CSDS

Obstructed labour and impacted fetal head

Participant resource kit

Metro North Health | Queensland Government

The resources developed for MEP are designed for use in any Queensland Health facility that care for women who are pregnant/birthing or postnatal. Each resource can be modified by the facilitator and scaled to the needs of the learner as well as the environment in which the education is being delivered, from tertiary to rural and remote facilities.

Developed by Jessica Pope, Midwifery Educator, Queensland Maternity Education, Clinical Skills Development Service (CSDS) MNHHS, Skills stations: Dr Carina Cotaru, Obstetrician and Gynaecologist, CSDS MNHHS.

Obstetric review by Dr Robert Baade, Obstetrician and Gynaecologist, Cairns Base Hospital and Dr David Freidin, Obstetrician and Gynaecologist, Royal Brisbane and Women's Hospital.

Consumer review by Mrs Rebecca Spreadborough

Gendered language: This program uses terms such as 'women', 'woman,' and 'mother', however we recognise that not all pregnant individuals identify as women and acknowledge the challenges faced by these individuals in accessing maternity care. When using these terms, we do so in a way that reflects the experiences and identities of the majority of those who are pregnant and do not seek to exclude any individual capable of childbearing irrespective of gender identity. All individuals seeking maternity care should receive personalised, respectful care, including the use of preferred gender pronouns.

CSDS acknowledges the Traditional Custodians of the Land upon which we live, work and walk, and pay our respects to Elders both past and present.

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For more information, contact:

Clinical Skills Development Service, Royal Brisbane and Women's Hospital, Herston, Queensland
+61 3646 6500, CSDS-Courses@csds.qld.edu.au

An electronic version of this document is available at https://csds.qld.edu.au/mep/index.html

Contents

Learning outcomes

The content in this learning resource supports learners to:

- apply active listening and open communication strategies to facilitate respectful maternity care and support the woman's active involvement in decision-making
- apply shared decision-making principles in the planning and implementation of maternity care
- identify key risk factors associated with obstructed labour
- detect delays in labour progress and initiate timely escalation of care
- reflect on the impact of timely interventions on maternal and neonatal outcomes in obstructed labour scenarios
- work collaboratively with the woman and maternity team to effectively manage obstructed labour and impacted fetal head.

Purpose

This resource kit is designed to support clinicians attending CSDS's Maternity Emergency Program (MEP). It includes pre-reading materials on obstructed labour and impacted fetal head as well as resources to support the reading.

Pre-reading – obstructed labour

Overview

Obstructed labour occurs when, despite strong and effective uterine contractions, there is no further progress in labour due to a mechanical obstruction. If not recognised and managed promptly, this intrapartum complication can lead to increased rates of maternal and neonatal morbidity and mortality.[1]

The release of Queensland Health's clinical guideline for prolonged and/or obstructed Labour underscores the importance of identification, appropriate intervention, and clear communication pathways. [2] If prolonged or obstructed labour is suspected, assessment by an obstetrician is indicated.

A key consideration in the context of obstructed labour is the national priority to safely reduce the rising caesarean section rate.[3] Efforts to increase a woman's chances of a successful vaginal birth must always be carefully balanced against the potential complications associated with obstructed labour and the woman's individual preferences for birth. This underscores the importance of prevention strategies that begin well before labour commences. A holistic, woman-centred approach is essential; one that includes continuity of carer whenever possible, adherence to the recommended schedule of antenatal care, timely clinical escalation of care when indicated, and informed discussions about supporting physiological birth.

In Australia, access to skilled maternity clinicians is generally high. However, timely recognition and escalation of care remain critical, particularly in remote and rural settings where transfer times may be prolonged and access to skilled clinicians can be limited. Maternal and infant death rates are significantly higher in remote areas of Australia.[4]

Providing maternity care in resource limited settings provides additional challenges, such as:

- limited access to specialised services (antenatal care, intrapartum birthing services, postnatal care, general healthcare services and emergency care)
- transport and travel challenges
- staffing shortages
- cultural and language barriers

This highlights the importance of early detection, appropriate escalation and use of available resources. Retrieval Services Queensland (RSQ) plays a vital role in bridging the gap between remote communities and tertiary care.

Overarching maternity care principles

Woman-centred care

'Woman-centred care ensures the woman has choice and control in her childbearing experience. Relationships built on reciprocal trust and respect foster empowerment, which recognises the woman's innate ability to meet her own needs.'[5]

Core principles include:

- dignity and respect: Recognising the woman as a whole person, and not as a patient or number
- individualised care: Tailoring services to fit the woman's needs, not fitting the woman into pre-designed packages
- informed choice: Supporting women to make decisions based on clear, evidence-based information
- strengths-based approach: Focusing on the woman's abilities, aspirations, and goals
- relational care: Building trusting relationships between the woman and her care providers
- continuity of carer: Ensuring the woman sees the same provider or team throughout her maternity care journey.

Continuity of care

The World Health Organization (WHO) recommends continuity of midwifery care for all women globally, particularly within well-established maternity care systems.[6] High-quality evidence reports that women receiving midwifery-led continuity models are less likely to undergo unnecessary interventions and report higher satisfaction with their care.[7,8] These models promote consistent and meaningful communication between a woman and their midwife, enabling them to act as effective clinical advocates. Midwifery continuity of care has also been associated with improved perinatal outcomes including a reduction in premature birth, still birth and neonatal death and a lower chance of dying (including all deaths before and after 24 weeks gestation and neonatal deaths).[9]

Working within a collaborative, supportive maternity model with clear escalation pathways for obstetric care, provides women with a sense of safety, timely access to specialist input when required, and continuity in decision-making. This integrated approach ensures that care remains woman-centred, even in complex clinical situations such as obstructed labour, and supports optimal outcomes for both mother and baby. By fostering trust, communication, and collaboration across disciplines, maternity clinicians can uphold the principles of respectful care while navigating clinical complexity.

