Imperial College Healthcare NHS
NHS Trust

Enhanced Recovery Programme for Caesarean Section V3.0

Maternity Guideline

1. SUMMARY

(This does not include CS guidelines and HDU/Recovery guidelines)

This is a pathway for elective caesarean sections allowing discharge at 24-36 hours post-delivery.

It incorporates interventions that span the pre-operative, intraoperative and postoperative periods including pre-delivery planning, patient education, reduction in fasting time, early mobilization and directed bladder care.

There are exclusion criteria based on medical co-morbidities, prediction of longer postnatal recovery or surgical issues

2. INTRODUCTION

The aim of enhanced recovery is to optimise multiple aspects of patient care, improve postoperative outcomes and decrease length of hospital stay without reducing patient satisfaction or the quality of care. This practice is supported by National Institute for Health and Care Excellence (NICE) guidance who state that ‘‘women who are recovering well, are apyrexial and do not have complications following caesarean section (CS) should be offered early discharge (after 24 h) from hospital and follow-up at home, because this is not associated with more infant or maternal readmissions”.

Pre, intra and post-operative planning needs to be robust to ensure the success of this programme.

3. DEFINITIONS

CS – Caesarean Section
ERP – Enhanced Recovery Programme
DAU – Day Assessment Unit (QCCH)
MDAU – Maternity Day Assessment Unit (SMH)

4. SCOPE

This guideline is to be used by staff working within the Maternity Service at all hospital sites across the Trust.

5. FULL GUIDELINE

Preoperative Preparation

Antenatal clinic

Elective caesarean sections should be booked in antenatal clinic ideally by 34 weeks gestation.

Booking the date of a caesarean section should also include:

- Consent for the procedure
- MRSA swabs (if between 28-36 weeks)
- CPE swabs if identified as needed at booking

Women should be provided with pre-medication TTA packs including:

- Omeprazole 20mg to be taken the night before the procedure
- Omeprazole 20mg and 10mg metoclopramide to be taken the morning of the procedure

Patients should be asked to attend 48 hours prior to their caesarean section for bloods (FBC and group and save) and a COVID swab.

The doctor booking the caesarean section should discuss the enhanced recovery programme and provide all women with information on what to expect when recovering from a caesarean section. A date for discharge should also be agreed to allow the woman to arrange support at home.

When discussing fasting prior to the caesarean section women should be told to eat the day before the operation but asked to fast from midnight. They can continue to drink water up until 2 hours prior to the procedure and have a carbohydrate drink (isotonic sports drink e.g. Lucozade sport) two hours prior to the procedure, to reduce the ill effects of fasting.

The following written information should be provided:

- **Having an elective caesarean section** - information for patients
- **Labour pains** – Caesarean section anaesthetic information sheet
- **Getting breastfeeding started** – information for new mothers
- **Caesarean delivery** – Your guide to recovery
- **Essential items to pack for hospital** - checklist

Pre-Clerking Clinic

The obstetrician and anaesthetist should review the elective list and decide on the order the day prior to the list, at Queen charlottes this will determine the time the patient is asked to attend for their procedure.

At QCCH the obstetrician will perform a telephone preoperative assessment 24 hours prior to the procedure to include:

- Obstetric, medical and surgical history
- Allergy status
- Review of blood, MRSA and COVID results
- Explanation of the operation and what to expect
- Reminder of the recommendations with regards to fasting
- Reinforcement of the goals of the enhanced recovery programme including adequate pain relief, early mobilization and directed bladder care

At SMH women will attend antenatal clinic for pre-assessment two days before their cesarean section.
On the day of the procedure the obstetrician will review prior to the procedure:

- Obstetric, medical and surgical history
- Allergy status
- Review of blood, MRSA and COVID results
- Explanation of the operation and what to expect
- Reminder of the recommendations with regards to fasting
- Reinforcement of the goals of the enhanced recovery programme including adequate pain relief, early mobilization and directed bladder care

Intraoperative Care

- Regional nerve blockade should be used unless contraindicated/refused: the anaesthetist will decide this following an overall assessment and an informed discussion with the woman. If a patient needs a general anaesthetic, she is excluded from the ERP.

