

# Perineal Trauma Assessment, Repair and Safe Practice



## 1. Purpose

This document outlines the guideline and the procedure details for the assessment and repair of perineal trauma in postpartum women. Genital tract trauma can occur spontaneously during a vaginal birth, or during an assisted vaginal birth, or by surgical incision (episiotomy).

The document also details the expectations required of doctors and midwives in order to maintain safe practice standards and infection control principles.

Over 85% of birthing women will sustain perineal trauma. Approximately 70% of these women will experience a degree of perineal trauma that requires repair<sup>1</sup>. Such damage can have an impact on the woman's short term and long term health. Failure to recognize the extent of the trauma, an incorrect repair and inadequate pain management during and after the repair may contribute to major physical, psychological and social issues<sup>1,2,3</sup>.

Where processes differ between campuses, those that refer to the Sandringham campus are differentiated by pink text or have the heading **Sandringham campus**.

## 2. Definitions

**Perineal trauma:** Injury to the vagina, labia, urethra, clitoris, perineal muscles or anal sphincter.

**Episiotomy:** A surgical incision used to enlarge the vaginal orifice during the birth.

**Operator:** The clinician who is performing the repair who may be either a doctor or midwife.

**Assistant:** the clinician who is assisting the operator (commonly a midwife).

**Radio-opaque:** Surgical packs and tampons that contain an X-ray detectable strip. If a surgical pack or tampon is missing at the count, their presence in a body cavity can be detected by X-ray.

**EAS:** External anal sphincter.

**IAS:** Internal anal sphincter.

**OASI:** Obstetric anal sphincter injury (third or fourth degree tear).

### Classification of perineal trauma

#### A. Spontaneous perineal trauma:

**1<sup>st</sup> degree:** injury to the skin (includes fourchette, hymen, labia, vaginal epithelium).

**2<sup>nd</sup> degree:** injury that may involve the posterior vaginal wall, subcutaneous fat, perineal skin layer, superficial muscles, (bulbo-cavernosus and superficial transverse perinei) and deep muscles (pubococcygeus).

**3<sup>rd</sup> degree:** injury involving the above muscles but also the anal sphincter complex (EAS and IAS):

- 3a. Less than 50% of the EAS thickness torn
- 3b. More than 50% of the EAS thickness torn
- 3c. IAS torn.

**4<sup>th</sup> degree:** involves complete disruption of external and internal anal sphincter complex and the anal epithelium.<sup>6</sup>

#### B. Episiotomy:

A deliberate incision made through the perineal body to enlarge the vaginal orifice during birth:

- Restricting routine use of this procedure reduces the risk of perineal trauma <sup>1</sup>
- Using an episiotomy only when there are clear maternal or fetal indicators will increase the likelihood of maintaining an intact perineum and does not increase the risk of sustaining a third degree tear <sup>1</sup>
- When an episiotomy is performed the tissue layers involved are similar to that of a second degree tear <sup>6</sup>

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- Loss of pelvic floor integrity and dyspareunia may result from damage to the levator ani muscle with a mediolateral episiotomy
- There is an increased risk of third degree trauma and incontinence with a midline episiotomy<sup>5</sup>
- An episiotomy cut at a very small angle (<30° from the midline) may function like a midline incision and is consequently more likely to extend into the anal sphincter complex<sup>9</sup>
- Refer to the [Episiotomy procedure](#) for guidance on indications and technique.

## 3. Responsibilities

The accoucheur (medical and midwifery) is responsible for the initial assessment of genital tract trauma after the birth and for initiating prompt repair of identified trauma by the most appropriate clinician.

Medical and midwifery staff who are credentialed to conduct perineal repair are responsible for ensuring correct apposition and haemostasis of the wound; for documentation and ensuring the swab, instrument and needle count is correct.