Shared decision-making

Every woman deserves to be heard, respected, and supported in her birth choices. The Australian Commission on Safety and Quality in Health Care describes their views on shared decision-making on their website:

> Shared decision-making involves discussion and collaboration between a consumer and their healthcare provider. It is about bringing together the consumer's values, goals and preferences with the best available evidence about benefits, risks and uncertainties of treatment, in order to reach the most appropriate healthcare decisions for that person.
>
> ...
>
> Shared decision-making is an important part of delivering person-centred care, which underpins the principles and expectations of the National Safety and Quality Health Service (NSQHS) Standards.[10]

The 2024 NSW Birth Trauma Inquiry revealed that 28% of women reported experiencing birth trauma, with many describing a profound sense of powerlessness and loss of control when excluded from decision-making during their maternity care.[11] A recurring theme was that women's concerns were often dismissed or inadequately addressed, contributing significantly to their trauma.[11] These findings highlight the critical role of shared decision-making in preventing birth trauma and promoting respectful, woman-centred care. Maternity care providers have a responsibility to communicate effectively with women and each other. Doing so can help avoid unnecessary perinatal morbidity and mortality, support informed consent and reduce incidences of birth trauma.[12]

Effective communication not only ensures that women feel heard, respected, and actively involved in decision making, it helps gather valuable clinical information. While women may not be medical experts in maternity care, women have deep knowledge of their own bodies, lived experiences, and unique insights into their pregnancies. It is therefore essential that we listen carefully to their concerns and never ignore or dismiss them.

What does shared decision-making look like in practice?

Shared decision-making is not a one-time event. It is a continuous process that requires regular communication as new information arises or risks emerge. You can implement shared decision-making by:

- keeping women informed about their progress and involving them in their plan of care
- asking questions such as:
    - Can you tell me what is concerning you right now?
    - Is there any information that you have shared or received, that you feel is not being addressed?
    - Are there aspects of your care that you are unsure about or want to discuss further?

All discussions around education, information provision, and consent should be clearly and accurately documented. These discussions should include the risks and benefits of interventions, and any limitations of the health service. (e.g. anaesthetic or theatre availability and potential delays in access in rural and remote locations).

BRAINS

The BRAINS acronym can be a useful tool for clinicians to utilise with the woman/family receiving care to support them with shared decision-making and informed consent.

Benefits: Take the opportunity to discuss anticipated positive outcomes of a proposed intervention, test or recommendation. Highlight the benefits for both the mother and the fetus, ensuring that evidence-based information is tailored to the needs of the woman.

Risks: Review and discuss with the woman possible adverse effects, complications, or unintended consequences, with attention to evidence, guidelines and context-specific risks.

Alternatives: Provide the woman with alternate care pathways so she can weigh other evidence-based options available, including variations in timing, methods or approaches.

Intuition: Acknowledge the woman's intuition and personal sense of what feels right for her body and baby. At the same time, draw on your professional intuition, grounded in experience, pattern recognition and clinical judgement.

Nothing: Explain the safety, risks and parameters of expectant management, allowing the woman to then consider what it means to delay or decline intervention and whether that feels acceptable to her.

Space: Create an environment where the woman can reflect, discuss her options and ultimately make an informed decision. In time-critical situations, clear and respectful communication is essential. Whenever possible, high-pressure decisions should be avoided by providing prior education and open communication. This can help prevent the woman from feeling rushed or pressured into making an uninformed choice in an emergency.

The BRAINS framework aligns with shared decision-making principles and encourages the clinician to provide balanced information about potential interventions. It invites woman's values and preferences into the conversation, while also supporting autonomy and informed consent.

Teamwork and communication

Multidisciplinary teamwork has the potential to significantly improve outcomes in maternity emergencies by fostering collaboration, enhancing situational awareness and ensuring a timely and coordinated response. Shared knowledge, goals and respect underpin successful teamwork behaviours. Effective communication in healthcare is essential. Using structured communication tools such as ISBAR and PACE aids clear and concise communication between clinicians.

ISBAR

ISBAR is a structured communication tool used in healthcare to ensure clear, concise, and effective information exchange, particularly during clinical handovers, emergencies, and interprofessional communication.

I - Identify: Introduce yourself, your role and the woman.

S- Situation: Describe the current situation or reason for the communication.

B- Background: Provide relevant background information about the woman.

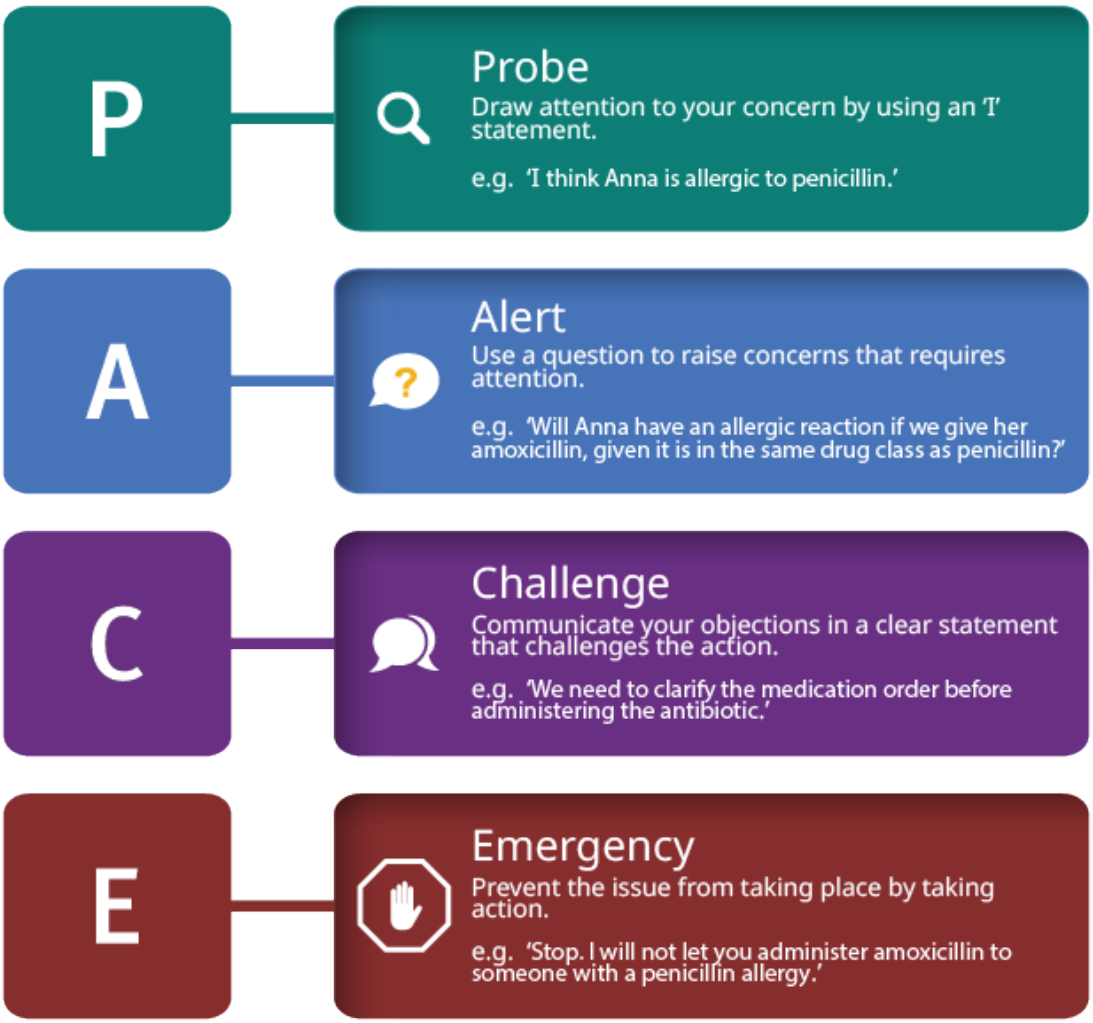
A- Assessment: Share your clinical assessment or observations.

