Caesarean Section - Full Clinical Guideline

Reference no.: UHDB/IP/06:22/C7

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1. Introduction

The overall CS rate for women in their first pregnancy is 24% whereas for women who have had a vaginal birth previously, it is reduced to 10%. Women who have had a previous CS have a markedly increased rate of 67% - 86%. CS rates also vary with ethnicity, after adjustment for other factors, with highest rates in black African or black Caribbean women.
The four most common clinical indications for CS have remained unchanged despite the rise in CS rates. These are: fetal compromise (22%); delayed progress in labour (20%); repeat CS (14%) and breech presentation (11%).

2. Purpose and Outcomes

- To achieve consistency in the quality of care experienced by women who require delivery by CS.
- To provide guidance to all health care professionals involved in the care of women who during pregnancy, birth and in the postnatal period, may need or have had a CS.

3. Abbreviations

AAGBI	-	Association of Anaesthetics of Great Britain & Ireland
BBV	-	Blood Borne Virus
BMI	-	Body Mass Index
CS	-	Caesarean Section
CTG	-	Cardiotocograph
ECG	-	Electrocardiograph
EmLSCS	-	Emergency Lower segment Caesarean section
FBC	-	Full blood count
FBS	-	Fetal Blood Sample
FHR	-	Fetal Heart Rate
G & S	-	Group and Save
GA	-	General Anaesthesia
Hb	-	Haemoglobin
HDU	-	High Dependency Unit
ICU	-	Intensive Care Unit
IV	-	Intravenous
LSCS	-	Lower segment Caesarean section
MDT	-	Multidisciplinary Team
MOEWS	-	Maternity Obstetric Early Warning System
MRSA	-	Multi resistant Staphylococcal A
NIBP	-	Non-Invasive Blood Pressure
NICU	-	Neonatal Intensive Care Unit
PCA	-	Patient Controlled Analgesia
PET	-	Pre-Eclampsia Toxaemia
PROM	-	Pre-labour Rupture of Membranes
PPH	-	Post Partum Haemorrhage
RDS	-	Respiratory Distress Syndrome
USS	-	Ultrasound scan
RCOG	-	Royal College of Obstetricians and Gynaecologists
VBAC	-	Vaginal Birth after Caesarean
WHO	-	World Health Organisation

4. Benefits and risks

4.1 Intended Benefits of Caesarean Section

To secure the safest and/or quickest route of delivery in order to optimise maternal and/or fetal health.

4.2 Risk of Caesarean Section

When explaining risks every effort should be made to separate serious from frequently occurring risks. Co-morbidity may influence risk and needs to be taken into account e.g. women of high Body Mass Index (BMI). Those with pre-existing medical complications or previous surgery must understand that quoted risks for both serious and frequent complications will be increased.

All surgery carries risks of wound infection and thromboembolism.

It is to be expected that all complications will be more prevalent when CS is performed as an emergency procedure.

4.3 Serious and frequently occurring risks

Complication rates for all CS are very common. CS performed during labour have overall complication rates greater than during a planned procedure (24 women in every 100 compared with 16 women in every 100). Complication rates are higher at 9–10 cm dilatation when compared with 0–1 cm (33 women in every 100 compared with 17 women in every 100).

Serious risks include:
Maternal:

- emergency hysterectomy, seven to eight women in every 1000 (uncommon)
- need for further surgery at a later date, including curettage, five women in every 1000 (uncommon)
- admission to intensive care unit (highly dependent on reason for CS), nine women in every 1000 (uncommon)
- thromboembolic disease, 4–16 women in every 10 000 (rare)
- bladder injury, one woman in every 1000 (rare)
- ureteric injury, three women in every 10 000 (rare)
- death, approximately one woman in every 12 000 (very rare)

Future pregnancies:

- increased risk of uterine rupture during subsequent pregnancies/deliveries, two to seven women in every 1000 (uncommon)
- increased risk of antepartum stillbirth, one to four women in every 1000 (uncommon)
- increased risk in subsequent pregnancies of placenta praevia and placenta accreta, four to eight women in every 1000 (uncommon)

Frequent risks include:
Maternal:

- persistent wound and abdominal discomfort in the first few months after surgery, nine women in every 100 (common)
- increased risk of repeat CS when vaginal delivery attempted in subsequent pregnancies, one woman in every four (very common)
- readmission to hospital, five women in every 100 (common)
- haemorrhage, five women in every 1000 (uncommon)
- infection, six women in every 100 (common)

Fetal:

- lacerations, one to two babies in every 100 (common)

Any extra procedures which may become necessary during the Caesarean Section:

- Hysterectomy
- Blood transfusion
- Repair of damage to bowel, bladder or blood vessels

5. Antenatal information

As 1 in 4 women may have a CS, women should be given information about this during the antenatal period. This should include information about common indications for CS, what the procedure involves risks and benefits of the procedure and implications for future pregnancies and type of

anaesthesia.

