

Prolonged and/or obstructed labour

IMPORTANT: Consider individual clinical circumstances. Consult a pharmacopeia for complete drug information. Read the full disclaimer at www.health.qld.gov.au/qcg

Aspect	Consideration
Prolonged and/or obstructed labour	- As the clinical care described in this guideline is largely applicable to both prolonged labour and to obstructed labour, the term <i>prolonged and/or obstructed labour</i> is used - Prolonged labour is commonly understood to mean slow but progressive cervical dilation or descent - Obstructed labour is commonly understood to mean complete arrest of progress despite adequate uterine activity - Frequently categorised as time based (duration) or progress based (dilation per hour)¹ - Nomenclature varies: also referred to as, labour dystocia, failure to progress, inadequate progress, protracted, prolonged, abnormal or dysfunctional labour, inefficient or inadequate uterine contractions. Also is used to mean cessation of labour or arrest of descent^{1,2}
Normal labour	- Refer to Queensland Clinical Guideline: Normal birth³ for: - Definitions of the stages and phases of labour - Patterns of normal labour progression - Care and support of women in labour
Escalation and communication	- Communicate early and frequently: - With the woman/support person to facilitate informed decision-making about care - To escalate clinical concerns - For preparation of personnel and equipment - Escalate concerns regarding progress in labour to an obstetrician at the earliest opportunity⁴ - After birth, offer follow-up and/or referral as indicated by individual circumstances
Clinical standards	- Refer to Queensland Clinical Guideline Standard care⁵ for care considered 'usual' or 'standard' - Includes for example: privacy, consent, decision making, sensitive communication, medication administration, staff education and support, culturally appropriate care - Refer to Queensland Health: <i>Partnering with women who decline recommended care</i>⁶ - QCG recognise that individuals have diverse gender identities. In QCG documents, although the terms <i>woman</i> and <i>women</i> are used, these guidelines are inclusive of people who are pregnant or give birth and who do not identify as female⁷
Obstetrician	Local facilities may, as required, differentiate the roles and responsibilities assigned in this document to an "Obstetrician" according to their specific practitioner group requirements; (e.g. General practitioner obstetrician, specialist consultant, senior or specialist registrar, obstetric fellow or principal obstetric house officer)

Outcomes associated with prolonged and/or obstructed labour

Aspect	Consideration
Maternal	- Operative interventions (instrumental vaginal birth⁸, caesarean birth^{8,9}) - Chorioamnionitis^{9,10}/endometritis^{9,11} - Obstetric anal sphincter injury^{9,10} (OASI) - Obstetric fistula (rare in developed countries)¹² - Primary postpartum haemorrhage (PPH)^{9,10} - Postpartum urinary retention¹¹ - Uterine rupture - Psychosocial/psychological sequelae^{13,14}
Neonatal	- Admission to a neonatal unit^{9,15} - Respiratory distress syndrome¹⁰ - Confirmed or suspected sepsis^{10,15} - Birth asphyxia-related complications, which progressively increase with duration of first¹⁶ or second stage^{10,15} - Birth injury (e.g. fractures of skull, clavicle, femur) - Fetal/neonatal death may occur

Intervention during labour

Aspect	Consideration
Risk versus benefit of intervention	• Specific absolute criteria (time or progress) for prolonged and/or obstructed labour in first or second stage of labour have not been identified • Safely decreasing the caesarean birth rate is an ongoing national priority² • There is a paucity of evidence to guide the clinician in balancing the risks of prolonged and/or obstructed labour with the potential benefit of avoiding intervention ◦ Support clinician education and training about obstructed and/or prolonged labour (e.g. multidisciplinary simulation learning) ◦ Use clinical judgement and counsel women according to their individual circumstances, preferences and values ◦ Maintain awareness that a traumatic birth experience may contribute to ongoing psychological distress¹⁴ • If prolonged and/or obstructed labour is suspected, assessment by an obstetrician is indicated
Active first stage	• If progress is less than 0.5 cm per hour (2 cm in four hours) in the presence of adequate uterine contractions, escalate to an obstetrician and review the risks and benefits of intervention ◦ Consider individual clinical circumstances (e.g. status of membranes, parity, history of progress, presence/absence of neuraxial analgesia, adequacy of uterine contractions, fetal position/presentation, signs of obstruction) ◦ Fetal station of -3 or higher at 7 cm cervical dilation¹⁷ may indicate need for intervention in some circumstances • Refer to Queensland Clinical Guideline: Normal birth³
Active second stage	• Escalate to an obstetrician and review the risks and benefits of intervention if: ◦ Nulliparous: duration approaches two hours ◦ Multiparous duration approaches one hour