R- Recommendation: State what you are requesting or what needs to happen next and the timeframe

PACE

PACE is a graded assertiveness communication tool that can aid health professionals to speak up and challenge any behaviours or actions they may feel is compromising someone's care, no matter their level of qualification or amount of experience.

PACE can support safe communication by giving maternity clinicians the framework to escalate concerns effectively and respectfully in high-pressure environments.



By progressing through the levels of **Probe**, **Alert**, **Challenge**, and **Emergency**, clinicians can raise concerns incrementally, ensuring that emerging issues are addressed early, before they escalate into harm. This approach fosters a culture of psychological safety, where all team members feel supported to voice concerns, and promotes collaborative teamwork through open dialogue and shared responsibility. Ultimately the use of PACE contributes to safer maternity care by ensuring that the woman's wellbeing remains central to her care.

Prolonged and/or obstructed labour

Prolonged labour is commonly understood to mean slow but progressive cervical dilation or descent, while *obstructed labour* is complete arrest of progress despite adequate uterine activity.

Factors affecting progression of labour

Aspect	Consideration
Hypocontractile uterine activity	• Advanced Maternal Age* • Obesity** • Nulliparity** • Diabetes complicating pregnancy* • Uterine abnormality • Tocolytics, relaxants • Neuraxial anaesthesia* • Dehydration
Pelvic factors	• Short stature (less than 150-160cm)** • Pelvic contraction/injury or abnormality (e.g. narrow subpubic arch, prominent sacrum)**
Fetal factors	• Fetal anomaly resulting in cephalopelvic disproportion (CPD)* • Positions other than occiput anterior** • Malpresentation* • Large for gestational age, macrosomia, increased fetal abdominal circumference
Other	• Previous obstructed labour • Psychological state (fear of childbirth, anxiety, exhaustion)

Adapted from: *Queensland Clinical Guideline: Prolonged and/or obstructed labour – short guide, 2025*

Outcomes associated with prolonged and/or obstructed labour

Maternal	Neonatal
• Operative interventions (instrumental vaginal birth, caesarean birth) • Chorioamnionitis, endometritis • Obstetric anal sphincter injury • Obstetric fistula (rare in developed countries) • Primary postpartum haemorrhage • Postpartum urinary retention • Uterine rupture • Psychosocial/psychological sequalae	• Admission to a neonatal unit • Respiratory distress syndrome • Confirmed or suspected sepsis • Birth asphyxia-related complications, which progressively increase with duration of first or second stage • Birth injury (e.g. fractures of skull, clavicle, femur) • Fetal/neonatal death may occur

Adapted from: *Queensland Clinical Guideline: Prolonged and/or obstructed labour – short guide, 2025*

What can women do to reduce the chances of obstructed labour?

Women can play an active role in reducing the risk of obstructed labour by prioritising their health and wellbeing throughout pregnancy. The following are strategies that support physiological labour.

Attend regular antenatal appointments
Consistent care from qualified maternity clinicians enables early identification of risk factors and provides opportunities for counselling and tailored support.

Support optimal fetal positioning
Evidence suggests that techniques promoting optimal fetal positioning can improve the baby's alignment with the pelvis, facilitating a smoother labour.[16]

Maintain nutrition and hydration during labour
Good nutrition and hydration help sustain effective uterine contractions, supporting the body's ability to progress through labour naturally.

Delay hospital admission until active labour
Research shows that admission to hospital before labour is well established is associated with increased interventions, including caesarean sections for fetal distress and obstructed labour. Waiting until active labour begins may reduce these risks.[17]

Mobilise and use upright positions during labour
A Cochrane systematic review of 25 trials involving 5,218 women found that upright positioning and mobilisation during the first stage of labour reduces the length of labour and the risk of caesarean birth, without negative effects on maternal or infant wellbeing.[18]

Be informed and involved

Educating women about the evidence supporting normal birth empowers them to take an active role in their care. Informed decision-making enhances confidence, reduces anxiety, and promotes better outcomes.

What can clinicians do to reduce the chances of obstructed labour?

In addition to supporting women with the above strategies, Dr Sarah Buckley's work on the physiology of childbearing demonstrates that optimal physiology of birth is supported best within environments in which women feel private, safe and undisturbed.[19] While Dr Buckley acknowledges that this can be challenging in a hospital environment, small changes can make a big difference to how a woman feels in her birthing space which then has a ripple effect into how a woman's hormones respond during labour and birth.

Create a calm environment

Use dim lighting, close doors, and draw curtains to reduce noise and enhance privacy - helping to create a nest-like space.

Enable continuity of care models

Minimise changes in caregivers to foster trust, increase feelings of safety, and reduce unnecessary traffic in and out of the room.

Limit interventions

Avoid unnecessary procedures and ensure that essential maternal and fetal monitoring is performed as unobtrusively as possible.

Foster respectful communication

Encourage positive, clear, and compassionate interactions between the woman and her care providers to support autonomy and emotional wellbeing.

A Cochrane meta-analysis of trials involving over 15,000 women demonstrated one-on-one continuous labour and birth support improves outcomes for women and babies, including:

- increased spontaneous vaginal birth and decreased labour duration
- caesarean section rates
- intrapartum analgesia use
- lower instrumental birth rates
- low five-minute Apgar scores.[20]

One-on-one labour and birth care also showed women were less likely to report negative ratings or feelings about their childbirth experience.[20]

Identification and management of obstructed labour

Recognition of obstructed labour involves understanding the patterns of normal labour, how to facilitate it, and methods for detecting deviations from these normal patterns. Clinical assessments of abdominal station and contraction strength and frequency all serve to guide clinicians as to the progress of women's labour. The use of visual tools such as a contemporaneous partogram and action lines may support the recognition of a delay or arrest in the progress of labour. The WHO emphasises the importance of monitoring caput to support the recognition of cephalopelvic disproportion and not relying purely on cervical dilation as women may labour at different speeds of progress and early interventions may have a negative impact on labour outcomes.[21]

The five Ps of labour progress

The five Ps is a useful framework for clinicians to consider when assessing labour progress and potential factors that may be influencing the slowing or absence of progress.

