South Australian Perinatal Practice Guideline

Delays in the Second Stage of Labour

Note:
This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Note: The words woman/women/mother/she/her have been used throughout this guideline as most pregnant and birthing people identify with their birth sex. However, for the purpose of this guideline, these terms include people who do not identify as women or mothers, including those with a non-binary identity. All clinicians should ask the pregnant person what their preferred term is and ensure this is communicated to the healthcare team.

Explanation of the aboriginal artwork:
The Aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the Aboriginal culture. The horse shoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horse shoe shape depicts a pregnant woman. The smaller horse shoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.

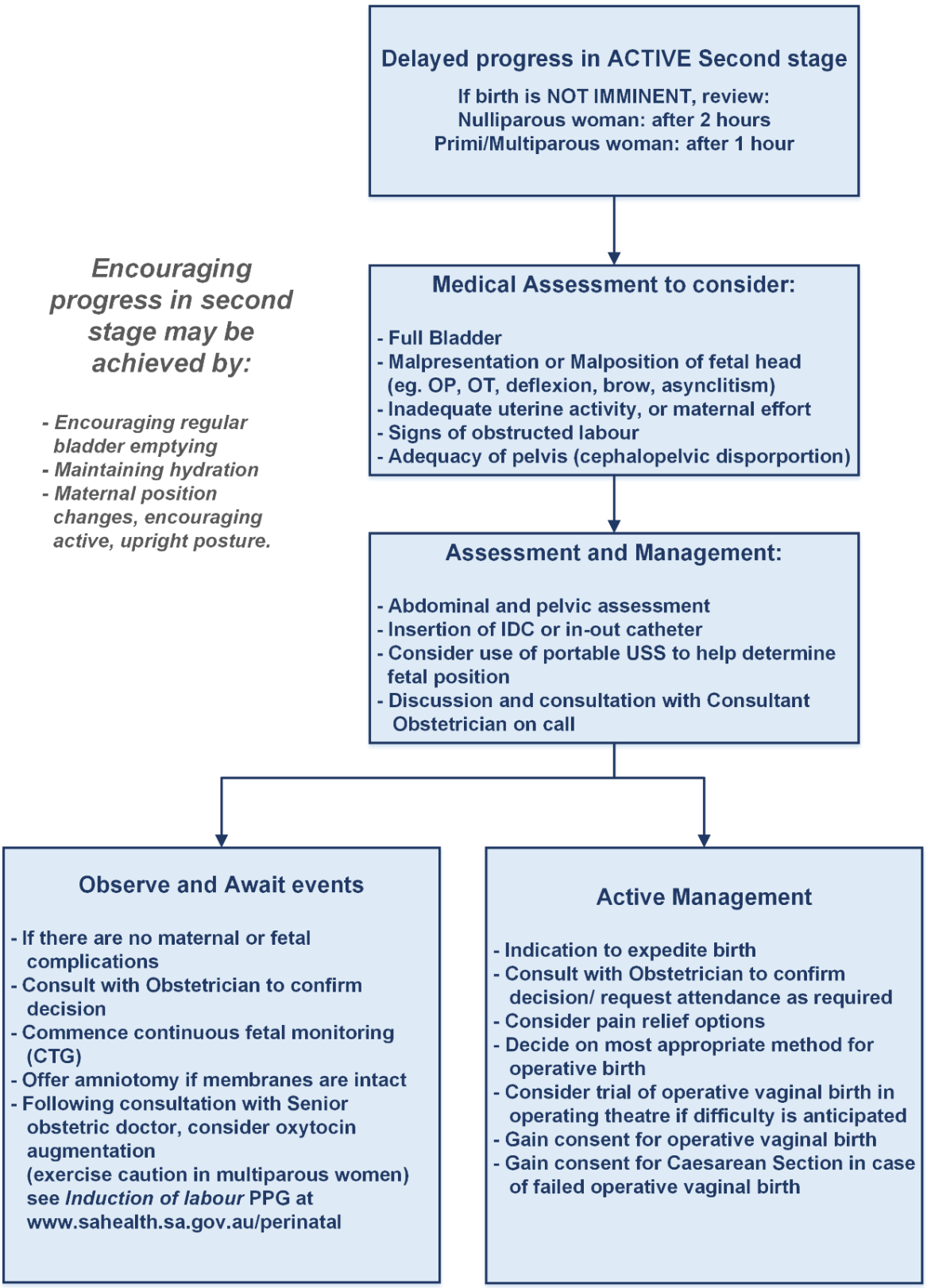
Australian Aboriginal Culture is the oldest living culture in the world yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2-5 times more likely to die in childbirth and their babies are 2-3 times more likely to be of low birth weight. The accumulative effects of stress, low socio economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics, the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectfully manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

