NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

CENTRE FOR CLINICAL PRACTICE

QUALITY STANDARDS PROGRAMME

Quality standard topic: Caesarean Section

Output: Briefing paper

Introduction

This briefing paper presents a structured evidence review to help determine the suitability of recommendations from the key development sources listed below, to be developed into a NICE quality standard. The draft quality statements and measures presented in this paper are based on published recommendations from these key development sources:

Caesarean section. NICE clinical guideline CG132 (2011; NICE accredited)

Antenatal Corticosteroids to Reduce Neonatal Morbidity. Royal College of Gynaecologists and Obstetricians (Green-top 7; 2010)

Structure of the briefing paper

The body of the paper presents supporting evidence for the draft quality standard reviewed against the three dimensions of quality: clinical effectiveness, patient experience and safety. Information is also provided on available cost-effectiveness evidence and current clinical practice for the proposed standard. Where possible, evidence from the clinical guideline is presented. When this is not available, other evidence sources have been used.

1 Maternal request for a caesarean section: Obstetric team involvement

1.1 NICE CG 132 Recommendation 1.2.9.2

1.2 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG 132 1.2.9.2 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 (see box A). Include a discussion with 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. [new 2011]
Proposed quality statement	Pregnant woman who request a caesarean section (where there is no other indication) are involved in the discussion about the request with members of the obstetric team
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that all pregnant women who request a CS (where there is no other indication) are offered the opportunity to discuss their request with members of the obstetric team. **Process:** a) The proportion of pregnant women who request a CS (where there is no other indication) who were offered the opportunity to discuss their request with members of the obstetric team Numerator – The number of people in the denominator who were offered the opportunity to discuss their request with members of the obstetric team Denominator – The number of people who request a CS where there is no other indication. **Outcome:** Patient satisfaction with involvement in decision making
Definitions	**Discussions to include** reasons behind the request, including: previous birth trauma, women's perceptions of the risks of both vaginal birth and CS; women's perceptions of vaginal birth, including misconceptions and lack of knowledge about birth; and planning a date for giving birth and convenience (Taken from page 102 of the full clinical guideline).
Questions for the TEG	As written this statement is broad as it is based on the phrase "are involved in the discussion" in order to enable

	women to make properly informed decisions. Is the intent that a woman is provided with the opportunity to discuss risks and benefits with the obstetric team in all cases?

1.2.1 Clinical and cost-effectiveness evidence

Recommendation 1.2.9.2 from NICE Clinical guideline 132 was based on a number of observational studies that were included in a systematic review looking at maternal requests for a CS. The studies found that there was a consistent relationship between women's preference for CS and either previous CS, previous negative birth experience, a complication in the current pregnancy or a fear of giving birth. The main reason given for preference for CS was that it was perceived to be safest for the baby. The recommendation is concerned with ensuring that pregnant women have effective and appropriate support including accurate information to help inform their decision concerning preferred mode of birth.

1.2.2 Patient experience

A national survey of women's experience of maternity care[1], found that, of those women who had a CS, 20% felt they were not involved in decision-making about the procedure, 44% felt they were involved and a 37% felt involved to some extent.

The full NICE CS clinical guideline (2011) estimates that about 6%–10% of pregnant women experience fear of childbirth. Fears concerning childbirth such as pain, obstetric injury, unplanned CS, health care staff and the effects on family life were reported to be more common among primiparous compared to multiparous women, and among those who had not attended antenatal classes. Fear of health care workers was reported to be more common among women who either had problems in the current pregnancy or those who were intending a planned CS.

1.2.3 Patient safety

No specific patient safety incidents were identified for this statement.

1.2.4 Current practice

The full CS clinical guideline reported expert opinion that obstetricians estimate that they would agree to perform a CS for about half of the requests they receive. This equates to approximately 7% of all caesareans performed[2].

[1] NPEU, Delivered with care (2010)
[2] NICE, National costing report: Caesarean section (November 2011)

The NICE Guideline Development Group (GDG) found that a woman's request for CS should be the start of a continuing dialogue and process during which a negotiated plan of care can be developed which enables women to continue to feel in control with the support of her healthcare providers.

