs are not contraindicated
    - Contraindications include postpartum haemorrhage, concurrent use of other NSAIDs, aspirin, digoxin
- Offer oral / rectal paracetamol one gram after perineal repair

The following basic principles should be observed when performing perineal repairs:

- Perineal trauma should be repaired using aseptic techniques
- Equipment should be checked and swabs and needles counted before and after the procedure
- Good lighting is essential to see and identify the structures involved
- Difficult trauma should be repaired by an experienced practitioner in theatre under regional or general anaesthesia. An indwelling catheter should be inserted for 24 hours to prevent urinary retention
- Good anatomical alignment of the wound should be achieved, and consideration given to the cosmetic results
- Rectal examination should be carried out after completing the repair to ensure that suture material has not been accidentally inserted through the rectal mucosa
- Following completion of the repair, an accurate detailed account should be documented covering the extent of the trauma, the method of repair and the materials used

Postpartum perineal care[10]

- Information should be given to the woman regarding the extent of the trauma, pain relief, diet, hygiene and the importance of pelvic-floor exercises

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- If tears are within close proximity of the urethra, consider an indwelling catheter for the first 24 hours

Reduce pain and swelling:

- Advise the woman to apply cold packs for 10 to 20 minute intervals for 24 to 72 hours
- Offer oral paracetamol one gram every 6 hours as required

Early postpartum

Offer:

- Oral NSAID in the absence of contraindications (see above)
- Urinary alkalisers to reduce urine acidity and discomfort associated with grazes, unsutured tears

- Where possible, minimise the use of Codeine and other narcotics to reduce the risk of constipation

Diet

- Encourage a healthy balanced diet with high fibre food choices
- Advise to drink 1.5 to 2 L water per day (particularly if ordered laxatives or oral iron supplementation)

Healing / hygiene

- Visually assess the repair and healing process at each postpartum check and share the findings with the woman

Advise the woman to:

- Support the perineal wound when coughing or defecating
- Wash and pat dry perineal area after toileting
- Change perineal pads frequently, wash hands before and after changing and shower at least daily to keep the perineum clean
- Check the wound daily with a hand mirror – provide education about the signs of infection and wound breakdown
- Report any concerns to the midwife or General Practitioner

Pelvic floor muscle exercises

- Advise the woman to commence when comfortable see instructions in Continence Foundation Australia “Pelvic floor muscle training for women” information leaflet

Suture materials and classification

- The primary goals of suturing are:
  - Closing dead space
  - Supporting and strengthening wounds until their tensile strength has increased through healing
  - Minimising the risks of bleeding and infection
  - Achieving an aesthetically pleasing result by accurately aligning wound edges[11]
- Suture material selection generally depends on the:
  - Nature of tissue e.g. fascia versus skin

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Perineal repair

- Location of the wound
- Patient specific intercurrent healing problems e.g. diabetes, Marfan's syndrome
- Required tension
- Clinician's preference

- Suture materials are classified as natural or synthetic, absorbable or non-absorbable, multifilament (braided) or monofilament.
  - Compared to natural (catgut or silk), synthetic sutures cause the least 'foreign-body' reactions
  - Non-absorbable sutures (e.g. nylon) are less reactive than absorbable sutures
  - Multifilament sutures have greater tensile strength, pliability, and flexibility, but may harbour bacteria. They are coated to help them pass relatively smoothly through tissue
  - Compared with multifilament sutures, monofilament sutures are smooth surfaced and less likely to cause friction through tissue, harbour organisms or hold their knot as well (Caprosyn offers excellent knot security and flexibility despite being monofilament)
- Suture strand is denoted in zeros
  - The more zeros the smaller the strand, i.e. 3-0 or 000 is smaller than 2-0 or 00
  - There is less tensile strength in a smaller suture strand than in a larger one
  - Aim to use the smallest diameter suture that will adequately secure the damaged tissue (minimizes trauma and ensures a minimum mass of foreign material is left in the body)
- Knot tensile strength is measured by the force, in pounds, which the suture strand can withstand before it breaks when knotted
- The tensile strength of the tissue to be repaired (its ability to withstand stress) determines the size and tensile strength of the suturing material
  - The accepted rule is that the tensile strength of the suture should not exceed the tensile strength of the tissue
  - Tensile strength can also relate to the strength of absorbable sutures e.g. the time that the suture will mechanically support the wound

Suture:	Type:	Tensile strength retention:	Absorption rate:	Tissue reaction
Coated Vicryl Polyglactin 910	Braided multifilament	Approximately 75 % remains at 14 days Approximately 50 % remains at 21 days	Minimal until about the 40th day. Complete between 56-70 days	Minimal
Caprosyn (Polyglyltone 6211) Covidien (Formerly Tyco	Monofilament made up of glycolide, caprolactone, trimethylene carbonate, and	Approximately 50 to 60 % remains at 5 days; 20 to 30 % at 10 days Lost by 21 days	Absorbed by 56 days	Minimal

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Characteristics of commonly used suturing materials[12,13,14]

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Useful references

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Abbreviations

cm	Centimetre
e.g.	Example
EAS	External anal sphincter
IAS	Internal anal sphincter
mg	Milligram(s)
mL	Millilitre(s)
NICE	National Institute for Clinical Excellence
NSAIDs	Nonsteroidal anti-inflammatory drugs
RCOG	Royal College of Obstetricians and Gynaecologists
i.e.	That is

Version control and change history

PDS reference: OCE use only

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