Purpose and Scope of Perinatal Practice Guideline (PPG)

This guideline provides clinicians with information for the assessment and management of delays in the second stage of labour. It is intended for women at term with low-risk pregnancies and reassuring maternal and fetal status. It is not suitable for women with multiple gestation or women attempting vaginal birth after caesarean section, because in these clinical situations there is very little evidence on best practice, and management is individualised.

Delays in the Second Stage of Labour

Flowchart: Management of delayed second stage



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Summary of Practice Recommendations

- Routine directed Valsalva pushing (prolonged pushing with a closed glottis) should be avoided.
- If the woman has no urge to push 1 hour after diagnosis of full dilatation, perform a vaginal examination and clinical assessment.
- Consider measures to facilitate progress and descent in second stage such as maternal positioning and analgesia.
- Birth is expected to occur within 3 hours of full dilatation for a nulliparous woman, and 2 hours for a multiparous woman. Consultation with obstetric colleagues is required if birth is not imminent after 2 hours for a nulliparous woman, or 1 hour for a multiparous woman[1]
- A prolonged second stage of labour warrants clinical reassessment of the woman, fetus and expulsive forces. Observe for signs of obstructed labour.
- Assess uterine activity and consider augmentation with oxytocin if indicated following consultation and clinical assessment by senior obstetric doctor.
- Perform continuous fetal heart rate monitoring if active second stage is prolonged (birth not imminent after 2hours for nulliparous woman, 1 hour for a multiparous woman)[1, 2]
- Provided there are no maternal or fetal complications, in consultation with an obstetrician, consideration should be given to waiting.
- If there is a reason for the second stage to be expedited, decide on the most appropriate type of instrumental birth and consider a trial in theatre if difficulty is anticipated.

Abbreviations

ACOG	American College of Obstetricians and Gynecologists [sic]
CTG	Cardiotocograph
et al.	And others
e.g.	For example
OA	Occipito anterior
OP	Occipito posterior
OT	Occipito transverse
IOL	Induction of labour
LSCS	Lower segment caesarean section
NICE	National Institute for Health and Care Excellence
POP	Persistent Occipito-Posterior
POP OUT	Persistent Occipito-Posterior: Outcomes following manual rotation
PPG	Perinatal Practice Guidelines
RANZCOG	The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
SFH	Symphyseal fundal height
USS	Ultrasound

Definitions

For the purpose of this guideline, the following definitions of labour are recommended:

Passive second stage of labour	The finding of full dilatation of the cervix before (or in the absence of) involuntary expulsive contractions[5]. During this phase the fetal head progressively descends through the maternal pelvis, and internal rotation and flexion occurs.
Active second stage of labour	Expulsive contractions with a finding of full dilatation of the cervix. Active maternal effort following confirmation of full dilatation of the cervix in the absence of expulsive contractions[5]
Nulliparous	A woman has not given birth to a baby after 20 weeks gestation
Primiparous	A woman who has given birth to one baby after 20 weeks gestation
Multiparous	A woman who has given birth to two or more babies after 20 weeks gestation

