University Hospitals of North Midlands NHS
NHS Trust

AchievingSustainableQualityinMaternityServices

ASQUAM

Guideline for Caesarean Section

Date of Ratification:	May 2016
Date of Review:	May 2019
Minor change:	June 2018
Minor change:	July 2019 (full review being undertaken)
Ratified by:	Maternity Forum Sub-Group Obstetric Guideline Group
Reviewed by:	Consultant Obstetrician and Gynaecologist

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VERSION CONTROL SCHEDULE

Version	Date	Author	Comments
1	1997 – February	Mr R B Johanson Consultant Obstetrician and Gynaecologist	
2	2005 – June	By Sr L Dudley and Mr P Young	
3	2009	SR L Dudley and Mr P Young Revised By Mrs A. Tahir	
4	2010	Dr Amber Tahir SPR Obstetrics & Gynaecology	
5	2011 – June	Miss R Indusekhar Consultant Obstetrician and Gynaecologist	Updated in line with CNST standards January 2011 Audit standards updated to read: •Implementation of the classification and timings for all Grade 1 caesarean sections •Requirement to document the reason for performing a Grade 1 caesarean section in the health records by the person who makes the decision
6	2011 – December	Miss R Indusekhar Consultant Obstetrician and Gynaecologist	Updated to include audit monitoring table. Thromboembolic disease: changed to read – as previously mentioned women following CS are prescribed 5000 units of dalteparin subcutaneously, daily, in line with VTE guideline. 7.2 changes to read: at the UHNS if a group and save has already been 2ent to blood bank then group specific blood can be available in 35 minutes.
7	2013 – October	Miss R Indusekhar Consultant Obstetrician and Gynaecologist	Minor changes made by Pharmacist – need to specify if frequency of 160 mg of ranitidine is needed. Changed from IU to read units throughout the guideline. Antacid: labelled as 88.2 mgs. Heparin changed to read Low Molecular Weight Heparin (LMWH)
8	2014 – January	Miss R Indusekhar Consultant Obstetrician and Gynaecologist	Following CNST mock visit the monitoring and audit table has been changed from "Reported at least four times a year" to read "Data presented 4 times a year and overall annual report produced"
9	2015 – July	Dr J Chan Consultant Obstetrician and Gynaecologist	Offer a single "treatment dose" of 1.5 g of IV Cefuroxime BEFORE skin incision, with maximum of 60 minutes before incision and ideal window of 15-45 minutes before skin incision. The antibiotics are usually administered by the anaesthetist on behalf of the obstetrician.
10	2016 – January	Dr J Chan, Consultant Obstetrician and Gynaecologist Dr Niamat Aldamluji Consultant Anaesthetist Dr Jules Allt Consultant Anaesthetist Dr S Balasubramanian	Included Enhanced Recovery for Elective Caesarean sections. In addition process for postnatal wound care and care pathway Update of LSCS analgesia (Change of oral Morphine to Dihydrocodiene)
11	2016 – May	As above	Changes made by anaesthetics re: pain management after CS/TTOs
12	2018 – June	As above	Minor change to antenatal steroid administration
13	2019 – July (minor change) – full review still being undertaken	Reviewed by Dr J Chan Consultant Obstetrician and Gynaecologist	**Minor change to Section 4 – Consent for CS at UHNM** Additional paragraph added to read: Should there be a need to perform elective CS before 39 weeks, consideration should be given to administering antenatal corticosteroids43. If clinician, following discussion with woman regarding the benefits and risks of antenatal corticosteroids and with her consent, feels that the administration of such is not indicated, then he/she should document clearly on clinical record and booking information that elective CS can be performed before 39 weeks without the administration of steroids. EIDO leaflets updated and added to guideline (OG03 and OG16)

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1. PURPOSE OF THE GUIDELINE

The purpose of this guideline is to provide up to date information for medical and midwifery staff, to ensure the provision of consistent, high quality evidence based care for women undergoing caesarean section (CS) at the University Hospitals of North Midlands (UHNM).

2. BACKGROUND

Locally in North Staffordshire our CS rate in 2015/16 as a percentage of all cases was 28.0%.

3. BOOKING AT UHNM

Nationally, given that approximately 1 in 5 women will have a CS,[2] . All women are provided with information regarding CS in their hand held notes which includes what the procedure can involve, types of CS and the reasons why a CS may be needed. In addition, at around 34 weeks gestation if the woman is a primip the birth plan is completed by the Community Midwife and caesarean sections and the risk associated with this are discussed and this is documented in the woman's hand held records

4. CONSENT FOR CS AT UHNM

- Consent for CS should be requested after providing the woman with evidence based information in a way that is respectful of her dignity, privacy, views and culture whilst taking into consideration the urgency of the clinical situation[1]

- Timing for booking an elective CS needs to be carefully considered to reduce the risk of respiratory morbidity in the newborn, namely transient tachypnoea of the newborn (TTN), which reduces considerably after 39 weeks.[3] Should there be a need to perform elective CS before 39 weeks, consideration should be given to administering antenatal corticosteroids[43]. If clinician, following discussion with woman regarding the benefits and risks of antenatal corticosteroids and with her consent, feels that the administration of such is not indicated, then he/she should document clearly on clinical record and booking information that elective CS can be performed before 39 weeks without the administration of steroids.

- A competent pregnant woman is entitled to refuse a CS even when the procedure would clearly benefit her own health or that of her baby's i.e. previous multiple CS, except in circumstances governed under the Mental Health Act. Refusal of treatment needs to be one of the woman's options.

- The benefits and risks of CS compared with vaginal birth should be discussed with specific reference to the individual woman and her pregnancy[1]

- When the decision has been made to perform a CS all the factors that influence the decision and which is the most influential, must be clearly documented[1]

- Consent ideally should be obtained by the person performing the procedure or a person competent to perform the procedure

- Consent however, may also be obtained by a person, specifically trained to seek consent for the procedure

- Unless in a situation which is life threatening to the mother or the fetus, a Consultant Obstetricians where ever possible, should be involved in the decision making for all CS, as this can reduce the likelihood of caesarean section[1, 2]. However, Senior Registrars may make the decision to perform Caesarean Section.

- Adequate advance notice must be given to the obstetric anaesthetists for all high risk cases including raised Body Mass Index (BMI) of >40.

5. CLASSIFICATION GRADES FOR THE URGENCY OF A CS:

I. Immediate threat to life of the woman or fetus.
Aim to deliver the baby as soon as is safely possible, within 30 minutes of decision making. In performing an urgent caesarean section the reason should be documented in the WMPI birth notes.

REMEMBER DETERIORATION CAN BE RAPID

II. Maternal or fetal compromise which is not immediately life threatening
Aim to deliver the baby as soon as is safely possible.

Non Urgent

III. No maternal or fetal compromise, but needs early delivery
Booked as emergency but if capacity allows, can be added to elective CS list.

IV. Delivery timed to suit the woman or staff
Booked on elective CS lists.

6. PLANNED CAESAREANS AT UHNM

The UHNM adopts the following recommendations of the NICE guideline, Caesarean Section,[1] for women who are offered a planned CS:

- **Breech** – CS is offered to women with a term breech presentation if ECV has not been successful, or has been declined by the woman.

- **Previous uterine surgery –** CS is offered to women with a scarred uterus following a previous myomectomy, classical CS or two previous lower segment incisions or more. Inform women who have had up to and including four CS that the risk of fever, bladder injuries and surgical injuries does not vary with planned mode of birth and that the risk of uterine rupture, although higher for planned vaginal birth, is rare. Refer to ASQUAM Guideline for vaginal birth after caesarean section, particularly for women with one previous CS.[37]

- **Multiple pregnancies** - CS is offered to women where the first twin is not cephalic.