Power – the uterine contractions and maternal pushing efforts

Passage – the maternal pelvis and soft tissues

Passenger – the fetus, including size, position and presentation

Positioning – any maternal movement and positioning in labour

Psyche – the emotional and psychological state of the woman.[22]

This framework encourages a holistic and systematic approach to labour assessment, extending beyond cervical dilation to include emotional, psychological and positional influences. It provides a shared language for clinical communication, supports early identification of concerns, and promotes non-invasive strategies (such as movement and emotional support) before initiating medical interventions.

For more information on assessing the progress of labour see *Queensland Clinical Guideline: Normal birth*.

Key clinical signs of potential obstructed labour

- Prolonged active phase of labour (defined as <2cm progress in 4 hours, as per Queensland Clinical Guideline: Normal birth)
- Lack of descent despite good contractions
- Slowing/ceasing of cervical dilation
- Oedematous cervix
- Oedematous vulva[23]
- Hypertonic contractions
- Maternal exhaustion or distress
- Maternal pyrexia
- Maternal and/or fetal tachycardia
- Haematuria
- Constant severe abdominal pain
- Fetal distress/abnormal CTG
- Bandl's ring (see clinical note below).

Initial management

The management of obstructed labour requires a prompt and comprehensive assessment by a senior obstetric clinician. This includes:

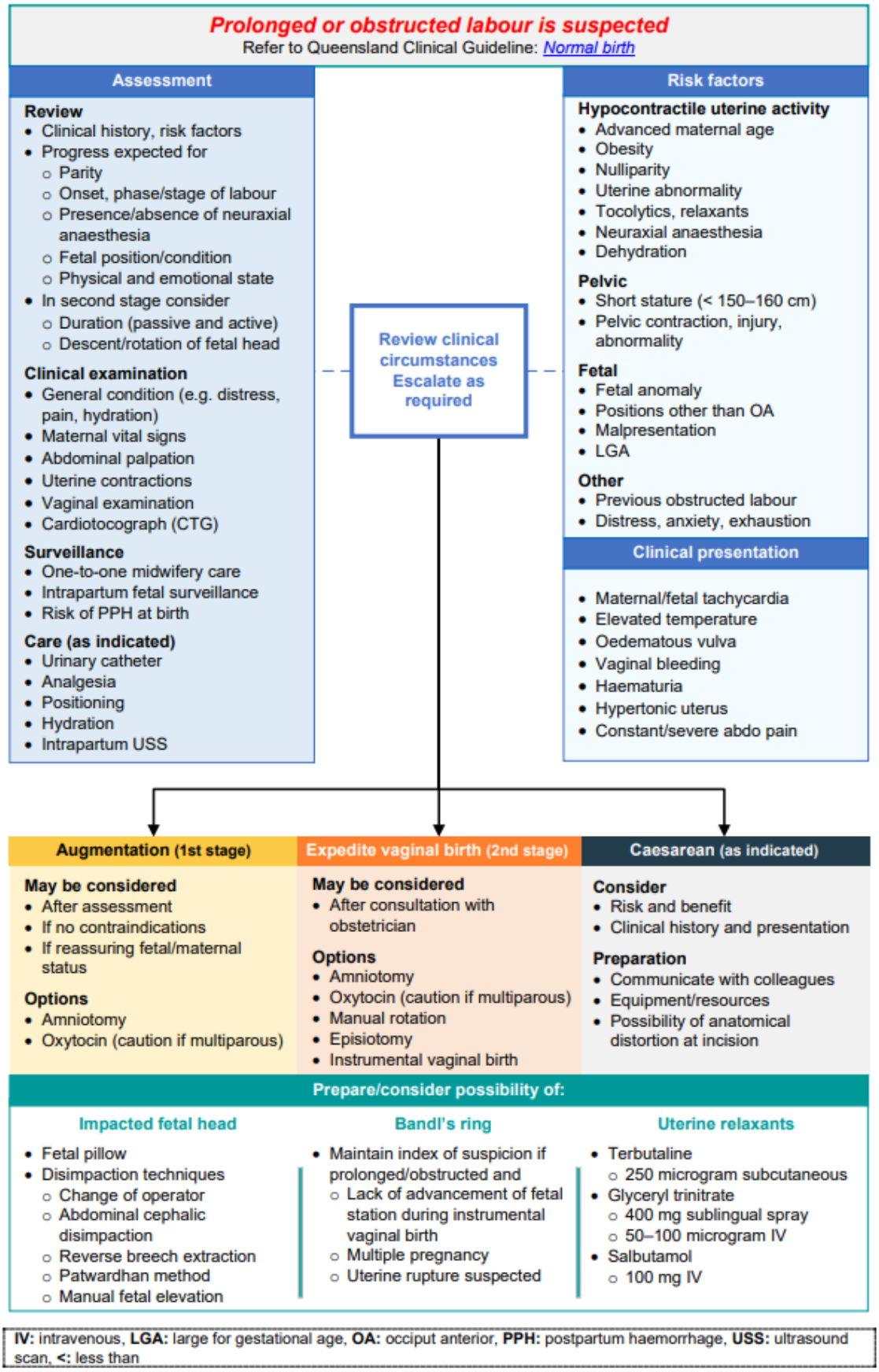
- reviewing the woman's obstetric and medical history
- assessing her current clinical presentation
- performing a thorough clinical examination
- initiating increased maternal and fetal surveillance
- considering of additional clinical interventions as appropriate
- early recognition and timely intervention are critical to reducing maternal and neonatal morbidity.

Clear, structured communication and escalation are essential. The unit team leader should be regularly updated on the care and progress of all women in the birthing unit. In rural and remote settings, this role may be fulfilled by a hospital coordinator or a General Practitioner Obstetrician (GPO).

If there are increasing signs suggestive of obstructed labour:

- promptly discuss the findings with the team leader
- escalate to the most senior obstetric doctor
- refer to *Queensland Clinical Guidelines – Short Guide: Prolonged and/or obstructed labour*
- consult with RSQ if further clinical guidance is needed.