Women with a BMI >40 or other identified risk factors for anaesthesia should be referred for anaesthetic review antenally.

The form in which the information is given should take into account cultural and minority needs e.g. language, learning difficulties, disability.

Inform women that length of hospital stay is likely to be longer after caesarean birth than after a vaginal birth.

6. Decision to undertake CS

- The decision to undertake *planned* CS should be taken after discussion with the Consultant Obstetrician responsible for care (or Consultant responsible for that clinic in their absence).
- The decision to undertake *emergency* CS should be taken after discussion with the Duty Consultant Obstetrician. In the event of a Grade 1 CS, if this discussion would be life threatening to the woman or fetus the decision will be taken with the most senior obstetrician present. The consultant would be informed as soon practicable.
- When a decision is made to perform CS, a record should be made of all the factors that influence the decision. This must be documented by the person who makes the decision to deliver if classified as a Grade 1 CS, and include their name and designation
- The documentation should include any reasons for delay in undertaking the operation.
- Documentation should include the name of the consultant involved in making the decision for an Emergency Lower Segment Caesarean Section (EmLSCS).
- Pelvimetry, maternal height, shoe size and estimation of fetal size should not be used to decide mode of birth as they are not accurate predictors of cephalopelvic disproportion.
- BMI of over 50kg/m2 alone should not be used as an indication for planned caesarean section birth.
- In case of maternal request for Caesarean Section
    - offer to discuss and explore the reasons for the request
    - ensure they have balanced and accurate information
    - offer to discuss alternative birth options (for example, place of birth, continuity of midwifery care where available, pain relief options), which may help address concerns they have about the birth
    - offer discussions with a consultant midwife or senior midwife, ideally in a birth options clinic or at a birth options appointment
    - offer discussions with a consultant or senior obstetrician and other members of the team (for example an anaesthetist) if necessary or requested by the woman or pregnant person
    - record the discussions and decisions.
    - If this is the maternal choice this should be offered in their obstetric unit.
    - consider a referral to PMH Click here for full Perinatal Mental Health guidelines

7. Consent for CS (see also VBAC guideline (V2))

- The consent process should be a 2-stage process where possible, accepting that this may not be possible in an emergency situation. Information given antenatally contributes to the first stage of the process.
- Information about the reasons for recommending delivery by CS, together with the risks/benefits compared with vaginal birth specific to the woman, should be given in a manner appropriate to the clinical situation, respecting the woman's privacy, dignity and views. The woman must be aware of the form of anaesthesia planned and be given an opportunity to discuss this with the anaesthetist before surgery.
- If sterilisation is proposed then specific consent for this must be obtained following specific counselling in the antenatal period
- If the clinical picture and therefore reason for caesarean section changes and the advice clinically is to reverse the decision for a caesarean section then this must be discussed

with the patient and a comprehensive record should be made in the labour notes. This should include the patient's wishes and risks/benefits having been discussed and the patient's choices regarding mode of delivery being respected.

7.1 Mental capacity / competence

A pregnant woman with full mental capacity is entitled to refuse to consent to CS, even if delivery by CS would clearly benefit either her or her baby's health or save her or her baby's life. If refusal of treatment is likely to result in an adverse outcome it is especially important to make sure information has been given in a way that the woman can understand. In this situation a consultant obstetrician should be involved in the consent process. Communication with the trust solicitor may also be appropriate
(Contact number available from Trust site manager). Ref: Trust Policy & Procedures for Consent CL2008 042

8. Classification of Urgency of Caesarean Section

Category 1 - *Immediate threat to life of mother or fetus:*
Aim to achieve delivery within 30 minutes from decision

Indications include:

- Severe placental abruption
- Uterine rupture
- Severe intrapartum haemorrhage/vasa praevia
- Acute severe fetal bradycardia
- Severe fetal compromise; FBS pH <7.20
- Failed instrumental delivery
- Cord prolapse with evidence of fetal compromise
- Second stage delay requiring CS with evidence of fetal compromise
- CS for second twin

Where there is severe immediate threat to life of mother or fetus the aim should be to achieve delivery as quickly as possible, whilst ensuring maternal safety.

On the Burton site: Dial "2222" and state Category 1 Section (qualify this with the location of the section, either delivery suite or main theatre).