Literature Review

- Length of second stage is not associated with neonatal morbidity[3-5].
- Increased maternal morbidity in women with prolonged second stage may be partially attributed to the higher rate of operative procedures and should not be solely based on the elapsed time after full dilatation[3].
- The effect of prolonged second stage of labour on pelvic support and urinary and faecal continence requires further investigation.
- Extremely prolonged second stage (> 5 hours) is associated with increased incidence of postpartum haemorrhage, shoulder dystocia and caesarean section[6].
- Maternal sims position in labour is associated with higher rates of vaginal birth in women with fetal Persistent Occipito-Posterior (POP) position[7]. A peanut ball may be utilised to aid the woman to remain in the maternal sims position. This may facilitate fetal rotation to a more optimal position.
- Upright positions in second stage are associated with[18]:
    - Reduction in length of second stage
    - Reduction in assisted or instrumental birth
    - Reduction in episiotomies, slight increase in second degree tears, and no difference in rate of third- and fourth-degree tears
    - Fewer abnormal fetal heart rate patterns
    - Higher rate of postpartum haemorrhage
- Mixed results from studies exist for manual rotation of fetus' in the POP position. A recent Australian study indicates that manual rotation does not reduce the rate of operative birth[8].
- A French study with a larger sample size was examined in 2007 indicating that:
    - Attempted manual rotation before full dilatation tripled the risk of failed rotation (OP to OA)
    - Manual rotation for failure to progress quadrupled risk of failure compared with prophylactic rotation
    - Failure of manual rotation resulted in CS rate of 58.8% compared with 3.8% if successful.
- Women should be informed that the duration of the second stage of labour varies. For most nulliparous women it lasts up to 3 hours and in parous women, up to 2 hours. The second stage of labour should be characterised by spontaneous pushing, freedom of mobility, upright posture and a flexible time frame[9]
- Duration of the second stage of labour is increased for both nulliparous and parous women with epidural anaesthesia[10, 11].
- Duration of second stage is similar for women with induced or spontaneous labour[10].
- Imposing a maximum time for second stage of labour remains controversial. Increasing the time by 1 hour (from previous 3 hours for nulliparous and 2 hours for parous women), has been shown to reduce caesarean section by approximately 50%, without increasing maternal or neonatal morbidity[6, 11, 12].
- However, some studies have found small increases in maternal and/or neonatal infection[13], postnatal urinary incontinence[14], postpartum haemorrhage and 3rd and 4th degree perineal tears[15, 16] with prolonged second stage. A more recent retrospective study by Gimovsky and others[6] examined this in detail for nulliparous women. They found that these adverse perinatal outcomes were only worse when second stage was extremely prolonged (≥ 5 hours), when compared with normal second stage length.
- If the woman and fetus are in good condition and there is evidence of continued descent of the fetal head (labour progress), there is no need for intervention in second stage unless it is extremely prolonged[17].
- Upper limits for combined passive and active second stage before initiation of obstetric intervention are recommended as follows:
    - Four (4) hours for nulliparous women (no more than 3 hours active)
    - Three (3) hours for parous women (no more than 2 hours active)[10]

Measures to facilitate progress and descent in second stage	
Maternal position	> Encourage and support the woman to adopt the position in which she is most comfortable (usually upright)[18, 19] > In women without epidural anaesthesia, use of any upright or lateral position, compared with supine or lithotomy positions, is associated with reduced duration of second stage of labour[18] > Upright positions, including; hands-knees, kneeling, running start, belly dancing or exaggerated pelvic movements such as 'figure 8', hanging, bouncing on ball, standing or deep, flat footed squats, have several benefits (e.g. increase in pelvic dimensions, good fetal alignment) including > but are associated with an increased risk of blood loss over 500 mL[18] > Encourage changes in position if descent is slow > Side lying and hands-knees may be optimal positions for birth and to minimise perineal injury/trauma[20] > Avoid the supine position because of the risk of aortocaval compression[18] > In women with an epidural, studies show no difference between upright positions vs recumbent positions[19, 21]
Pushing technique	> The optimum pushing technique is unclear[22] > The woman should be allowed to bear down when she feels the need (i.e. spontaneous or involuntary pushing), unless epidural anaesthesia has inhibited the bearing down sensation[22] > Encourage the woman's efforts and observe the perineum for swelling > If pushing is ineffective or if requested by the woman, strategies to assist birth can be used; support, change of position, emptying of the bladder[22, 23] > **Routine** directed Valsalva pushing (prolonged pushing with a closed glottis) should be avoided, especially if the perineum is very swollen[22] > Changing from spontaneous to coached pushing techniques (without prolonged Valsalva), may be of use when expeditious birth is indicated, and the woman is not yet pushing spontaneously[23] > Pushing methods (Valsalva vs spontaneous) appear comparable in terms of duration, pelvic floor, perineal and neonatal outcomes. In the absence of strong evidence, decision should be guided by the woman's preference and the clinical situation[24] > Discourage uncontrolled, explosive pushing that could lead to severe perineal trauma.
Maternal care	> Encourage a calm, safe and private environment > Offer fluids and ice chips > Offer massage and encourage leg exercises if the woman experiences leg cramps > Offer sponging of the woman's face and hands > If no epidural in place, offer aids to assist pushing, e.g. birth stools, birthing ball, birthing mat, mirror, birthing bar > See www.sahealth.sa.gov.au/perinatal P*erineal care and repair* PPG for recommendations on preventing 3rd and 4th degree tears[11] > Aboriginal women may experience feelings of disconnectedness, loneliness from family and country. Cultural support during labour should be offered to all Aboriginal women. > Aboriginal women: Grandmother's Law – Please discuss with the woman and/or family regarding maternal care in labour. For some Aboriginal clans, it is not uncommon for senior/elder female family members to make decisions for the woman. Please be culturally safe and speak with the woman about their cultural needs during labour and birth