Flowchart: Prolonged and/or obstructed labour



IV: intravenous, **LGA:** large for gestational age, **OA:** occiput anterior, **PPH:** postpartum haemorrhage, **USS:** ultrasound scan, **<:** less than

Source: *Queensland Clinical Guidelines: Prolonged and/or obstructed labour (2025)*

Clinical note: Bandl's ring

What is a Bandl's ring?

Bandl's ring, also known as a pathological retraction ring, is a rare but serious obstetric complication that occurs during obstructed or prolonged labour. It typically forms at the level of the umbilicus, at the junction between the thickened, retracted upper uterine segment and the overstretched, thinned lower segment.[24,25] This abnormal constriction may present as a visible or palpable indent across the abdomen and can impede labour progression by entrapping the fetus.

Incidence and risk factors

Due to its rarity and the absence of standardised diagnostic criteria, precise incidence data is limited and is likely under reported.[26] Historical estimates suggest Bandl's ring occurs in approximately 1 in 5,000 births.[27] However, its prevalence may be higher in low-resource settings where delayed access to obstetric care increases the risk of obstructed labour. Contributing factors include prolonged labour, labour dystocia, and inadequate uterine relaxation.

Clinicians should be aware of the look and feel of a Bandl's ring when performing an abdominal palpation. The incorporation of bedside ultrasound into the medical assessment of obstructed labour may aid the detection of Bandl's ring and allow for earlier appropriate intervention and minimise risks associated with delayed or inappropriate intervention.[27]

Clinical implications

Although uncommon, Bandl's ring is associated with significantly high rates of neonatal morbidity and mortality.[28] Potential complications include uterine rupture and fetal entrapment during caesarean birth. Prompt recognition and intervention are critical to prevent adverse outcomes and increasing evidence supports the use of bedside ultrasound to diagnose Bandl's ring in obstructed labour. Management may include surgical delivery, extension of the uterine incision and pharmacologic uterine relaxation to facilitate safe extraction of the fetus.

Management of Bandl's ring

- Operative birth
- Tocolytics
- Extension of incision

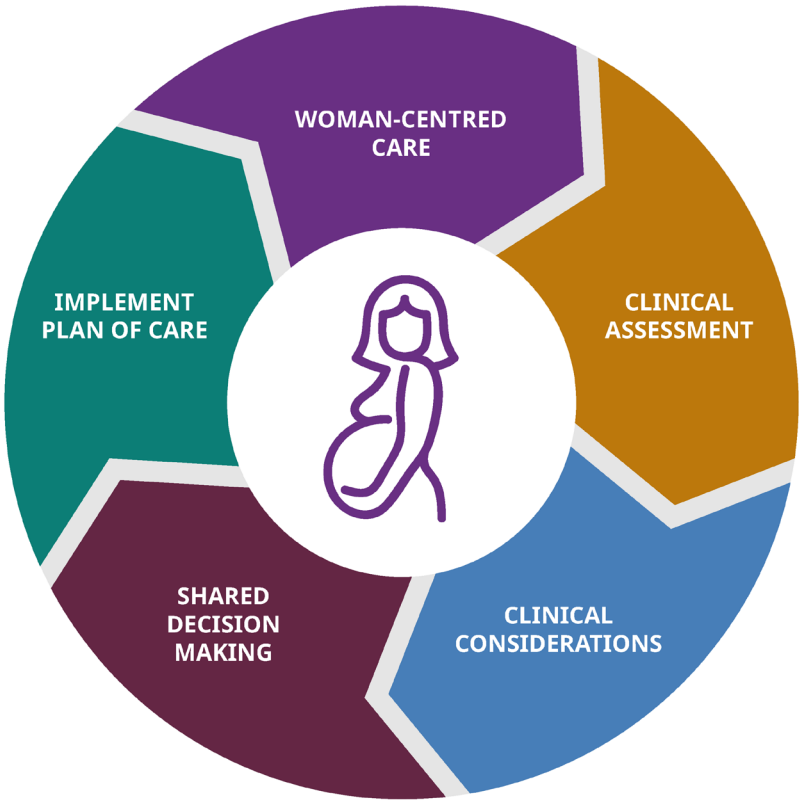
Recognising risk in maternity care

As clinicians, one of the challenges of our work is taking all the information we have gathered in our clinical assessments, history taking, communication with women and their families and bringing it all together as a health system to provide the right care at the right time, with the right people, in the right place.

When adverse outcomes occur it is not always one contributing factor that causes the incident; there are often an array of factors across the service that are interrelated that result in a particular individual's care being affected. Ultimately, the woman is at the centre of her care and as clinicians we need to consider the full history and clinical picture, contextualise the information to the health service, actively listen to the needs, values, preferences and circumstances of the woman, present well balanced evidence-based information, and then allow the woman to make an informed decision that is right for her.

Shared decision-making process

This visual aid has been designed to support clinicians to navigate woman-centred care and shared decision-making. It can be used in the clinical space to bring information together and highlights the importance of involving the woman in all aspects of her care.



Follow the shared decision-making process and consider each of the following areas when making clinical decisions:

Woman-centred care

- Review history and pregnancy records first, before clarifying with the woman
- Actively listen to the woman – consider the woman's individual needs, values, preferences and circumstances
- Respect the woman's intuition and gut feelings

Clinical assessment

- Conduct observations and document findings
- Use standardised assessment tools (i.e. Q-MEWT, partogram)
- Identify relevant risk factors

Clinical considerations

- Consider the woman's holistic picture
- Honour your clinical experience and intuition
- Consult with multidisciplinary team members (as required)
- Apply evidence-based research, professional standards and guidelines (NMBA, RANZCOG, ACM)

Shared decision making

- Use tailored, open and honest communication
- Discuss recommendations including the benefits and risks
- Ensure adequate information is provided to enable informed consent and informed decision making
- Respect the woman's preferences, goals and decision-making rights

Implement plan of care

- Document the plan in the maternity care notes
- Confirm with the woman that it reflects her decisions and preferences
- Communicate with greater maternity team (as required)
- Action decisions made with the woman

Reflection points

Take a moment to consider and answer the following questions for your own reflection.

- Have you ever felt empowered to call for review or escalate care if your clinical judgement made you concerned – even when the observations and/or cardiotocograph (CTG) are normal?

- Can you describe a time when you were able to recognise a woman was more unwell than what the numbers suggested?

- Has there been a time when someone you were caring for felt they weren't being listened to by a care provider and you advocated for that individual?

- What are some obstacles to escalating care in your workplace?

- What are some suggestions to overcome or improve access to the right people when escalating care?