Medical and midwifery staff assisting the credentialed clinician are responsible for assisting the operator and **ensuring that the swab, needle and instrument count is correct and documented.**

Any uncertainty about the nature or extent of the trauma should result in the woman being referred to a more experienced practitioner.<sup>4</sup>

Suture as soon as possible after birth- it is less painful and reduces the amount of blood loss and risk of infection.<sup>2</sup> Skin to skin contact with the baby can be maintained with support during this time.

## 4. Guideline

### 4.1 Assessment

There is sufficient evidence to suggest that a systematic assessment of the vagina, perineum and rectum is required to adequately assess the extent of perineal trauma.<sup>2</sup> This [short video](#) demonstrates such a systematic technique.

Prior to assessing the extent of the perineal trauma post birth the midwife/ medical officer will:

- Explain to the woman what they plan to do and why and obtain verbal consent
- Assist the woman into a comfortable position for the examination
- Offer inhalational analgesia during the examination
- Ensure good lighting so that the genital structures can be seen clearly
- Undertake a systematic examination to assess genital tract trauma in a gentle manner as soon as practicable after the birth:
  - Commence the examination anteriorly, examine the peri-urethral area and descend laterally to include the labia, vaginal vault, lateral vaginal walls, posterior vaginal floor, the perineal body and the anal sphincter
  - Extensive trauma should be re-assessed by an experienced practitioner trained in the recognition and management of perineal trauma and should include a digital rectal examination.<sup>2,4</sup>
- Once the genital trauma is identified it should be repaired by a competent practitioner.

### 4.2 Identification of anal sphincter trauma<sup>1,4</sup>

- Clinicians need to be aware of the potential risk factors for obstetric anal sphincter injury which include:
  - Birth weight > 4kg
  - Persistent occipito-posterior position
  - Nulliparity
  - Induction of labour
  - Epidural analgesia
  - Second stage >1 hour
  - Shoulder dystocia

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- A midline episiotomy, or one performed  $<30^\circ$  from the midline or of inadequate length (*these can potentiate a third degree tear*)
- Assisted vaginal birth (forceps and vacuum).
- The indications for undertaking the rectal examination should be explained to the woman and verbal consent for the procedure obtained
- Observe the anus for the absence of “puckering” (especially between the positions of 10 & 2 on a clock) which may be suggestive of anal sphincter injury
- The clinician should observe if the perineal tear extends to the anal margin
- The index finger of the clinician is inserted into the woman’s rectum and she is asked to squeeze. If the EAS is damaged the separated ends are seen to retract backwards towards the ischio-rectal fossa. A deficit may be observed or palpated anteriorly
- The muscle bulk of the sphincter should also be palpated between index finger and thumb (pill-rolling action) over the vaginal tear
- Muscle power in the perineum may be affected by regional analgesia
- Seek a second opinion if unsure about the nature or extent of the trauma.

Ideally third and fourth degree tears or difficult perineal trauma should be repaired in the operating theatre with regional or general anaesthetic and appropriate lighting. The operator should be credentialed in the repair of third and fourth degree perineal trauma. Guideline: [Third and Fourth Degree Tears - Management](#).

In exceptional circumstances when delay in repair is likely due to demand on the operating theatre, repair of a 3A or B tear may be sutured in the Birth Centre provided that the woman has a working epidural and the lighting is good.

Clinical requirements for perineal repair:

- Adequate haemostasis and obliteration of “dead space” to reduce the risk of developing a haematoma/ infection/ wound breakdown
- Ensure good anatomical alignment with recognition of landmarks to promote symmetry and healing
- Skin stitched not too tightly, minimal use of knots, least amount of suture materials used: all are reported to contribute to a reduction in postpartum perineal pain and promote healing
- Maintenance of standard infection control principles at all times: The operator is expected to use protective eyewear, facemask and a plastic apron prior to performing hand hygiene with 2% Chlorhexidine handwash or Microshield hand rub before donning a sterile gown and gloves
- Suture as soon as possible after birth due to altered pain perception and reduce the risk of infection.