On the Derby site: Dial '3333' and state obstetric emergency ((qualify this with the location)

Category 2 - *Maternal or fetal compromise which is not immediately life-threatening:*
Aim to achieve delivery within 30-75 minutes

Indications include:-

- Delayed progress in first stage of labour with evidence of maternal or fetal compromise
- Second stage delay requiring CS with no evidence of maternal or fetal compromise
- Cord prolapse with no evidence of fetal compromise
- Malpresentation in labour with no maternal/fetal compromise
- Fulminant pre-eclampsia (maternal condition to be stabilised first)

Category 3 - *No maternal or fetal compromise but needs early delivery:*
Aim to achieve delivery as soon as practicable if in labour or within 6 hours if not in labour

Indications include:-

- Woman planned for elective CS with PROM
- Delayed progress with no maternal or fetal compromise
- Woman planned for elective CS, in labour

<u>For a category 2 or 3 LSCS, the following members of staff should be bleeped individually:</u>

- The Obstetric SHO (bleep number on board)
- The Obstetric Anaesthetist (bleep number on board)

- The Theatre Team (bleep on board)
- The Neonatal SHO (bleep number on board)

Grade 4 (Elective) *Delivery timed to suit woman or staff*

Includes all CS carried out electively

9. <u>Women with HIV having a caesarean section</u>

Wear double gloves when performing or assisting a caesarean birth for women who have tested positive for HIV, to reduce the risk of HIV infection of staff.
Follow general recommendations for safe surgical practice during caesarean birth to reduce the risk of HIV infection of staff.

10. <u>Emergency Caesarean Section</u>

The obstetrician making the decision to undertake a CS is responsible for categorisation of the urgency, communication of this to the multidisciplinary team (senior clinical midwife, anaesthetist, theatre team, and paediatrician) and documentation in the medical records. If possible the obstetric registrar should contact the consultant obstetrician / associate specialist prior to an emergency CS to confirm the management plan and the category of the CS. The consultant / associate specialist will decide if their presence on the delivery suite or in theatre is required, depending on the clinical situation (e.g. placenta praevia).

Following the decision for a category 1 or 2 Caesarean, the woman should be moved into theatre as soon as possible, preferably within 10 minutes. Every effort must be made by all personnel to facilitate transfer of the woman in a safe timely manner.

Even in the most urgent of circumstances the welfare and safety of the woman is paramount and her life must not be put at risk simply to accomplish a timely delivery. Adequate preoperative preparation must not be omitted.

This includes:

- Review by anaesthetist to assess safest method of anaesthesia after consultation with obstetrician
- Resuscitation of woman where indicated (e.g. major abruption)
- Stabilisation of maternal condition where indicated e.g. Pre Eclampsia (PET).
- G&S or X-match as indicated (do not routinely carry out x-matching or clotting screen)
- Written consent (unless temporary incapacity to consent), or verbal consent witnessed by 2 doctors
- Omeprazole 20mg IV slowly if not already had orally
- Sodium Citrate 30mls orally to be given by anaesthetist in theatre immediately before GA.
- Indwelling urinary catheter
- Other urgent bloods as indicated
- Availability of blood/blood products as indicated by clinical situation
- Paediatrician / Advanced Neonatal Nurse Practitioner must be present
- Risk assessment on PPH proforma to be completed if not already done so

Vaginal cleaning at emergency LSCS should be performed to reduce post-operative endometritis and sepsis. The most benefit will be to women with ruptured membranes.

- To be performed by an obstetric doctor
- Vaginal swab with aqueous iodine solution
- Use aqueous chlorhexidine if allergic to Iodine / Shellfish
- Similar to preparation for vaginal surgery (e.g. hysteroscopy)
- Avoid in placenta previa or face presentation.
- Aim to swab prior to starting CS, but do not delay a Category 1 CS
- Swab after urinary catheterisation or at the ‘stop moment' if catheter already in situ
- Can also be done at time of post-op vaginal cleaning if not done at start of procedure. Please document in theatre care plan

For emergency CS, grade1 or 2, GA is the anaesthetic of choice **only** if:

- it is considered there is insufficient time to perform a regional technique
- when a regional anaesthetic is contraindicated (e.g. women recently had Clexane)
- when the woman refuses to be awake or
- regional anaesthesia has failed

GA will necessarily involve a rapid sequence induction which requires the woman to be pre oxygenated and have cricoid pressure applied to reduce the risk of aspiration. Surgery should not commence until the anaesthetist has secured the airway.

Women having Category 3 or 4 CS should be offered regional anaesthesia where there is no contraindication as it is safer than GA and reduces maternal and neonatal morbidity. This includes women who have a diagnosis of placenta praevia.

The operating table should have a left lateral tilt of at least 15 degrees, to reduce aorto-caval compression and subsequent maternal hypotension.

