Queensland Clinical Guidelines

Translating evidence into best clinical practice

Maternity and Neonatal **Clinical Guideline**

Perineal care

Queensland Government

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Acknowledgement

The Department of Health acknowledges the Traditional Custodians of the lands, waters and seas across the State of Queensland on which we work and live. We also acknowledge First Nations peoples in Queensland are both Aboriginal Peoples and Torres Strait Islander Peoples and pay respect to the Aboriginal and Torres Strait Islander Elders past, present and emerging.

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This guideline does not address all elements of standard practice and accepts that individual clinicians are responsible for:

- Providing care within the context of locally available resources, expertise, and scope of practice
- Supporting consumer rights and informed decision making, including the right to decline intervention or ongoing management
- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary
- Ensuring informed consent is obtained prior to delivering care
- Meeting all legislative requirements and professional standards
- Applying standard precautions, and additional precautions as necessary, when delivering care
- Documenting all care in accordance with mandatory and local requirements

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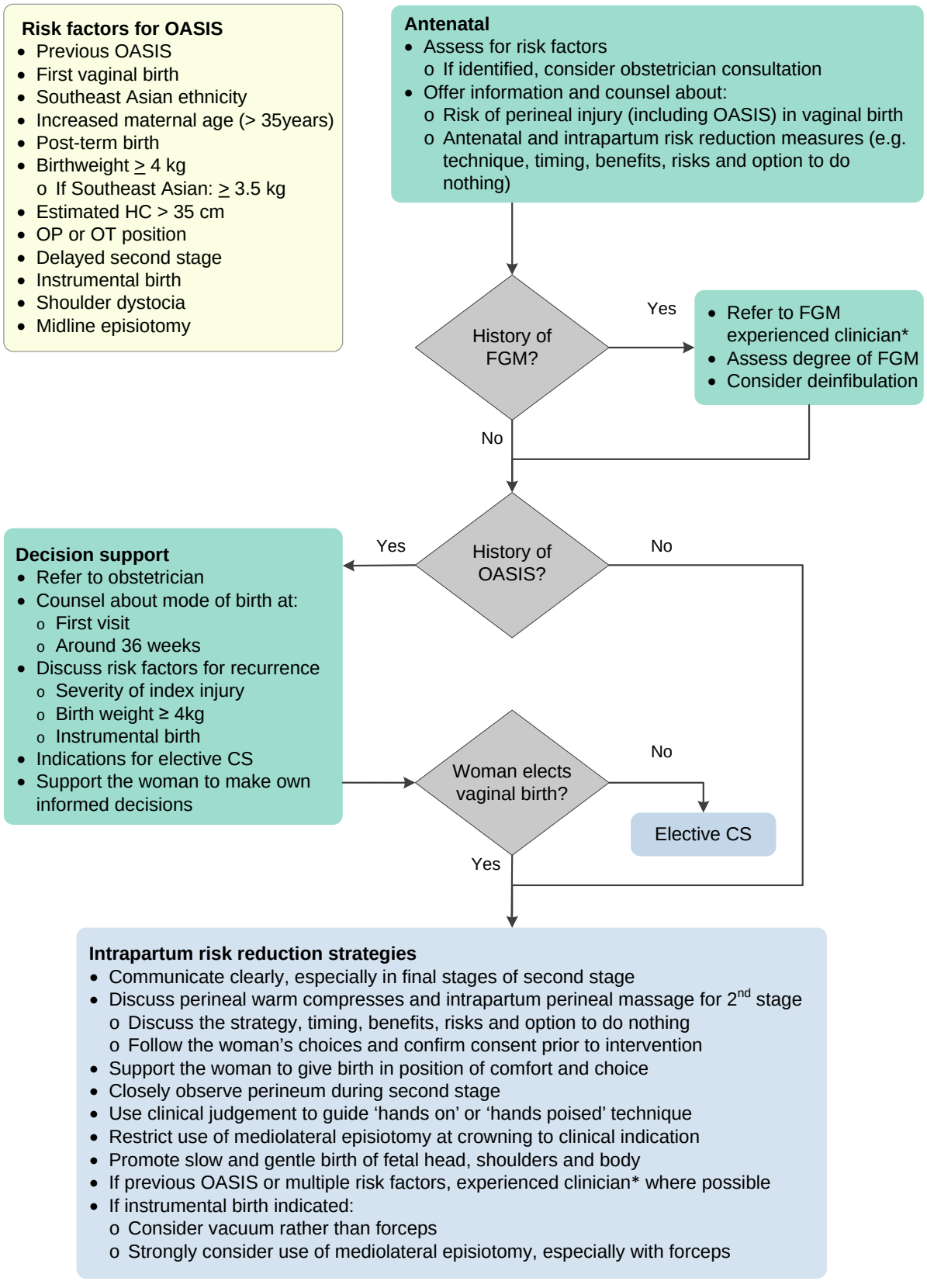
Flowchart: Antenatal and intrapartum perineal care



*Experienced clinician: The clinician best able to provide the required clinical care in the context of the clinical circumstances, and local and HHS resources and structure. May include clinicians in external facilities.

CS: caesarean section, **FGM:** female genital mutilation, **HC:** head circumference, **HHS:** hospital and health service, **OASIS:** obstetric anal sphincter injuries, **OP:** occiput-posterior position, **OT:** occiput- transverse, **>:** greater than, **≥**: greater than or equal to, **<:** less than

Queensland Clinical Guidelines: F23.30-1-V4-R28

Flowchart: Perineal assessment and repair

General principles for perineal assessment and repair

- Provide privacy and warmth
- Seek consent prior to assessment and repair
- Communicate clearly and sensitively
- Position woman to optimise comfort and clear view of perineum with adequate lighting
- Perform assessment and repair as soon as practicable while maintaining mother-baby bonding
- Ensure adequate analgesia/anaesthetic throughout assessment and repair
- Clinician is competent to perform assessment and repair–refer to more experienced clinician as required

Perform a systematic assessment

- Visual assessment
  - Periurethral area, labia, proximal vaginal walls
  - Extent of tear
  - Presence or absence of anterior anal puckering
- Vaginal examination
  - Cervix, vaginal vault, side walls, floor and posterior perineum
  - Note extent of tearing
  - Identify apex
- Rectal examination (indicated if perineal trauma)
  - Insert index finger into rectum and ask woman to squeeze while feeling for any gaps anteriorly
  - If unable to squeeze (e.g. epidural), assess using "pill-rolling motion" checking for inconsistencies in anal sphincter muscle
  - Check integrity of anterior rectal wall
  - Note detection of IAS damage

Trauma identified?