## Non-suturing of perineal trauma

- Perineal repair is undertaken to promote healing by primary intention, effective haemostasis and minimize the risks of infection
- There is limited evidence re the benefit or harm for leaving perineal trauma unsutured.<sup>2,3,5</sup> A study undertaken by Fleming et al (2003) observed poor approximation in the healing of wounds in women who had not been sutured at six weeks post-partum <sup>2,6</sup>
- Clinicians are advised to be cautious about leaving trauma where the skin edges do not appose or muscle layers are involved unsutured, unless it is the woman’s expressed desire. Her wishes and the subsequent discussion should be documented in her record <sup>2</sup>.

## 4.3 Equipment required

- suture trolley or clean birth trolley (cleaned of all birth equipment and materials, then wiped down with alcohol based surface cleaner)
- sterile gloves and sterile gown, eye shield or face shield

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- cotton wool balls for superficial swabbing ONLY
- metalware bowl pack/ **disposable procedure pack**
- suture instruments in yellow kidney dish
- suture packs (with radio-opaque thread) as required
- sterile vaginal tampon (with radio-opaque thread) if required
- assortment of suture material
- green sterile drapes x2
- 20mL syringe and 21g or 23g needle
- 20mL lignocaine 1% (to supplement epidural anaesthesia or administer local anaesthesia)
- chlorhexidine 0.015% and Cetrimide 0.15% lotion
- adequate light source.

## Choice of suture material

**Note:** The use of a rapidly absorbed synthetic suture material (eg Vicryl Rapide) is associated with significant reduction in perineal pain, analgesia required, wound breakdown and resuturing. There is also a reduction in suture removal when compared with standard absorbable synthetic material<sup>1,2,3</sup>.



Figure 1

**2.0 VICRYL Rapide on 36 mm taper or tapercut needle** for a simple 3-layer repair  
Approximately 50% of the material remains in the tissue at five days.

Is absorbed by hydrolysis over approximately 42 days.



Figure 2

**2/0 Vicryl on 36mm tapercut needle**

Used for repair of deep muscle layer of perineal wound/ episiotomy.

Absorption slowly occurs over 56- 70 days  
Tensile strength is 75% after 14 days.

More need for suture removal when used in the skin.

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Figure 3

## 2-0 VICRYL rapide on 26 mm taper needle

Rapidly absorbed. 50% of material remains in tissue at 5 days.

Used for repair of labial tears and anterior FGM incision.



Figure 4

**2.0 PDS II on 26mm taper needle** for repair of anal sphincter trauma (experienced operator only).

Monofilament material.  
Takes 120 days to absorb.

## Equipment count

The operator and the assistant will together perform a full count of all instruments, suture packs, hypodermic needles, sutures and a tampon (if used). This should be undertaken prior to the commencement of the procedure and is the responsibility of the assistant to record same on the "Count Form" of the electronic medical record/ **Obstetric Admission and Partogram (MR / F10)** or if sutured in **Operating Theatre record on Perioperative Nursing Care Record (MR / P33)**.

- Any additional swabs, tampons, instruments or needles required during the procedure are recorded on the count form as they are issued. All counts must be verbal and documented
- It is necessary to do a recount of the equipment should the operator or assistant be replaced during the procedure
- If required to improve the visibility of the area to be repaired, a radio-opaque tampon may be inserted into the vagina. It must be secured with a blunt-ended towel clip attached to the tape and clipped to the top drape
- A final count of all equipment used should be undertaken at the completion of the repair and prior to any equipment leaving the birthing room
- At completion of the procedure, the assistant is responsible for the removal of the equipment used, including appropriate counting and disposal of SPS equipment and ensuring that the suture trolley (or basket) is restocked.

