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Caesarean Section Guidelines

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Guidelines Definition

Clinical guidelines are systemically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person

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1. Introduction

CTMUHB caesarean section date highlights that as a service we have higher caesarean section (LSCS) rates than the rest of Wales. CTM LSCS rates range from 27 – 33% versus the rest of Wales at 27.9% (Maternity and Birth Statistics, Wales 2019 WG).

Decision for caesarean section is a multi-factored decision based on clinical need. This guideline has been developed to help ensure consistent quality care for women who:

- have had a caesarean section (CS) in the past and are now pregnant again, or,
- have a clinical indication for a CS or
- are considering a CS when there is no other indication.

It provides evidence-based information for healthcare professionals and women about:

- the risks and benefits of planned CS compared with planned vaginal birth
- specific indications for CS
- effective management strategies to avoid CS
- anaesthetic and surgical aspects of care
- interventions to reduce morbidity from CS

2. Provision of information to Women

- Addressing the woman's views and concerns should be recognised as being integral to the decision-making process.
- Offer evidence-based information and support to enable informed decisions about childbirth.
- Provide evidence-based information about Caesarean Section (CS) during the antenatal period and include information such as:
  - indications for Caesarean Section
  - what the procedure involves
  - associated risks and benefits
  - implications for future pregnancies and birth after CS.
- Provide information in a form that is accessible, taking into account the cultural needs of minority communities and women whose first language is not English or who cannot read, together with the needs of women with disabilities or learning difficulties.
- A CS leaflet should be given to each woman having an elective CS.

- A pregnant woman is entitled to decline the offer of treatment such as CS, even when the treatment would clearly benefit her or her baby's health. Refusal of treatment needs to be one of the woman's options. This should be explained to the expectant woman.

When a decision is made to perform a CS, a record should be made of all the factors that influence the decision, and which of these is the most influential.

3. Maternal request for Caesarean Section

- Explore, discuss and record the specific reasons for the request.
- Discuss the overall risks and benefits of CS compared with vaginal birth and record that this discussion has taken place.
- If necessary, include discussion with other members of the obstetric team (including the obstetrician, midwife and anaesthetist) to explore reasons for the request, and ensure provision of accurate information.
- If reason for a CS is anxiety about childbirth, offer referral to a healthcare professional with expertise in providing perinatal mental health support to help address anxiety in a supportive manner.
- If after discussion and offer of support (including perinatal mental health support for women with anxiety about childbirth), a vaginal birth is still not an acceptable option, offer a planned CS.
- An obstetrician unwilling to perform a CS should refer the woman to an obstetrician who will carry out the CS.

4. Reducing CS rates

- Offer external cephalic version (ECV) if breech at 37 weeks
- Facilitate continuous support during labour
- Offer induction of labour after 41 weeks
- Use a partogram with a 4-hour action line
- Involve Consultant Obstetricians in CS decision
- Support women in choosing vaginal birth after CS (see CTMUHB Vaginal Birth After Cesarean guideline)
- Electronic fetal monitoring is associated with an increased likelihood of CS. When CS is contemplated because of an abnormal fetal heart rate pattern, the consultant obstetrician should be involved in decision making.

5. Procedural aspects of Elective Caesarean Section

The risk of respiratory morbidity is increased in babies born by CS before labour, but this risk decreases significantly after 39 weeks. Therefore, planned CS should not routinely be carried out before 39 weeks **(NICE [CG132] 2011).**

Describe the nature of caesarean section. Explain the procedure as described in the patient information (RCOG 2009). All procedures and risk must be discussed and explained and recorded on the consent form.

N.B. If any other procedures are anticipated, these must be discussed and a separate consent obtained. A decision for sterilisation should not be made while the woman is in labour or immediately prior to the procedure. An additional specific consent form should be used for sterilisation at caesarean section (RCOG 2009).