10.1 Maternal Monitoring during Anaesthesia

Regional anaesthesia

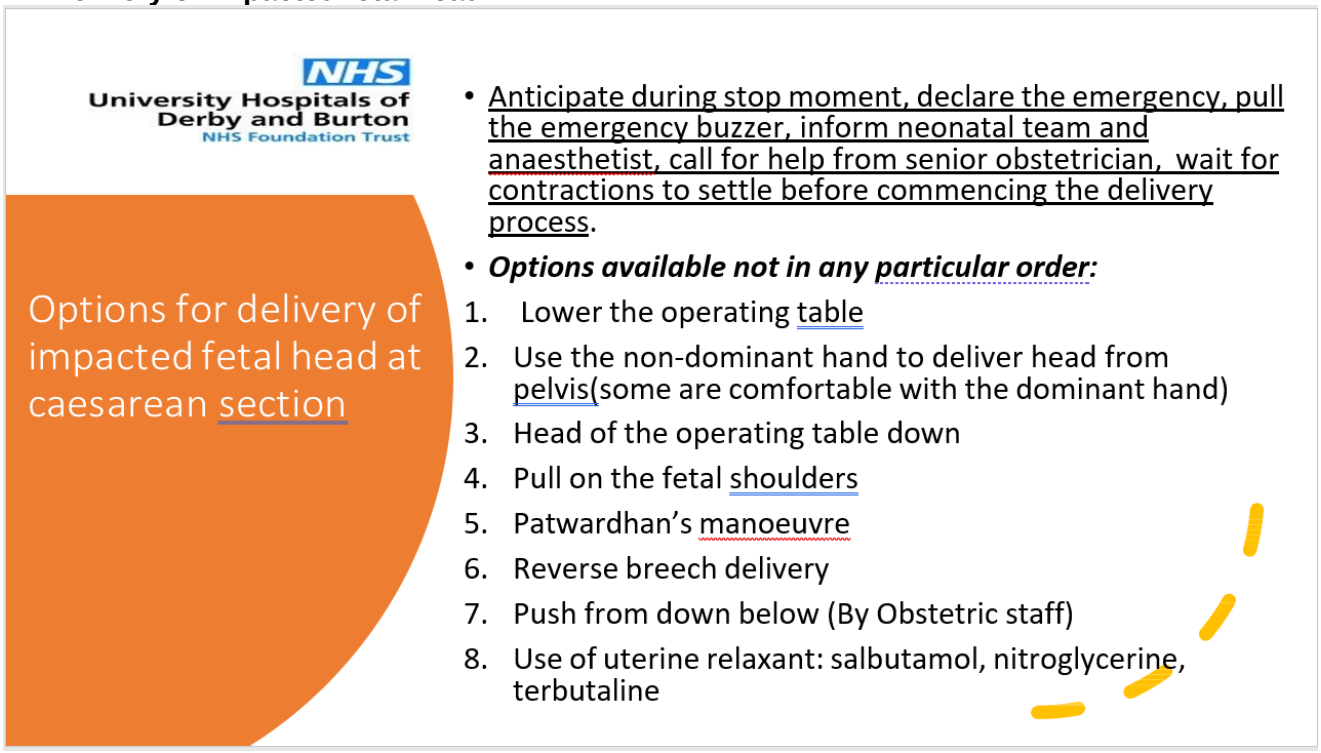
- continuous pulse oximetry
- NIBP
- continuous ECG during induction, maintenance and recovery

GA – as per recommendations of AAGBI guidelines

10.2 Fetal Monitoring during Anaesthesia

The FHR should be recorded during the initiation of the regional block until abdominal skin prep is commenced in emergency CS. See Fetal monitoring in Labour for full guidance

10.3 Delivery of impacted fetal head



11. Elective (Planned) Caesarean Section

To reduce the risk of respiratory morbidity, planned CS should not be carried out before 39 weeks in the absence of any clear clinical indication for earlier delivery.

The risk of respiratory distress syndrome (RDS) is increased in babies born by CS before labour, but this risk decreases significantly after 39 weeks.

An elective Caesarean list runs independently during weekdays on labour ward at Queens Hospital Burton and gynaecology theatre 4 at The Royal Derby Hospital.

Cases that require anticipated input from the Neonatal Team are **NOT** suitable for this list e.g.

- Preterm deliveries <36 weeks
- Expected fetal compromise
- Anterior placenta praevia,
- Expected fetal abnormality requiring neonatal attendance
- Concern for other reasons, e.g. maternal drug addiction, severe pre-eclampsia
- CS under general anaesthesia where this can be anticipated

Exceptions to this to be discussed on an individual basis.

Cases that involve maternal complications that may require High Dependency Unit (HDU) care post operatively OR fetal complications requiring NICU facilities should be booked for the Labour Ward. These cases are to be discussed with the consultant obstetrician and anaesthetist on duty for that session.

The Consultant team responsible for the woman's care are responsible for all arrangements prior to admission.
This includes:

- Consent
- Booking date via Labour Ward co-ordinating midwife and confirming suitable case mix for that day
- Informing woman of date and procedures prior to admission
- Prescribing omeprazole and appropriate antibiotic prophylaxis
- Blood for FBC, G&S or Cross match as appropriate (do not routinely carry out x-matching

or clotting screen)
- Ensuring appropriate seniority of surgeon available for case
- Discussing women with complex needs with Consultant Obstetrician/Anaesthetist before admission
- Discuss with Neonatologist if paediatric input may be required e.g. Polyhydramnios
- MRSA screening only for limited indications as per Trust Policy and Procedure Click here for full guidance and indications

11.1 Steroids (see preterm guidance if <37 weeks)

For women undergoing planned caesarean birth between 37^{+0} and 38^{+6} weeks an informed discussion should take place with the woman about the potential risks and benefits of a course of antenatal corticosteroids. Although antenatal corticosteroids may reduce admission to the neonatal unit for respiratory morbidity, it is uncertain if there is any reduction in respiratory distress syndrome, transient tachypnoea of the newborn or neonatal unit admission overall, and antenatal corticosteroids may result in harm to the neonate which includes hypoglycaemia and potential developmental delay.
A PIL may be provided to facilitate informed decision making (RCOG).