## 4.4 Conducting the repair<sup>3</sup>

- The repair procedure is fully explained to the woman and her verbal consent obtained. Known allergies to local anaesthetic should be identified and excluded at this time
- The woman is assisted into a lithotomy position to enhance visualization of the wound. To reduce physical harm to the woman or attending staff, two staff members are required to support and place one leg each into the lithotomy stirrups simultaneously. This is also to occur when removing the woman's legs from the supports
- Once the operator has scrubbed, gloved and gowned, a verbal count of equipment is performed with the assistant and documented in the "count form"

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- The operator cleanses the perineal area with Chlorhexidine/ Cetrimide lotion
- A sterile drape is placed underneath the woman's buttocks and a second sterile drape placed over her abdomen. Care is taken to avoid contaminating the operator's gloved hands
- Prior to starting the repair, the operator assesses the genital tract in good light to visualize the apex of the vaginal wound and to determine the presence of other trauma such as obstetric anal sphincter injury that may require suturing or further consultation. A suture pack is used to remove any debris and old blood clot from the wound surface
- The wound is infiltrated with Lignocaine 1%. A maximum amount of 20 mL may be administered over a one hour period. This total includes any local anaesthetic used for infiltration prior to the performance of an episiotomy if it occurs within this time frame. (20mL is usually sufficient.)
  - Midwifery staff, refer to [standing order 20](#).
- Where an epidural or spinal anaesthetic has been used, care is taken to determine if additional anaesthesia to the perineum is required
- Insert the infiltration needle into the wound edges, first from the fourchette, along the skin edges towards the anus, then from the fourchette, along the posterior vaginal wall to the apex of the wound. Before the injection of the local anaesthetic, withdraw the syringe plunger to ensure the needle has not entered a blood vessel. The local anaesthetic is injected as the needle is withdrawn. Wait 2- 3 minutes to ensure anaesthetic is effective
- Sensation around the wound can be assessed by 'pinching' with dissecting forceps before commencing the repair. If the mother is experiencing discomfort, further anaesthesia is required. It is indefensible to commence the repair without providing adequate pain relief
- If a vaginal tampon is required to improve the visualization of vaginal trauma, consideration is given to the woman's comfort. Obstetric cream can be used for lubrication prior to insertion. To prevent accidental retention of the tampon, the tape must be secured to a blunt ended towel clip and secured the clip to the sterile drape on the mother's abdomen
- Repair the perineal wound in three layers (vaginal wall, perineal muscle, perineal skin and subcutaneous tissue) using a rapidly absorbed suture such as 2/0 Vicryl Rapide
- Do not tie knots or pull sutures too tightly while undertaking the repair. Oedema of the tissues will develop during the first 24- 48 hours post repair and sutures that are too tight will constrict the tissue leading to increased maternal discomfort
- Identify and insert an anchor stitch 0.5cm beyond the apex of the posterior vaginal wound. Close the wound with a continuous non-locked suture, placing these 0.5-0.75cm from the wound edge. Endeavour to eliminate 'dead space'
- Visualise the passage of the needle across the base of the wound to prevent sutures being placed into the rectal mucosa
- Continue to suture until the hymenal remnants are reached approximating wound edges and eliminating dead space as you progress
- Match the hymenal remnants and the fourchette to achieve even approximation of the wound, ensuring sutures are not placed in the hymenal remnants. Continuous repair is considered best practice however once the vagina is repaired, the suture should be tied off at the level of the fourchette if the operator plans to use interrupted sutures to the muscle layer <sup>11,12</sup>
- Inexperienced operators should "tie-off" the sutures at this point and repair the muscle layers separately
- If a continuous suture to the muscle layer is preferred, the final suture of the vaginal layer is made into muscle at the fourchette
- The muscle layer is apposed in one or two layers dependent on the depth of the trauma. Interrupted or continuous sutures may be used. "Dead space" should be eliminated as much as possible to reduce the risk of infection and wound breakdown. Where a deep muscle layer of sutures is required for approximation of

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the wound this should be accomplished using a longer absorbed suture e.g. 2.0 Vicryl

- The perineal skin is apposed using continuous or interrupted sutures starting from the inferior end of the wound. The repair should be completed by passing the suture needle through the fourchette back into the vagina. A small suture may be required to complete the knot which is then tucked into the vagina to minimize discomfort
- Consider inserting an indwelling urinary catheter for 24 hours to prevent urinary retention in a woman with extensive perineal trauma<sup>2</sup>.