5.1 Classification of urgency

- Document urgency of CS in order to aid clear communication between healthcare professionals about the urgency of a CS:

Category 1	immediate threat to the life of the woman or fetus
Category 2	maternal or fetal compromise that is not immediately life threatening
Category 3	no maternal or fetal compromise but needs early delivery
Category 4	delivery timed to suit woman or staff

- Perform category 1 and 2 CS as quickly as possible after making the decision, particularly for category 1.
- Perform category 2 CS in most situations within 75 minutes of making the decision.

Take into account the condition of the woman and the unborn baby when making decisions about rapid delivery. Remember that rapid delivery may be harmful in certain circumstances.

5.2 Booking and consent

- Elective CS should be carried out after 39 weeks' gestation to decrease the risk of respiratory morbidity unless clinically indicated otherwise.
- Procedure must be booked with approval of registrar or consultant after discussion of risks/benefits with the woman (as above). If an interpreter is needed do not use a family member.
- A decision to perform an elective CS has to be made by or in conjunction with the consultant responsible for the woman.
- The indications need to be recorded clearly in the notes.

- The date of the CS has to be arranged through the Day assessment unit midwife and details recorded in the CS book. It is preferable not to exceed 3 elective cases per day.
- Details of the CS list must be made available to Labour Ward, SCBU, Antenatal Ward and anaesthetic team.
- Only staff members able to do the procedure or trained in obtaining consent should complete the consent form.
- Inform women booked for CS for malpresentation alone, that a presentation scan will be done on the day of surgery. If cephalic presentation is confirmed then the CS will be cancelled and their delivery options re-discussed.

Lists: Elective CS lists in PCH on Monday, Wednesday and Thursday. Booking is limited to 3 cases per day in PCH
POW elective list are Monday - Friday Booking is limited 2 electives per day
Pre-op: Routine pre-op with midwives to be booked in Maternity Day Assessment unit on both sites when booking the CS.

5.3 Pre-operative assessment:

The aim of pre-assessment is to have all women seen by the obstetric and anaesthetic teams the day before surgery and all issues identified and addressed before admission for surgery

- Check Full Blood Count (FBC) and Group & Save
- Prescribe omeprazole 40mg to be taken on the night before and morning of surgery
- Ensure anaesthetist are aware of and/or have reviewed high risk cases.
- If anaesthetic difficulties to be expected inform the anaesthetist responsible for the case via bleep. If un-contactable discuss with Senior Anaesthetist on Labour Ward.
- Ensure Cell saver is available if needed with trained ODP available on date of surgery.
- For diabetic patients ensure pre-op, intra-op and post-op insulin regime present in case notes. If not available contact consultant endocrinologist responsible or diabetic team via switchboard for plan.

5.4 Preparation of CS (on day of surgery)

- First elective case usually admitted to Labour Ward at 08:00hours on day of the operation.
- Pre-admission checks, bloods and consent should have already been performed.

- If antibodies present the obstetrician to discuss with the on-call anaesthetist regarding possible need for cross match prior to surgery as electronic issue may not be available.
- Anesthetist to discuss choice of anesthetic (may have already been done at pre-admission).
- If any possible delays in CS ensure Labour Ward co-ordinator and patient informed as soon as possible.
- Consider fluids and/or food if significant delay is anticipated after discussion with team.
- Ensure pediatricians and neonatal unit have been informed with adequate notice if pre-term CS or concerns about the fetus.
- It is the responsibility of the surgeon to:
    - Review and introduce themselves to the patient prior to theatre.
    - Confirm patient's identity.
    - Confirm/ obtain patient's written consent.
    - Check that the indication for the procedure is still valid, e.g. confirming breech presentation by ultrasound if this is the indication for the CS.
    - Inform anesthetist if the case may take longer than expected so that regional anesthetic can be tailored to the expected duration of surgery**.**
    - Crossmatch blood if Hb <8 g/dl, platelets <100 x 109/l or placenta praevia.
    - Check that an indwelling catheter has been inserted prior to the CS, to remain in-situ for the duration of the procedure and for at least until the patient is mobilizing or up to 12-24hrs post procedure (refer to bladder care guidelines).
    - Ensure that high-risk cases are not delegated to juniors without adequate senior supervision.
    - Clear and comprehensive documentation of procedure using the CS proforma.
    - Clear documentation of post-op instructions that deviate from routine.
    - If increased risk of Post-Partum Haemorrhage or the measured blood loss requires ongoing uteronic support after the CS prescribe a bag of oxytocin 40 IU in 500mL of Sodium chloride 0.9% infusion (125mls/hr) over 4 hours and follow the CTMUHB Post-partum Haemorrhage guideline.