Factors affecting progression of labour

Aspect	Consideration
Hypocontractile uterine activity	• Advanced maternal age¹⁸ • Obesity¹⁸ • Nulliparity^{18,19} • Diabetes complicating pregnancy²⁰ • Uterine abnormality (e.g. myoma, congenital anomalies) or over distension (e.g. polyhydramnios, multi-gestation) • Tocolytics, relaxants • Neuraxial anaesthesia¹⁹ • Dehydration
Pelvic factors	• Short stature (less than 150–160 cm)^{18,21} • Pelvic contraction/injury or abnormality (e.g. narrow subpubic arch, prominent sacrum)^{22,23}
Fetal factors	• Fetal anomaly resulting in cephalopelvic disproportion (CPD)²² • Positions other than occiput anterior^{9,24} • Malpresentation²² • Large for gestational age, macrosomia²⁴, increased fetal abdominal circumference²⁵
Other	• Previous obstructed labour²⁶ • Psychological state (fear of childbirth¹⁸, anxiety²⁷, exhaustion)

Assessment

Aspect	Consideration
History	- Review history, individual risk factors and onset and progress of labour - Consider actual progress relevant to - Expected for parity and phase and stage of labour - Onset of labour (induced or spontaneous) - Presence/absence of neuraxial anaesthesia - Fetal position/condition - Woman's physical and emotional state - In second stage also consider - Duration (passive and active) - Descent and rotation of fetal head
Clinical presentation	- May be accompanied by - Maternal and/or fetal tachycardia - Rising blood pressure - Elevated maternal temperature - Oedematous vulva¹² - Vaginal bleeding - Haematuria - Hypertonus with frequent strong contractions - Constant severe abdominal pain - Physiologic retraction ring (Bandl's ring)
Clinical assessment ²⁸	- Refer to Queensland Clinical Guideline: Normal birth³ for clinical assessments in labour including: - General condition (e.g. distress, anxiety, pain, hydration) - Maternal vital signs - Abdominal palpation: (e.g. bladder, fetal presentation, position, engagement, descent) - Uterine contractions: (e.g. strength, duration and frequency) - Vaginal examination (e.g. dilation, effacement, fetal position and attitude, membranes, liquor, level and application of presenting part, presence of caput and moulding, swelling of previously effaced cervix) - Cardiotocograph (CTG)
Clinical surveillance	- One to one midwifery care - Increase maternal and fetal surveillance - Refer to Queensland Clinical Guideline: Intrapartum fetal surveillance²⁹ - Contemporaneous partogram use recommended
Intrapartum ultrasound scan	- May not be routinely available/used in all facilities - Requires access to equipment and sufficient clinician expertise - Improves diagnostic accuracy but may not improve clinical outcome³⁰ - More accurate than digital examination³¹ in diagnosing malposition and cephalic malpresentations, especially in the presence of - Moulding and caput³² - Asynclitisms³¹ - May improve diagnosis of Bandl's ring³³ - Transabdominal and transperineal (translabial) may be used
Clinical care	- Consider as appropriate to circumstances - Indwelling urinary catheter (catheter balloon inflated above fetal head) or in/out catheter - Analgesic requirements - Maternal re-position (particularly to optimise pelvic diameters in relation to fetal station), upright positioning, mobility^{34,35} and peanut ball³⁶ may be beneficial - Assess hydration and consider IV access and fluids according to individual circumstances - Dehydration and keto-acidosis are common - Oliguria from dehydration or obstruction from the fetal head - Conflicting evidence regarding optimal IV volumes in relation to prolonged and/or obstructed labour^{37,38}

Augmentation in first stage

Aspect	Consideration
Indication	- If delay in progress of active first stage of labour³⁹ and after assessment of the pelvis and fetal presentation - In the absence of contraindications - In the presence of reassuring fetal and maternal status
Amniotomy	- Limited evidence about the effect of amniotomy in the setting of prolonged and/or obstructed labour⁴⁰ - Offer to women with intact membranes and confirmed delay in first stage of labour as may confer benefit⁴¹
Oxytocin	- Aim to achieve 3–4 contractions in 10 minutes, duration of 40–60 seconds with rest periods of not less than 60 seconds - Use with caution in multiparous women - Requires review by an obstetrician prior to commencement - Contraindicated if signs of obstruction - Refer to Queensland Clinical Guideline: Induction of labour⁴²
Prior caesarean scar	- Augmentation with oxytocin is not contraindicated but associated with an increased risk of uterine rupture⁴³ - Requires review by an obstetrician prior to commencement - Refer to Queensland Clinical Guideline: Vaginal birth after caesarean⁴³
Clinical support	- Discuss options for pain management - Recommend increased maternal and fetal monitoring - Refer to Queensland Clinical Guidelines: Normal birth³ Intrapartum pain management⁴⁴ Intrapartum fetal surveillance²⁹
Ongoing assessment	- Review progress of labour at regular intervals—use clinical judgement and consider all clinical circumstances (e.g. prelabour risk factors for obstruction, uterine contractions, fetal wellbeing) - Recommend a repeat vaginal examination according to local protocols - If no local protocol recommend 2–4 hours after amniotomy 4 hours after commencing oxytocin - Discuss progress with obstetrician