## 4.5 Immediate Post-operative Care

- At completion of the procedure remove vaginal tampon (if used). Ensure that this is recorded on the count form
- A vaginal examination should then be undertaken to ensure that the vaginal introitus admits at least two fingerbreadths and ensure haemostasis of the vaginal wound
- A rectal examination is then undertaken to ensure no sutures have penetrated through the vagina into the rectum
- Diclofenac 100mg suppository administered per rectum should be offered routinely for pain management providing there are no contra-indications<sup>2</sup>. Midwives who are credentialed to undertake perineal repair and have completed their Standing Orders Medication Package via [Catalys](#) may administer a single dose of diclofenac PR 100mg ([standing order 12](#)), and must be documented on the 'Once only' section of the Medicines Chart MR/190. Two staff are to assist the woman down from the lithotomy position.
- To reduce physical harm to the woman or attending staff, both legs are assisted down at the same time.
- Underpads/ sheets should be changed so that the woman is made clean, dry and comfortable
- Explain the extent of the trauma and advise her regarding hygiene, the use of ice to relieve perineal discomfort/ oedema and other pain management measures.
- The operator and assistant are to conduct a verbal count of all equipment used as per section 4.6. Document this on the electronic "Count Form" in MCIS/in **medical record**
- Document the repair on the MCIS Perineal repair form/**medical record**. Record any difficulty experienced with the repair e.g. excessive bleeding, friable tissue, bruising or oedema
- If there are difficulties in describing the extent of the trauma a diagram may be drawn on Progress Notes and then filed in the maternal history. A note of this should be made on the flowsheet
- The woman should be provided with information regarding the extent of the trauma, pain relief, hygiene, diet and the importance of pelvic floor exercises <sup>2</sup>
- Observe the trauma postpartum for evidence of increasing oedema, excessive bruising and the formation of perineal and vaginal haematoma.

## Perineal Pain

Evidence suggests that there is a link between the severity of the perineal injury and degree of perineal pain experienced by the woman. The presence of an episiotomy is thought to contribute to more discomfort than other forms of perineal trauma.<sup>5</sup>

Risk factors that are said to be associated with higher levels of perineal pain following childbirth include Instrumental birth, epidural analgesia, episiotomy and parity.<sup>5</sup>

Perineal trauma and the associated pain contribute to voiding difficulties in the post-partum period. Guideline: [Bladder Management - Intrapartum and Postpartum](#).

NOTE: Women without any trauma will experience and report pain, with a small number still experiencing perineal discomfort 3 months postpartum.<sup>8</sup>

Comfort measures for pain management should be extended to **ALL** women postpartum, not just those experiencing trauma.<sup>8</sup>

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## Pain Management Methods

The following methods have been shown to relieve the discomfort of perineal trauma

- Diclofenac Suppository
- Oral analgesia - paracetamol, ibuprofen, tramadol or oxycodone IR
- Localised cooling pads/ ice packs.

## 4.6 Safe Practice

### Minimising Needlestick Injury

- The operator is responsible for their own safety by ensuring that the exposed suture needle is 'guarded' in the needle holder when not in use
- Double-gloving is recommended <sup>12, 13, 14</sup>
- Dissecting forceps should be used to handle the needle as much as possible during the procedure to reduce the potential for 'needle-stick' injuries
- During the repair, contaminated 'sharps' are placed in the sterile yellow kidney dish provided
- The operator is responsible for safe disposal of all 'sharps' used prior to leaving the room.