No → Repair not required

Yes →

- Classify injury
- Discuss benefits/risks of repair/non-repair
- Use repair technique appropriate for injury
- Use local and/or regional anaesthesia

First degree repair

- If haemostasis evident and structures apposed, suturing not required
- If bleeding or skin not aligned suture using continuous non-locked subcuticular absorbable sutures or consider surgical glue
- Avoid large volumes of local anaesthetic for clitoral tears

Second degree repair

- Repair muscle with continuous, non-locked sutures
- Using absorbable synthetic suture material
- If skin apposed after suturing muscle layer, suturing of skin is not required
- If skin not apposed after suturing muscle layer, suture the skin
- PR exam to ensure sutures not penetrating anorectal mucosa

OASIS

- Repair in OR usually recommended
- Avoid figure of eight sutures
- Trim suture ends and bury knots in deep perineal muscle to avoid suture migration
- Repair of EAS
  - Use monofilament or modern braided sutures
  - Full thickness EAS tear, use overlapping or end-to-end method
  - Partial thickness EAS tear, use end-to-end method
- Repair of IAS
  - Repair separately with interrupted or mattress sutures
  - Do not attempt to overlap IAS
- Repair of anorectal mucosa
  - Use 3-0 polyglactin suture
  - Avoid polydioxanone sutures
  - Use either continuous or interrupted sutures

Perineal tear classification

First degree: Injury to the skin or vaginal epithelium only

Second degree: Injury to the perineum involving perineal muscles but not involving the anal sphincter

Third degree: Injury to perineum involving the anal sphincter complex

- **3a:** Less than 50% of EAS torn
- **3b:** More than 50% of EAS torn
- **3c:** Both EAS and IAS torn

Third and fourth degree tears collectively known as OASIS

Fourth degree: Injury to perineum involving the EAS, IAS and anal epithelium

Rectal buttonhole tear: Injury to rectal mucosa with an intact IAS

Queensland Clinical Guidelines: F23.30-2-V4-R28

EAS: external anal sphincter; **IAS:** internal anal sphincter, **OASIS:** obstetric anal sphincter injuries **OR**: operating room,

Abbreviations

APM	Antenatal perineal massage
EAS	External anal sphincter
FGM	Female genital mutilation
GP	General practitioner
HHS	Hospital and Health Service
IAP	Intra-abdominal pressure
IAS	Internal anal sphincter
IPM	Intrapartum perineal massage
IV	Intravenous
NSAID	Non-steroidal anti-inflammatory drug
PFMT	Pelvic floor muscle training
OASIS	Obstetric anal sphincter injury or injuries
OR	Operating room
USS	Ultrasound scan

Definition of terms

De-infibulation	A surgical procedure to cut open the narrowed vaginal opening in a woman who has been infibulated.[1]
Infibulation	A type of female genital mutilation that involves narrowing of the vaginal orifice with the creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora. May occur with or without excision of clitoris.[1]
Obstetric anal sphincter injury or injuries (OASIS)	Collective term for third and fourth degree tears.
Obstetrician	Local facilities may if required, differentiate the roles and responsibilities assigned in this document to an “obstetrician” according to their specific practitioner group requirements; for example to general practitioner obstetricians, specialist obstetricians, consultants, senior registrars and obstetric fellows.
Re-infibulation	Procedure to narrow the vaginal opening in a woman after she has been de-infibulated; also known as re-suturing.[1]
Woman/women	In QCG documents, the terms *woman* and *women* include people who do not identify as women but who are pregnant or have given birth.

Table of Contents

List of Tables

1 Introduction

Perineal injury is a common maternal morbidity associated with vaginal birth. Injury to the perineum without involvement of the anal sphincter does not generally cause long term functional problems for women. In contrast, injury involving the anal sphincter (obstetric anal sphincter injuries (OASIS)) can result in long term sequelae such as faecal incontinence and can significantly affect a woman's quality of life.[2,3]

Table 1. Incidence of perineal injury

Aspect	Consideration			
Context	• Approximately 84% of women will experience some form of perineal injury during vaginal birth[4] • Australian rates of perineal injury are similar to that of the United Kingdom, New Zealand and the Netherlands[5] • Queensland rates are similar to the national average except o Lower rates of episiotomy, especially in primiparous women (36.6% compared to 45% nationally[6])			
Rates* in Queensland: 2021[6]	**Perineum**	**Singleton vaginal births**		
		Total	**Primiparous**	**Multiparous**
	No tear (intact)	21.6%	8.2%	31.3%
	1st degree tear	27.2%	21.4%	31.4%
	2nd degree tear	32.1%	35.9%	29.4%
	3rd degree tear	2.7%	4.4%	1.4%
	4th degree tear	0.1%	0.3%	0.1%
	Grazes only	0.6%	0.8%	0.4%
	Episiotomy	19.7%	36.6%	7.4%

**Both an episiotomy and a tear/graze may have been recorded; therefore, the sum of the components is greater than 100%*

1.1 Clinical standards

Table 2. Clinical standards

Aspect	Consideration
Standard care	• Refer to Queensland Clinical Guideline: *Standard care*[7] for care considered 'usual' or 'standard', including for example: o Communicating for safety, culturally safe care, documentation of information, medication safety o Clinician education, training, and scope of practice o Consent, as it is particularly pertinent for intimate examination and assessment, and repair of the perineum and can be challenging in the birth environment o Routine newborn care (e.g. skin to skin during assessment and repair)
System audits and monitoring	• Review clinical audit results (e.g. state of the perineum after birth) and develop action plans as required[8] • Third and fourth degree tears are included on the Australian Commission on Safety and Quality in Healthcare (ACSQHC) Hospital Acquired Complications list[9] o Financial penalty is applied if a fourth degree tear (proportionate to the number of identified risk factors[9])
Clinician experience and learning	• A clinician's experience is an independent risk factor that influences risk of perineal injury[10] • Increased awareness, vigilance and training improves OASIS detection[11] • Facilitate clinician learning (e.g. to gain experience and procedural expertise) in a safe and supportive environment • Where possible, an experienced clinician (or a clinician under the direct supervision of an experienced clinician) o Manages the birth of women at higher risk of OASIS o Repairs third and fourth degree tears[12,13] o Performs de-infibulation[14,15]
Evidence limitations	• The quality of evidence for interventions to prevent or minimise perineal injury is variable, and outcomes are frequently conflicting

2 Perineal injuries

Perineal trauma refers to damage to the genitalia during the birthing process. It can occur spontaneously, following episiotomy, or as a consequence of female genital mutilation (FGM).[8] Refer to Section 7 Female genital mutilation (FGM).

