Portsmouth Hospitals NHS
NHS Trust

Caesarean Section - Guideline

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Version Tracking

Version	Date Ratified	Brief Summary of Changes	Author
4	4th October 11	Addition of consensus statement; addition of WHO completion responsibility and use of steroids below 39 Weeks gestation	Lead Consultant Labour Ward

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1. INTRODUCTION

The following guidance provides information about elective (planned) and emergency (unplanned) lower segment caesarean section (LSCS) procedures.

Consensus

Portsmouth Hospitals NHS Trust (PHT) Maternity Service do not currently support maternal request for an elective LSCS without a medical indication. If the woman has anxiety or fear about childbirth then consideration of a referral for counselling by the General Practitioner should occur. Following this a second opinion should be obtained from a second Consultant who will review the case and perform a caesarean section if appropriate as per NICE guidance published November 2011.

2. PURPOSE

The purpose of this guideline is to ensure that the multiprofessional team caring for any women who access Portsmouth Hospitals NHS Trust Maternity Services undertake evidence based processes to ensure safety of the woman and her unborn child

3. SCOPE

This guideline applies to all staff working for Portsmouth Hospitals NHS Trust Maternity Services

'In the event of an infection outbreak, flu pandemic or major incident, the Trust recognises that it may not be possible to adhere to all aspects of this document. In such circumstances, staff should take advice from their manager and all possible action must be taken to maintain ongoing patient and staff safety'

4. DEFINITIONS

Caesarean Section (CS) – an obstetric operation in which to deliver a fetus through an abdominal and uterine incision made after the 24th week of pregnancy.

5. DUTIES AND RESPONSIBILITIES

Consultant obstetricians are responsible for reviewing and agreeing to perform an elective LSCS and each case must be discussed and the agreement documented in the hand held record. Consultants are also responsible for completing section 2 and 3 of the WHO checklist if performing the surgery and if assisting/supervising, should ensure the trainee is satisfactorily completing this task.
The on call consultant is responsible for ensuring that any locum registrars are assessed as competent to perform an LSCS in an emergency situation.

Obstetric Registrar is responsible for discussing the need to perform an emergency LSCS with the labour ward lead consultant, unless the need is life threatening to either the mother or the fetus.
The obstetric registrar responsible for making the decision for an LSCS is solely responsible for contacting the duty anaesthetist to hand over appropriate medical details and for stating the category of the LSCS and the urgency as per agreed LSCS time frames. The Registrar is also responsible for completing section 2 and 3 of the WHO checklist if performing the surgery

Midwife has the responsibility for ensuring that the woman is prepared for theatre and transferred to theatre, whilst maintaining midwifery care and supporting the woman and her birth partner and that appropriate fetal heart monitoring is performed and continued after transfer to theatre.

Labour ward lead midwife is responsible for supporting the midwife in charge of the case and ensuring that maternity theatre staff and maternity bleep holder are aware of the pending theatre case

Obstetric anaesthetist is responsible for assessing the woman prior to theatre and for achieving successful anaesthesia for the case and for contacting the operating department practitioner to support the relevant anaesthetic technique used.

Maternity Operating Department Practitioner is responsible for supporting the anaesthetist during the operative procedure

Maternity theatre staff are responsible for the receipt of completed LSCS booking proforma's, administration of booking LSCS slots and informing the woman of time and date of elective LSCS
Maternity theatre staff are responsible for the receipt of the woman into theatre complex, supporting the attending midwife and ensuring the correct instruments are available pre surgery.

Midwife/ Scrub Practitioner is responsible for the safe management of the surgical field and accountability of all instruments and consumables used for that case in accordance with Theatres Standing Operating Procedure (SOP) 51 " Swab, Instrument and Needle counts**",** It is the responsibility of the Midwife/scrub practitioner to inform the surgeon of the counts