5.5 Steroid Replacement in Women with adrenal insufficiency or taking long-term oral steroids

For women having a planned or emergency caesarean section who have adrenal insufficiency or who are taking long-term oral steroids (equivalent to 5 mg or more prednisolone daily for more than 3 weeks):

continue their regular oral steroids and

give intravenous hydrocortisone when starting anaesthesia; the dose will depend on whether the woman has received hydrocortisone in labour, for example:

consider giving 50 mg if she has had hydrocortisone in labour

consider giving 100 mg if she has not had hydrocortisone in labour

give a further dose of hydrocortisone 6 hours after the ba**by is born**.

Do not offer supplemental hydrocortisone in the intrapartum period to women taking inhaled or topical steroids.

5.6 Antibiotics

- Offer women prophylactic antibiotics at CS before skin incision. The risk of maternal infection is reduced more than if given after skin incision. No effect on the baby has been demonstrated.
- Choose antibiotics effective against endometritis, urinary tract and wound infections, which occur in about 8% of women who have had a CS.
- **Do not** use co-amoxiclav as antimicrobial prophylaxis (RCOG). See table overleaf for antimicrobial choice.

Antibiotics as per Cwm Taf Morgannwg Microbiology policy

	Antibiotics
1st line No Penicillin allergy	Cefuroxime 1.5g IV *plus* Metronidazole 500mg IV (To be given 6o mins prior to skin incision)
2nd line Penicillin allergy	Clindamycin 600mg IV *plus* Gentamicin 3mg/kg (max 160mg)

5.7 WHO checklist

- Complete the WHO surgical safety checklist before and at the end of every case.
- A swab, needle and instrument count must be undertaken and documented for all procedures where swabs, instruments and sharps could be retained. 'A retained foreign body is a 'never event'.'

5.8 Surgical techniques

Do

- ✓ Wear double gloves for CS for women who are HIV positive
- ✓ Use a transverse lower abdominal incision (Joel Cohen incision)
- ✓ Use blunt extension of the uterine incision
- ✓ Give oxytocin 5 international units by slow intravenous injection
- ✓ Delayed cord clamping should be considered if clinically applicable
- ✓ Use controlled cord traction for removal of the placenta
- ✓ Close the uterine incision in two layers
- ✓ Check umbilical artery pH if CS performed for fetal compromise
- ✓ Consider women's preferences for birth (such as playing music in theatres)
- ✓ To offer lowering of the drapes following delivery to view the baby
- ✓ Facilitate early skin-to-skin contact for mother and baby

Don't

- × Close subcutaneous space (unless > 2cm fat)
- × Use superficial wound drains
- × Use separate surgical knives for skin and deeper tissues
- × Use forceps routinely to deliver baby's head
- × Suture either the visceral or the parietal peritoneum
- × Exteriorise the uterus routinely
- × Manually remove the placenta

6. Emergency Caesarean Section

- On-call consultant obstetrician must always be consulted prior to any emergency CS being performed
- In the event of Category 1 CS for fetal distress due to cord prolapse, placental abruption or any other life threatening event to the woman or fetus), the on-call consultant should be informed
- If not by the registrar on-call, it then being the responsibility of the labour ward coordinator informing the Consultant on-call about acute/urgent/life threatening situations even if the consultant would not be there in person in time for the CS
- Once the decision for an emergency CS is made:
    - Document the grade, time and reason for the CS indication in the patients labour notes. This should be done at the time decision is made by the appropriate person making the decision.
    - If labour is augmented, stop oxytocin (syntocinon®) infusion and document time stopped.
    - Check that an up-to-date full blood count and group and save have been requested.