2.1 Types of perineal injury

Table 3. Types of perineal injury

Type	Definition
Anterior perineal injury	Injury to the labia, anterior vagina, urethra or clitoris[16]
Posterior perineal injury	Injury to the posterior vaginal wall, perineal muscles or anal sphincter that may include disruption to the anal epithelium[16]
Episiotomy	A surgical incision intentionally made to increase the diameter of the vulval outlet to aid delivery[8]
Female genital mutilation	A cultural, non-therapeutic procedure that involves partial or total removal of female external genitalia and/or injury to the female genital organs[8]

2.2 Perineal tear classification

Table 4. Perineal tears

<table>
<tr><th>Tear</th><th colspan="2">Definition</th></tr>
<tr><td>First degree[11,17]</td><td colspan="2">Injury to the skin or vaginal epithelium only</td></tr>
<tr><td>Second degree[11,17]</td><td colspan="2">Injury to the perineum involving perineal muscles but not involving the anal sphincter</td></tr>
<tr><td>Third degree[11,17]</td><td>Injury to perineum involving the anal sphincter complex
• 3a: Less than 50% of external anal sphincter (EAS) thickness torn
• 3b: More than 50% of EAS thickness torn
• 3c: Both EAS and internal anal sphincter (IAS) torn</td><td rowspan="2">Third and fourth degree tears are collectively known as OASIS[11]</td></tr>
<tr><td>Fourth degree[11,17]</td><td>Injury to perineum involving the anal sphincter complex (EAS and IAS) and anorectal mucosa</td></tr>
<tr><td>Rectal buttonhole[11]</td><td colspan="2">• Injury to rectal mucosa with an intact anal sphincter complex
• Not a fourth degree tear</td></tr>
</table>

2.3 Risk factors for perineal injury

Identification of risk factors do not allow for prediction or prevention of perineal injury.[11]

Table 5. Incidence and risk factors for OASIS

Aspect	Consideration
Incidence	• Rates of OASIS are increasing[18] and may be due to: o Larger fetal size o Increase in instrumental births o Improved identification o Changed clinical management of second stage o A combination of factors[19] • Likely higher than estimated due to missed detection • Majority of OASIS occur in women categorised as low risk[20] • Many risk factors are non-modifiable (e.g. maternal height and age[19]) • Limited evidence of the individual or synergistic contribution of risk factors[21]
Risk factors for OASIS[19-24]	• Previous OASIS • First vaginal birth[25,26] • Southeast Asian ethnicity • Increased maternal age (35 years or more) • Post-term birth • Birth weight 4 kg or more (3.5 kg or more if Southeast Asian ethnicity) • Estimated fetal head circumference more than 35 cm • Occiput-posterior or occiput-transverse position • Delayed second stage (risk increases with increasing duration) • Instrumental birth • Shoulder dystocia • Midline episiotomy

2.4 Outcomes associated with OASIS

Risk and severity of complications are directly related to extent of injury.[11]

Table 6. Potential outcomes associated with OASIS

Aspect	Consideration
Early postnatal[27]	• Perineal pain associated with oedema and bruising • Urinary retention and incontinence • Defecation problems
Longer term	• Abscess formation and wound breakdown[2] • Rectovaginal fistulae[2] • Dyspareunia and altered sexual function[27] • Anal incontinence including incontinence of flatus, liquid or solid stool, passive soiling, faecal urgency[28,29] • Ongoing perineal pain[30]
Psychological[3]	• Women report complex emotional experiences and an effect on quality of life following OASIS including feeling: o Vulnerable, exposed, embarrassed and socially isolated o Disempowered, anxious, helpless, fearful and out of control o Changed perception of body image, low self-esteem o Increased sexual dysfunction (e.g. issues related to desire, arousal, frequency, avoidance) o Concern about the impact on future birth [refer to Section 6.5 Counselling for subsequent birth]
Prognosis	• Estimated that 60–80% of women are asymptomatic 12 months after external anal sphincter repair[31]

3 Antenatal risk reduction

Antenatal risk assessment and appropriate referral is a key risk minimisation strategy for both OASIS and other types of perineal injury.

Table 7. Antenatal assessment and advice

Aspect	Consideration
Assessment	• Obtain a comprehensive history of perineal trauma including history of OASIS • Review antenatal risk factors • Visual inspection if indicated
Referral	• Consult with and/or refer to obstetrician if[32]: o FGM o History of OASIS o Fetal macrosomia [refer to Queensland Clinical Guideline: *Induction of labour*[33]] • If psychological issues resulting from previous perineal injury identified offer: o Birth planning with a senior clinician o Referral to appropriate healthcare provider (e.g. perinatal mental health clinician, social worker, Aboriginal and Torres Strait Islander health worker) as required
Antenatal counselling	• If vaginal birth is planned, offer information about the risk of perineal injury including OASIS[8] • Discuss the woman's preferences and choices related to perineal care and risk reduction (including with an obstetrician if required) • Offer information in the antenatal period about protective strategies that may reduce or mitigate risk of[16]: o Perineal injury (incidence and severity) o Perineal pain o Pelvic floor dysfunction • Include information about timing, benefits, risks and the option to do nothing

3.1 Antenatal perineal massage

Table 8. Antenatal perineal massage

Aspect	Consideration
Risks and benefits	• Antenatal perineal massage (APM) compared with no APM is associated with: o Reduced incidence of episiotomy[16,34] o Reduced incidence of OASIS[34,35] o Reduced perineal pain during birth and postnatally[35] o Improved wound healing[35] o Reduced anal incontinence[35]
Contraindications	• Active genital infection (e.g. genital herpes, genital candidiasis) • Ruptured membranes • Vaginal bleeding in third trimester
Recommendation	• Optimal frequency and duration uncertain, may be beneficial when performed[35]: o From around 35 weeks gestation o One to two times per week o For around five minutes per session

3.2 Pelvic floor muscle training (PFMT)

Table 9. Pelvic floor muscles training

Aspect	Consideration
Risks and benefits	• Reduces the rate of OASIS but not first or second degree tears[36] • Early structured PFMT may reduce urinary incontinence in late pregnancy and first six months postpartum[37] • Efficacy for faecal incontinence is unclear[37] • For primigravidas[36] o Shortens second stage of labour o No significant association between PFMT, and of rate of episiotomy or instrumental birth
Recommendation	• Optimal starting gestation, or number and frequency of PFMT required to achieve significant benefit is uncertain[36] • Probably requires regular performance throughout pregnancy • Provide one-to-one instruction if possible • Where available, include a women's and pelvic health physiotherapist in care and/or education

3.3 Other antenatal interventions

Table 10. Combination interventions

Aspect	Consideration
Combined APM and PFMT	• Combining perineal massage and PFMT reported to: o Improve rates of intact perineum[35,38-40] o Decrease rates of episiotomy[34,40] o Reduce risk of OASIS[38,39] o Reduce postnatal perineal pain[40] o Reduce analgesia use[38,40]
Perineal stretching device	• Limited evidence[34] • If use is desired, recommend use as per manufacturer's instructions

4 Intrapartum risk reduction

Discuss intrapartum risk reduction techniques and clinical outcomes with the woman antenatally when possible, and during intrapartum care to support woman centred decision making.

