

# Enhanced Recovery Programme for Caesarean Section

## Maternity Guideline

## 1. SUMMARY

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

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

It incorporates pre-delivery planning with the physiotherapy team, infant feeding specialists, anaesthetist's and obstetricians.

Reduction in fasting time, early mobilization and directed bladder care are key parts of enhancing faster recovery.

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

## 2. INTRODUCTION

An enhanced recovery programme after elective caesarean section has been devised to improve the patients experience and return to normality.

Pre-delivery planning needs to be robust to ensure the women is fully informed as to the recovery process, as her commitment is key to its success.

## 3. DEFINITIONS

CS – Caesarean Section

ERP – Enhanced Recovery Programme

DAU – Day Assessment Unit (QCCH)

MDCU – Maternity Day Care 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

### **Planning for Enhanced Recovery Programme (ERP) Elective Caesarean Section**

#### **In Antenatal clinic:**

ERP elective CS should be offered to all women planning:

- An elective Caesarean Section (without any major co-morbidities and without a prediction of longer postnatal care)
- A date for CS should be agreed in the Antenatal Clinic. Women should be aware of the process following C-section via the patient leaflet, appendix 3).

The expected date of discharge should be also be given in the Antenatal Clinic so that the patient is able to arrange support at home before she comes in hospital. The dates should be filled on the cover of the patient leaflet. This should be done by the doctor booking the caesarean section.

- MRSA swabs should be taken at this stage between 28-36 weeks
- All Women should be offered referral to antenatal breastfeeding classes
- They should be given information on the enhanced recovery programme and what it means

#### **In Pre-Clerking Clinic/MDAU (at least a day before the operation)**

- The obstetrician and anaesthetist should review the elective list and decide on the order when the woman is reviewed in DAU/MDAU; this might be subject to change if risks are identified.
- The obstetrician and anaesthetist will perform a preoperative assessment on the woman.
- Ensure two eligible samples of blood grouping and serum save are taken within 3 days of surgery.
- A consent should be taken at this stage if not already completed in the Antenatal Clinic.
- Any allergies should be checked.
- Post-operative pain is explained
- The woman will attend a group advice class led by a physiotherapist in DAU and informed of post-operative mobility and exercises to reduce pain and enable early mobilisation. Patients will be given an advice booklet including this information. If there is no physiotherapist available, the advice booklet will be given to the woman by the midwifery team.

- Fasting is also explained. The patient is encouraged to eat on the day before the operation (no later than midnight). A carbohydrate drink may be given to be taken 2 hours prior to the procedure, to reduce the ill effects of fasting.
- Water only should be taken up to 2 hours before the operation.
- Pre-medication TTA packs should be supplied:
  - Night before: Ranitidine 150mg
  - Morning of CS: Ranitidine 150mg and 10mg metoclopramide
- Clear carbohydrate drink 200mls to be taken at 06.00 day of the operation.
- The ERP Proforma/ Sticker should be filled in Pre-Clerking Clinic/MDAU. (Appendix 2, page 9)
- If the obstetrician/anaesthetist considers that patient is not suitable for ERP, the reason should be written on the form and signed appropriately.

### On the day of surgery

- The first patient is admitted at 08.00hrs for pre-operative preparation to be ready for admission to theatre CS at 08.30hrs. A pre-operative proforma should be filled (Appendix 2) for all patients.
- If surgery is significantly delayed this is a contraindication to enhanced recovery and therefore the patient should not follow the ERP care pathway any further.

### Procedure

- Regional nerve blockade will 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. We should **aim 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.
- In all cases where the baby is born in good condition and the mother is well and agrees, the baby, 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)
- If the patient is deemed not to be able to participate in the ERP program, the section in the ERP Admission day proforma needs to be filled in and signed. Exclusion criteria are found in Appendix 1.