6. PROCESS

Elective Cases

1. The decision to perform an elective CS is usually taken by the woman's Consultant or deputy. Unless there are exceptional circumstances this should be not be performed before the 39th week of pregnancy, on occasion due to work load it might be necessary to offer a date after the EDD.
2. The reason for an elective LSCS must be discussed with the woman and documented in her hand held notes. Women who are given an elective LSCS date for a previous LSCS will have this booked on nearest working day to EDD (VBAC guideline).
3. Elective LSCS are performed on Monday, Tuesday, Wednesday, Thursday and Friday mornings. Afternoon lists also run on Tuesday and Friday if the workload dictates. Afternoon lists can only occur if there is adequate anaesthetic cover. Women are booked for the procedure by the maternity theatre staff. However as these cases are often covered by the LW consultant, the maximum capacity is for 1 section/case per afternoon. If there is a dedicated obstetrician available for extra elective cases, a maximum of 2 cases may be accommodated. Any elective case outstanding at 15:15 on these afternoons may be postponed.
4. All women who are diabetic (Type I, II or gestational) should have a course of steroid treatment to encourage fetal lung maturation regardless of gestational age. This should be administered 2-3 days before the date of surgery
5. All women having elective CS prior to 39 weeks gestation should have a course of steroid treatment to encourage fetal lung maturation regardless of gestational age. This should be administered 2-3 days before the date of surgery.
6. The theatre will attempt to spread the number of Caesarean sections evenly throughout the week's lists. Where a specific consultant wishes to do the operation personally or there are medical reasons for the woman being on a particular list this should be clearly indicated to the maternity theatre staff.

7. Under normal circumstances it is acceptable for a maximum of 3 caesarean sections to be booked to a particular list.

8. When there is no elective time and there is a clinical imperative, the consultant is responsible for liaising with obstetric and anaesthetic colleagues for the operation to be done outside the usual time. Occasionally it may be possible to postpone a less urgent case to another day. Responsibility for such a move rests with the consultant booking the case.

9. Women are pre clerked in antenatal clinic and consenting **and MRSA screening (if not already performed)** and to be seen by the labour ward anaesthetist if available between 2 p.m. and 3 p.m. 2 days before the operation. **It is the responsibility of the community midwife to ensure a current MRSA status is available.** Women are admitted at 7 a.m. on the morning of their surgery having starved themselves (nil by mouth) from midnight. This pathway of care does not apply to insulin dependant diabetics

10. It is desirable that women having elective caesarean sections have an opportunity to see an obstetric anaesthetist before the start of the theatre list to further discuss anaesthetic options.

11. The appropriate antacid regimen should be prescribed on the drug chart by the obstetric anaesthetist.

12. Women on the elective section list should be seen before the operation by the senior obstetrician who will be supervising the surgery. They are responsible for ensuring that the operation is appropriate.

13. Women having a elective CS for breech presentation alone (i.e. no other indication), must have a ultrasound scan on the morning of their operation. If the presentation is no longer breech the operation should usually be cancelled and the woman referred to their consultant.

14. Gestation and indication for an elective CS should be recorded in the theatre register by the surgeon.

15. Neonatal attendance may be requested at the following births: pre term; Significant Intra uterine growth restriction; breech

Emergency Cases

The decision to perform an emergency CS is made by the labour ward registrar (senior specialist trainee), usually after discussion with the labour ward consultant.

If clinically safe the reason for the emergency CS will be discussed with the woman and written in the labour record section of the hand held notes. The reason for LSCS category one can be recorded retrospectively, it must however be documented by the registrar who has made the clinical decision

Actions to be performed as soon as the decision is taken

1. Inform the midwife in charge of the labour ward who will then inform theatres of the case and urgency; unless a category 1 section has been called. This action will be performed by the automated bleep system
2. The obstetric registrar making the decision to perform an LSCS will inform the duty anaesthetist (baton bleep 1600), stating the degree of urgency of the case (see categories below).
3. The midwife in charge of the case will administer antacid therapy as per midwifery exemptions and Patient group directives (PGD's).

4. Take and send blood samples for group and save (cross matching to be performed at the discretion of the surgeon).

5. In cases of **Category 1** section, the obstetric registrar is personally responsible for ensuring that all other parties understand the urgency of the situation and can insist that a general anaesthetic is used if they consider it to be clinically necessary to expedite rapid delivery of the baby. The decision to perform a Category 1 LSCS should not be altered unilaterally; it must be a joint decision led by the obstetric registrar or consultant. However, if the duty anaesthetist considers a more senior anaesthetist needs to be available or if the woman has been seen in the Obstetric Antenatal Anaesthetic Clinic and it has been documented in the obstetric notes that a senior anaesthetist needs to be available for general anaesthesia, this may cause a delay.