4.1 Environment for birth

Table 11. Environment for birth

Aspect	Consideration
Place of birth (home, birth centre, hospital)	• Among women with uncomplicated pregnancies[41] and when compared with planned hospital birth: o Intact perineum is more associated with planned home or birth centre births o Episiotomy is less associated with planned home or birth centre birth o OASIS is more associated with planned birth centre birth o OASIS is less associated with planned home birth
Water immersion in labour and birth	• Compared with no immersion, there are no significant differences in perineal outcomes with warm water immersion in first or second stage[34,42,43]
Accoucheur experience[10]	• Experience (years since first birth attendance) of the accoucheur reported as a significant independent risk factor for severe perineal trauma • For women with higher risk of OASIS, involve more experienced clinicians in the supervision or management of the birth
Epidural in situ	• Inconsistent evidence exists around the rate of perineal trauma following epidural in labour[23,24,44]

4.2 Maternal position

There is little high quality evidence to inform optimal maternal position during second stage of labour to minimise perineal trauma.[45,46]

Table 12. Maternal position in second stage

Aspect	Consideration
Position	• Conflicting results reported for crouched and squatting position[34] • All fours position (bidalasan) with head of bed tilted 30° had lower rates of episiotomy and more intact perineum than other positions[34] • For women without an epidural, giving birth in an upright position compared to a reclined position may be associated with[45]: o Reduction in length of second stage and instrumental births o No difference in OASIS rates o Fewer episiotomies, but a possible increase in second degree tears o Increase in estimated blood loss of 500 mL or more
Recommendation	• Support women to give birth in whatever position they find comfortable[15,47] o Accoucheur to maintain good visualisation of perineum

4.3 Intrapartum perineal massage

Table 13. Intrapartum perineal massage

Aspect	Consideration
Risks and benefits	• Intrapartum perineal massage (IPM) compared with no IPM, is associated with[48,49] o Greater likelihood of intact perineum o Less OASIS o Similar incidence of first and second degree tears, and episiotomy • Women may dislike the technique o If they have experienced sexual abuse, they may find it traumatic[50]
Recommendation	• Discuss IPM for second stage • Follow local Hospital and Health Service (HHS) protocol/procedure for IPM technique • Stop at the woman's request, or if causing pain or discomfort

4.4 Perineal warm compresses

Table 14. Perineal warm compresses

Aspect	Consideration
Risks and benefits	• Applied to the perineum in second stage may: o Reduce incidence of OASIS[47,51] and episiotomy o Increase incidence of intact perineum • Risk of perineal burn if decreased thermal sensitivity
Recommendation	• Offer warm perineal compresses in second stage of labour • Develop local policy to standardise preparation and temperature of warm compresses to ensure safe application • Ensure temperature appropriate prior to application, especially in women with reduced thermal sensitivity • Stop at the woman's request, or if causing pain or discomfort

4.5 Manual perineal support

Table 15. Manual support of perineum

Aspect	Consideration
Techniques[16]	• Several techniques used worldwide, to manually support the head and perineum (e.g. Ritgen's manoeuvre, modified Ritgen's manoeuvre, Finnish manoeuvre) • Hands off or poised o Accoucheur's hands are kept off the perineum and poised o If there is rapid expulsion of the baby's head, counter pressure supports a slower emergence • Hands on (or flexion technique) o Flexion of the baby's head is maintained by pressure on the occiput in a downwards direction with one hand, while the perineum is guarded with the other hand
Evidence summary	• Hands on technique results in higher incidence of: o Episiotomy[16,52-54] o Third degree tears[52,53] • No difference in incidence of other types of perineal injury between hands on and hands off or poised
Recommendation	• Individualise care based on the woman's preferences and choices • Continuously watch the perineum and evaluate the risk of injury • Use clinical judgement to determine whether to have hands on or hands off o If novice clinician, have hands on fetal head with clinical support from an experienced clinician whenever possible • Use the minimal amount of pressure required to achieve birth, and reduce risk of perineal injury and fetal traction injury

4.6 Pushing in second stage

Table 16. Pushing methods in second stage

Aspect	Consideration
Directed versus spontaneous pushing	• Conflicting evidence in relation to technique of pushing (directed or spontaneous), and perineal injury both with and without epidural[34,48,55,56] • Spontaneous pushing may result in fewer severe perineal lacerations and episiotomy compared to directed pushing (e.g. Valsalva manoeuvre)[34]
Recommendation	• Be guided by the woman's preferences and the clinical context • Maintain effective communication with the woman to guide active pushing[15,34] • Use verbal encouragement to slow down expulsive efforts and promote controlled pushing at crowning[15]

4.7 Episiotomy

Historically and internationally, the practice of episiotomy varies widely in terms of both technique and policy. Episiotomy may serve to prevent OASIS, but it may also create trauma which may not have otherwise occurred.[56-58]

Table 17. Episiotomy

Aspect	Consideration
Context	• Evidence that episiotomy prevents OASIS and/or anal incontinence is conflicting[11,59-62] • May protect against OASIS for instrumental births[11,21,63] o Refer to Table 18. Instrumental birth considerations
Indications	• Consider performing when: o Fetal compromise is suspected and birth needs to be expedited[64] o Instrumental birth is indicated [refer to Section 4.8. Instrumental birth][64] o History of FGM[64] [refer to Section 7 Female genital mutilation (FGM)] o Soft tissue dystocia is present[64] o Severe injury is considered imminent and likely[64] o Maternal medical indications for shortened second stage o Maternal request
Technique principles	• Use selectively[15,47,65] • Use local anaesthesia prior[15] • Incise at crowning[15] • Mediolateral incision is recommended[66,67] o Approximately 4 cm (3–5 cm) in length[14,68] o Ideally, at 60 degrees and not less than an angle of 45 degrees[69-71] • Episiotomy scissors designed specifically to achieve a cutting angle of 60 degrees may be effective in achieving the correct angle and reducing OASIS[11,72,73]
Recommendation	• Individualise the decision for each birth, following[74]: o Discussions with the woman (preferably antenatally) o Individualised assessment (e.g. a need to expedite birth) o Clinical judgement (e.g. when a third or fourth degree tear is considered likely)