  Without other clinical concerns, planned CS is offered for triplets from 35 weeks and 0 days after completion of antenatal corticosteroids, monochorionic twins from 36 weeks and 0 days after completion of antenatal corticosteroids and dichorionic twins from 37 weeks and 0 days.[6]

  From April 2018 UHNM have adopted Dexamethasone as the first drug of choice for antenatal steroid administration.

  Administration dosage of Dexamethason is as follows:
  Dexamethasone 9.9mg IM -2 doses given 24hours apart should be administered to between 24 weeks and 34+6 weeks gestation.

An accelerated course of 2 doses of Dexamethasone 12 hours apart may occasionally be required, however should only be administered following discussion with an Obstetric Consultant.

In the event of Dexamethasone being unavailable Betamethasone should be considered as an alternative substitute.

Administration dosage of Betamethasone is as follows:
Betamethasone 12mg IM -2 doses administered 24 hours apart.
An accelerated course of 2 doses 12 hours apart may occasionally be required however should only be administered following discussion with an Obstetric Consultant.

- **Pre-term delivery** – CS is not routinely offered because the impact of mode of delivery in improving neonatal mortality and morbidity is uncertain[1, 7]

- **Small for gestational age** – CS is not routinely offered because the impact of mode of delivery in improving neonatal mortality and morbidity is uncertain[8]

- **Placenta praevia** – CS is offered for major degrees of placenta praevia[1]**. Refer to ASQUAM Guideline for placenta praevia.**[39]

- **HIV positive women –** Do not offer a CS on the grounds of HIV status to prevent mother-to-child transmission of HIV but mode of delivery should be jointly decided between GU physician and obstetrician, as determined by patient's treatment and viral load[1, 36].

- **Hepatitis B positive** – CS is not routinely offered, as there is insufficient evidence that this reduces mother-to-child transmission of the virus[9]

- **Hepatitis C positive** – CS is not offered routinely because it is believed that this does not reduce mother-to-child transmission of the virus[10]

- **Primary genital herpes simplex virus (HSV)** in the third trimester of pregnancy should be offered planned CS as it reduces mother-to-child transmission of the virus.

- **HSV recurrence at birth** – these women are not routinely offered a CS because neonatal infection with recurrent HSV is lower than for primary HSV – 41% with primary HSV and 1-3% with recurrent HSV[11,]

- **Maternal request** – CS is not routinely offered for maternal request. The reasons behind the request should be fully explored, discussed and documented. Alternative solutions should be explored.

  If a woman requests a CS when there is no other indication, discuss the overall risks and benefits of CS compared with vaginal birth and record that this discussion has taken place. Involve in discussion other members of the obstetric team (including the obstetrician, midwife and anaesthetist) if necessary to explore the reasons for the request, and ensure the woman has accurate information.

  When a woman requests a CS because she has anxiety about childbirth, offer referral to PEACH service via antenatal clinic for professional psychological support and help to address her anxiety.

  For women requesting a CS, if after discussion with two obstetric consultants 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.

- **High BMI (>50)** alone is not an indication for planned CS.

Antenatal corticosteroids for planned CS

7. CAESAREAN SECTIONS IN LABOUR

- **Cephalopopelvic disproportion–** absolute disproportion is rare but a relative disproportion due to a malposition (occipitoposterior) is more common.

- **Fetal distress –** Bradycardia and abnormal CTG. Fetal blood sampling reduces the rate of unnecessary CS for abnormal CTGs but a prolonged bradycardia requires immediate delivery.

- **Cord Prolapse** – With bladder filling and if CTG remains normal, the CS can be performed under spinal anaesthetics.

- **Failure to progress –** Delay in the first stage of labour occurs when the rate of cervical dilation is less than 2 cm in 4 hours or progress slows in multips. Other factors such as station and position of head and the strength of uterine contractions should also be evaluated. NICE guidelines state that in all cases where slow progress is suspected, amniotomy should be considered and the women should be re-examined after a further 2 hours. If less than 1 cm further dilation has been achieved, the woman should be re-

evaluated to assess whether oxytocin may aid uterine contractions, particular care being taken in multips in order to exclude obstructed labour. The woman should be re-examined 4 hours after oxytocin is started. If no progress is made or the woman shows signs of an obstructed labour, a CS should be offered.

- Pelvimetry is not useful in predicting failure to progress in labour and should not be used in decision making about mode of birth, shoe size, maternal height and estimations of fetal size (ultrasound or clinical examination) do not accurately predict cephalopelvic disproportion and should not be used to predict failure to progress during labour.

- **Uterine rupture** – This is an absolute indication for Category I CS.

Discuss the risks and benefits of CS and vaginal birth with women, taking into account their circumstances, concerns, priorities and plans for future pregnancies (including the risks of placental problems with multiple CS)

8. ENHANCED RECOVERY PATHWAY AND PRE-OPERATIVE ASSESSMENT FOR WOMEN UNDERGOING ELECTIVE CAESAREAN SECTION

8.1 Enhanced Recovery Pathway (see Appendix 1)

All women undergoing elective caesarean section will be offered enhanced recovery.

8.2 Pre-operative assessment clinic

About 4 weeks prior to elective CS women should attend this clinic for a prescription for 150 mg of ranitidine given orally at 10.00 pm on the night before surgery, and 150 mg given orally with 400 ml carbohydrate "Preop" drink given if not diabetic at 7.00 am on the day of surgery.

- FBC is taken**.**
- Pre-operative checklist is completed.
- Bed booked in the specific ward for the morning of CS.
- MRSA swab taken.

- Undertake a "Self-Administration Assessment of Medications" (SAMS).

- Patient should be advised to have food until 02.00 hours and Pre-operative drink with clear fluids until 07.00 hours on the morning of surgery to optimise pre-operative starvation time as per enhanced recovery pathway.

- Provide prescription for ranitidine 150mg (one at 22.00 hours night before the surgery and second dose at 07.00 hours on the day of surgery).

- Provide a pre-printed consent form for Caesarean Section and patient information leaflets: OG03 Caesarean Section[36] (See Appendix 2) and Information for Women having a Planned Caesarean Section (See Appendix 3)

- **Group and Save Serum** – At the UHNM a Group and Save is <u>not</u> offered to all women

- **Women who decline blood products** - A plan of management for those women who decline blood products from the outset of pregnancy should be made[5]

- **Offer women prophylactic antibiotics at caesarean section before skin incision.** Inform them that this reduces the risk of maternal infection more than prophylactic antibiotics given after skin incision, and that no effect to the baby has been demonstrated.

- **Identify allergies** – Patients at the UHNM have a red wrist band in place, identifying the drug allergy its side effects and their name and hospital unit number

- **Latex allergy –** The majority of equipment in maternity theatre is Latex free, however additional equipment such as urinary catheters and gloves are stored in an 'orange box' in theatre annex.

- **Assess the risk of thromboembolic disease** - Women undergoing CS are at increased risk of venous thromboembolism (VTE) and as a routine the following prophylaxis should be offered:

- Graduated stockings
- Early mobilisation
- Hydration
- Low molecular weight heparin – Dalteparin is the drug of choice. We have elected to administer Dalteparin dependent on booking weight, daily subcutaneously, to all women undergoing CS.

  The first injection to be administered 4 hours after surgery or 4 hours after insertion or removal of the epidural catheter, Refer to ASQUAM Guideline for the Management Venous Thrombo-embolism for risk assessment.[41]

8.3 Pre-operative preparation for all women undergoing CS

- **Ultra-sound scan (USS)** – should be performed on all women with a breech or non- cephalic presentation prior to CS.
- **Obtain patient consent (See Section 4).**
- **Complete WHO checklist stage 1.**
- **Team brief to identify unsuitable patients for Enhanced Recovery (see ER pathway) if Elective CS**
- **Site an indwelling foley's bladder catheter size 14 -** Catheterisation can be carried out in theatre once the woman is anaesthetised. However, should the woman receive General Anaesthesia (GA) then this procedure may be performed prior to the GA induction.

