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Enhanced recovery is a multimodal package of care intended to expedite recovery following surgery. Many units now having enhanced recovery for obstetric surgery as a standard of practice for elective caesarean deliveries. Early discharge (after 24 hours) for uncomplicated caesarean delivery is in keeping with National Institute for Health and Care Excellence guidance.

With the rise in caesarean delivery rates, initiatives are needed that promote and improve the quality of care as well as reduce length of hospital stay. Pregnant women, being generally young, fit and motivated, are good candidates for such programmes. However, setting up such a service can be challenging, given its multidisciplinary nature and the initial time and resource demands. This article discusses the literature and makes recommendations from the authors' own experience.

#### **Components of enhanced recovery for obstetric surgery**

There is limited evidence on which components are necessary for enhanced recovery for obstetric surgery, so heterogeneity exists between institutions. Observational data and a case control study have shown that enhanced recovery for obstetric surgery can reduce costs, and improve maternal satisfaction and neonatal bonding (Abell et al, 2014; Laronche et al, 2017). Clinical components common to most protocols include early oral intake, optimum pain and nausea control, early mobilisation and removal of the urinary catheter. A review evaluating components of enhanced recovery for obstetric surgery found that only the minimally invasive Joel-Cohen surgical technique, early removal of urinary catheter and postoperative antibiotic prophylaxis were statistically significantly associated with reduced length of hospital stay (Corso et al, 2017).



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### **Preoperative**

Enhanced recovery for obstetric surgery is appropriate for an uncomplicated caesarean delivery. Exclusion criteria include significant medical conditions requiring additional treatments or prolonged monitoring.

Patient education at pre-assessment is important, with patient empowerment key to success. A patient and midwife companion diary with step-by-step information, in conjunction with documentation by the midwife, maintains engagement. Obesity or neonatal issues should not be an excluding factor. At key stages of care, such as surgical checklists, the suitability to remain on enhanced recovery should be reassessed.

### **Intraoperative**

Standard spinal anaesthesia is preferred to general anaesthesia but this does not exclude a patient from enhanced recovery. Excessive intravenous fluids should be avoided, and postoperative nausea and vomiting prevented and aggressively treated. Intraoperative hypothermia (<36°C) increases the risk of wound infection, bleeding and transfusion; active warming measures should be used.

### **Postoperative**

Early mobilisation is encouraged through effective analgesia with regular paracetamol and non-steroidal anti-inflammatory drugs; opioids can be given as required for breakthrough pain. If general anaesthesia is used, patient-controlled analgesia with parenteral opioids may be required. At the authors' institution timely provision of as required oral opioids has improved maternal satisfaction and enabled earlier mobilisation, without increasing side effects. Early mobilisation engages the mother in her recovery, minimizing the risks associated with prolonged immobilisation. It facilitates removal of the urinary catheter, increases independence and may reduce infection rates, but must be balanced with risk of recatheterization. There is no formal



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consensus on the timing of trial without catheterization - UK programmes advocate at 6-12 hours, or when neuraxial anaesthesia has worn off (Aluri and Wrench, 2014).

#### **Challenges to service delivery**

Engaging the multidisciplinary team and changing practice can be the most challenging aspects of introducing enhanced recovery for obstetric surgery. Excellent verbal and written communication between teams is essential. Allocating clinical 'champions' who take ownership of aspects of care can facilitate this process.

#### **Conclusions**

Enhanced recovery for obstetric surgery has changed the multidisciplinary approach to planned caesarean delivery, but controlled studies are needed to formalise the content of these pathways. BJHM

#### **References**

Abell D, Pool AW, Sharafudeen S, Skelton V, Dasan J, Fleming I. Enhanced recovery in obstetric surgery (Kings-EROS): early results from one of the UKs first programmes: 11AP5-10. Eur J Anaesthesiol. 2014 Jun; 31:192.

Aluri S, Wrench IJ. Enhanced recovery from obstetric surgery: a UK survey of practice. Int J Obstet Anesth. 2014 May;23(2):157-160. <https://doi.org/10.1016/j.ijoa.2013.11.006>

Corso E, Hind D, Beever D, Fuller G, Wilson MJ, Wrench IJ, Chambers D. Enhanced recovery after elective caesarean: a rapid review of clinical protocols, and an umbrella review of systematic reviews. BMC Pregnancy Childbirth. 2017 Dec;17(1):91. <https://doi.org/10.1186/s12884-017-1265-0>

Laronche A, Popescu L, Benhamou D. An enhanced recovery programme after caesarean delivery increases maternal



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satisfaction and improves maternal-neonatal bonding: A case control study. Eur J Obstet Gynecol Reprod Biol. 2017 Mar;210:212-216. <https://doi.org/10.1016/j.ejogrb.2016.12.034>

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