- The operation should be supervised by the obstetric and anaesthetic consultant aiming **for a total operating time of less than one hour.** After the surgery the consultants should agree if the patient is still appropriate for enhanced recovery.

- Fluid management should be goal directed based on physiologic endpoints aiming for normal fluid balance as this reduces postoperative complications and length of stay.

- The aim should be for normothermia throughout the surgery as this reduces the risk of wound infection, coagulopathy, blood loss, and transfusion requirement.

- All women should receive prophylactic antibiotics prior to or at skin incision to reduce the incidence of maternal postpartum infection.

- Carbetocin should be used in all high risk women for PPH prophylaxis, this will reduce the need for a syntocinon infusion which can delay transfer to postnatal ward.

- In all cases where the baby is born in good condition delayed cord clamping should be carried out and if and the mother is well and agrees, skin-to-skin contact should be actively encouraged. The baby can be dried on the mother's chest and then covered with a warm towel (+ bubble wrap if necessary) to keep warm. (See Recovery & HDU Guidelines)

Postnatal Care

- On transfer to recovery, the team should be informed if the woman is still suitable for ERP

- Women participating in the ERP should be transferred to Postnatal Ward - 2 hours after the operation. If an Oxytocin (Syntocinon) infusion is given, it can be stopped after two hours if the patient is not bleeding and is no longer considered at risk of a postpartum haemorrhage.

- The midwife should provide support to help the woman to start breastfeeding as soon as possible if this is her chosen method of infant feeding.

- Women should be offered a drink and food in recovery within an hour of admission. This should occur before transfer to postnatal ward. IV fluids should be discontinued once oral fluids are well tolerated.

- Women should be encouraged to mobilise early, this will include sitting out of bed by the evening of their procedure and walking to the shower before bed or the following morning at the latest. If required, the physiotherapist will review the patient and help the midwifery team facilitate early mobilisation. This will be assessed on an individual basis.

- The wound dressing can be removed after 24 hours

- The urinary catheter should be removed 6-8 hours after the operation. Women who have had their caesarean section before 12:00 can have their catheter removed at 18:00 on the same day. Those who have their procedure after 12:00 or have delayed return of their sensory or motor function post epidural should have removal of their catheter deferred until the following morning at 06:00. If the catheter is left in until the morning, the patient will still need to mobilise on the day of CS. Bladder management in labour and postpartum guidelines should be followed with regards catheter removal and monitoring urine output.

Pain relief should be given regularly, even if not requested as this will allow early mobilisation. Pain relief prescription should include:

- Paracetamol 1gm orally 6 hourly +
- Diclofenac100mgs per rectum 12 hourly (2 doses only post theatre) +
- Ibuprofen 600mg 6 hourly (10 hours after the last dose of Diclofenac). Change prescription to 400mg qds after 3 days) +
- Dihydrocodeine 30-60mg orally 6 hourly for 3 days (can also be given on prn basis with a maximum of 240mg/24hours)

Nausea should be treated appropriately and quickly:

- 1st line Ondansetron 4mg iv 8 hourly (this is also effective against pruritus)
- 2nd line Cyclizine 50mg iv/po/im8 hourly

Clinical Review

Every woman who has had a CS should be seen daily by the team caring for her, and whenever possible by the doctors who conducted the surgery.

An experienced doctor from the obstetric team should review the woman to clarify any remaining questions concerning this pregnancy and to explain any future obstetric implications for her. This should occur on day 1 after caesarean section and be clearly documented.

The anaesthetic team should also aim to review the patient on day 1 after caesarean section to ensure the patient is recovering from their anaesthetic and to answer any queries related to the anaesthetic procedure.

The midwife will ensure completion of the discharge procedure.

Exclusion criteria for the program are listed in Appendix 1.

Discharge

The time of discharge is aimed at 24-36 hours after the operation. This is suitable if there are no medical or midwifery concerns and the patient has support at home. The woman should be given information about the Maternity triage and asked to attend in 24 hours if there are any concerns. Please refer to the discharge checklist in the appendix for criteria.