8.4 Additional pre-operative preparation for women at risk of major obstetric haemorrhage must include:

- Blood grouping and cross matching for 4 units – The blood must be available in DS fridge prior to the CS procedure for elective CS and as soon as practically possible for all emergency CS – liaising with the haematologist to stress the urgency of the situation
- A full clotting screen for Emergency CS
- Ensuring that the most senior obstetric and anaesthetic team available, are present at CS.

At the UHNM if a group and save has already been sent to blood bank then group specific blood can be available in 35 minutes.

9. ANAESTHETIC PROCEDURAL ASPECTS OF CAESAREAN SECTION FOR ALL WOMEN AT UHNM

Anaesthetic care - Dedicated obstetric services are available at the UHNM as recommended in the current CEMACH report.[3] The Consultant Obstetric Anaesthetists have prepared anaesthetic guidelines for pregnant women, copies of which are kept in the anaesthetic office on the Delivery Suite for individual reference.

Regional anaesthesia - Regional anaesthesia should normally be offered and encouraged, because it is usually safer than general anaesthesia (GA) even for placenta praevia, towards reducing maternal and neonatal morbidity[12, 13, 14]

General anaesthesia - General anaesthesia for CS should normally include antacid prophylaxis (Sodium Citrate), pre-oxygenation, cricoid pressure and rapid sequence induction to reduce the risk of aspiration.[16]

Prophylactic antibiotics - Offer a single "treatment dose" of 1.5 g of IV Cefuroxime **BEFORE** skin incision, with maximum of 60 minutes before incision and ideal window of 15-45 minutes before skin incision.

The antibiotics are usually administered by the anaesthetist on behalf of the obstetrician. If known penicillin allergy, type I (immediate hypersensitivity i.e. anaphylaxis, hypotension, laryngeal oedema, urticaria /angioedema or wheezing), Teicoplanin 400mgs IV stat and gentamycin 3mg/kg IV stat are administered as an alternative antibiotic.

Post CS analgesic - Options should be discussed so that analgesia best suited to their individual needs can be offered[15]

Antacids - Sodium citrate solution orally is the antacid of choice, given to all women immediately prior to CS **(no more than 15 minutes prior to surgery because of its short acting effects)**. Ranitidine is advised pre-operatively.

Anti-emetics - Women should be offered anti-emetics to reduce nausea and vomiting,[1] commonly occurring during CS due to aortocaval compression and the resultant hypotension and intrathecal Diamorphine.

Ondansetron 4mgs intravenously and **Buccastem 3-6mgd SL BD are** the drugs of choice at the UHNM.

Training Issues - Obstetric anaesthesia novice trainees at CT and ST levels receive simulation-based competency assessment for failed intubation (see ASQUAM guideline on Failed Intubation).[42] Recovery Nurses are required to attend Recovery in Obstetrics anaesthesia course.

10. SURGICAL PROCEDURAL ASPECTS OF CAESAREAN SECTION FOR ALL WOMEN AT UHNM

- **Double gloves –** these should be worn in all cases considered to be at high risk for blood borne infections, to reduce the risk of infection to healthcare professionals during surgery[17]

- In addition locally, **disposable adhesive drapes and blunt end needles** are used.

- **Scrupulous hand scrubbing technique should always be observed and a mask and eye protection should always be worn.**

- **The transverse incision of choice should be the Joel Cohen incision** – this is a straight incision 3cm above the symphysis pubis and should be used because it is associated with shorter operating times and reduced post-operative febrile morbidity[39, 40]

- **Only one surgical knife** should be used to incise the skin and deeper tissues at CS because separate surgical knives have not been proven to reduce wound infection rates [20]

- **Blunt extension of the uterine incision** – this method should be used as opposed to sharp extension when indicated, because it reduces blood loss, incidence of postpartum haemorrhage and the need for transfusion at CS[42]

- **The use of obstetric forceps** – forceps should only be used if there is difficulty in delivering the babies head[43]

- **Oxytocin 5 units by slow bolus IV injection** (the licensed dose) – should be administered, after the baby is delivered, this is usually given by the anaesthetist .[23]

- **Controlled cord traction** - The placenta should be removed by controlled cord traction to reduce the risk of endometritis[1]

- **Exteriorising the uterus** - The uterus should not be exteriorised to facilitate suturing since it has shown to increase pain and does not improve operative outcomes such as haemorrhage and infection[24, 25]

- **The uterine incision should be closed with 2 suture layers**

- **Neither the visceral or parietal peritoneum should be sutured as routine at CS** - **Closure of the subcutaneous tissue space should not be routinely practised**– unless the woman has more than 2 cm of subcutaneous fat[26]

- **Staff are encouraged to use interrupted sutures to allow any collection to drain, particularly in obese patients who are undergoing emergency caesarean sections.**

- **If midline abdominal incision is used at CS, mass closure with slowly absorbable continuous sutures should be used.**

- **Wound drains** - Superficial wound drains should not routinely be used at CS because they do not reduce the incidence of wound infection, haematoma or the need for analgesia[27]

- **Scalpel Trauma** - There is a recognised 2% risk of scalpel injury to the baby at CS. In the case of injury to the baby, any first aid treatment required must be initiated (direct pressure to control any bleeding and dressings applied, as required). Parents must be shown the injury and any follow up treatment discussed. The extent of injury should be clearly documented in the intrapartum notes, using the diagram provided. A datix must be completed.

11. NON-SURGICAL PROCEDURAL ASPECTS OF CAESAREAN SECTION FOR ALL WOMEN AT UHNM

- **Counting swabs, needles and instruments used in theatre at UHNM:** The scrub nurse/midwife with a second person i.e. a Clinical Support Worker is responsible for counting all the swabs, needles and instruments prior to the operation, during the operation and before closure of the wound. In the event of a discrepancy regarding the count of swabs, needles or instruments follow Trust Policy C07, Policy and Procedure for ensuring the removal of swabs, needles and instruments from patients (June 2014)[38]

- **Umbilical cord gases:** Umbilical arterial and venous blood pH and base excess should be taken and recorded for all emergency and elective CS**.**

- **Women's preferences for the birth:** Women's preferences for the birth, 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, should be accommodated where possible. Skin to skin contact of the woman and her baby must also be facilitated whenever practically possible to respect the wishes of the woman.

- **Breast feeding:** Women who have had a CS should be offered additional support to help them to start breastfeeding as soon as possible after the birth of their baby.

12. DOCUMENTATION TO BE COMPLETED FOR ALL CS:

- The decision maker must document in the Birth Notes the reason for performing an emergency or urgent caesarean section

- WHO Surgical Safety checklist – all sections MUST be completed in full

- Swabs, needles instruments correct on operation sheet (nurse/midwife scrub) – See Appendix 6

- Theatre register (nurse/midwife scrub)

- Operation sheet – care pathway (obstetric surgeon) – See Appendix 6

- Classification of category of CS (obstetric surgeon/midwife) and if there is a delay please document reason for delay.

- Confirmation that Low Molecular Weight Heparin (LMWH) has been prescribed, antibiotics administered and graduated stockings on (nurse/midwife scrub)

- CS care pathway, woman's hand held notes, electronic record, birth register, Robson data audit sheet (midwife receiving baby)

- For elective sections, surgeons tick the Midwife-led discharge box on the section pathway during the sign out if appropriate.

All documentation should be filed as per UHNM Trust Policy "Health Records" (RE01).