Expedited vaginal birth in second stage

Aspect	Consideration
Augmentation	- If membranes intact, offer amniotomy - Following review by an obstetrician, oxytocin augmentation may be recommended - Use with caution in women who are multiparous, have a prior caesarean scar and/or other risk factors
Manual rotation	- May be considered by an obstetrician in individual circumstances - Conflicting evidence—may^{45,46}: - Increase rate of spontaneous vaginal birth and reduce occiput posterior (OP) or occiput transverse (OT) positions at birth - Reduce episiotomies - Evidence uncertain about^{45,46}: - Prophylactic (i.e. before diagnosis of obstructed labour) versus therapeutic (i.e. after diagnosis of obstructed labour)⁴⁷ - Factors contributing to spontaneous rotation⁴⁵ - Contribution of confounding variables to outcome (e.g. operator experience, technique, parity, BMI, fetal weight) - Whole hand versus digital rotation
Episiotomy	- May be recommended to expedite birth in individual circumstances - Refer to Queensland Clinical Guideline: Perineal care⁴⁸
Instrumental vaginal birth	- May be recommended to assist birth of a fetus with cephalic presentation and fetal head at the level of the ischial spines (Station 0) or below⁴⁹ - Refer to Queensland Clinical Guideline: Instrumental vaginal birth⁵⁰

Caesarean section (CS)

Aspect	Consideration
Indications	- Use clinical judgement and consider: - Risk and benefit (relevant to the individual circumstances) - Entire clinical history and presentation
Decision to birth interval	- Refer to RANZCOG categorisation of urgency for CS⁵¹ - Follow local protocols for activation of an emergency CS and notifications to emergency personnel (e.g. anaesthetic, operating room, paediatric/neonatal)
Preparation	Prior to commencement, communicate the possibility of impacted fetal head to other clinicians involved (e.g. operating room, paediatric/neonatal) to aid preparation of equipment and resources
Clinical requirements	- Required at the birth following diagnosis of prolonged and/or obstructed labour - Obstetrician - Clinician experienced in neonatal resuscitation dedicated to neonatal care - Maintain awareness that risk of PPH is increased - Refer to Queensland Clinical Guidelines: Primary postpartum haemorrhage⁵²
Intraoperative	- After prolonged and/or obstructed second stage, standard incision may risk injury to vagina, bladder, ureters, uterine arteries or cervix due to distortion of anatomy - Modified Lloyd Davies position may facilitate manual elevation of the fetal head (if required) - If full dilation or deeply impacted fetal head, incision higher on uterus than low transverse incision may be required - May consider J incision or inverted T to facilitate reverse breech extraction (according to personal preference)

Impacted fetal head at caesarean birth

Aspect	Consideration
Evidence summary	- In this guideline defined as “a cesarean birth where the obstetrician is unable to deliver the fetal head with their usual delivering hand, and additional manoeuvres and/or tocolysis are required to disimpact and deliver the fetal head.”^{53,54} - Dearth of high-quality evidence to compare techniques and measures to prevent or manage impacted fetal head at caesarean birth^{54,55}
Clinician education	Multi-professional training recommended⁵⁵⁻⁵⁷ (e.g. hands-on via simulation, animated video training, lecture based, augmented reality, real-life supervision⁵³)
Fetal head elevation with fetal pillow	- Evidence of benefit is limited⁵⁸ although anecdotal support/use is evident⁵⁹ - May consider use at full dilation prior to caesarean or suspicion of impacted fetal head or unsuccessful instrumental vaginal birth - Follow local protocol and manufacturer's instruction for inflation and deflation
Manual fetal head elevation	- A senior clinician inserts cupped hand fully into vagina to flex and elevate fetal head - Avoid fingertip pressure on the fetal head⁴
Uterine relaxation ⁶⁰	- Choice of tocolytic based on individual circumstances, prescriber familiarity and availability - May increase risk of atonic postpartum haemorrhage⁵⁵ - 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
Disimpaction techniques ^{54,55,61}	- Change of operator (different clinician) - Abdominal cephalic disimpaction: using the dominant or non-dominant hand to flex and lift the baby's head upwards into the maternal abdomen to deliver the head - Reverse breech extraction: - A hand is introduced in the upper aspect of the uterus, the baby's feet are grasped and the baby is delivered feet first - Once the baby's shoulders are delivered, the head is lifted out of the pelvis - A T or J incision may increase space for manoeuvre - Patwardhan method: a modification of reverse breech extraction, whereby the arms are delivered first