11.2 Fasting instructions

Click here for Trust Fasting policy

Delay to operation time:

Where surgery has been delayed more than 6 hours since any oral intake of fluid, an IV infusion of 8 hourly Hartmann's is to be commenced and ranitidine repeated

NB this is not applicable to insulin dependant diabetics or women suffering from pre/eclampsia – please follow relevant guidance (OBS/Diabetes/10:11/D1)

Women should be advised to take Omeprazole as follows:
- Night pre-op (20:00-22:00): 20 mg orally
- Morning of operation (07:00): 20 mg orally

If the operation is delayed until the next day, repeat regime. If delayed until PM: for IV fluids.

Women having general anaesthesia (GA) will be given Sodium Citrate 30mls orally by the anaesthetist when she arrives in theatre.

11.3 On admission

- Women whose indication for CS is breech presentation / abnormal lie should have an USS performed by a competent health professional to confirm presentation prior to procedure.
- All women should have a preoperative review by the midwife, operating surgeon and anaesthetist. The second stage of the consent process should be completed by a qualified trained Health Professional.
- There will be a WHO MDT meeting between the team prior to elective section.
- An indwelling urinary catheter should be inserted after anaesthesia is established and before surgery commences.
- Elective CS should only be undertaken between 09.00 and 17.00 hours (Mon-Fri). If this is not likely to be achieved the duty consultant obstetrician and consultant anaesthetist should be involved as soon as possible so appropriate plans can be made.
- In the case of delay or deferment of the procedure, immediate consideration should be given to nutritional requirements of the woman. Explanation and apology to be given to the couple and documented in the notes.
- Risk assessment on PPH proforma to be completed on admission.
- Accommodate a woman's preferences for her caesarean birth whenever possible, such as, music playing in theatre, lowering the screen to see the baby born, or silence so that the mother's voice is the first the baby hears.

12. Procedure for completing a caesarean section

Please follow NICE guidance NG 192 found at https://www.nice.org.uk/guidance/ng192/resources/caesarean-birth-pdf-66142078788805 on page 20-22.

13. Cord bloods

Perform paired umbilical artery and vein measurements of cord blood gases after caesarean birth for suspected fetal compromise, to allow for assessment of fetal wellbeing and guide ongoing care of the baby.

Perform fetal cord blood sample for Keilhauer testing for babies born to mothers with a Rh Negative blood group

14. Prophylactic treatments

14.1 Antibiotics prophylaxis

All women should be given prophylactic antibiotics unless they decline treatment as this reduces the risk of maternal infection and no effect on the baby has been demonstrated.

Click here for full guidance in the Obstetric Infections guideline

All antibiotics with the exception of Co-Amoxiclav, are to be administered immediately prior to incision (DO NOT give co-amoxiclav prior to skin incision) .
Co-Amoxiclav to be given immediately following cord clamping if required to be used in pregnancies <35/40

Gentamicin: BMI >35, take 100kg as estimated body weight and consider adjusting in renal impairment and pre-eclampsia.

Inform women that:

- • endometritis, urinary tract and wound infections occur in about 8% of women who have had a caesarean birth
- • using prophylactic antibiotics before skin incision reduces the risk of maternal infection more than prophylactic antibiotics given after skin incision, and that there is no known effect on the baby

14.2 Thromboprophylaxis

Thromboprophylaxis should be given with the woman's permission to all women as per guidelines.
Click here for full guidance

15. Other considerations during CS

- The woman should be asked prior to surgery whether she would like to see her baby at delivery so that the screen can be lowered.
- Staff should be aware of confidentiality when operating on an awake patient and should not discuss the care of another patient.

16. Care of the newborn

Click here for full guidelines
Babies born by CS are likely to have a lower temperature and require appropriate thermal care.

Maternal skin to skin contact should be encouraged early in recovery as it improves maternal perception and behaviour towards the baby, improves breastfeeding outcomes and reduces infant crying.

17. Post operative care for mother

17.1 Care immediately post delivery

After CS women should be observed in a dedicated recovery area on a one-to-one basis by

appropriately trained staff following Guideline R5 Recovery of Obstetric Patients following Anaesthesia.

17.2 Observations post recovery

Initial observations in recovery to be recorded on the anaesthetic chart i.e. every 5 minutes for 30 minutes. See: Recovery of Obstetric Patients following anaesthesia **(R5)**
Subsequently all routine post-operative observation must be documented on the MEOWS chart.