1.2.5 Current indicators

No national indicators were identified

2 Maternal request for a caesarean section: Maternal anxiety

2.1 NICE CG 132 Recommendation 1.2.9.3

2.2 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG 132 1.2.9.3 (KPI) When a woman requests a CS because she has anxiety about childbirth, offer referral to a healthcare professional with expertise in providing perinatal mental health support to help her address her anxiety in a supportive manner. [new 2011]
Proposed quality statement	Pregnant women who request a caesarean section due to anxiety about childbirth are offered referral to a healthcare professional with relevant expertise in this area
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that pregnant women who request a CS due to anxiety about childbirth are referred to a healthcare professional with relevant experience in this area **Process:** The proportion of pregnant women who request a CS due to anxiety about childbirth that are referred to a healthcare professional with relevant experience in this area Numerator – The number of people in the denominator who have been referred to a healthcare professional with relevant experience in this area Denominator – The number of pregnant women who have requested a CS due to anxiety about childbirth **Outcome:**
Definitions	Relevant experience – a member of the maternity team, such as a midwife or obstetrician who are able to provide basic mental health / support / counselling (p 101- full clinical)guideline

2.2.1 Clinical and cost-effectiveness evidence

Recommendation 1.2.9.3 was primarily based on evidence drawn from a single randomised controlled trial (RCT) that randomised women referred to an antenatal clinic for fear of child birth to receive either cognitive behavioural therapy or usual care. The study detected no difference in the proportion of women who chose to deliver by CS. It was reported that fewer women in the intervention group who had vaginal births reported fear of pain in labour and in addition had shorter labours.

The GDG believed that when women are given the opportunity to discuss these anxieties in a supportive environment, the anxieties can often be reduced to the point where the woman is able to choose a planned vaginal birth. The GDG agreed this was the preferred approach. It was not felt to be necessary for the person providing this psychological support to be a mental health expert unless clinically indicated, but rather that it could be provided by a member of the maternity team, such as a midwife or obstetrician. As part of the economic considerations for this recommendation, the GDG felt that there was potential for the extra resource required to provide additional psychological support to be offset by resources saved where a request for planned CS was appropriately changed to a planned vaginal birth as a result of addressing a woman's anxieties or concerns antenatally. It was not possible for a formal cost effectiveness assessment to be conducted however, due to difficulties in measuring the relevant outcomes.

2.2.2 Patient experience

The full CS clinical guideline (2011) estimates that about 6%–10% of pregnant women experience fear of childbirth. Fears concerning childbirth such as pain, obstetric injury, unplanned CS, health care staff and the effects on family life were reported to be more common among primiparous compared to multiparous women, and among those who had not attended antenatal classes. Fear of health care workers was reported to be more common among women who either had problems in the current pregnancy or those who were intending a planned CS. The guideline reports how manifestations of this fear included stress symptoms influencing everyday life, nightmares, a wish to have CS and a wish to avoid the current pregnancy and childbirth.

2.2.3 Patient safety

No specific patient safety incidents were identified for this statement

2.2.4 Current practice

The NICE costing report for the CS clinical guideline used expert clinical opinion to estimate current practice of pregnant women who experience anxiety about childbirth and who are currently offered mental health support.

The current practice of women offered appropriate support was assumed to be 2.5% of women who are anxious about childbirth. This equates to 283 women, with the potential for this figure to rise to 11,325 following implementation of the guideline. This model assumes that of women offered mental health support, 50% would accept it.

2.2.5 Current indicators

No indicators were identified

3 Involvement of senior staff in decision making for caesarean section

3.1 NICE CG 132 Recommendation 1.3.2.4

3.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG132 1.3.2.4 Consultant obstetricians should be involved in the decision making for CS, because this reduces the likelihood of CS. [2004]
Proposed quality statement	Pregnant women where a caesarean section is being considered have a consultant obstetrician involved in the decision whether a CS should be conducted or not
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that a consultant obstetrician is involved in all decisions concerning whether a CS should be conducted or not. **Process:** The proportion of pregnant women, where a CS was being considered that had a consultant obstetrician involved in the decision Numerator – The number of people in the denominator that have a consultant obstetrician involved in making the decision Denominator – The number of pregnant women where a CS is being considered **Outcome:**
Definitions question for the TEG	a) We need to define involved b) Do we need to define "being considered".