4.8 Instrumental birth

Table 18. Instrumental birth considerations

Aspect	Consideration
Risk and benefit	• Instrumental birth is associated with higher rates of OASIS and post-partum pelvic floor dysfunction (including incontinence)[19,75,76] o The lower the fetal head on application of forceps or vacuum the less risk of anal sphincter tears • Vacuum (compared to forceps) associated with lower risk of vaginal trauma and OASIS[77] • Episiotomy may protect against OASIS for instrumental births[11,21,62,63,78] o May be more beneficial for primiparous than for multiparous women[79]
Recommendation	• Selectively perform a mediolateral episiotomy for instrumental birth following individualised assessment, clinical judgement and the woman's preferences[8] • If forceps are used and is the woman's first vaginal birth, strongly consider an episiotomy[74,80] • Antibiotic prophylaxis is recommended o Refer to Queensland Clinical Guideline: *Instrumental vaginal birth*[81]

4.9 Combination interventions

Several studies have examined the effect of combining multiple intrapartum strategies on rates of OASIS.[52,82-85]

Table 19. Combination interventions

Aspect	Consideration
Intervention bundles	• Interventions studied included varying combinations of: o Good communication between woman and accoucheur[85-88] o Instructing woman not to push during last part of second stage[83,84] o Hands on technique (predominantly the Finnish manoeuvre)[83,85-87] o Maternal position for birth which allows for visualisation of the perineum[83,85,87] o Restrictive use of episiotomy[84-87] o Clinician education on each element of a bundle and service redesign[89] o Episiotomy scissors, perineal massage, warm compresses and perineal protection at crowning [90] o Delayed pushing, maternal position change every 20 minutes
Women's Healthcare Australasia (WHA)[91]	• A bundle of perineal care elements (Perineal Protection Bundle©) was introduced by WHA in 2018 as a national collaborative initiative • A number of maternity services in Queensland participated • Consisted of five elements consistently offered together o Application of a warm compress to the perineum in second stage of labour at the commencement of perineal stretching o Techniques to encourage slow controlled birth of the fetal head o Prescribed technique for performing an episiotomy ▪ Episiotomy recommended for women if first vaginal birth requiring forceps or ventouse o Assessment of perineal injury by an experienced clinician ▪ Per rectum examination for all women (including if intact perineum) o Use of standard grading of perineal injury methodology
Recommendation	• Evidence specific to bundles is complex, and should be interpreted with caution[27,75,92] • If an intervention bundle of care is offered by a service, discuss each element of the bundle with the woman[92,93] • Support the woman's decision regarding application of each bundle element

4.10 Other intrapartum interventions

Table 20. Other intrapartum interventions

Aspect	Consideration
Birth of shoulders	• Incidence and severity of perineal trauma has not been shown to differ between primary delivery of anterior shoulder compared with primary delivery of the posterior shoulder[94] • Assist birth of the body of the baby by lateral flexion of the trunk following the curve of Carus
Uncertain benefit for perineal injury reduction	• Hyaluronidase injection[95] • Midwife-led continuity models of care versus other models[96] • Continuous one on one support[97] • Primary delivery of anterior versus posterior shoulder[16] • Lubricant (e.g. water based gel)

5 Perineal assessment and repair

Accurate diagnosis and effective care of perineal injuries requires systematic perineal assessment and best practice repair techniques.

5.1 Perineal assessment

Table 21. Perineal examination

Aspect	Consideration
Preparation	• Optimise o Lighting[70] o Comfort, warmth and position of the woman[70,98] o Support available for baby and woman during procedure • Discuss: o Importance of thorough assessment and the need to perform vaginal and rectal examinations[70,99] o Process of assessment and diagnosing a tear[8] o Extent of trauma and repair[70] o Functional and/or cosmetic changes o Postpartum care of perineum [refer to Section 6. Postpartum perineal care]
Analgesia	• For repair: o Infiltrate perineum with local anaesthetic, and/or top up epidural or insert spinal anaesthetic as appropriate[70] o Seek confirmation that analgesia is effective and sufficient before commencing repair[70] • Topical lidocaine-prilocaine (e.g. EMLA®) cream anaesthesia has been suggested as a safe and effective alternative, but evidence is limited[100]
Timing	• Assessment may be done immediately after birth • No high level evidence on optimal timing of repair (including after waterbirth)[101] o Women can find lengthy delays distressing[99] o Repair as soon as practicable may minimise risk of infection, blood loss and reduce lengthy delays for the woman
Visual examination	• Visually assess periurethral area, labia and lower vaginal walls • If the perineal tear extends to the anal margin or anal sphincter complex, observe for absence of anal puckering around the anterior aspect of the anus (between nine and three o'clock), as this may suggest anal sphincter trauma
Vaginal examination	• Establish extent of the tearing by inserting the index and third fingers high into the vagina, separate the vaginal walls before sweeping downward to reveal the cervix, vaginal vault, side walls, floor and the posterior perineum • Identify apex of the injury, using vaginal retractors if required
Rectal examination[98]	• Aims to exclude or identify injury to the anorectal mucosa and/or undetected sphincter injury • If perineal trauma is identified, recommend a rectal examination o Insert the index finger into the rectum and ask the woman to squeeze o The separated ends of a torn external anal sphincter will retract backwards and a distinct gap will be felt anteriorly • If regional analgesia affects muscle power, assess for gaps or inconsistencies in the muscle bulk of the sphincter by placing the index finger in the anal canal and the thumb in the vagina, and palpate by performing a 'pill-rolling motion'[69] • Assess the anterior anal wall for overt or occult tears, by palpating and gently stretching the rectal mucosa with the index finger
Grading and referral	• Grade the perineal trauma[8] [refer to Section 2.2Perineal tear classification] • If any doubt as to the extent of the perineal injury, seek advice from a more expert clinician • If OASIS is identified, promptly refer to an appropriately trained and experienced clinician for repair in a suitable environment[8]

5.2 Antibiotics

Table 22. Antibiotic regimen

Aspect	Consideration
Indications	• Large haemostatic haematoma • Third or fourth degree perineal tear • Instrumental vaginal birth o Refer to Queensland Clinical Guidelines: *Instrumental vaginal birth*[81]
Antibiotic regimen	• Limited evidence for optimal antibiotic regimen • Follow local protocol—if no local antibiotic protocol, suggested regimen[102]: o Administer before the repair o If woman's weight 120 kg or less: cefazolin 2 g intravenous (IV) once plus metronidazole 500 mg IV once o If woman's weight more than 120 kg: cefazolin 3 g IV once[103] plus metronidazole 500 mg IV once • If fourth degree perineal tear, or high risk of anal incontinence and fistula formation, consider addition of[102]: o Amoxicillin with clavulanic acid 875+125 mg orally every 12 hours for 5 days • If hypersensitivity to penicillins, seek expert advice

Refer to a pharmacopoeia

5.3 Perineal repair

Perineal repair aims to realign anatomical structures, and to promote optimal healing, function and cosmetic results.