    - The surgeon will communicate with the anaesthetist on-call (and remain on labour ward) and midwifery team to inform the theatre staff including ODP with specific instructions on the degree of urgency and time by which delivery must be achieved. **All members of the multidisciplinary team must be informed of the need (or likely need) for caesarean delivery as early as possible.**
    - Continue CTG monitoring until ready to commence CS
    - Apart from exceptional circumstances ensure written consent is obtained. Verbal consent is acceptable in cases of extreme fetal or maternal compromise however this must be documented clearly in the notes.
- Any reasons for delay in performing CS must be documented in the case notes. An assessment must be made by the obstetrician for the possible need to open a second theatre (this will include all cases which would be classified as Category 1).
- Any significant delay must be reported and an incident form completed by the team caring for the woman.
- Aim to deliver the baby within 30 minutes of the decision for a category 1 CS. Remember that too hurried a process can also potentially cause harm.
- A decision-to-delivery interval of <30 minutes is the ideal but is not itself crucial, except in situations of maternal ± fetal compromise. The 30-minute target has been accepted as an audit standard for response to emergencies in maternity services.
- If decision for Emergency CS being made for 'Fetal Distress', if the fetal heart rate recovered in theatre, the decision for emergency CS as well as the degree of urgency can be reviewed based on the clinical circumstances
- Inform the paediatric team including degree of urgency as well as another relevant factors such as fetal blood pH, meconium, gestational age etc.
- Written consent should be obtained.
- Antibiotic prophylaxis: see above in section 5.6
- Corticosteroid replacement: see above in section 5.5
- Catheterise with an indwelling catheter prior to surgery. This may be done in the delivery room but must not cause delay in moving the patient to theatre.
    - In cases where regional block has been used leave the catheter in-situ for at least until the patient is mobilizing or up to 12 hours (For epidural - 12 hours following the last "top-up") and/or If there has been any bladder trauma, the catheter needs to remain in-situ for up to 10 – 14 days after the operation (refer to bladder care guidelines).
- At any CS, the incidence of bladder or ureteric injury can be reduced by attention to the following recommendations:

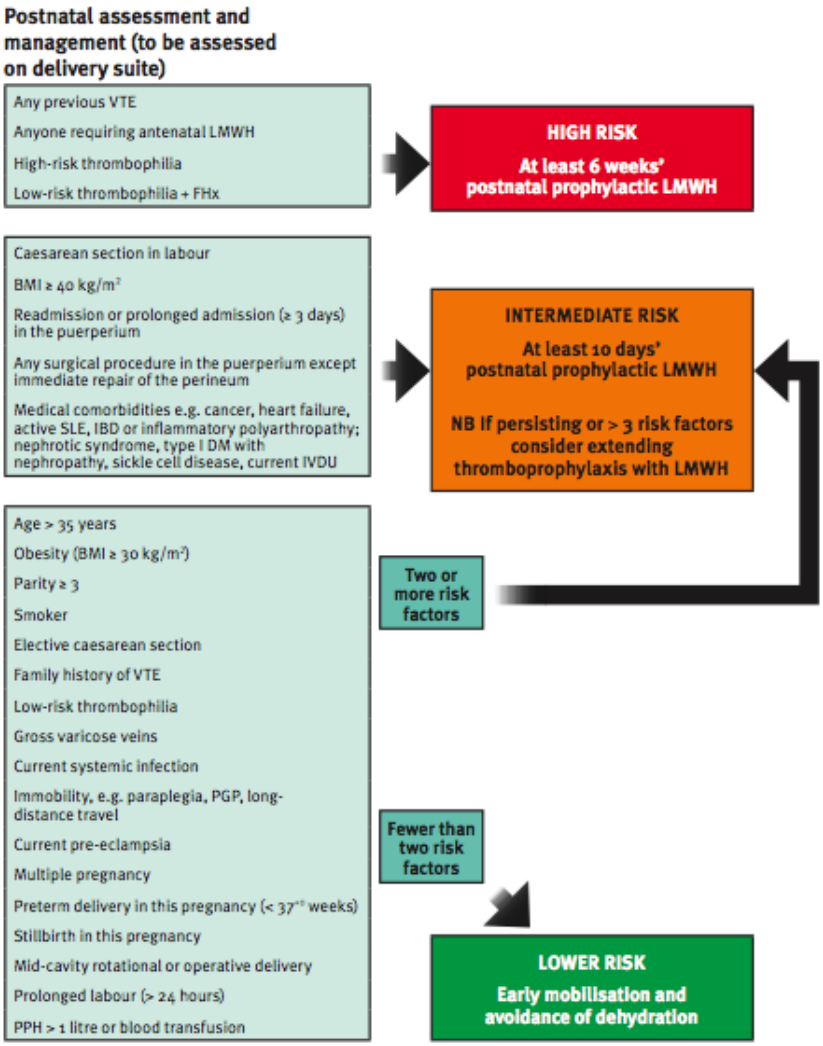
  - The lower uterine incision should be pointing upwards at each end.
  - While attempting to obtain haemostasis, use compression on the bleeding area rather than blind haemostatic sutures.
  - Careful dissection and separation of the bladder from the lower segment.
  - Deliver the placenta by controlled cord traction, not by manual removal.
  - In cases of difficulty in visualising the angle(s), the uterus can be exteriorised to give better exposure.
  - Take care to warn the Anaesthetist and patient about the procedure, if regional block analgesia is being used.
  - Routine exteriorisation of the uterus in uncomplicated CS is not recommended.
  - Involve the Urologist if there is any suspicion of ureteric injury.