3.1.2 Clinical and cost-effectiveness evidence

The GDG reviewed the findings from the National Sentinel CS Audit[3] concerning the proportion of CS cases with consultant involvement in the decision whether to conduct a CS or not. In maternity units where consultant obstetricians were frequently involved either in the decision for CS or present in theatre for "emergency" CS the crude and adjusted CS rates (having taken into account case mix differences) were lower.

3.1.3 Patient experience

No patient experience information was identified for this statement.

[3] RCOG National Sentinel CS Audit (2001)

3.1.4 Patient safety

No specific patient safety incidents were identified related to this statement.

3.1.5 Current practice

A Department of Health report, Maternity Matters (2007), makes reference to a particular need to provide more senior cover on labour wards. However, no national information was identified to inform current practice on involvement of consultant obstetrician in decision making for CS.

3.1.6 Current indicators

No current indicators were identified.

4 Vaginal birth after a caesarean section

4.1 NICE CG 132 Recommendation 1.8.2 [KPI],

4.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG 132 1.8.2 **(KPI)** 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. [new 2011]
Proposed quality statement	Pregnant women who have a preference for a vaginal birth who have had up to 4 previous CS are informed that there are little or no increased risks of complications.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that pregnant women who have a preference for a vaginal birth who have had up to 4 previous CS are informed that there are little or no increased risks of complications **Process:** The proportion of pregnant women who have a preference for a vaginal birth, who have had up to 4 previous CS that have been informed that there are little or no increased risks of complications Numerator – The number of people in the denominator who have been informed that there are little or no increased risks of complications Denominator – The number of pregnant women who have a preference for a vaginal birth who have had up to 4 previous CS **Outcome:**
Definitions	Complications refers to those listed in CG132 recommendations 1.8.2
Questions for the TEG	a) How does this statement differ to debriefing? b) Should the statement be more about supporting people to have a VB where they wish to have one, including in cases where a women has had upto 4 previous CS? c) What outcome are we trying to achieve with this?

4.1.2 Clinical and cost-effectiveness evidence

Following a review of the available evidence concerning any increased risks for pregnant women wishing to have a vaginal birth after a previous CS (VBAC), the GDG found that for some maternal complications there was no difference in the incidence rate for those attempting VBAC compared to those having a planned CS. For those where there was a statistically significant

difference, the actual incidence rates in either group were so rare that the GDG agreed that there wasn't sufficient evidence to suggest that opting to have a vaginal birth following up to 4 previous CS incurred any significant risks over opting to have a repeat CS

An economic model developed for the guideline comparing the cost effectiveness of planned CS versus planned vaginal birth in women who have had a previous CS, did not strongly suggest a preferred mode of birth. The results did tend to show that VBAC was more likely to be cost effective, although this was a borderline finding and therefore the GDG agreed that given the current state of evidence, a recommendation allowing women to choose their preferred method of birth in consultation with the healthcare professionals responsible for her care was the most appropriate approach.

4.1.3 Patient experience

No patient experience information was identified

4.1.4 Patient safety

No specific patient safety incidents were identified related to this statement.

4.1.5 Current practice

A national survey of women's experience of maternity care conducted by the National perinatal epidemiology unit reported that, in 2012 30% of respondents had a VBAC[4]. This was down from 35% in the previous survey conducted in 2006. However, the figures would appear to have remained relatively stable at around this figure of 30-35% for the last decade or so.

	1995	2006	2010
% Starting labour naturally	65	68	67
% Had continuous fetal monitoring	53	41	53
% Had different types of delivery:			
Unassisted vaginal	71	65	63
Ventouse	5	7	6
Forceps	6	5	7
Caesarean section	17	23	25
% Had a vaginal birth after caesarean (VBAC)	31	35	30
% Had a midwife deliver the baby	54	70	63
% Delivered standing, squatting or kneeling	6	15	14

The 2001 National Sentinel Caesarean Section Audit reported the VBAC rate as 33% with significant variation between units: from 6% to 64%[5]. The audit also reported the % of pregnant women who had a repeat CS that had been