Table 23. Principles for perineal repair

Aspect	Consideration
General principles	• Limited evidence to guide choice between suturing and non-suturing[104,105] • Perform rectal examination post repair to ensure sutures have not inadvertently penetrated anorectal mucosa[11,70]
Environment for repair	• Straightforward repair of first and second degree tears and episiotomies that have not extended can be undertaken in the birth suite environment • If trauma is difficult or extensive, repair in operating room (OR) under general or regional anaesthetic is usually recommended[70]
First degree repair	• Suturing may not be required in all first degree tears, consider: o Woman's preferences o Haemostasis o Alignment of anatomical structures o Apposition of skin edges • If suturing is required, repair skin with o Continuous, non-locked subcuticular sutures using an absorbable synthetic suture material[70,105] • Tissue adhesives when used alone for first degree repair may increase wound complications[106] • If bleeding or anatomical structures not aligned, suturing is recommended[70]
Second degree repair and episiotomy[105]	• Suturing is recommended o Continuous, non-locked subcuticular sutures[107-109] using an absorbable synthetic suture material[110]

5.3.1 OASIS repair

An experienced clinician is required for OASIS repair.

Table 24. Repair of OASIS

Aspect	Consideration
Environment	• Repair in OR is usually recommended o May be performed in birthing room at discretion of a consultant obstetrician[11]
Timing	• Perform repair as soon as possible following birth[111] • Can be delayed by 8–12 hours without impact on anal incontinence or pelvic floor symptoms provided o No excessive maternal bleeding from injury o No maternal medical condition associated with risk of abnormal obstetric bleeding
Analgesia/ anaesthesia	• General or regional anaesthesia facilitates: o Adequate analgesia o Identification of full extent of injury o Sphincter relaxation[112] o Retrieval of retracted ends of torn anal sphincter
Repair of EAS	• Use either monofilament sutures such as 3-0 polydioxanone or modern braided sutures such as 2-0 polyglactin—both have similar outcomes[11] • If full thickness EAS tear, use overlapping or end-to-end method[11] o The overlapping method has lower incidence of faecal urgency, lower anal incontinence scores and a significantly lower risk of deterioration of anal incontinence symptoms over 12 months than end-to-end approximation[113,114] • For partial thickness EAS tear, use end-to-end method[11]
Repair of IAS	• Use either monofilament sutures such as 3-0 polydioxanone or modern braided sutures such as 2-0 polyglactin—both have similar outcomes[11] • If torn IAS can be identified, repair separately with interrupted or mattress sutures[11] • Do not attempt to overlap the IAS[11]
Repair of anorectal mucosa	• Use 3-0 polyglactin suture (to reduce irritation and discomfort) • Use submucosal technique to avoid sutures and knots within the rectal lumen[14,68] • Either continuous or interrupted sutures may be used[11] • Consider involving colorectal surgeons in large anorectal tears or rectal buttonhole tear
Post-repair	• Consider indwelling (urinary) catheter (IDC) post operatively as per local HHS protocol o OASIS associated with increased risk of postpartum urinary retention[69] • Consider antibiotics o Refer to Table 22. Antibiotic regimen

5.4 Puerperal genital haematoma

Puerperal genital haematoma can be a life threatening complication after birth.[115] Timely diagnosis can reduce the risk of maternal morbidity or death.

Table 25. Diagnosis of puerperal genital haematoma

Consideration	Consideration
Risk factors	• Most haematomas associated with sutured perineal injuries, however, may occur with an intact perineum[116] • For haematoma requiring drainage include[117]: o Primipara o Hypertensive disease o Coagulopathy o Episiotomy
Presentation[116]	• Depends on the haematoma site, volume and rate of formation • Hallmark symptom is excessive pain or pain that is persistent over a few days o Perineal pain may indicate a vulval/vulvovaginal haematoma o Rectal or lower abdominal pain may indicate a paravaginal haematoma o Abdominal pain may indicate a supravaginal haematoma o Shoulder tip pain may or may not be present • Other symptoms may include: o Hypovolaemia or shock disproportionate to the revealed blood loss o Feelings of pelvic pressure o Urinary retention o An unexplained pyrexia
Clinical assessment [115,116,118]	• Monitor for clinical deterioration o Queensland Maternity Early Warning Tool (QMEWT)[119] recommended • Vaginal and/or rectal examination may be indicated o Offer analgesia prior to examination • Exclude coagulopathy
Imaging[115,118]	• If accessible[120]: o Detection is enhanced using three dimensional (3D) or four dimensional (4D) ultrasound scan (USS) techniques o USS (consider transvaginal) can be used to detect pelvic extra-peritoneal haematomas o Computerised tomography (CT) and magnetic resonance imaging (MRI) can identify the exact extent of the haematoma o Contrast enhanced CT can detect active bleeding through extravasation of the IV contrast
Diagnosis[121]	• Vulval haematoma—appears as a swelling on one side of the vulva that may extend into the vagina or fascia of the thigh • Paravaginal haematoma may be felt as a mass protruding into the vaginal lumen or as an ischiorectal mass • Supravaginal haematoma—may be felt as an abdominal mass causing the uterus to deviate laterally • Consider that vascular disruption (causing haematoma) may be associated with underlying macro or micro levator ani trauma
Management principles	• Treatment is dependent on the size and site of the haematoma • Timely diagnosis and emergency management of a large haemostatic haematoma can reduce the risk of maternal morbidity and/or death o If signs of shock, refer to Queensland Clinical Guideline: *Primary postpartum haemorrhage*[122] • Small static haematoma may be managed conservatively: o Monitor and review as required o Offer ice packs and regular analgesia • Evacuation and re-suturing may be indicated in OR

6 Postpartum perineal care

6.1 Healing, hygiene and recovery

Table 26. Postnatal measures to promote perineal recovery

Aspect	Considerations
Positioning and movement	• Offer information about o Positions that reduce dependent perineal oedema, particularly in first 48 hours (e.g. lying the bed flat and side-lying to rest and breastfeed, pillow-supported 'recovery' position, avoiding overuse of sitting/propped positions) o Moving in/out of bed through a side-lying position o Avoiding activities that increase intra-abdominal pressure (IAP) for 6–12 weeks post birth (e.g. straining, lifting, high impact exercise, sit ups)
Hygiene and healing[123]	• Visually assess the repair and healing process at each postnatal check • Offer information about: o Avoiding constipation and straining (e.g. adequate fluid and fibre intake, regular toileting habit)[75] o Perineal hygiene (e.g. pad change, handwashing, showering) o Signs of infection and/or wound breakdown (e.g. redness, increased swelling and pain) o When to seek medical assistance • Treat anaemia, as needed, with iron therapy (consider delaying start for two weeks) and/or dietary advice
Diet and bowel care	• Discuss the role of good nutrition in wound healing and the prevention of constipation including[124]: o Dietary fibre o Adequate water intake (2–2.5 L per day) o Frequent mobilisation
Pelvic floor muscle exercises	• Recommend from 2–3 days postpartum or when comfortable • If third or fourth degree tear, refer to a women's and pelvic health physiotherapist prior to discharge[11] • Offer information about: o Correct technique o Benefits of long term adherence[11] • Incorrect technique can cause excessive IAP and repetitive downward displacement of the pelvic floor over time, may disrupt tissue and muscle healing

6.2 Pain management

Most women will experience perineal pain following perineal injury and repair, particularly within the first 24–48 hours. This can impact on the woman's transition to motherhood.