Fetal monitoring	> If intermittent fetal heart rate monitoring, listen to the fetal heart every 5 minutes during active pushing and document (listen toward the end of the contraction and for at least 30-60 seconds after each contraction)[25] > Perform continuous fetal heart rate monitoring in the active phase of second stage of labour if pushing has progressed beyond 1 hour for multiparous women, or 2 hours for primiparous women where birth is not imminent
Analgesia	> If no epidural, observe if the woman is able to push effectively without additional analgesia. Offer additional analgesia if unable to push effectively > If epidural is in place, continue epidural top-ups / infusion as required > There is no evidence that discontinuing epidural analgesia to improve a woman's ability to push will reduce the incidence of operative vaginal delivery, but there is evidence that it increases the woman's pain[26]

Length of second stage

The length of 2nd stage varies according to[5, 27]:

- Maternal positioning
- Position of the fetus
- Station at completion of first stage
- Quality of the uterine contractions
- Use of oxytocin augmentation
- Pushing efforts of the woman
- Type of analgesia

The beginning of second stage (diagnosis of complete cervical dilation) is difficult to determine as it depends on the timing and indication for vaginal examination.

Passive second stage

The evidence suggests that, in controlled circumstances (where fetal and maternal wellbeing is established), allowing women in second stage to rest and await fetal descent has beneficial effects including:

- Reduced maternal fatigue in nulliparous women
- Less fetal heart rate decelerations
- Reduced pushing time for both nulliparous and primi/multiparous women[25]

Where there is full cervical dilatation in the absence of involuntary expulsive contractions / urge to push:

- Delay pushing (in the absence of clinical concern) if there is no urge to push
- If no urge to push after 1 hour in women without an epidural, reassess and consider obstetric consult
- For women with an epidural, delaying active pushing for up to 2 hours is reasonable if maternal and fetal condition is reassuring.
- The WHO[17] recommends waiting for the woman to regain the sensory urge to bear down prior to active pushing.

Active second stage

- Full cervical dilatation with expulsive contractions and/or maternal pushing. Women should be encouraged to follow their own urge to push[17].
- There should be continued assessment of progress in active second stage. Suggested timing for consult by obstetrician/Obstetric GP is described below. This timing enables interventions to facilitate normal birth before the upper limits (described above), are reached.
- If concerned about descent, malposition, malpresentation, uterine activity (frequency/intensity) or if obstructed labour is suspected, review clinical situation, reassess and/or consult obstetrician/GP after:
    - One(1) hour of pushing in nulliparous women
    - Thirty (30) minutes of pushing in parous women
- If no earlier concerns, consult obstetrician/GP if birth is not imminent after:
    - Two (2) hours of pushing in nulliparous women
    - One (1) hour of pushing in parous women

However, if the woman has no urge to push 1 hour after diagnosis of full dilatation, perform a vaginal examination and clinical assessment and discuss with the medical obstetric team/GP.

Individual practitioners need to consider their own capabilities and local practices when determining how long to leave a woman in the second stage before deciding on expediting birth.

Nulliparous women

Normal length of second stage is 30 minutes to 3 hours (median duration: 50 minutes). Practitioners may wish to review progress after 2 hours to assess whether additional support is required:

- Consultant obstetrician
- Procedural general practitioner
- Theatre staff

Or if anything can be done to improve efforts to achieve a vaginal birth e.g.:

- Amniotomy
- Alternative position
- Ensure adequate uterine activity
- Bladder empty
- Analgesia appropriate
- Environmental factors (calm, dark room, safe space for women to birth)

For nulliparous women, the upper limit for combined passive and active second stage before initiation of obstetric intervention is four (4) hours (no more than 3 hours active)[10]

Note that in alignment with the National Midwifery Consultation and Referral Guidelines, birth is expected to occur within 3 hours of full dilatation for a nulliparous woman. Consultation with obstetric/GP colleagues is required if birth is not imminent after 2 hours of active second stage. Continuous fetal monitoring should also be commenced at this time, and amniotomy offered if the membranes are intact.