- What are some barriers to effective communication and how could this affect a woman's care?

- What processes does your facility use to ensure timely escalation in your clinical setting?

Notes:

Summary

This resource highlights the critical importance of a holistic, woman-centred approach when obstructed labour is suspected. Strong clinical knowledge and skills are essential for best practice, and this resource underscores the value of midwifery-led continuity of care, shared decision-making and effective communication. By integrating theoretical knowledge with practical application, clinicians are better equipped to provide respectful, evidence-based maternity care. Prioritising these principles can help reduce the incidence and impact of birth trauma in Australia. As maternity care providers, we play a pivotal role in supporting women through obstructed labour by combining advanced clinical skills with compassionate, psychologically supportive care.

Pre-reading: Impacted fetal head

Impacted fetal head (IFH) is a maternity emergency that occurs when the fetal head is deeply wedged into the maternal pelvis, making it extremely challenging to birth the head in a caesarean section.[29] This situation can create a vacuum-like seal between the fetal head and the maternal pelvis, caused by tight engagement and soft tissue compression. If not managed effectively, IFH can result in significant maternal and fetal morbidity and mortality.[25]

There is supporting evidence that junior clinicians are more likely to diagnose IFH and employ advanced techniques to disimpact the fetal head.[30] This may be due to less exposure and experience managing IFH, reduced confidence in their clinical judgement, or a lack of senior support when an IFH is suspected or diagnosed. Midwives also report a lack of training on IFH and how to perform manoeuvres safely.[25,31-32]

Given the urgency and complexity of this situation, it is essential that all maternity staff who may be called upon to assist in disimpaction are trained in the recognition and management of IFH. Once impaction is identified, there is limited time to respond, and the skill and preparedness of the clinician can significantly influence maternal and neonatal outcomes: either positively or negatively.

Maternal risk factors for IFH

- Primiparous
- No previous caesarean section
- Gestational age >37 weeks
- Birth weight >4kg
- Epidural analgesia
- Augmentation with oxytocin
- Prolonged second stage
- Second-stage caesarean section

Fetal risk factors for IFH

- Malposition
- Mid or low-cavity station
- Caput
- Moulding

Recognition

- Lack of head descent despite strong contractions. The head may feel fixed and immobile, often at or below the ischial spines.
- Recognition more commonly occurs once there is difficulty in birthing the fetal head during caesarean section. The surgeon will find it difficult to insert a hand between the fetal head and the uterine wall and if able to insert a hand, will have difficulty elevating the head.

Management of IFH

There are a number of techniques available to clinician's when IFH is anticipated or diagnosed. These can be categorised into:

- techniques from below, or *push* techniques, that involve elevating the fetal head from the direction of the vagina. These include fetal head elevation with Fetal Pillow® and manual fetal head elevation.
- techniques from above, or *pull* techniques, that involve disimpacting the fetus from the direction of the hysterotomy such as abdominal cephalic disimpaction, reverse breech extraction and Patwardhan's method
- tocolytics (uterine relaxants) such as terbutaline, glyceryl trinitrate (GTN) and salbutamol (see *Queensland Clinical Guidelines: Prolonged and/or obstructed labour*).

Note:

- Augmentation with syntocinon may further impact the fetal head and should not be introduced once obstructed labour is diagnosed.
- Unsuccessful attempts at an instrumental birth can lock the head further into the pelvis.
- If requested, the Fetal Pillow® is inserted prophylactically prior to caesarean section.
- At any point, a change of clinician should be considered to aid in the disengagement of the impacted fetal head.

Let's look at these techniques a little more closely.

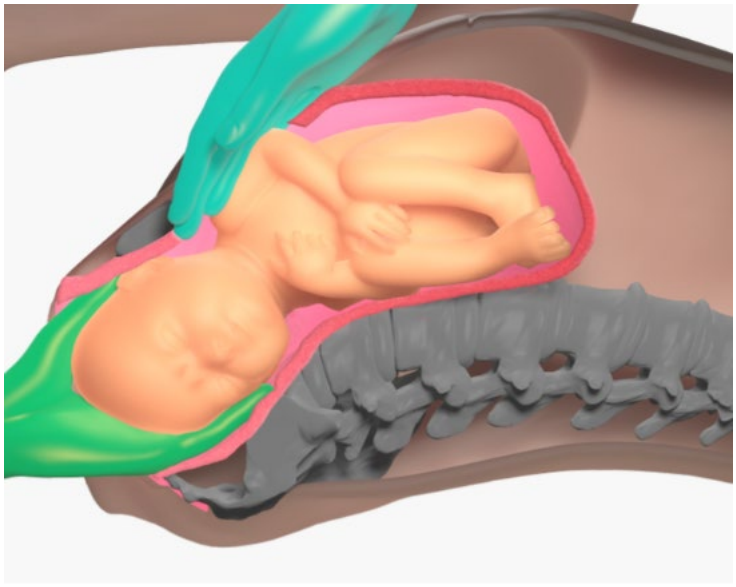
Fetal Pillow®

Fetal Pillow® is a balloon cephalic elevation device that can be used at caesarean sections over 37 weeks at full dilation. It involves inserting fluid into a balloon to gently elevate the fetal head. While there is wide-spread use of the Fetal Pillow®, there is currently a lack of high-quality scientific evidence to show whether the fetal pillow improves outcomes for the woman or the baby.[33] The only published clinical trial was retracted due to inconsistencies in the results, highlighting the need for more robust, high-quality evidence to support its effectiveness across diverse clinical settings. While further research is being undertaken, there are currently no major safety concerns[34] and the *Queensland Clinical Guideline: Prolonged and or obstructed labour* advises that fetal head elevation may be considered at a full dilation caesarean section, suspicion of IFH, or unsuccessful instrumental birth.