Bandl's ring

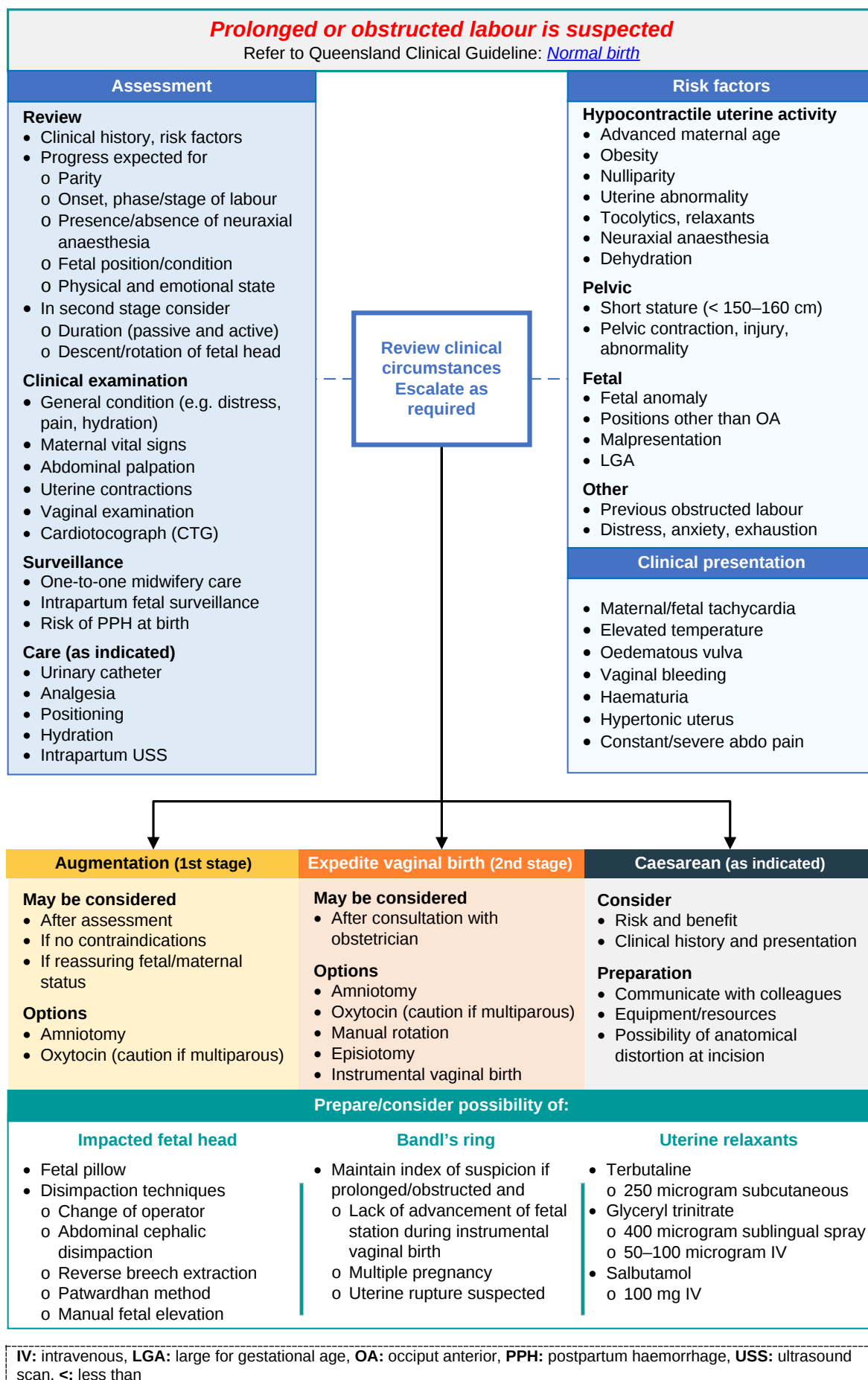
Aspect	Consideration
Definition	A constriction ring that forms between the upper segment of the uterus and the thinned lower uterine segment leading to difficulty in delivering the baby through the uterine incision⁶²
Presentation	- Occurs in approximately 1/5000 live births⁶² - Maintain index of suspicion in the context of prolonged and/or obstructed labour and⁶²: - Lack of advancement of fetal station during attempts at instrumental vaginal birth - Multifetal gestations - May present as uterine rupture late in second stage⁵⁶
Management	- Emergency caesarean section - Limited evidence to support specific surgical or other management techniques—consider - Uterine relaxing agents (e.g. terbutaline, glycerol trinitrate or salbutamol) - Refer to <i>Uterine relaxation</i> in table above - Incision of the Bandl's ring

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Flowchart: Prolonged and/or obstructed labour



Flowchart: F25.17-1-V2-R30