[4] NPEU, Delivered with care (2010)

[5] RCOG National Sentinel CS Audit (2001)

offered a trial of labour. This figure was 44%, however significant variance was again recorded: from 8% to 90% show significant variation in practice. a national survey of women's experience of maternity

4.1.6 Current indicators

5 Timing of elective CS

5.1 NICE CG 132 Recommendation CG 132 1.4.1.1,

5.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG 132 1.4.1.1 The risk of respiratory morbidity is increased in babies born by CS before labour, but this risk decreases significantly after 39 weeks. Therefore planned CS should not routinely be carried out before 39 weeks. [2004]
Proposed quality statement	Pregnant women having a planned CS, have the CS carried out after 39 week gestation, unless an earlier delivery is necessary due to maternal / fetal complications.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that pregnant women having a planned CS, have the CS carried out after 39 week gestation, unless an earlier delivery is necessary due to maternal / fetal complications **Process:** The proportion of pregnant women having a planned CS that have it carried out after 39 weeks gestation Numerator – The number of people in the denominator who have a planned CS carried out after 39 weeks gestation Denominator – The number of pregnant women having a planned CS (without maternal / fetal complications requiring early delivery of the baby pre 39 weeks) **Outcome:** Rates of respiratory distress syndrome
Definitions	Can we define maternal / fetal complications/

5.1.2 Clinical and cost-effectiveness evidence

The GDG reported that babies born by planned CS at term (37–42 weeks of gestation) are at risk of respiratory distress syndrome and this decreases with increasing gestational age. Recommendation 1.4.1.1 in CG 132 is based on a large prospective UK survey that looked at all cases of respiratory distress syndrome (RDS) or transient tachypnoea of the newborn (TTN) at term requiring neonatal intensive care unit (NICU). The study found a decrease in respiratory morbidity in babies born at 39 weeks gestation onwards (from 42.3 per 1000 at 38 weeks to 17.8 per 1000 at 39 weeks). The rate of respiratory morbidity among neonates born by CS before the onset of labour across the different gestational ages was increased. For babies born by CS before onset of labour the rate ranged from; over 70 / 1000 births at 37 weeks, to over 40 / 1000 at 38 weeks to less than 20/1000 at 39 weeks.

5.1.3 Patient experience

No patient experience information identified

5.1.4 Patient safety

No specific patient safety incidents were reported to the NICE quality standards and indicators team by the (safety people) however safety considerations were noted by the GDG as reported as part of the effectiveness review.

5.1.5 Current practice

The Hospitals Episodes Statistics maternity data published by the Information Centre for Health and Social care reported that in 2010/11, 48.6% of deliveries where caesarean section was the method of delivery at the onset of labour, were conducted before 39 weeks gestation.

5.1.6 Current indicators

Hospital episode statistics – Mode of birth including gestation period.

6 Corticosteroid use in planned CS prior to 39 weeks

6.1 RCOG Guideline No. 7

6.1.1 Relevant clinical guideline recommendations and proposed quality statement

Guideline recommendations	RCOG Guideline No. 7 Antenatal corticosteroids should be given to all women for whom an elective caesarean section is planned prior to 38 (+6) weeks of gestation RCOG Guideline No. 7 Corticosteroids should be given to reduce the risk of respiratory morbidity in all babies delivered by elective caesarean section prior to 38(+6) weeks of gestation.
Proposed quality statement	Pregnant women having a planned caesarean section prior to 39 weeks gestation are offered a course of antenatal corticosteroids
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that pregnant women having a planned caesarean section prior to 39 weeks gestation are offered a course of antenatal corticosteroids **Process:** The proportion of pregnant women having a planned caesarean section prior to 39 weeks gestation that are offered a course of antenatal corticosteroids Numerator – The number of people in the denominator that are offered a course of antenatal corticosteroids Denominator – The number of pregnant women having a planned caesarean section prior to 39 weeks. **Outcome**: Rates of neonatal death, Rates of respiratory distress syndrome Rates of intraventricular haemorrhage
Definitions	**"A course"** – this should be a one off course of steroids as repeated courses are not recommended (see RCOG guideline 7)
Questions for TEG	a) Do we need to specify when / by when the steroids should be administered i.e. define "prior to"?