Appendix 1

Inclusion Criteria

Uncomplicated Elective Caesarean Section (e.g. Previous CS, malpresentation, previous third degree tears, previous traumatic labour and maternal request CS)

Exclusion Criteria (the patient is NOT to participate in the Enhanced Recovery Programme if any of these apply).

1. Pregnancy or medical co-morbidities such as insulin dependent diabetes or uncontrolled hypertension

2. Caesarean Section complicated by:
    a. Anaesthetic complications including general anaesthetic
    b. Bladder injury
    c. Concern re-adhesions
    d. Estimated blood loss of more than 1000mls
    e. Need for blood transfusion
    f. Hysterectomy

3. Recovery concerns:
    a. Unable to take NSAIDS
    b. Uncontrolled pain
    c. Severe post-operative nausea and vomiting
    d. Urinary retention
    e. Infection
    f. Post-operative ileus
    g. Other medical issues such as new onset high blood pressure
    h. Need for blood transfusion
    i. Maternal issues – language, social problems, lack of support
    j. Raised BMI

Neonatal admission does not preclude Enhanced Recovery

) IMPLEMENTATION

Training required for staff	Yes
If yes, who will provide training:	Education team
When will training be provided?	Annual update
Date for implementation of guideline:	March 2017

7) MONITORING / AUDIT

When will this guideline be audited?	Annually
Who will be responsible for auditing this guideline?	Labour Ward lead
Are there any other specific recommendations for audit?	• Time of transfer to PN Ward • Hours of discharge from CS • Reasons for delay in discharge • Readmission rate

8) REVIEW

Frequency of review • *Drug related guidance must be reviewed every 2 years* • *Therapy related guidance must be reviewed every 3 years* • *Clinical treatment guidance must be reviewed every 3 years*	**Please indicate frequency of review:** 3 years **Person and post responsible for the review:**

9) REFERENCES

Confidential Enquiry into Maternal and Child Health. (2004) Why mothers die 2000-2002. London: RCOG Press.

Drife J, Walker J (Eds) (2001) Caesarean section: current practice. In: Best Practice and Research Clinical Obstetrics and Gynaecology Vol 15, No 1. BailliereTindall.

NICE Guidelines on Caesarean Section (2011).London:RCOG Press.

Enhanced Recovery Partnership (2012). Fulfilling the potential, a better journey for patients and a better deal for the NHS

10) GUIDELINE DETAIL

Start Date:	October 2020
Approval Dates	**Name of Divisional group:** Maternity guidelines group **Date of ratification:** 26th October 2020
	Name of Directorate group: Maternity Q&S Committee **Date of ratification:** 19th November 2020
Has all relevant legislation, national guidance, recommendations, alerts and Trust action plans been considered, and included as appropriate in the development of this guideline?	**Please list ALL guidance considered:**
Have all relevant stakeholders been included in the development of this guideline?	**Please list all (name and role):** Obstetric Consultants Obstetric Registrars Midwives Neonatologists Obstetric Anaesthetists Pharmacists Physiotherapists
Who will you be notifying of the existence of this guidance?	**Please give names/depts:** Midwives Obstetric Consultants Obstetric Registrars SHOs Lindo Wing & Stanley Clayton Private Maternity Departments ODAs Pharmacists Physiotherapy Breast feeding advisors Maternity support workers Obstetric Nurses
Related documents	Caesarean section consent
Author/further information	**Name:** Kerry Munro **Title:** Consultant Obstetrician **Division:** WCCS **Site:** QCCH **Telephone/Bleep:** **Trust email address:** kerry.munro@nhs.net
Document review history	**Next review due:** October 2023 V2.0 March 2017 V2.1 (Jan 2020) ranitidine to PPI switch

	V3.0 October 2020
THIS GUIDELINE REPLACES:	Enhanced Recovery Programme for Caesarean Section

11) INTRANET HOUSEKEEPING

Key words	Caesarean section, enhanced recovery, Cyclizine, Ondansetron, Oxytocin, ERP, Carbetocin, Omeprazole
Which Division/Directorate category does this belong to?	Women's, Children's & Clinical Support
Which specialty should this belong to when appearing on the Source?	Maternity

12) EQUALITY IMPACT OF GUIDELINE

Is this guideline anticipated to have any significant equality-related impact on patients, carers or staff?
No