Responsibilities of midwife receiving baby in maternity theatres at UHNM in addition to the documentation previously mentioned:

- Auscultation of the fetal heart prior to CS
- Catheterising the woman prior to CS
- Alert paediatricians to attend as appropriate (See section 13 for list of indications)
- Check resuscitaire is in working order and document on WHO surgical safety checklist
- 'Scrub' to receive the baby
- Assessment of the baby, basic resuscitation if required, initial examination of the newborn
- Initiate skin-to-skin contact of the baby with the mother
- Continue midwifery care in recovery

13. GUIDANCE FOR THE PRESENCE OF CLINICIANS IN THEATRE AT THE UHNM

A Consultant Obstetrician and Anaesthetist MUST be present for the following CS:

- Major placenta praevia

It is advisable that a Consultant Obstetrician SHOULD be present for the following CS:

- Extreme pre-term CS (less than 28weeks gestation)
- Multiple repeat CS (3 or more previous CS)
- Anticipated Classical CS
- Anticipated surgical complications

The possibility for a Classical Caesarean Section should be anticipated in the following circumstances:

- Extreme pre-term delivery with poorly formed lower uterine segment, particularly non- cephalic presentations
- Placenta praevia with large vessels in the lower uterine segment
- Large cervical fibroid
- Severe adhesions in the lower uterine segment reducing accessibility
- A transverse lie with back down

Decision for a classical CS should whenever possible be made at Consultant level.

Experienced Obstetric Registrar (level 3, with at least 3 or more years' experience) should be present for all the following CS at UHNM:

- Second stage CS
- Transverse and oblique lies
- Placental abruption
- Multiple pregnancy CS
- Raised BMI >35

Paediatricians or Advanced Neonatal Nurse Practitioners should be present in theatre for the following CS:

- General Anaesthesia
- Presumed fetal distress
- Meconium stained liquor
- Known fetal abnormalities
- Pre-term deliveries – less than 36weeks

14. MATERNITY THEATRES - OPENING BOTH MATERNITY THEATRES ON DELIVERY SUITE

- Locating a second anaesthetist – page via switchboard the **RAC (3rd on call anaesthetist)** after discussion with the obstetric resident anaesthetist. The RAC will organise resident staff roles and liaise with on call consultants as appropriate

- Having the most appropriate skilled obstetric surgeon available

- Locating a second ODP (liaise with the ODP on CDS)

- A second nurse/midwife to 'scrub' and second midwife to receive the baby

- If a third theatre is required, the anaesthetic room can be used. The team will have to be assembled following close liaison with the obstetric and anaesthetic consultants and delivery suite shift leader.

- Keep noise to minimum so that the anaesthetist can anaesthetise and communicate with the patient.

- Providing reassurance and support to the woman and her partner

15. POST OPERATIVE MONITORING AND CARE OF THE WOMAN AFTER CS

NICE guidelines recommend that women who have undergone CS should be monitored closely within the first 24 hours.[1] Please also refer to ASQUAM Post Anaesthetic Care Unit (PACU) guideline (formerly referred to as Maternity Recovery guideline).[39]

For care of women on Enhanced Recovery pathway, please refer to ER pathway (see section 8 and Appendix 1) for management in the following areas:

- Recovery
- Postnatal ward

After Theatre Recovery – Care and Observations in the 24hrs following CS

TPR, B/P and respiratory rate should be taken on admission to the ward and documented on the MEWS chart. If MEWS score is 0 repeat 4 times in 24 hours. Any abnormal scores to be managed in line with MEWS chart.

Pain Management after CS:

- During regional anaesthesia intrathecal diamorphine is usually given in theatre at a dose of 300-400 micrograms

- Diclofenac (Voltarol) 100mgs rectally, where there are no contra-indications (such as allergies, massive obstetric haemorrhage or pre-eclampsia) should be offered as a one off dose in theatre post CS in addition to other analgesics to reduce the need for opioids.[28]

- MST 10mg is usually given in recovery where there is no contra-indications.

- In addition to this multi-modal oral analgesia should be prescribed for postoperative use both when an in-patient and following discharge (TTO's). At UHNM this usually consists of regular paracetamol, regular ibuprofen, and regular Dihydrocodiene. In addition to this, rescue opioid should be prescribed for breakthrough pain. (See Appendix 4)

- TAP block should be considered at the end of GA sections and Patient Controlled Analgesia (PCA) using Morphine can be offered after CS at UHNM if required.

Early eating and drinking after CS - Women locally who do not have any complications prior to, during and following CS are encouraged to eat and drink when they feel thirsty or hungry[30]

Urinary catheter removal after CS - Catheters should ideally be removed 6 hours after spinal. The Midwife caring for the woman later in the evening will be responsible for checking that the patient has passed urine and that a fluid balance chart has been correctly completed. This should mean that the appropriate management is commenced during day time hours. **These guidelines apply unless otherwise directed by a doctor's written instructions.** Refer to ASQUAM Guideline for the Prevention of Urinary Problems during labour and the postnatal period.

Urinary symptoms:

The NICE CS guidelines[1] recommend that Doctors/midwives caring for women following CS, who have urinary symptoms, should consider the possible diagnosis of:

- Urinary tract infection
- Stress incontinence (which occurs in about 4% of women following CS).[31]
- Urinary tract injury (occurs in about 1 per 1000).[32]

Wound Care:

- The patient will return from theatre with a showerproof dressing in situ and the appropriate management sticker in their notes.

Caesarean Section - Suture/Dressing Removal	
DISSOLVABLE SUTURES	**DRESSING REMOVAL**
PATIENT HAS DISSOLVABLE SUTURES WHICH DO NOT REQUIRE REMOVAL	Routine wound dressing removal: • Remove dressing at 48 hours • Any signs of wound infection/wetness/overhang replace dressing using aseptic technique and remove on Day 7 (unless clinically indicated beforehand) PICO wound dressing removal: • Please see PICO application guidance
Date: Time: Surgeon Signature:	

(Version 1.0 – Sept 2015)

Caesarean Section - Suture/Dressing Removal	
REMOVABLE SUTURES	**DRESSING REMOVAL**
PATIENT HAS REMOVABLE SUTURES WHICH REQUIRE REMOVAL ON DAY 7-10	Routine wound dressing removal: • Remove dressing at 48 hours • Any signs of wound infection/wetness/overhang replace dressing using aseptic technique and remove on Day 7 (unless clinically indicated beforehand) PICO wound dressing removal: • Please see PICO application guidance
Date: Time: Surgeon Signature:	

(Version 1.1 – Sept 2015)

- The postoperative dressing should remain in place for a minimum of 48hours. The midwife will review dressing on a daily basis and document findings whilst an inpatient. The patient may shower with the dressing in situ. Baths that would submerge the wound area are not encouraged. Should the dressing need to be removed prior to 48 hours, this should be removed and replaced using a none touch technique approach.

- After 48 hours all wounds should be assessed and all dressings (excluding PICO) removed using the none touch technique, if the wound appears wet, the patient has an overhang or a BMI >30 the

wound dressing should be replaced using non touch technique until day 7, unless clinically indicated so earlier. Community Midwives undertake the above assessment and management if patient by this stage has been discharged home.

- Women discharged from hospital with a dressing in-situ will be supplied with 1 spare dressing and dressing pack for the rare occasion when their dressing needs to be removed or falls off prior to the midwife's visit. Basic instructions will be provided with dressing on how to replace.

- At each clinical assessment if there are concerns that the wound may be infected, the midwife should escalate either to the GP or directly to the maternity assessment unit for tissue viability nurse input.

- All women will be discharged home with a wound care leaflet.

- If clinical assessment resulted in a PICO dressing being applied the dressing should remain in situ for 7 days. If there are concerns regarding the wound of a high risk patient referral should be made to the tissue viability nurse as an inpatient or via MAU as an outpatient.