Table 27. Management of pain and bowel function

Aspect	Considerations
Non-pharmacological	• Limited low level evidence may support cooling treatments (e.g. ice packs or cool gel pads) placed on the perineum for 10–20 minutes at a time, during first two days post birth[125] • Urinary alkalisers soon after birth may reduce urine acidity and discomfort associated with passing urine over open wounds
Pharmacological	• If not contraindicated, routinely offer: o Oral paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs) o Rectal NSAID[11] after repair of first or second-degree tears • Minimise use of narcotics and if used, encourage water intake to reduce risk of constipation • Avoid codeine phosphate or codeine containing preparations in women who are breastfeeding (codeine is a category L4 medication in lactation[126])
Uncertain benefit	• Alternative therapies (e.g. acupressure, lavender aromatherapy or topical application)[109,127]

6.3 Bowel management following OASIS

Table 28. Bowel function management if OASIS

Aspect	Considerations
Suggested regimen	• There is no high level evidence supporting specific regimens for bowel management post OASIS[124] • Recommend laxatives for two weeks after repair[11] o Associated with less painful first bowel movement after birth and shorter length of hospital stay[69] o Consider a single agent (e.g. macrogel 3350®) and electrolytes over other osmotic laxatives (e.g. lactulose) o Bulking agents not routinely recommended with osmotic laxatives due to an increased risk of faecal incontinence[11,69] o If faecal incontinence occurs, advise to cease use and see general practitioner (GP)
Recommendation	• Discuss benefits and risks of pharmacological bowel management • Advise when medical attention is indicated (e.g. change in bowel habits) • Establish local protocols for use of analgesia and laxatives[11]

6.4 Follow up after perineal injury

Table 29. Post perineal repair follow up

Aspect	Considerations
Self-care advice until six weeks post birth	• Plan review around six weeks postpartum for assessment of wound healing o Advise about indications to seek earlier medical review (signs of wound infection or breakdown) • Discuss resumption of sexual activity o Women with perineal suturing are at increased risk of dyspareunia[128] o Wound healing and emotional readiness can influence the decision to resume sexual activity o Ways to minimise discomfort (e.g. experimenting with sexual positions, use of lubrication) • Advise to see healthcare provider if: o Experiencing dyspareunia o Constipation or symptoms of urinary or faecal incontinence
If OASIS	• Refer to an obstetrician for review 6–12 weeks postpartum[11] • Refer to a women's health physiotherapist for ongoing follow up and PFMT[11,69] • Refer to a continence clinic prior to discharge • Establish local protocols for follow up of women with OASIS to avoid a fragmentation of care[50] • If fourth degree tear consider involvement of a colo-rectal surgeon
After six weeks postpartum	• If symptoms persist after three months and a program of pelvic floor rehabilitation has been completed, consider specialist referral to multidisciplinary service which may include colorectal surgeon • Recommend specialised multidisciplinary services (e.g. urogynaecologist, mental health clinician, women's health/pelvic floor physiotherapist, sexual health clinician)[129] as indicated • Care considerations may include[11]: o Endoanal USS (EAU) o Anorectal manometry o Consideration of secondary sphincter repair • Referral to a women's and pelvic health physiotherapist for assessment and individualised PFMT to help manage pelvic floor dysfunction[69]

6.5 Counselling for subsequent birth

For women who have a history of OASIS, the decision around future mode of birth is complex.[69] Women who experience OASIS report this as a significant factor impacting on future family planning and maternity care.[129]

Table 30. Considerations following OASIS

Aspect	Consideration
Recurrence risk	• Following OASIS the risk of recurrence in a subsequent vaginal birth is increased[31,130,131] (estimated to be 5–7%[130]) o De novo or worsening of faecal symptoms may occur (incidence of 17%)[130]
Risk factors	• Limited evidence of the association between or contribution to overall risk when multiple risk factors present[31,132] • Refer to Table 5. Incidence and risk factors for OASIS
Endoanal ultrasound and anal manometry	• If symptoms of anal sphincter compromise, endoanal USS and anal manometry may aid decision making[11,69]
Mode of subsequent birth	• If history of OASIS, counsel about mode of subsequent birth[11] o Preconception o Early in pregnancy o Throughout pregnancy as required, and o Around 36 weeks • No high level evidence to recommend an optimal mode of next birth following OASIS[31,133]—consider: o Extent of previous injury o Functional status—symptoms experienced in both the short and long term by woman o Extent of anatomical and functional defects shown on anal USS and anal manometry • If asymptomatic at the time of the subsequent birth, caesarean section does not appear to protect against incontinence[133] • Caesarean birth may be indicated if: o Woman's request o Current symptoms of anal incontinence o Psychological and/or sexual dysfunction o Previous fourth degree tear o Endoanal defects evident on USS o Low anorectal manometric pressures[11]
Episiotomy	• Evidence on role of prophylactic episiotomy in subsequent pregnancies following OASIS is unclear[31,130] • Indicated for clinical reasons independent of history of OASIS

7 Female genital mutilation (FGM)

FGM is an umbrella term for procedures that involve the partial or total removal of external genitalia, or other injury to the female genital organs for non-medical reasons.[134] It is internationally recognised as a violation of human rights.[134] The woman's country of origin is strongest risk factor for FGM.[135]

Infibulated genital mutilation (Type III) is the most severe form of FGM. This type of FGM increases the risk of perineal injury and requires specialised care during childbirth.[14]

Table 31. FGM classification

Type[134]	**Classification**
I	Partial or total removal of the clitoris and/or the prepuce (clitoridectomy)
II	Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision)
III	Narrowing of the vaginal orifice with creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (infibulation)
IV	All other harmful procedures to the female genitalia for non-medical purposes (e.g. pricking, piercing, incising, scraping and cauterising)

7.1 Impact on quality of life

FGM affects a women's physical and mental health from the moment of cutting through adulthood and childbirth.[136]