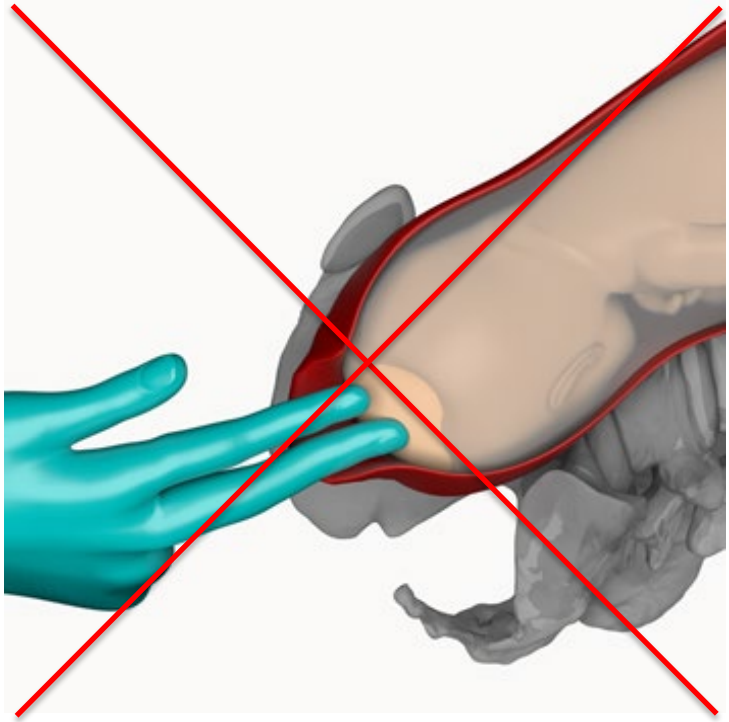
Watch this video from CooperSurgical for an explanation on how to use the Fetal Pillow®:

https://youtu.be/NOYpIzRzx0o?si=4cqaFRrcMBEEdIji

Manual fetal head elevation (push method)



The push technique is where an assistant's hand is inserted into the vagina and the fetal head is displaced superiorly using the palm of the hand, while the surgeon attempts to flex and elevate the head into the hysterotomy.



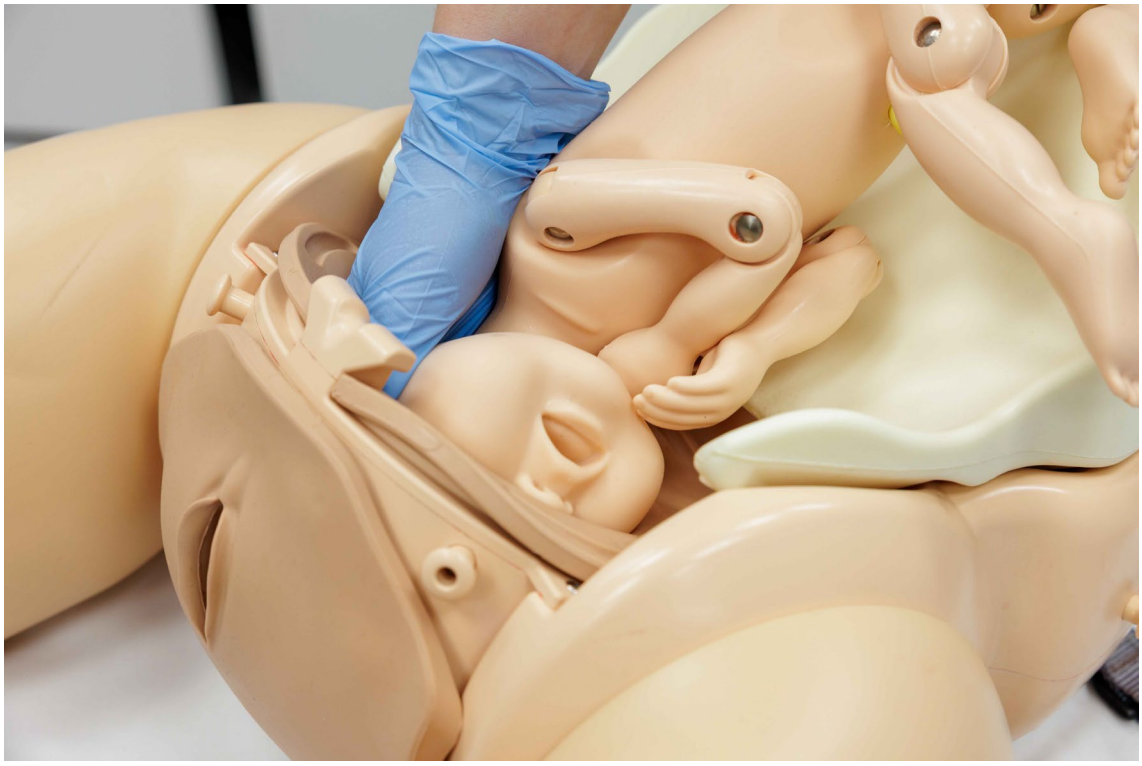
Do not use direct digital pressure, this increases the risk of a fetal skull fracture.

Abdominal cephalic disimpaction

This is a technique used at caesarean section to elevate the fetal head towards the mother's head. The goal is to flex and lift the head out of the pelvis, avoiding excessive traction or force. Proper flexion of the head is crucial as it presents the smallest antero-posterior diameter.[19] Deflexion of the head can cause worsening of the impaction by pushing the head further behind the pubic symphysis.

Figure 1 External view

Figure 2 Internal view



Reverse breech extraction

This is a technique used at caesarean section where instead of attempting to lift the fetal head out of the pelvis, the surgeon reaches into the uterus and grasps the baby's feet. The feet are delivered first and the impacted fetal head is delivered last.

This technique may be preferred when the IFH cannot be dislodged by other vaginal or abdominal methods, or when vaginal access is limited or not feasible.

Figure 4 Internal view

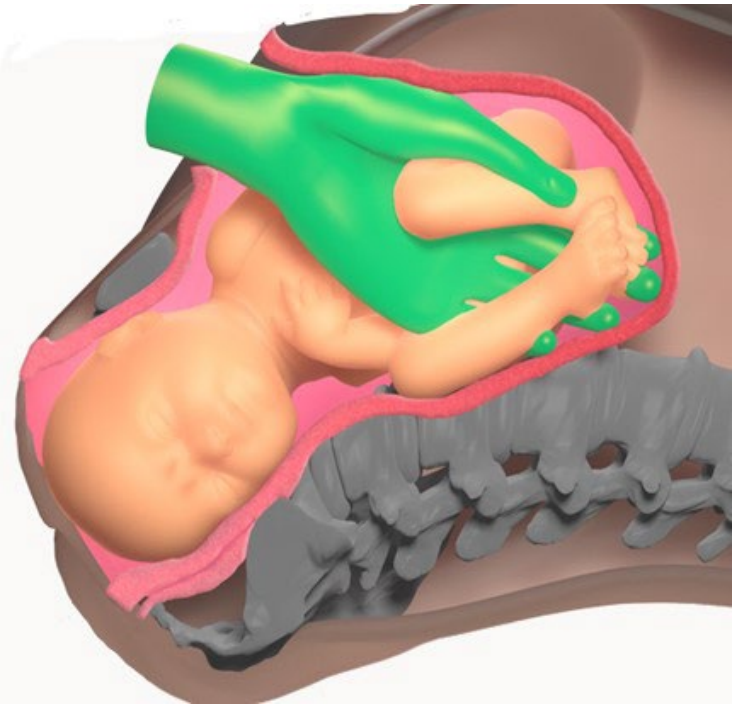


Figure 3 External view

Patwardhan's method

This method is also used during second-stage caesarean sections where the head is deeply impacted. It involves delivering the baby by first delivering the shoulders, then secondly the body, and lastly the head. It may be used when other methods have been unsuccessful, or if the fetal shoulders are easily accessible.