Irregular vaginal bleeding - Irregular vaginal bleeding is more likely to be due to endometritis than retained products of conception.[29]

Thromboembolic disease - As previously mentioned women following CS are prescribed Dalteparin dependent on booking weight subcutaneously daily, in line with ASQUAM Guideline for the management of venous-thromboembolism[41]

In addition, doctors/midwives should pay particular attention to women who complain of symptoms such as a painful or swollen calf; a cough, shortness of breath and/or chest pain and unexplained pyrexia. In relation to pregnancy women are more at risk of deep vein thrombosis and pulmonary embolism, particularly after CS.[33]

Resuming activities - Women who have had a CS are advised to resume activities such as driving, formal exercise, carrying heavy items and sexual intercourse once they have fully recovered from the CS.[1]

Associated risks

Women are informed that following their CS, they are not at increased risk of difficulties with:

- Breastfeeding[31]
- Depression[5, 31]
- Posttraumatic stress [34, 35]
- Dyspareunia[31]
- Faecal incontinence[31]

16. DISCHARGE FROM HOSPITAL AND RE-ADMISSION:

The average stay of a woman following CS at UHNM is 48 hours from admission.

Patient undergoing elective caesarean sections and remain on Enhanced Recovery Pathway can be discharged home after 24 hours provided no complication has arisen intra-operatively and postnatally, with follow-up care continued in the community (see Appendix 1).

TTO analgesics :

TTO analgesics are prescribed by the anaesthetists during elective LSCS. The drugs are regular Paracetamol, Ibuprofen and PRN Dihydrocodiene.

Women not suitable for early discharge on day 1 are:

- Post-operative admission to HDU/ITU care
- Haemacue/Hb < 80 or symptomatic of anaemia on day 1
- MEOWS >0 on day 1
- Midwifery concerns requiring medical review

Any postnatal readmission following CS should be assessed by obstetric team. Patient's lead consultant should be notified of re-admission and review as clinically indicated.

Pregnancy and childbirth after CS - Following CS while women are in hospital, the surgeon should discuss the reasons for CS and birth options for future pregnancy and provide VBAC leaflet if clinically appropriate. (see ASQUAM guideline on Vaginal Birth After Caesarean Section (VBAC)[37].

17. REDUCING CS RATE AT UHNM

Continual efforts are made to reduce CS rate locally by:

- Offering ECV to women with a breech presentation at 36 weeks of pregnancy.
- Supporting women who choose VBAC via the midwifery-led VBAC clinic where appropriate.
- Offering induction of labour beyond 41 weeks.
- Performing fetal blood sampling before CS for an abnormal CTG in labour, whenever appropriate to do so.
- Facilitating continuous one-to-one midwifery care in labour.
- Involving Consultants in decision making for CS.

18. MULTIDISCIPLINARY MONITORING AND AUDIT

The need to monitor/audit the standards set out below will be considered alongside other Directorate requirements and prioritised accordingly. The Directorate Clinical Audit programme is drafted by the Directorate Clinical auditor, in liaison with clinical staff, and approved by the Directorate.

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements	Acting on recommendations and lead(s)	Change in practice and lessons to be shared
Guideline content	Guideline Co-ordinator	Guideline Review	Every three years	Labour Ward Forum Subgroup: Guideline Meeting	Required changes to practice will be identified and actioned with the release of the updated guideline.	Required changes to practice will be identified and actioned with the release of the updated guideline.
Clinical standards within guideline	Directorate Clinical Auditor	Clinical Audit	As required in relation to other Directorate priorities	Directorate Business, Performance and Clinical Governance Meeting	Required actions will be identified and completed in a specified timeframe as per the audit action plan.	Required changes to practice will be identified and actioned within a specific timeframe as per the audit action plan and, in addition, lessons will be shared with relevant stakeholders as per audit action plan.

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Appendix 1 - Enhanced Recovery Pathway for Women Undergoing Elective Caesarean Section

In pre assessment clinic

- Provide verbal information, leaflet explaining the pathway from admission to discharge, Ranitidine prescription and 400 ml Preop Nutricia drink.
- Assessment for the self-administration will take place in pre-assessment clinic.
- Starvation time optimised – food until 2am, clear fluids and Preop drink until 7am on the morning of admission.

In theatre

- Team brief: identify unsuitable patients for ER, identify third and fourth patient on the list and ensure informing the ward to provide clear fluids as per instructed.
- IV cannula, standard dose of spinal diamorphine + bupivacaine, urinary catheter, 1L. of Hartmann's.
- Routine antiemetic after delivery.
- Anaesthetist to prescribe post-op analgesia and TTO analgesia. Ensure LMWH prescribed 4 hours post spinal or epidural catheter removal.
- Antiemetic buccastem + oral ondansetron prescribed for PACU and post natal ward.
- Surgeons to confirm suitability for ER during WHO checkout and tick the Midwife-led discharge box on the section pathway during the sign out.

In recovery

- Check self-administration assessment.
- Administer prescribed analgesia.
- Dispense the medication box.
- Order TTO Dihydrocodiene for the next day. Complete TTO including LMWH.
- Discontinue IV fluids before discharge to ward.

On the ward

- Encourage oral intake.
- Monitor self-administration of medications as per self-administration SOP.
- Urinary catheter to be removed 6 hours post-spinal anaesthesia.
- Legs strength assessed (Bromage score), mobilise early.
- Midwife – led assessment of the new-born.
- Haemacue on the morning of discharge to replace FBC, prescribe iron tablet as needed.
- Midwife – led discharge on day1 postoperatively.

Post – discharge

- Community midwife to review patients 1 and 3 days post- discharge (To be documented on SBAR discharge document).
- Discharge home on regular analgesia (Paracetamol and Ibuprofen), Dihydrocodiene PRN and LMWH.
- Phone number to contact hospital in case of early complications at home.

Appendix 2 - Patient information leaflet for women undergoing elective caesarean section – EIDO Leaflet OG03

University Hospitals of North Midlands NHS
NHS Trust

OG03 Elective Caesarean Section

Expires end of June 2020

This information is for guidance only. There may be local variations in practice within the specialties in this Trust.

The Patient Advice and Liaison Service (PALS) would be pleased to hear any comments or suggestions you may have about our services.
They can offer non-clinical confidential advice and support if you have any concerns.
PALS can be contacted on 01782 676450, 01782 676455 or email patient.advice@uhns.nhs.uk.

You can also contact:

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You can get more information from www.aboutmyhealth.org
Tell us how useful you found this document at www.patientfeedback.org

The Preoperative Association | Royal College of Surgeons | The Royal College of Surgeons of Edinburgh | Crystal Mark 8112 Clarity approved by Plain English Campaign

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What is an elective caesarean section?

A caesarean section is a procedure to deliver a baby by a surgical operation. Elective means that it is planned before you go into labour.

Your obstetrician (surgeon who specialises in childbirth) has recommended that you have your baby delivered by caesarean section. However, it is your decision to go ahead with the operation or not.

This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that this document does not answer, ask your obstetrician or the healthcare team.

Why do I need a caesarean section?

The following are the more common reasons why a caesarean section may be recommended.

- Your baby is positioned in a way other than head down such as breech (bottom or feet first).
- Your baby is not growing properly or is distressed.
- The placenta is lying in front of your baby and either completely or partly over your cervix, preventing a vaginal birth (placenta previa).
- You have had a caesarean section before.
- You have a multiple pregnancy (for example, twins).
- You have a particular complication of pregnancy which makes a caesarean section more preferable than vaginal delivery.
- The placenta has become too firmly attached to your uterus (womb) so it will not separate naturally. You are likely to need a hysterectomy to remove your womb soon after your caesarean section.
- You have medical problems such as high blood pressure or diabetes.

Your obstetrician will discuss with you why a caesarean section has been recommended for you.

In your case a caesarean section is the safest method of delivery for both you and your baby. Sometimes a caesarean section is the only safe method of delivery, for example, if you have placenta previa.

Are there any alternatives to a caesarean section?

The alternatives are normal labour or induced labour (where medication is used to get labour started) followed by a vaginal delivery.

If you are worried or have any questions about why a caesarean section has been recommended for you rather than a vaginal delivery, you should discuss this carefully with your obstetrician.

What does the operation involve?