- **The cord pH (from artery and vein) must be checked in ALL Emergency CS, irrespective of the indication.** These results should be documented in the neonatal record and stapled onto the operative delivery record sheet, and also recorded in the CS proforma. These results should also be entered onto the electronic records of the woman and baby the Midwife.

- **The Obstetrician must ensure that the woman is de-briefed and provide information regarding future deliveries including suitability for vaginal birth after CS. This discussion must be documented in the woman's records prior to discharge and a copy of the CS counselling letter should be given to the woman.**
- All women will require routine postnatal thromboprophylaxis as per RCOG Guidelines as detailed below.
- Category 1 C/S would trigger a Datix being completed.

7. Thromboprophylaxis

- A VTE risk assessment of all patients undergoing elective or emergency CS should be performed and prophylaxis offered and instituted as appropriate.
- Document risk factors for VTE and management plan in intrapartum notes. See local and RCOG thromboprophylaxis guideline for more details.
- The choice of method of prophylaxis should take into account risk of thromboembolic disease and follow existing guidelines (RCOG Green-top Guideline No. 37a and NICE [NG89] 2018)



(Royal College of Obstetricians and Gynaecologists. Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium Green-top Guideline No. 37a April 2015)

Enoxaparin dosage – based on booking weight

Weight < 50 kg	20mg
Weight 50 - 90 kg	40mg
Weight 91 - 130 kg	60mg
Weight 131 - 170 kg	80mg
Weight > 170 kg	0.6mg/kg/day

(Royal College of Obstetricians and Gynaecologists. Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium Green-top Guideline No. 37a April 2015)

8. References

- Caesarean Section. NICE guidelines (CG132); November 2011.
- NICE [NG89] 2018 Venous thromboembolism in over 16's: reducing risk of hospital-acquired deep vein thrombosis or pulmonary embolism
- Royal College of Obstetricians and Gynaecologists. Birth after Previous Caesarean Birth. Green-top Guideline No. 45 October 2015.
- Royal College of Obstetricians and Gynaecologists. Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium Green-top Guideline No. 37a April 2015
- Royal College of Obstetricians and Gynaecologists Consent Advice No. 7 October 2009.
- Intrapartum care for women with existing medical conditions or obstetric complications and their babies. NICE guidelines (NG121); Published 6th March 2019.

9. Auditable standards

1. Post caesarean section wound infection
2. Caesarean section decision-to-delivery interval
3. WHO checklist