Routine monitoring (unless increased monitoring advised by Anaesthetic Consultant, see below)

For the first 2 hours

Every 30 minutes	Every hour
• Respiratory rate • Blood pressure • Pulse • Pain Score • Conscious level (AVPU)	• Observation of lochia • Assessment of uterine tone • Assessment of drains • Nausea/vomiting score

For the following 4 hours

Every hour	Every 4 hours
• Respiratory rate • Blood pressure • Pulse • Pain Score • Conscious level (AVPU) • Observation of lochia • Assessment of uterine tone • Assessment of drains • Nausea/vomiting score	• Temperature

For the following 24 hours

- Four hourly observations as stated above (use clinical judgement during sleep).
- Fluid balance charts from theatre should be continued in the immediate postoperative period, as a minimum until the woman is eating and drinking.
- Check haemoglobin (Hb) levels on day 1

Increased monitoring

Some women may be at increased risk of respiratory depression (for example due to significant high BMI and/or diagnosed obstructive sleep apnoea) in which case an Anaesthetic consultant may recommend increased monitoring as part of the personalised care plan. This may consist of:

- Continuous pulse oximetry, and
- Hourly monitoring of:
    - Respiratory rate
    - Heart rate
    - Blood pressure
    - Temperature
    - Pain
    - Sedation

Monitor the woman for at least 12 hours, continue until they are stable enough to be discharged from anaesthetic care. Continue to carry out routine observations as per above guidance.

Ensure women who have patient-controlled analgesia with opioids after caesarean birth have routine hourly monitoring of respiratory rate, sedation and pain scores throughout treatment, and for at least 2 hours after discontinuation of treatment.

17.3 Pain management following CS

- Provide pregnant women having a caesarean birth with information on the different types of post-caesarean birth analgesia.
- Use paracetamol and, unless contraindicated, a non-steroidal anti-inflammatory drug (for example, ibuprofen) in combination after caesarean birth, to reduce the need for opioids, and to allow them to be stepped down and stopped as early as possible.
- If paracetamol does not provide sufficient pain relief after caesarean birth, or non-steroidal anti-inflammatory drugs cannot be taken, consider adding dihydrocodeine to paracetamol, or changing to co-dydramol (combination preparation of paracetamol and dihydrocodeine) as an alternative to paracetamol.
- When using paracetamol, dihyrocodeine, co-dydramol or a non-steroidal anti-inflammatory drug after caesarean birth, prescribe them to be taken regularly and not just when needed for pain relief.
- The use of regional anaesthesia allows the administration of neuraxial opioids for effective pain relief.
- Patient Controlled analgesia can be offered to women who have had GA; women using PCA should have observations as per PCA chart.
- Providing there is no contraindication paracetamol and non-steroidal anti-inflammatory drugs should be given regularly as an adjunct to other analgesics as they reduce the need for opioids.
- No not offer codeine or co-codamol to breastfeeding women and use opioid analgesics (for example, morphine, dihyrocodeine, tramadol or oxycodone) at the lowest effective dose and for the shortest duration, and not for more than 3 days without close supervision. Advise women that some over-the-counter medicines contain codeine, and should not be taken while breastfeeding because this can lead to serious neonatal sedation and respiratory depression.
- For women with severe pain after caesarean birth, when other pain relief is not sufficient:
    - • perform a full assessment to exclude other causes for the pain (for example, sepsis, haemorrhage, urinary retention)
    - • discuss with the woman that stronger pain relief medicines are available
    - • make sure the woman is aware that, if taken while breastfeeding, these medicines could increase the risk of neonatal sedation and respiratory depression.
-
- If the women chooses to take stronger medicines, consider a short course of tramadol or oxycodone at the lowest effective dose.

17.4 Eating and drinking following CS

- Women who have had uncomplicated surgery and who are recovering well can eat and drink when they feel hungry or thirsty.
- Women who have had complicated surgery, require HDU care or have other problems e.g. PET, PPH should not be given food or oral fluids before medical review.
- Consider anti-emetics for women taking opioids, if needed for nausea and vomiting.
- Consider laxatives for women taking opioids, for the prevention of constipation.

17.5 Bladder care following CS

- In the absence of any urinary tract injury or other complications the urinary catheter can be removed once the woman is mobilising, from 12 hours following CS onwards, with caution if this falls during the night in which case it is commonly removed around 6 a.m. see Bladder care guideline - **B4**)
- Following removal vigilance is important to ensure the absence of voiding difficulties.
- Strict input/output fluid balance charts should be maintained.

17.6 Wound care

- The dressing applied to the wound in theatre should be left in situ for the first 24 hrs unless there are any immediate concerns.
- At 24 hrs the wound dressing should be removed and the wound assessed for signs of

infection, separation or dehiscence.