The healthcare team will carry out a number of checks to make sure you have the operation you came in for. You can help by confirming to your obstetrician and the healthcare team your name and the operation you are having.

Almost all caesarean sections are performed under regional anaesthesia (either a spinal or epidural anaesthetic). This means you will be awake so you can see your baby and have 'skin to skin' contact as soon as your baby is born. Your birth partner will also be able to be with you.

Your anaesthetist will discuss the options with you. You may also have injections of local anaesthetic to help with the pain after the operation.

Your obstetrician may give you antibiotics just before the caesarean section to reduce your risk of infection.

The operation usually takes less than an hour.

Your obstetrician will place a catheter (tube) in your bladder to help you to pass urine. This is usually removed the next morning.

Your obstetrician will make a low horizontal cut on your 'bikini' line. They will separate the muscles of your abdominal wall and open your uterus (womb). Your obstetrician will deliver your baby through the cut (see figure 1).

Your obstetrician may insert a drain (tube) in your wound to drain away fluid that can sometimes collect. This is usually removed the next day.

After the delivery, they will repair your womb and abdomen.

You should be able to breastfeed soon after the operation.

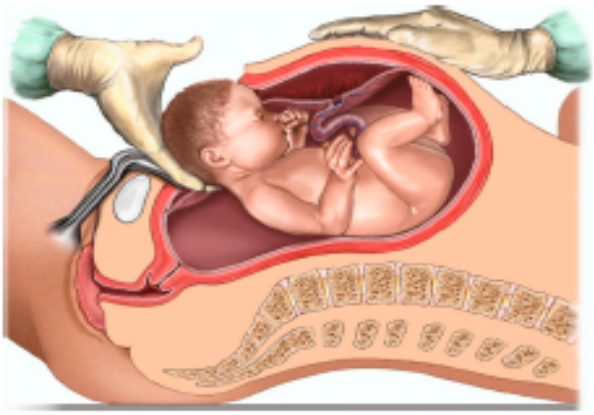

Figure 1
A caesarean section

A midwife will be with you throughout the operation and a paediatrician (doctor who specialises in babies and children) may also attend to your baby when it is born.

What should I do about my medication?

Continue your normal medication unless you are specifically told otherwise by your doctor.

What can I do to help make the operation a success?

If you smoke, stop smoking now. Smoking while you are pregnant can harm your unborn baby. Smoking once your baby is born will put your child's health at risk throughout their childhood. Stopping several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Exercising while you are pregnant will make you feel and look better. Exercise will help prepare your muscles, heart and lungs for labour and the delivery of your baby. Before you start exercising, ask the healthcare team or your GP for advice.

You can reduce your risk of infection in a surgical wound.

- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Try to have a bath or shower either the day before or on the day of the operation.
- Keep warm around the time of the operation. Let the healthcare team know if you feel cold.

What complications can happen?

The healthcare team will try to make the operation as safe as possible but complications can happen. Some of these can be serious and can even cause death. You should ask your doctor if there is anything you do not understand. Any numbers which relate to risk are from studies of women who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

General complications of any operation

- Pain. The healthcare team will give you medication to control the pain and it is important that you take it as you are told so you can move about as advised.
- Bleeding during or after the operation. If you bleed heavily (risk: less than 8 in 100), you may need a blood transfusion.
- Infection of the surgical site (wound) (risk: less than 10 in 100). It is usually safe to shower after 2 days but you should check with the healthcare team. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need another operation.
- Unsightly scarring of your skin, although caesarean section wounds usually heal neatly.
- Developing a hernia in the scar caused by the deep muscle layers failing to heal. This appears as a bulge or rupture called an incisional hernia. If this causes problems, you may need another operation.

- Blood clot in your leg (deep-vein thrombosis – DVT) (risk: 7 in 1,000). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or special stockings to wear. Let the healthcare team know straightaway if you think you might have a DVT.

- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. Let the healthcare team know straightaway if you become short of breath, feel pain in your chest or upper back, or if you cough up blood. If you are at home, call an ambulance or go immediately to your nearest Emergency department.

Specific complications of this operation

- Infection in your womb (endometritis) (risk: 1 in 70).

- Bladder damage, as your bladder lies close to your womb and has to be moved out of the way (risk: less than 2 in 1,000). The risk is higher if you have had previous caesarean sections caused by scarring at the point where your bladder attaches to your womb.

- Heavy bleeding. This is a serious complication. Your obstetrician may need to remove your womb (risk: less than 1 in 100).

- Small scratch on your baby's skin, when your obstetrician makes the cut on your womb. Sometimes the scratch can be on your baby's face (risk: 2 in 100). This usually does not need any treatment.

- Breathing difficulties for your baby (transient tachypnoea), where your baby takes longer than normal to clear the fluid from their lungs (risk: 6 in 1,000). Your baby may be admitted to the Special Care Baby Unit while the fluid clears. If you have a caesarean section before 39 weeks, your obstetrician may recommend that you have a course of steroid injections to reduce this risk.

How soon will I recover?

In hospital

After the operation you will be transferred to the recovery area and then to the ward.

You will be given fluid through a drip (small tube) in a vein in your arm. You may be given medication through the drip to help your womb to contract.

The healthcare team will encourage you to get up and about as soon as possible after the operation.

Depending on how much blood you lost, the healthcare team may check your blood count. On average, women lose about half a litre of blood. You may need a dose of iron through a drip (an infusion) before you go home or to take iron tablets for a few weeks.

You will be able to go home when your obstetrician feels you are medically fit enough, which is usually after 1 to 3 days.

If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

Returning to normal activities

To reduce the risk of a blood clot, make sure you follow carefully the instructions of the healthcare team if you have been given medication or need to wear special stockings.

Your obstetrician and the healthcare team will tell you when you can return to normal activities. It is important to have plenty of help at home in the first few days so that you have time to recover and to spend with your new baby.

For the first 2 weeks do little other than care for your baby. You can then gradually increase the amount you do.

Bleeding usually lasts for 2 to 4 weeks. Use sanitary pads rather than tampons.

Do not lift anything heavy or do strenuous exercise, such as vacuuming or ironing, for 6 weeks. Do not push, pull or carry anything heavier than your baby during this time.

Do not have sex until you feel comfortable to do so.

Do not drive until you are confident about controlling your vehicle. As a guide, this usually takes about 4 to 6 weeks. Always check your insurance policy and with your doctor.

The future

Most women take at least 3 months to recover from the operation.

You should wait until you are physically and emotionally ready before trying for another baby. Your obstetrician is likely to recommend that you wait at least a year before becoming pregnant again.

Summary

A caesarean section is a common operation and is usually a safe method of delivery for you and your baby.

However, complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will help to detect and treat any problems early.

Keep this information document. Use it to help you if you need to talk to the healthcare team.

Acknowledgements
Author: Mr Andrew Woods MBBS MRCOG FRANZCOG

This document is intended for information purposes only and should not replace advice that your relevant healthcare team would give you.

Appendix 3 – INFORMATION FOR WOMEN HAVING A PLANNED CAESAREAN SECTION

Women, Children and Diagnostics Division
Obstetrics Services

Information for Women having a planned Caesarean Section

It has been arranged for you to be admitted to either Ward……, or The Maternal Assessment Unit (MAU) (delete as appropriate) on (date)……at **7.30 am**.

You will be admitted to ward……, following delivery.

It is important that you arrive on time to help us try to ensure your caesarean section is carried out as promptly as possible. If you are late your procedure may be delayed or cancelled.

Please note, the main entrance to the Maternity Centre is locked until 8.00 am. Please press the buzzer on the right hand side of the doors to let the ward know you are there. They will let you in.