6.1.2 Clinical and cost-effectiveness evidence

The RCOG guideline No.7 reports findings from a systematic review of evidence concerning the impact of corticosteroids on rates of respiratory distress syndrome (RDS) in babies born before 39 weeks gestation. There is evidence that treatment with antenatal corticosteroids prior to delivery by

elective caesarean section can reduce admissions to the NICU up to 38+6 weeks of gestation.

A Cochrane review of 21 studies (3885 women and 4269 infants) showed that treatment of women at risk of preterm birth with a single course of antenatal corticosteroids reduced the risk of neonatal death by 31%, RDS by 44% and intraventricular haemorrhage by 46%. Antenatal corticosteroid use was also shown to be associated with a reduction in necrotising enterocolitis, respiratory support, intensive care admissions and systemic infections in the first 48 hours of life compared with no treatment or treatment with placebo.

The RCOG guideline states that a single course of antenatal corticosteroids should be considered routine for preterm delivery with few exceptions. It reports that there is evidence of benefit in all major subgroups of preterm babies, such as women with premature rupture of membranes and pregnancy-related hypertension syndromes as well as the subgroups discussed below. This benefit is irrespective of race or gender.

When to administer

The data are strongest for gestations between 26+0 and 34+6 weeks. The data for pregnancies between 24+0 and 26+0 weeks of gestation are scarce, with only one trial (49 infants) contributing data to the Cochrane review.

How to administer

Betamethasone 12 mg given intramuscularly in two doses or dexamethasone 6 mg given intramuscularly in four doses are the steroids of choice to enhance lung maturation.

Repeat administration

Weekly repeat courses of antenatal corticosteroids reduce the occurrence and severity of neonatal respiratory disease, but the short-term benefits are associated with a reduction in weight and head circumference. Weekly repeat courses are not recommended.

6.1.3 Patient experience

No patient experience information was identified.

6.1.4 Patient safety

No specific patient safety incidents were identified related to this statement.

6.1.5 Current practice

No current practice information was identified

6.1.6 Current indicators

No current indicators were identified.

7 The use of fetal blood sampling

7.1 NICE CG 132 Recommendation 1.3.2.5

7.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG 132, 1.3.2.5 Electronic fetal monitoring is associated with an increased likelihood of CS. When CS is contemplated because of an abnormal fetal heart rate pattern, in cases of suspected fetal acidosis, fetal blood sampling should be offered if it is technically possible and there are no contraindications. [2004]
Proposed quality statement	Women in labour for whom an emergency or urgent CS is being considered due to fetal compromise are offered fetal blood sampling to inform the decision.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that women in labour for whom an emergency or urgent CS is being considered due to fetal compromise are offered fetal blood sampling to inform the decision **Process:** The proportion of women in labour for whom an emergency or urgent CS is being considered due to fetal compromise that are offered fetal blood sampling to inform the decision Numerator – The number of people in the denominator that are offered fetal blood sampling Denominator – The number of women in labour for whom an emergency or urgent CS is being considered due to fetal compromise **Outcome:**
Definitions	**Emergency CS** - immediate threat to the life of the woman or fetus (Criteria taken from full guideline) **Urgent CS** - maternal or fetal compromise which was not immediately life-threatening (Criteria taken from full guideline) FBS should be undertaken when it is technically possible to do so and where there are no contraindications. The NSCSA defined, 'technically possible' as cervical dilation of 4 cm or more. Where there is clear evidence of acute fetal compromise (for example, prolonged deceleration greater than 3 minutes), FBS should not be undertaken and urgent preparations to expedite birth should be made (Intrapartum Care full guideline – p227)

7.1.2 Clinical and cost-effectiveness evidence

Recommendation 1.3.2.5 is based on findings from a systematic review that identified 9 RCTs that compared the use of electronic fetal monitoring (EFM)

during labour to intermittent auscultation. No difference was detected in perinatal mortality, but the use of EFM during Intrapartum care resulted in increased CS rates. It was found that this increase is less marked if fetal blood sampling (FBS) is used. The GDG therefore recommended that where delivery is contemplated because of an abnormal fetal heart rate pattern, in cases of suspected fetal acidosis, FBS should be undertaken in the absence of technical difficulties or any contraindications. Where there is clear evidence of acute fetal compromise, e.g. prolonged decelerations (longer than 3 minutes), FBS should not be undertaken and the baby should be delivered urgently.