- When using standard (not negative pressure) wound dressings after caesarean birth take into account that: no type of wound dressing has been shown to be better than another at reducing the risk of wound infections. There is no difference in the risk of wound infection when dressings are removed 6 hours postoperatively, compared with 24 hours postoperatively.
- The woman should be encouraged to bath/shower daily and gently clean and dry the wound, avoiding perfumed products.
- Removal of sutures or clips should be clearly documented in the operation notes.
- Consider negative pressure wound therapy after caesarean birth for women with a BMI of 35 kg/m2 or more to reduce the risk of wound infections.

17.7 Discussions following CS

- Women who have had emergency CS should be offered the opportunity before discharge to discuss with their own medical team or their surgeon the reasons for the CS and the implications for future pregnancies.
- It should be made clear to them whether or not they are deemed suitable for a VBAC in their next pregnancy and if so, offered information leaflet to support this discussion (See Information regarding your planned Caesarean section and Vaginal Birth after Caesarean section leaflets).
- When caring for women who have had a caesarean birth who have heavy and/or irregular vaginal bleeding, consider whether this is more likely to be because of endometritis than retained products of conception, and manage accordingly.
- Pay particular attention to women who have respiratory symptoms (such as cough or shortness of breath) or leg symptoms (such as painful swollen calf), as women who have had a caesarean birth may be at increased risk of thromboembolic disease (both deep vein thrombosis and pulmonary embolism).

17.8 Discharge following CS

- Women who have had uncomplicated surgery, no additional co-morbidity and recovering well with no fever or post op complications may be suitable for early discharge after 24 hours after a review by the an SHO, taking into consideration support at home.
- Women with additional co- morbidity or complicated postoperative course requesting early discharge should be advised to stay until review by a senior obstetrician (St 3 or higher).
- Inform women who have had a caesarean birth that they can resume activities such as driving a vehicle, carrying heavy items, formal exercise and sexual intercourse when they feel they have fully recovered from the caesarean birth (including any physical restrictions or pain).
- When caring for women who have had a caesarean birth, discuss that after a caesarean birth they are not at increased risk of depression, post-traumatic stress symptoms, pain on sexual intercourse, faecal incontinence or difficulties with breastfeeding.
- While women are in hospital after having an emergency or unplanned caesarean birth, give them the opportunity to discuss with healthcare professionals the reasons for the caesarean birth, and provide both verbal and printed information about birth options for any future pregnancies. If the woman prefers, provide this at a later date.
- Inform the woman's GP if follow-up investigations are needed after discharge from hospital (for example, a repeat full blood count if there has been a large amount of blood loss), and include details of the plan or course of action if the results are abnormal.

18. Monitoring Compliance and Effectiveness

Documentation around decision to delivery intervals for Grade 1 and 2 CS, reason for CS and discussion with senior clinician. These are monitored at case reviews and can be audited if there is an increase in Em LSCS activity according to the maternity dashboard.

19 References

NICE. Clinical guideline no. 132 - Caesarean section. Sept 2019

Obstetric Anaesthetists 'Association /The Association of Anaesthetists of Great Britain and

Ireland (OAA / AAGBI) Guidelines for Obstetric Anaesthetic Services. June 2013

RCOG. Consent advice No.7. Caesarean Section. Oct 2009

Appendix A

Implementation of Vaginal Cleansing at Emergency Caesarean Section

What?

- Vaginal swab with aqueous iodine solution
- Use aqueous chlorhexidine if allergic to Iodine / Shellfish
- Similar to preparation for vaginal surgery (e.g. hysteroscopy)

Why?

- To reduce post-operative endometritis and sepsis

Who?

- **All emergency CS**
- Most benefit to women with ruptured membranes
- Avoid in placenta previa/ face presentation

How?

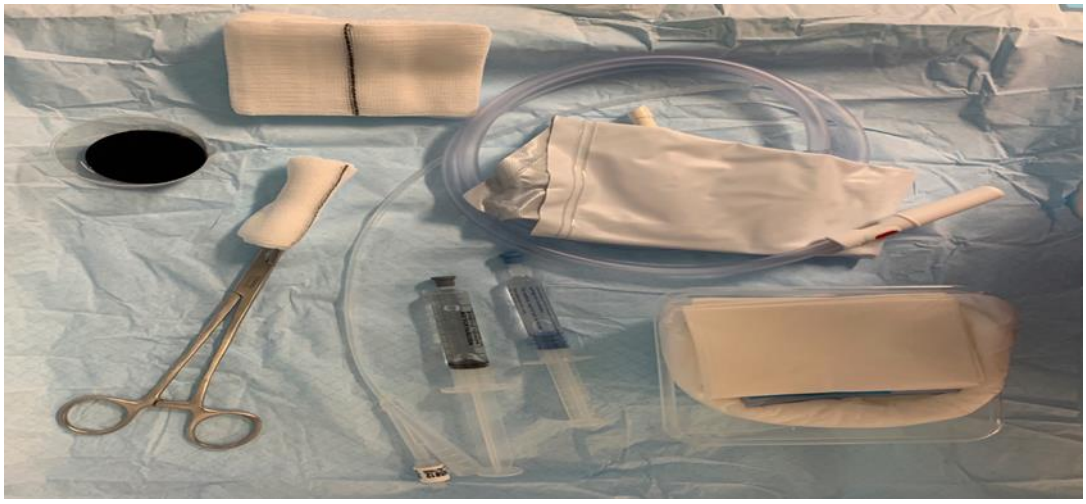
- Performed by an Obstetrician
- Aim to swab prior to starting CS, but do not delay a Category 1 CS
- Swab after urinary catheterisation or at the 'stop moment' if catheter already in situ
- Can also be done at time of post-op vaginal cleaning if not done at start of procedure.
- Please document in theatre care plan