Preparing to come in for your procedure

- We will give you two Ranitidine tablets to take home. Please take one tablet at 10.00 pm the night before your operation and take the second tablet at 7.00 am on the day of your operation.
- You will also be given 400ml of Nutricia Preop carbohydrate drink to take at 7.00 am on the day of your surgery.
- Please do not have anything to eat after 2.00 am on the morning that you are coming into hospital.
  You may continue to drink clear fluids until 7.00 am.
- Please have a bath or a shower on the morning of your operation.
- Please remove pubic hair from the top area above the pubic bone using hair removal cream (this is where the incision will be made).
- Please remove all jewellery, although you may keep a wedding ring on.
- Please remove all nail varnish from fingers and toes.
- There is a CD player available, if you have preferred music to be played during the operation, please bring along your own CD.

On the day

- You are very welcome to have one birth partner with you on the day of the operation but please do not bring children with you.
- Please bring a hat and a nappy to theatre with you.
- Please bring all your regular medications with you for use while you are in hospital.
- Visiting times are 9.00 am – 9.00 pm for your partner and children of you and your partner. Other visitors can visit 6.00 pm – 9.00 pm with a maximum of two visitors at a time, but they may swap over. The different visiting times are to enable the partner, brothers and sisters to have time to bond with the new baby.
- Please do not bring any valuables into hospital, although you may wish to bring in some change to use for the telephone – mobile phones generally do not work very well because of the nature of the building.
- You will be seen by your Surgeon and Anaesthetist on the ward prior to your operation, this gives you the opportunity to ask questions before you have your surgery.
- You may be allowed to drink clear fluids if waiting time is prolonged.
- We will give you antibiotics routinely whilst in theatre following your caesarean section.
- The best way to maintain your baby's body temperature is by skin to skin contact so we will encourage you to have that contact after your baby is born.

On the ward

- Your urinary catheter will be removed approximately 6 hours after surgery.
- After being assessed by the midwife, you will be encouraged to mobilise soon after your catheter removal. This will speed up your recovery.
- You will be encouraged to have 3-4 short walks of approximately 5 minutes within the first 24 hours after your operation.
- It is recommended that you have 10 days of injections to reduce your risk of blood clots (DVT prophylaxis). You will be shown on the ward how to administer these injections.
- You are advised to take your pain killers regularly on the ward, and you will be given adequate pain relief medications to take home for the first few days after your operation.
- It is anticipated that you will be discharged home the day following your operation. Longer stays will be planned as clinically necessary on an individual basis.

Contacting us

If you have any concerns before you come in, please ring the Maternity Assessment Unit on 01782 672300.

We want you to have the best possible experience during your time with us. If you have any concerns while you are in the Maternity Centre, or if any problems arise, please do tell us at the time so we can try to correct things straight away. If, for any

reason, you feel uncomfortable talking to a midwife or sister, please ask to see the matron or manager.

We look forward to welcoming you into our Maternity Centre.

Appendix 3b - Patient information leaflet for women undergoing emergency caesarean section – EIDO Leaflet OG16

University Hospitals of North Midlands NHS
NHS Trust

OG16 Emergency Caesarean Section

Expires end of June 2020

This information is for guidance only. There may be local variations in practice within the specialties in this Trust.

The Patient Advice and Liaison Service (PALS) would be pleased to hear any comments or suggestions you may have about our services.
They can offer non-clinical confidential advice and support if you have any concerns.
PALS can be contacted on 01782 676450, 01782 676455 or email patient.advice@uhns.nhs.uk.

You can also contact:

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You can get more information from www.aboutmyhealth.org
Tell us how useful you found this document at www.patientfeedback.org

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EIDO HEALTHCARE UNITED KINGDOM

Your obstetrician (surgeon who specialises in childbirth) recommends an emergency caesarean section to deliver your baby safely. However, it is your decision to go ahead with the operation or not.

This document will give you information about the benefits and risks to help you to make an informed decision. Ask your obstetrician, anaesthetist or midwife if there is anything you do not understand.

What does the operation involve?

A caesarean section can usually be performed under a spinal or epidural anaesthetic. You will be awake so you can see your baby and have 'skin to skin' contact as soon as your baby is born.

Your obstetrician will make a horizontal cut on your 'bikini' line. They will separate the muscles of your abdominal wall and open your uterus (womb). They will deliver your baby through the cut and repair your womb and abdomen.

A midwife will be with you and a paediatrician (doctor who specialises in babies and children) may also attend to your baby when it is born.

What complications can happen?

A caesarean section is usually safe and your obstetrician believes it is the safest way to deliver your baby. However, complications can happen. Some of these can be serious and can even cause death.

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

Caesarean section complications

- Pain. The healthcare team will make sure you are given enough pain relief.
- Bleeding during or after the operation. If you bleed heavily (risk: less than 8 in 100), you may need a blood transfusion.
- Blood clots in your legs (deep-vein thrombosis – DVT) (risk: 7 in 1,000) or, more rarely, in your lungs (pulmonary embolus).
- Infection of the surgical site (wound) or in your womb (endometritis), which usually settles with antibiotics.
- Developing a hernia in the scar caused by the deep muscle layers failing to heal.
- Bladder damage. The risk is higher if you have had previous caesarean sections.
- Heavy bleeding. This is a serious complication. Your obstetrician may need to remove your womb (risk: less than 1 in 100).
- Small scratch on your baby's skin, when your obstetrician makes the cut on your womb. Sometimes the scratch can be on your baby's face (risk: 2 in 100). This usually does not need any treatment.
- Breathing difficulties for your baby, where your baby takes longer than normal to clear the fluid from their lungs (risk: 6 in 1,000).

How soon will I recover?

You should be able to go home after 1 to 3 days. However, your doctor may recommend that you stay a little longer.

If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

It is important to have plenty of help at home in the first few days so that you have time to recover and to spend with your new baby.

For the first 2 weeks do little other than care for your baby. You can then gradually increase the amount you do.

Bleeding usually lasts for 2 to 4 weeks. Use sanitary pads rather than tampons.

Do not lift anything heavy or do strenuous exercise, such as vacuuming or ironing, for 6 weeks. Do not push, pull or carry anything heavier than your baby during this time.