### Maintaining infection control principles

Best practice in perineal repair requires maintenance of standard infection control precautions at all times. The operator is expected to:

- Maintain an [aseptic technique](#)
- use protective eyewear and a plastic apron under the sterile gown
- perform hand hygiene with 2% Chlorhexidine hand wash or Microshield hand rub before donning a sterile gown and gloves.
- Double gloving is recommended practice. Several studies have shown that the majority of perforations go unnoticed and that double gloving offers better protection from perforation than single gloving <sup>12, 13, 14, 15</sup>.

### Procedure for discrepancy in perineal repair count

The operator and the assistant are equally responsible for ensuring that all instruments, packs, tampons and 'sharps', are accounted for at the end of the procedure and documented in the electronic record. Any discrepancy found with the count must be immediately responded to by both staff members involved in the perineal repair

- No equipment should be removed from the room until a thorough search is conducted
- In relation to a missing pack or tampon, a vaginal examination of the patient must be undertaken. If following this procedure the item is still missing, an X-ray of the patient must be conducted before the woman is discharged from the Birth Centre
- The AUM in charge of the Birth Centre must be notified of the discrepancy. If the incident occurs out of hours, the AUM in charge of the shift and the After Hours Manager is informed of the event
- The woman is advised of the discrepancy plus the outcome of any search for the missing items
- If the discrepancy remains following the repeat count and search, it is recorded on the count sheet and in the medical record. The event and all relevant information must also be recorded on VHIMS and the Birth Centre Manager/**Maternity Services Manager**, informed of the discrepancy.

### Penetration of the rectum by sutures

- If penetration of the rectum occurs, the repair must be taken down, the sutures removed, the wound resutured and the mother commenced on antibiotics (Guideline: [Third and Fourth Degree Tears - Management](#)). An explanation is provided to the woman

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- The removal of sutures and resuturing of the wound requires the operator to remove their contaminated gloves, perform hand hygiene and reapply sterile gloves before taking the wound down and resuturing. The set-up is renewed if contaminated with any fecal matter
- Documentation of the event is to occur in the woman's (electronic) medical record.

## Leaving tampons or packs in the vagina after the repair for haemostasis

To assist with reducing the incidence of retained packs:

- All packs or tampon deliberately left in the vagina to provide haemostasis must contain a radio-opaque thread
- The presence of the pack or tampon is documented on the perineal repair and count form, along with the planned time for removal. Verbal handovers between clinicians should include this information
- This should also be noted on the Variance/Progress notes of the Postnatal Maternal Chart

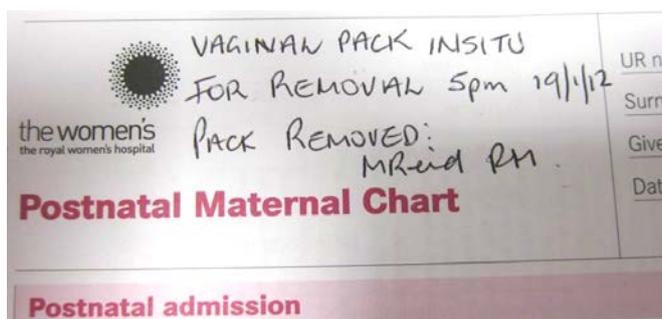


Figure 5

- In the Birth Centre: Removal of the pack or tampon must be documented in the (electronic) medical record at the time of removal and signed for
- In the postnatal ward a notation stating *the presence of and the time for removal of the pack and the signature of the person undertaking same* should be noted on the top right hand corner of the Postnatal Maternal Chart/**medical record**. Parkville: see example, figure 5.

## 5. Evaluation, monitoring and reporting of compliance to this guideline

Compliance to this guideline will be monitored, evaluated and reported through review of incidents documented on VHIMS.

## 6. References

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## 7. Legislation/Regulations related to this guideline

Not applicable.

## 8. Appendices

Not applicable.

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