Evidence? *NICE guideline 2021 recommendation Cochrane review 2020 Haas D et al.*
March 2023

Vaginal Cleansing at Emergency Caesarean Section: equipment list

Equipment needed on the urinary catheterisation trolley:

- Sponge holder and 1x small gauze swab ('swab-on-a-stick')
- 20ml 10% Povidone-iodine solution (Videne)
  -If allergy, use Chlorhexidine instead (Tisept)
- Sterile pot



Please document procedure on Theatre care plan

Documentation Control

Reference Number: UHDB/IP/06:22/C7	**Version:** **UHDB V2.2**		**Status: Final**	
	Royal Derby prior to merged document:			
Version / Amendment	Version	Date	Author	Reason
	1	Oct 2008	Miss R Hamilton, Dr P Arya	3 Yearly review
	2	Oct 2009	Mrs K Dent – Consultant Obstetrician	CNST Review
	3	Oct 2013	Mrs K Dent – Consultant Obstetrician	Review
	4	May 2016	Maternity Guideline Group Julia Lacey – Lead Pharmacist	
	4.1	May 2017	Maternity Guideline Group Julia Lacey – Lead Pharmacist	Synchronised with Antibiotics guideline
	4.2	August 2017	Marie Allsop, senior midwife	To reflect ERAS
	4.3	August 2020		Updates to antibiotics guidance
WC/OG/	**Burton Trust prior to merged document:**			
WC/OG/19	14.2	August 2020	Maternity Guidelines Team	Updates to antibiotics guidance
Version control for UHDB merged document:				
	1	June 2020	Miss A Tirlapur - Consultant Obstetrician & Gynaecologist	Review & Merge
	1.1	08/12/20	Miss Raouf	MRSA swabs as per Trust Policy. Link placed
	1.2	Jan 2022	Maternity Guidelines group	Addition of a link to the Perinatal mental health guidelines (section 7.1)
Added increased monitoring recommendation at discretion of Anaesthetic Consultant	2	June 2022	Maternity Guidelines group – Miss Rajendran – Obstetric Consultant Miss A Brewer – Anaesthetic consultant	Full NICE compliance
	2.1	July 2023	Miss A Tirlapur - Consultant Obstetrician & Gynaecologist	Vaginal cleansing at EMLSCS added
	2.2	September 2023	Miss A Joshi - Consultant Obstetrician	Amended to be NICE compliant
	2.3	February 2024	Joanna Harrison-Engwell - Senior Midwife for Guidelines, Audit and QI	Section 7: consent for CS - updated to include guidance for change in reason for or reversal of decision for CS
Intended Recipients: All staff with responsibility for caring for women in pregnancy, birth & the puerperium				
Incorporates Link to Trust Fasting policy				
Dissemination: Cascaded electronically through lead midwives/doctors; Published on Intranet				

Articles in Divisional newsletter	
To be read in conjunction with: VBAC guideline (V2) / Neonatal Identification guideline (I5) / Vitamin K guideline (P5) Thromboprophylaxis in pregnancy, labour & following vaginal birth (T8) Recovery of Obstetric Patients Following Anaesthesia guideline (R5) / Bladder Care guideline (B4) / Diabetes Services in Obstetrics (D1)	
Consultation with:	Obstetricians & Maternity Staff
Business Unit sign off:	23/05/2022: Maternity Guidelines Group: Miss S Rajendran – Chair 02/05/2023: V2.1 Maternity Guidelines Group: Miss S Rajendran – Chair 20/09/2023: V2.2 Exceptional ratification - Miss A Joshi 26/05/2022: Maternity Development & Governance Committee/ACD- Miss S Raouf 19/06/2023 V2.1 Maternity Governance Group - Mr R Deveraj 22/09/2023 V2.2 Maternity Governance Group - Mr R Deveraj
Divisional notification: 31/05/2022 V2.1: Notification Overview sent to TIER 3 Divisional Quality Governance Operations & Performance: 20/06/2023 Exceptional ratification V2.2 27/09/2023	
Implementation date:	06/06/2022 V2.1 24/07/2023 V2.2 02/10/2023
Review Date:	June 2025
Key Contact:	Joanna Harrison-Engwell