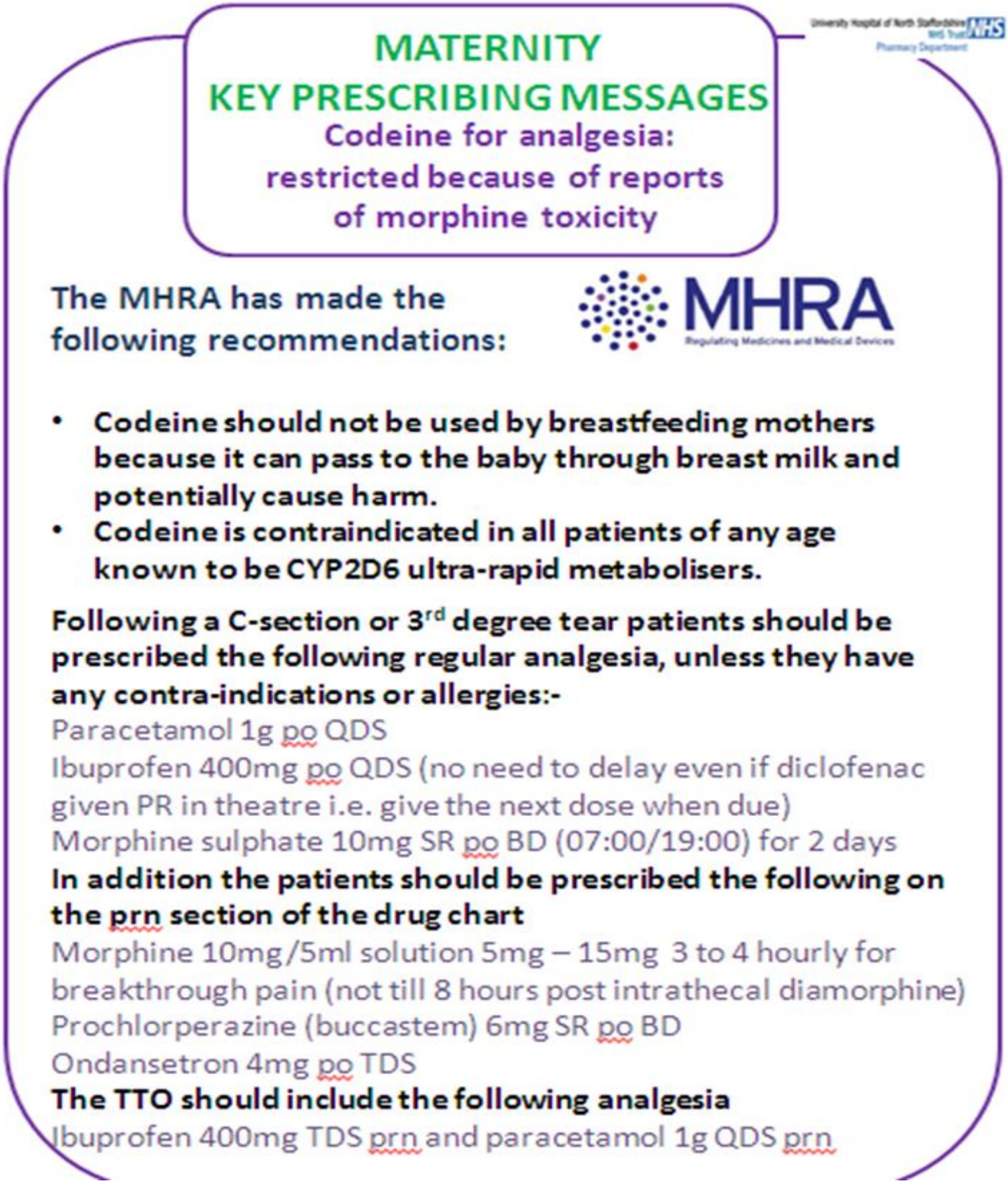
Do not have sex until you feel comfortable.

Most women take at least 3 months to recover. You should wait until you are physically and emotionally ready before trying for another baby.

Keep this information document. Use it to help you if you need to talk to the healthcare team.

Acknowledgements
Reviewer: Mr Andrew Woods MBBS MRCOG FRANZCOG

Appendix 4 – Pain management for women after CS



MATERNITY
KEY PRESCRIBING MESSAGES
Codeine for analgesia:
restricted because of reports
of morphine toxicity

The MHRA has made the following recommendations:

MHRA
Regulating Medicines and Medical Devices

- **Codeine should not be used by breastfeeding mothers because it can pass to the baby through breast milk and potentially cause harm.**
- **Codeine is contraindicated in all patients of any age known to be CYP2D6 ultra-rapid metabolisers.**

Following a C-section or 3rd degree tear patients should be prescribed the following regular analgesia, unless they have any contra-indications or allergies:-

Paracetamol 1g po QDS
Ibuprofen 400mg po QDS (no need to delay even if diclofenac given PR in theatre i.e. give the next dose when due)
Morphine sulphate 10mg SR po BD (07:00/19:00) for 2 days

In addition the patients should be prescribed the following on the prn section of the drug chart

Morphine 10mg/5ml solution 5mg – 15mg 3 to 4 hourly for breakthrough pain (not till 8 hours post intrathecal diamorphine)
Prochlorperazine (buccastem) 6mg SR po BD
Ondansetron 4mg po TDS

The TTO should include the following analgesia

Ibuprofen 400mg TDS prn and paracetamol 1g QDS prn

Appendix 5 - Wound Care Management

Postoperatively dressing to remain in place for a minimum of 48 hours

Wound dressings to be reviewed daily whilst inpatient

- **After 48 hours wound dressing should be removed if there are no clinical concerns regarding the wound it may be left exposed**
- **Dressing should be replaced for women with a BMI >30 those with an overhang or to any wounds that appear wet**
- **If a PICO dressing is in situ this must remain in place until day 7 please see PICO flow chart**

If any concerns following clinical assessment the CMW/inpatient midwife will refer the women to the GP/MAU or request inpatient medical review

Dressing removed after 48 hours, clinical assessment of wound site at each contact

Dressing in situ until day 7 , review wound dressing at each contact if dressing change clinically indicated use aspectic non touch technique

If indicated by wound care sticker sutures are dissolvable continue to document assessment of wound area until discharge.

If indicated via wound care sticker sutures need to be removed remove on day 7 – 10 using aseptic non touch technique and document in WIMPI postnatal notes

If during any assessment there is concerns about the wound or the clinical condition of the women refer to GP or MAU

University Hospitals of North Midlands NHS

NHS Trust

CAESAREAN SECTION

Name: …….

Address: ……..

……...

Unit Number: ……..

Additional Procedures:

……

Date: …….. **Robson's Group (1-10):** ☐

Category: **Grade 1*** ☐ **Grade 2*** ☐ **Grade 3*** ☐ **Grade 4*** ☐

Time of Decision: ……. **Knife to Skin:**…… **Time of Delivery**: ……

Indication: ……..

……

Surgeons: ……. **Anaesthetist**: ……

Assistant: …….

Anaesthetic: **GA** ☐ **Spinal** ☐ **Epidural** ☐ **Combined (Spinal+Epi)** ☐

Procedure:

Incision: …….

Abdominal Entry:……

Bladder: ……..

Uterine Incision:

- Lower Segment Transverse ☐
- Lower Segment Vertical ☐
- Classical ☐
- Other ……

Findings:

Presentation: …….. **Position:** ……. **Liquor:** ……

Delivery: …… **Condition of baby:** ……

Placenta: ……

Ovaries: …… **Fallopian tubes** ……..

Uterus: ……

* **Grade 1** – Immediate threat to life of the woman or fetus
  Grade 2 – Maternal or fetal compromise which is not immediately life threatening, although there is an urgency to deliver the baby in order to prevent further deterioration of either the mother's or baby's condition
  Grade 3 – No maternal or fetal compromise, but needs early delivery
  Grade 4 – Delivery timed to suit the woman or staff

Additional Information: ……

……

……

……

Third Stage of Labour: ……

Uterine Toilet: ……

Uterine Closure:	**Single Layer**	☐	**Double Layer**	☐	**Haemostatic Sutures** ☐
Abdominal Closure:	**Rectus Sheath**		**PDS**	☐	**Vicryl** ☐
	Subcutaneous:		**Yes**	☐	**No** ☐
	Skin:		**Prolene +Beads**	☐	**Prolene** ☐
			Dexon	☐	**Clips** ☐
			Ethilon	☐	**Other: ……**

Oxytocics: Syntocinon Infusion: No ☐ **Yes** ☐ **Reasons**: ……..

……

Prescribed: Yes ☐ **No** ☐

Blood Loss: …… **Antibiotics: Yes** ☐ **No** ☐

Voltarol: Yes ☐ **No** ☐

Cord Gases: Arterial pH: …… **Arterial Base Excess**: ……

Venous pH: ……..... **Venous Base Excess**: ……

Prophylactic antibiotics given: ☐

Prescription written for Fragmin: ☐

TTO'S prescription: ☐

TEDS stocking post delivery: ☐

Instruments correct: ☐

Swabs used (inc.no.): Pre-delivery: ☐ **Post-delivery:** ☐

Needles (inc.no.): Pre-delivery: ☐ **Post-delivery:** ☐

Sutures used: **Number**: ☐

Signature: ……..……...

Signature: ……

Post-Operative Instructions: ……...

……

Sutures to the skin to be removed on day……

Requires medical discharge? Yes ☐ **No** ☐

Suitable for enhanced recovery? Yes ☐ **No** ☐

Signature: ……..…… Name: ……..…… Position:……

****FOR GRADE 1 C/S – PLEASE NOW COMPLETE CONTINUOUS AUDIT FORM****