Table 32. Outcomes associated with FGM

Aspect	**Consideration**
Short term complications[136]	• Bleeding and shock • Genital tissue swelling and problems with urination • Fever and infection • Problems with wound healing
Long term complications[14,136]	• Urinary tract complications • Impaired sexual function • Genital scarring and local scar complications • Local pain • Menstrual difficulties • Genital infection • Pelvic inflammatory disease • Infertility
Psychological sequelae	• Women may report: o Flashbacks o Anxiety o Post-traumatic stress disorder[14] • Offer referral for psychological assessment and treatment[14]

7.2 Principles of care

Table 33. Care during pregnancy

Aspect	Consideration
Context	• Type III FGM (infibulation) presents the most issues for pregnancy and birth, and is associated with the greatest degree of narrowing and scarring of the vaginal introitus o Vaginal examination and intrapartum procedures (e.g. amniotomy, catheterisation, application of a fetal scalp electrode) may be very difficult or impossible[70,135] • FGM associated with o Prolonged/difficult labour o Instrumental birth o Perineal lacerations o Obstetric/postpartum haemorrhage
Legal position	• FGM and re-infibulation are illegal in Australia (Section 323A Criminal Code Act 1899 (Qld))[137]
Terminology	• Non-judgmental terms including 'female genital cutting' or 'excision' may be preferred by women who have experienced FGM • The term 'mutilation' may not be acceptable to women who have experienced FGM • Avoid the term 'female circumcision' to remove the possible parallel with FGM having any medical indication/s
Cultural safety	• Wherever possible, discussions, assessment, care and procedures are performed by care providers skilled, experienced and trained, in the care and management of women with FGM[14] • Use professional, approved interpreter services[14] o Do not use family members as interpreters[14]
De-infibulation	• Recommended if narrowing of introitus prevents normal menstrual and urinary flow, vaginal examination, comfortable sexual intercourse and safe vaginal birth o If the urethral meatus is visible, unlikely to be indicated[14,135] • May be performed o During pregnancy (generally in the second trimester) o In labour[135] o Perioperatively after CS[14] • No evidence of a significant difference in obstetric outcomes between antenatal and intrapartum de-infibulation[138]

7.3 Assessment and management

Table 34. Assessment and management

Aspect	Consideration
Assessment	• Identify FGM[135] early by asking women for a history of FGM at booking antenatal visit, irrespective of their country of origin[14] o Where possible obtain this information in absence of a partner or other family member[14] o Some women may not realise they have been subjected to FGM[14] • If FGM identified o Identify type of FGM and anatomical variances (e.g. visibility of urinary meatus, scar tissue, keloids) o Discuss findings and document clearly in the health record (simple drawings may be helpful) o Discuss implications for birth (e.g. recommend birth unit with access to emergency obstetric care) o Seek expert advice about whether de-infibulation is indicated
Mode of birth	• FGM is not generally an indication for CS[135]
Intrapartum care	• If possible, plan birth in units with access to emergency obstetric care • Recommend—IV access, full blood count, and group and hold once in established labour • Routine mediolateral episiotomy is not necessary (regardless of whether or not de-infibulation has been performed), but may be required due to increased scarring and a lack of skin elasticity at the vaginal introitus[14,135] o If de-infibulation has not been performed, perform prior to episiotomy[15]
Postnatal care[134]	• Monitor for perineal swelling and urinary retention • Offer information to woman and partner about delaying sexual intercourse until wounds are healed and birth spacing • Advise woman re-infibulation is illegal in Australia • Recommend a six week postnatal follow up with FGM trained clinician/obstetrician

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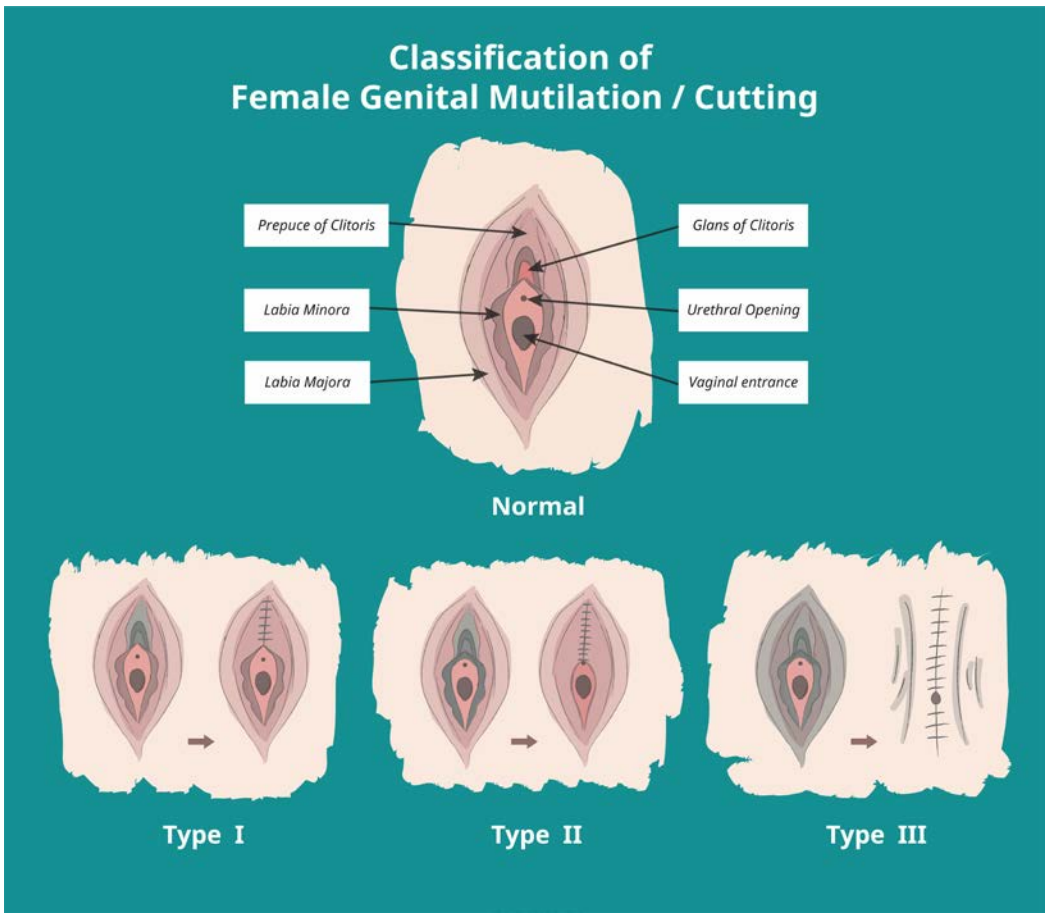
Appendix A Images for classification of FGM



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