Uterine relaxants

The use of tocolytics can be used as an adjunct to other methods as they relax the uterus and reduce the strength of uterine contractility.

The choice of tocolytics will be based on individual circumstances, prescriber familiarity and health facility availability. It is important to note that uterine relaxants increase the risk of atonic postpartum haemorrhage.

The *Queensland Clinical Guidelines: Prolonged and/or obstructed labour* provides the following options:

- Terbutaline 250 micrograms subcutaneously
    - Terbutaline is a risk factor for neonatal hypoglycaemia
- Glyceryl Trinitrate (GTN)
    - 400 microgram sublingual spray

      or
    - 50-100 microgram intravenous (IV)
- Salbutamol 100 microgram IV.[2]

Summary

Impacted fetal head is a complex and time-critical obstetric emergency that requires prompt recognition and skilled management to prevent serious maternal and neonatal harm. Risk factors span maternal, fetal, and clinical domains, with second-stage caesarean sections and fetal malposition being particularly significant. Junior clinicians and midwives often report limited exposure and training in IFH, highlighting the need for targeted education and simulation-based skill development.

Effective management relies on timely identification, appropriate technique selection, and collaborative teamwork. Techniques such as fetal head elevation must be understood and practiced by all staff who may be called to assist. The use of uterine relaxants and devices like the Fetal Pillow® should be guided by clinical judgement and current guidelines.

Ultimately, improving preparedness and confidence among maternity care providers can enhance outcomes and reduce the trauma associated with IFH for both women and babies.

Further resources:

Queensland Clinical Guidelines – Instrumental Vaginal Birth	
Author	Queensland Health
Link	Short guide: Instrumental vaginal birth

RANZCOG – Clinical guidance statement: Delivery of fetus at caesarean birth	
Author	RANZCOG
Link	Delivery-Fetus-Caesarean-Birth.pdf

Prompt Flex Enhanced C Section Module Video	
Author	Limbs & Things
Link	The Enhanced C Section Module for Birth Simulator PROMPT Flex - YouTube

Caesarean Section for deeply impacted head video. (Demonstration of techniques)	
Author	MedNav
Link	Caesarean Section for deeply impacted head

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Glossary

AC (Abdominal Circumference): A fetal biometric measurement used in ultrasound to estimate fetal size and growth.
Apgar: A quick test performed on a newborn at 1 and 5 minutes after birth to assess heart rate, respiration, muscle tone, reflex response, and colour.
Bandl's Ring: A pathological retraction ring that can form during obstructed labour, indicating uterine rupture risk.
BSL (Blood Sugar Level): A measure of glucose concentration in the blood, important in monitoring gestational diabetes.
BMI (Body Mass Index): A measure of body fat based on height and weight.
BP (Blood Pressure): The pressure of circulating blood on the walls of blood vessels.
BRAINS Acronym: A decision-making tool for consumers receiving maternity care: Benefits, Risks, Alternatives, Instinct, Nothing, Space.
BSL (Blood Sugar Level): A measure of glucose concentration in the blood, important in monitoring for gestational diabetes.
Continuity of Midwifery Care: A model where a woman receives care from the same midwife or team of midwives throughout pregnancy, birth, and postnatal period.
CPD (Cephalopelvic Disproportion): A condition where the baby's head is unable to pass through the mother's pelvis.
CTG (Cardiotocography): A monitoring method to record fetal heart rate and uterine contractions.
Deflexed Head: A fetal head position where the chin is not tucked, potentially complicating vaginal delivery.
EFW (Estimated Fetal Weight): An ultrasound-based estimate of the baby's weight in utero.
Endometritis: Inflammation or infection of the uterine lining.
GBS (Group B Streptococcus): A bacterial infection that is screened for by some health institutions and can be passed to the baby during delivery.
GDM (Gestational Diabetes Mellitus): Diabetes diagnosed during pregnancy that was not clearly overt diabetes prior to gestation.
Haematuria: Presence of blood in the urine, which may occur during pregnancy or labour due to various causes.
HC (Head Circumference): A fetal measurement used to assess growth and development.
Hypertonus: Excessively strong or prolonged uterine contractions, which can compromise fetal oxygenation.
IFH (Impacted Fetal Head): A situation during caesarean section where the fetal head is deeply engaged in the pelvis and difficult to deliver, therefore requiring additional manoeuvres.
ISBAR: A communication framework commonly used in healthcare: Identify, Situation, Background, Assessment, Recommendation.
Malpresentation: Any fetal position other than head-down (cephalic), such as breech or transverse.
MHR (Maternal Heart Rate): The heart rate of the pregnant person, monitored during labour to differentiate from fetal heart rate.
Obstructed Labour: Labour where the baby cannot progress through the birth canal despite strong contractions.
OS (Cervical Os): The opening of the cervix; can be internal or external.
Oxytocin: A hormone used to induce or augment labour and control postpartum bleeding.
Partogram: A graphical record of labour progress, including cervical dilation, fetal heart rate, and contractions.

Patwardhan's method: A method used to deliver a deeply impacted fetal head during caesarean section that involves removing the fetal shoulder and arms first and the head last.
QMEWT (Queensland Maternity Early Warning Tool): A charting tool used to detect early signs of maternal clinical deterioration to prompt timely intervention.
ROA (Right Occipito-Anterior): A fetal position where the back of the baby's head is toward the mother's right front side—favourable for vaginal birth.
ROT (Right Occipito-Transverse): A fetal position where the back of the baby's head is toward the mother's right side—may require rotation for birth.
RSQ (Retrieval Services Queensland): A service that coordinates and provides emergency medical retrieval and transport across Queensland.
SROM (Spontaneous Rupture of Membranes): The natural breaking of the amniotic sac, commonly referred to as "water breaking."
TENS (Transcutaneous Electrical Nerve Stimulation): A non-pharmacological method of pain relief using mild electrical currents, often used during labour.

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