6. Written consent is not required for category 1 and 2 sections, but the fact that the mother has been informed of risk factors and agreed to the procedure must be recorded in the notes.

7. The duty neonatal doctor should be present at ALL emergency sections. It is the responsibility of the midwife performing the care to contact the neonatologist for the birth

8. Women should be transferred to maternity theatre, preferably in the left lateral position. The cardiotocograph (CTG) monitor should accompany the woman and should be continued for as long as practical in theatre.

9. If any delay occurs the reason must be documented in the maternal labour record and an Adverse Incident form completed.

10. Antibiotic prophylaxis should be given in theatre pre incision (see below and antibiotic policy). For category 1 LSCS antibiotics should be given as soon as possible/practicable.

Preventative Measures required pre and intra operatively to minimise infection

Preoperative

- All staff must be naked below the elbow in all clinical environments
- All women having an elective LSCS should shower prior to surgery
- All women except category 1 LSCS will have pubic hair removed using single use clipper heads and electric clippers.
- Once in theatre, there should be no movement of staff in/out of the theatre

Preparation for surgery

- 5 minute scrubbing process must be performed prior to any surgical procedure. This may be reduced in an extreme emergency
- Staff in theatre must take care to prevent contamination of the sterile field and the scrubbed team.

Intraoperative

- All surgical instruments will be sterilised by HSDU and checked prior to commencement and closure of each layer by the midwife/scrub practitioner.
- Prophylactic antibiotics to be administered pre incision
- Chlorprep solution is to used as skin preparation

Consensus statement regarding incision: Pfannenstiel incision should only be performed on women who have had previous LSCS. Joel Cohen Incision (a straight skin incision, 3cms above the symphysis pubis; subsequent tissue layers are opened bluntly and, if necessary, extended with scissors and not a knife) will be used for all other women.

- Suture material for wound closure: Vicryl for internal sutures; Monocryl or Prolene for skin closure
- **No wound irrigation**

- It is essential to avoid hypothermia
- Scrub staff will follow Theatre standing operating procedure 51 for Swab and Instrument counts

Post operative phase

- The care of women for the first 24 hours post operative will follow the post anaesthesia guidance
- Monitor blood glucose levels in diabetic women to prevent hyper and hypoglycaemia.
- Woman should be debriefed by the surgeon to ensure she is aware of the rationale for LSCS and with a vaginal birth after caesarean section (VBAC)
- Wound dressing is removed on day 5: the dressing used is Aquacel dressing
- Midwifery staff must ensure that women are given verbal and written advice regarding wound care and the early signs of infection

OBSTETRIC HAEMORRHAGE

To undertake a caesarean section in cases of major obstetric antepartum haemorrhage where the fetus is alive and potentially viable **MUST** be a decision taken in consultation with the on call Obstetric Consultant, maternal welfare being the most important consideration.

PLACENTA PRAEVIA

A Consultant obstetrician or Completion of Certificate of Training (CCT) holder must be present at caesarean section performed for placenta praevia

ANTIBIOTIC PROPHYLAXIS FOR CAESAREAN SECTION

All women should be offered the Trust agreed prophylactic antibiotic therapy pre incision

CLASSIFICATION OF EMERGENCY CAESAREAN SECTIONS

The category of caesarean section and time called must always be recorded prospectively in the maternal notes by the Obstetrician. The category, indication and decision-delivery interval must always be recorded in the maternity theatre register by the surgeon. Reasons for any delay in undertaking an emergency CS must be recorded in the maternity hand held notes.

THE SURGEON MUST ENSURE THAT THE ANAESTHETIST IS FULLY INFORMED GIVING PRECISE DETAILS REGARDING THE CATEGORY OF THE PLANNED CAESAREAN SECTION AND THE TIME FRAME WITHIN WHICH DELIVERY MUST BE ACHIEVED.

CATEGORY 1 - "CRASH" SECTION

(Target time: decision – delivery interval less than [<] 30 minutes)

- Profound fetal distress
- Prolapsed cord
- Foetal distress with cord prolapse of second twin
- Failed forceps delivery for fetal distress
- Failed trial of forceps (woman will already be in theatre and appropriately anaesthetised)
- Significant maternal compromise
- Major obstetric haemorrhage where fetus is alive and viable - (decision must be made in consultation with Consultant; maternal welfare is paramount)

The majority of these procedures will be under general anaesthesia. If the duty anaesthetist is confident of providing a suitably quick spinal anaesthesia or epidural top-up this may be used. They must ensure that woman is ready for “knife to skin” within 25 minutes.