## Postnatal Care

- Women participating in the ERP should be transferred to Postnatal Ward - 2 hours after the operation. The Oxytocin (Syntocinon) infusion if given should be stopped after two hours if the patient is not considered at risk of a postpartum haemorrhage. If within 20 minutes, the patient remains stable, syntocinon can be discontinued.
- 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 are offered a drink and food in recovery within an hour of admission. This should be in Recovery before transfer to postnatal ward. IV fluids are discontinued once oral fluids are well tolerated and the cannula flushed
- TTAs should be prescribed before transferring to postnatal ward
- The woman should be sitting out of bed by the evening and shower before bed or in the 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.
- Remove the wound dressing after 24 hours. Keep clean and dry.

## Bladder Care

- The urinary catheter should be removed either by 6pm or the next morning. It should not be removed after 6pm but deferred until 0600 the following morning. If the catheter is left in until the morning, the patient will still need to mobilise on the day of CS.
- To remove the catheter, the patient needs to have good sensory awareness in the lower limbs, and have normal strength returned to knee extension and hip flexion.
- She should be given a jug and be asked to void in it. If she has not voided within 4 hours then we need to check her residual with an in- out catheter.
- Please follow the **Bladder Care** guideline if there is a residual. If there is a continuous dribble the residual should still be checked. An in out fluid chart should be commenced for 24 hours and she may need a catheter to be reinserted. She will no longer be suitable for the enhanced recovery pathway.

## Medication

- Every woman will have access to adequate post-operative analgesia ideally:
- Paracetamol 1gm orally 6 hourly +
- Diclofenac 100mgs 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 also treated appropriately and quickly:
- 1<sup>st</sup> line Ondansetron 4mg iv 8 hourly (this is also effective against pruritus)
- 2<sup>nd</sup> line Cyclizine 50mg iv/po/im8 hourly

## Clinical Review

Every woman who has had a CS will 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 will review the woman to clarify any remaining questions concerning this pregnancy and to explain any future obstetric implications for her. This will occur before discharge and be clearly documented.
- On the first postnatal day, the anaesthetic registrar and obstetric team will review the patient. They should include a comprehensive assessment of the voiding history. The midwife will ensure completion of the discharge procedure. If the patient is not part anymore of the ERP program, the appropriate section on the proforma should be filled in and signed.
- 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
  - g. Significant delay in starting the surgery
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

## Appendix 2

Name			Hospital		
<b>Pre-Admission Checklist</b>		Date	Ward		
<i>Tick relevant boxes</i>					
Criteria	Activity	Yes	No	N/A	Initials
Administration	Explain pre-operative fasting requirements				
Patient Information	Discuss what happens before procedure (admission, consent)				
	Patient leaflet				
Investigations	Check/Take bloods (FBC and G&S)				
	MRSA swab check				
Diet and Nutrition	To encourage eating till midnight				
	To have 200ml clear carbohydrate drink issued at pre assessment appointment. (finish fluids by 6am)				
Mobility/Activity	Discuss post-op mobilisation, post-operative exercises				
	VTE score sheet				
Medication	Advise and give ranitidine and metoclopramide Confirm medication history and allergy status				
Discharge plan	Anticipated length of stay discussed				
	Arrival and departure times discussed				
	Confirm patient has arranged escort home				
	Confirm patient has support at home				
	Social situation assessed				

Name & Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Please sign when all boxes are ticked. This sheet has to be signed before the patient leaves Day Assessment Unit

	Date	Reason
Taken off Enhanced Recovery		
Comments box		

### Appendix 3

Name		Hospital Number				
Admission Day		Date				
<i>Tick appropriate boxes</i>						
Criteria	Activity	Yes	No	N/A	Initials	
Patient Information	Patient has read relevant information leaflet given by the Pre-Assessment Clinic					
Diet and Nutrition	Check patient fasted for their surgery as instructed (no food 6 hours pre-op, allowed clear fluids and a non-fizzy energy drink up to 2 hours pre-op)					
Medication	Check if patient has taken the pre-medication					
Discharge Plan	Anticipated date and time of discharge discussed					
	Discuss issues and concerns with patient and relatives					
	Social situation assessed					
	TTAs done at time of surgery					

Name & Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Please sign when all boxes are ticked. This sheet has to be signed before the patient leaves Recovery