Multiparous women

Normal length of second stage is 5 – 30 minutes (median duration: 20 minutes)

Practitioners may wish to review progress after 30 minutes to assess whether additional support is required:

- Consultant obstetrician
- Procedural general practitioner
- Theatre staff

Or if anything can be done to improve efforts to achieve a vaginal birth e.g.:

- Amniotomy
- Alternative position
- Ensure adequate uterine activity
- Bladder empty
- Analgesia appropriate

For multiparous women, the upper limit for combined passive and active second stage before initiation of obstetric intervention is three (3) hours (no more than 2 hours active)[10]

Note that in alignment with the National Midwifery Consultation and Referral Guidelines, birth is expected to occur within 2 hours of full dilatation for a multiparous woman. Consultation with obstetric/GP colleagues is required if birth is not imminent after 1 hour of active second stage. Continuous fetal monitoring should also be commenced at this time, and amniotomy offered if the membranes are intact.

Delayed descent in second stage

A prolonged second stage of labour warrants clinical reassessment of the woman, fetus and expulsive forces.

Assess fetal size, adequacy of the pelvis, fetal wellbeing, and maternal pushing efforts.

Exclude the following:

- Full bladder
- Cephalo-pelvic disproportion
  - Careful review of the notes, including recent scan results and SFH measurements
  - Abdominal palpation
  - Vaginal examination including a pelvic assessment, examination of the fetal head for caput and moulding
- Malposition of the fetal head, e.g. occipito-posterior or occipito-transverse, or deflexed fetal head (consider use of portable ultrasound to confirm position)
- Reduced uterine activity (frequency/strength)

Occiput posterior fetus in the second stage

Evidence from the PEOPLE[28] study suggests that delayed pushing when the fetus is occipito posterior (OP) may increase the chance for a spontaneous vaginal birth without the need for rotational or instrumental intervention[28]

Manual Rotation

Manual rotation of the fetal head from occipito posterior to occipito anterior has also been explored and may reduce the incidence of caesarean section[26].

- A 2021 national collaborative study 'Persistent Occipito-Posterior: Outcomes following manual rotation (POP OUT)'[29] indicates that manual rotation does not reduce the rate of operative birth[8].

- However, a 2007 study[30] in France with a larger sample size showed that:
  - Attempted manual rotation before full dilatation tripled the risk of failed rotation (OP to OA)
  - Manual rotation for failure to progress quadrupled risk of failure compared with prophylactic rotation
  - Failure of manual rotation resulted in CS rate of 58.8% compared with 3.8% if successful.

Sims Position
A randomised control trial found that fetuses in a POP position were significantly more likely to rotate to an OA position if the woman was in a Sims position, rather than a free position in labour (50.8% vs. 21.7%), with a greater chance of vaginal birth (84.7% vs 68.3%)[7]. The sims position may be assisted by using a peanut ball.

Observe for the following signs of obstructed labour

- Maternal and fetal tachycardia
- Hypertonus with frequent, strong contractions
- Vaginal bleeding
- Haematuria
- Maternal temperature
- Constant severe abdominal pain
- Physiologic retraction ring (Bandl's ring)
- Rising Blood Pressure

Actions:

- Catheterise the bladder
- Abdominal and pelvic assessment
- Ultrasound can improve the accuracy of determining the position of the baby
- Provided there are no maternal or fetal complications, in consultation with an obstetrician, decide whether there is an advantage in waiting
- If there is a reason for the second stage to be expedited, decide on the most appropriate type of instrumental birth, e.g. simple forceps, rotational forceps or ventouse
- Consider trial of forceps / ventouse in operating theatre if difficulty is anticipated

Oxytocin augmentation in the second stage

Any commencement of oxytocin in the second stage should be discussed with a senior obstetric doctor.

Oxytocin augmentation in the second stage for a nulliparous woman is a safe option to overcome inadequate uterine activity. Extreme caution should be exercised in a multiparous woman[31].

Oxytocin administration can begin at any time during the second stage, particularly in nulliparous women with epidural anaesthesia, OR where contractions are assessed to be inadequate OR there is lack of progress[32].

Women who are already receiving oxytocin at the onset of the second stage should continue to receive it during the second stage.

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