Attempts at regional anaesthesia should be abandoned after 15 minutes to ensure the woman is ready for "knife to skin" within 25 minutes

On decision to call for a crash section, place a **2222 emergency call** stating to switchboard **"category 1 Section also state location".** An emergency bleep will automatically be put out to the following personnel:

Theatre Midwife/ Scrub Practitioner
Theatre Runner
Labour Ward Registrar
Labour Ward SHO
Maternity Bleep holder
Maternity Obstetric Anaesthetist
Maternity ODP
Newborn Unit Junior Specialist Trainee
Newborn Unit Retrieval Nurse

The registrar should stay with the woman to ensure prompt transfer to theatre and that appropriate fetal monitoring is continued. If there is time, the on call consultant should be contacted but this should not delay delivery of the baby.

All category 1 section will be reviewed by a Labour ward consultant within 24 hours, to ensure that decision delivery interval has been met and that continuous audit of implementation of Categorisation timings.
The woman will be transferred to theatre on her delivery bed, not on a theatre trolley.

CATEGORY 2

(Target time: decision – delivery interval less than [<] 60 minutes)

Fetal distress in first stage
Failed forceps delivery without evidence of fetal distress
Failure to progress in second stage considered unsuitable for instrumental delivery

The anaesthetist must be sure that if regional anaesthesia is used delivery interval will not be exceeded. This will depend on the experience and judgement of the anaesthetist.

The woman will be shaved and catheterised in the theatre.
CTG monitor must accompany the woman to theatre and, as far as possible, a continuous recording maintained until the woman is on the operating table.

The woman will be transferred to theatre on her delivery bed, not on a theatre trolley.

CATEGORY 3

(Target time decision – delivery interval at clinician's discretion but usually within 3 hours)

Non-urgent indication for delivery of fetus at discretion of obstetrician.
Failure to progress in first stage with a normal CTG
Booked elective section in early labour and/or Spontaneous rupture of membranes (SROM)
Undiagnosed breech in early labour
Next available free theatre
Regional anaesthesia will be used unless contra-indicated due to maternal condition.

Debriefing post Caesarean Section

Any woman who has undergone an emergency LSCS must be debriefed by a registrar or consultant the following day (if the woman's condition is stable).

She should be informed of the following:

- Reason for the LSCS
- Impact of the LSCS upon future pregnancies and mode of birth for future pregnancies should be discussed and documented
- This information must be added to the woman's discharge documentation
- A letter expressing all of the above information will be given to the woman on discharge and a copy sent to her General Practitioner reaffirming the above interaction

THROMBOPROPHYLAXIS FOR CAESAREAN SECTION

ALL WOMEN MUST BE FITTED WITH RELEVANT ANTI-EMBOLUS DEVICE

ALL CASES SHOULD BE WEARING TED STOCKINGS

All women will be measured and fitted for TED stockings pre surgery and will have an anti-embolus device applied in theatre and will remain in situ until the women are mobile

All women having a caesarean section should be jointly assessed for thrombosis risk by the surgeon and anaesthetist. Each woman should be have a venous thrombosis embolism risk assessment undertaken and the findings must be recorded on the VTE assessment form. If the woman requires prophylactic treatment this should be prescribed prior to leaving theatre complex (RCOG 2009).

- Emergency caesarean section in labour
- Age greater than 35 years
- Obesity (weight greater than 80 kg or Body Mass Index greater than 30 Kg/m^2)
- Parity≥ 3 or greater
- Gross varicose veins
- Intercurrent infection
- Pre-eclampsia
- Prolonged labour (greater than24 hours)
- PPH greater than1 litre or blood transfusion
- Immobility prior to surgery (more than 4 days)
- Major current illness (e.g. ulcerative colitis; nephrotic syndrome; diabetes; heart or lung disease)
- Smoker
- Elective LSCS

The following women should automatically receive Enoxaparin thromboprophylaxis:

- Extended abdominal surgery (eg. laparotomy; caesarean hysterectomy)
- Women already on low molecular weight heparin therapy
- Women with a known thrombophilia; personal or family history of DVT/PE
- Women with lower limb paralysis
- Women with antiphospholipid syndrome

Please refer Drug Guideline -Thromboprohpylaxis in pregnancy

THE FIRST DOSE MUST BE ADMINISTERED AT LEAST 6 HRS POST INSERTION OR REMOVAL OF SPINAL OR EPIDURAL

7. TRAINING REQUIREMENTS

All new staff working within the environment are informed of the emergency call systems during their local induction programmes.