	Date	Reason
Taken off Enhanced Recovery		
Comments box		

## Appendix 4

First Day Post – Operation - Discharge Criteria and Checklist (ideally by the morning shift)					
ONLY TO BE FILLED IN IF PATIENT IS STILL TAKING PART in THE ENHANCED RECOVERY					
<i>Tick relevant boxes</i>					
Criteria	Activity	Yes	No	N/A	Initials
Clinical Assessment	Observation/Vital signs within normal parameters				
	Catheter removed - Passing urine freely				
	Anaesthetic review				
	Baby check				
Interventions	Cannula removed				
Diet & Nutrition	Fluid and diet tolerated				
	No nausea and vomiting				
Mobility and Safety	Able to mobilize normally				
	VTE score adjusted – if LMWH needed - its use, and way of delivery explained, patient leaflet given				
Discharge	Patient's anxieties addressed				
	Contacts for help given				
	Discharge information given and explained				
	TTA's given and explained				
	Advice regarding contraception and future pregnancies				

Name & Signature:

Date:

Time:

Please sign when all boxes are ticked. The sheet has to be filled in by evening with a planned discharge at 10.00hrs on the second day. The patient can decide to go home on the same day at 16.00hrs at the earliest. If there are any concerns with any of the above, please ask a SHO for review, unless already stated that patient is not for enhanced recovery

	Date	Reason
Taken off Enhanced Recovery		
Comments box		

## 6. 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?	<ul style="list-style-type: none"> <li>• Time of transfer to PN Ward</li> <li>• Hours of discharge from CS</li> <li>• Reasons for delay in discharge</li> <li>• Readmission rate</li> </ul>

## 8. REVIEW

When will this guideline be reviewed?	March 2020
Please indicate frequency of review: As a guide: <ul style="list-style-type: none"> <li>• Drug related guidance should be reviewed every 2 years</li> <li>• Therapy related guidance should be reviewed every 5 years</li> <li>• Clinical treatment guidance should be reviewed every 3 – 5 years</li> </ul>	
Date of next review	March 2020

## 9. REFERENCES

1. Confidential Enquiry into Maternal and Child Health. (2004) Why mothers die 2000-2002. London: RCOG Press.
2. Drife J, Walker J (Eds) (2001) Caesarean section: current practice. In: Best Practice and Research Clinical Obstetrics and Gynaecology Vol 15, No 1. BailliereTindall.
3. NICE Guidelines on Caesarean Section (2011).London:RCOG Press.
4. Enhanced Recovery Partnership (2012). Fulfilling the potential, a better journey for patients and a better deal for the NHS

## 10. GUIDELINE DETAIL

Start Date: (date of final approval by CPG)	<b>March 2017</b>	
Dates approved by:	Maternity Guideline Group	March 2017

Have all relevant stakeholders (Trust sites, CPGs and departments) 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
Author/further information:	Serap Akmal (Consultant Obstetrician) Karen Joash (Consultant Obstetrician and Gynaecologist) Ruth Bedson (Consultant Anaesthetist) Rachel Bartlett (Consultant Anaesthetist) Jayne Terry (Consultant Obstetrician) Felicity Laat (Consultant Anaesthetist) Lucia Berry (Physiotherapist) v1 Katherine Hall (Pharmacist) v1 Candida Rom ( Labour Ward midwife) Sarah Wolujewicz (Womens Physio Service Lead)  For further information please contact  Karen Joash - Karen.joash@imperial.nhs.uk
Document review history:	Version 2
Next review due	March 2020
THIS GUIDELINE REPLACES:	Version 1

## 11. INTRANET HOUSEKEEPING

Key words ( <b><i>This should include all drugs that are mentioned in the guideline</i></b> )	Caesarean section Enhanced recovery
Which Division does this belong to?	Women's, Childrens & Clinical Support
Which subdivision of the guidelines spine should this belong to?	Maternity
Title for the intranet if different from the document ( <i>please note that documents sit alphabetically so should <b>not</b> start with "guideline for..."</i> )	

## 12. EQUALITY IMPACT OF GUIDELINE

Is this guideline anticipated to have any significant equality-related impact on patients, carers or staff?

No