Obstetric staff are assessed and signed off as competent by a member of the consultant cohort within one week of commencing work for Portsmouth Hospitals NHS Trust Maternity Services

8. REFERENCES AND ASSOCIATED DOCUMENTATION

National collaborating centre for women's and children's health, *Caesarean Section*. NICE RCOG: April 2004.

Smaill, F, Hofmeyr, GJ. Antibiotic prophylaxis for caesarean section. *Cochrane Pregnancy and Childbirth Group Cochrane Database of Systematic Reviews*. Issue 2, 2002.

Polk BF, Krache M et al, Randomized clinical trial of perioperative cefoxitin in preventing maternal infection after primary caesarean section. *Am J Obstet Gynecol* 1982:142; 983-987.

Royal College of Obstetricians and Gynaecologists. 2009. Reducing the risk of Thromboprophylaxis and embolism during pregnancy and the puerperium. RCOG: London

Drug therapy Guideline Nos: 31.04 issued 10.12.09. Antibiotic Prophylaxis in Surgery tables for Adults Only.

9. MONITORING COMPLIANCE WITH, AND THE EFFECTIVENESS OF, PROCEDURAL DOCUMENTS.

In order to provide Maternity Services with assurance of implementation of the guideline and the provision of safe clinical care the following process of monitoring will be utilised.

Monitoring Time Frames

A = Rare events – in these cases individuals case review will occur (e.g. Eclampsia)
B = Annual audit/ collection of data retrospectively
C = Ongoing prospective audit/data collection
D = Tri annual audit – linked to guideline amendments

Lower Segment Cesarean Section Continuous Audit

Level of Monitoring and Compliance required	Audit Method	Lead responsible for audit and report submission	Frequency of audit of data to Governance, Risk and Intrapartum Management Forum
C	All cases	Obstetric Consultant – Audit lead	Yearly

- The audit report will be submitted to the Maternity Quality and Management Forum for monitoring
- Action plan implementation is the responsibility of the Maternity Quality and Management Forum Notable practice and lessons learned will be disseminated to Maternity Service staff via the Women and Children's news letter
- The action plan will remain an agenda item for the Maternity Quality and Management Forum until all actions have been achieved or barriers to compliance have been identified
- Any barriers to compliance will be risk assessed within 2 months of identification by an appointed member of the Maternity Quality and Management Forum. The resultant risk assessment will populate the Maternity Services Risk register and monitored by the Maternity Quality and Management Forum

- Any high ranking risk assessments (greater than 15) will be escalated for the following months Women's and Children's CSC Governance and Management Committee (CSCGMC) to consider populating the CSC risk register by the Maternity Quality and Management Forum chair
- If the risk is considered by CSCGMC to affect the Trust as a whole, the risk assessment will be escalated to the Risk Assurance Committee at the following monthly meeting to consider populating the Trust Risk Register and or Assurance Frame work by the Women and Children's Representative to RAC

Audit questions:

- Category of emergency caesarean section recorded in the notes
- Consultant Obstetrician involved in the decision to perform the LSCS
- Reason for emergency LSCS documented
- Decision time and decision delivery interval for emergency CS recorded in the notes
- Reason fro delay in performing the LSCS has been recorded in the hand held notes
- LSCS occurred within expected time frame for category
  - Category 1- less than 30 minutes
  - Category 2- less than 60 minutes
  - Category 3 – within 3 hours of decision
- Category and decision-delivery interval for emergency LSCS recorded in theatre register
- All women having LSCS receive antibiotic prophylaxis
- Women with appropriate risk factors received Enoxaparin thromboprohpylaxis
- Elective LSCS not performed before 39th week unless specific and documented Consultant decision
- Indication for elective LSCS is recorded in the theatre register
- Woman commenced on MEOWS chart post operatively
- MEOWS chart adhered to
- Woman has been debriefed following the birth and the implications for future pregnancies before discharge home
- The debrief has been documented and signed, dated and timed