7.1.3 Patient experience

No patient experience information was identified.

7.1.4 Patient safety

No specific patient safety incidents were identified related to this statement.

7.1.5 Current practice

The NCSCA (2001)[6] included an auditable standard concerning 'Where a CS is contemplated because of an abnormal fetal heart rate (FHR) pattern, in cases of suspected fetal acidosis, fetal blood sampling (FBS) should be undertaken when it is technically possible to do so'. The audit found that, FBS was attempted in 44% of the relevant cases.

7.1.6 Current indicators

NSCSA Where a CS is contemplated because of an abnormal fetal heart rate (FHR) pattern, in cases of suspected fetal acidosis, fetal blood sampling (FBS) should be undertaken when it is technically possible to do so'

[6] RCOG National Sentinel CS Audit (2001)

8 Debriefing

8.1 NICE CG 132 Recommendation 1.7.1.9 (KPI)

8.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG 132 1.7.1.9 **(KPI)** While women are in hospital after having a CS, give them the opportunity to discuss with healthcare professionals the reasons for the CS and provide both verbal and printed information about birth options for any future pregnancies. If the woman prefers, provide this at a later date. [new 2011]
Proposed quality statement	All women who have had a CS have an opportunity to discuss with health professionals the reason/s for the CS and birth options for future pregnancies.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that all women who have had a CS have an opportunity to discuss with health professionals the reason/s for the CS and birth options for future pregnancies. **Process:** The proportion of women who have had a CS that had an opportunity to discuss with health professionals the reason/s for the CS and birth options for future pregnancies Numerator – The number of people in the denominator who have had an opportunity to discuss with health professionals the reason/s for the CS and birth options for future pregnancies Denominator – The number of women who have had a CS **Outcome:** Patient experience of post natal feedback and information provision
Definitions	**Opportunity to discuss –** this opportunity should be available either while the women is an in-patient or at a later date following discharge from in-patient services if they prefer.
Question for the TEG	Is this specifically about VBAC? How is it different to statement 3?

8.1.2 Clinical and cost-effectiveness evidence

Recommendation 1.7.1.9 in CG132 was based on a GDG consensus, taking into consideration the need to ensure pregnant women and where applicable their partners are given as much information as possible to help inform any future decisions they may need to make with regard to pregnancy and modes of birth. The debrief is also important in clarifying the reasons for any

complications that the women experienced during labour that led to a decision being made to perform a CS.

8.1.3 Patient experience

No patient experience information was identified.

8.1.4 Patient safety

No specific patient safety incidents were identified relevant to this statement.

8.1.5 Current practice

The GDG noted that many women leave hospital following a caesarean birth without understanding the implications for planning future pregnancies and births. It was felt that it is important to provide this information to women and their partners so that they can have an accurate picture of what this means for them when planning their family, including options for future modes of birth.

8.1.6 Current indicators

No current indicators were identified.

9 Maternal complications following caesarean section

9.1 NICE CG 132 Recommendation 1.6.2.1; 1.6.2.2; 1.6.2.3

9.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG132 1.6.1.1 Healthcare professionals caring for women after CS should be aware that, although it is rare for women to need intensive care following childbirth, this occurs more frequently after CS (about 9 per 1000). [2004] CG 132 1.6.2.1. After CS, women should be observed on a one-to-one basis by a properly trained member of staff until they have regained airway control and cardiorespiratory stability and are able to communicate. [2004] CG 132 1.6.2.2 After recovery from anaesthesia, observations (respiratory rate, heart rate, blood pressure, pain and sedation) should be continued every half hour for 2 hours, and hourly thereafter provided that the observations are stable or satisfactory. If these observations are not stable, more frequent observations and medical review are recommended. [2004] CG 132 1.6.2.3 For women who have had intrathecal opioids, there should be a minimum hourly observation of respiratory rate, sedation and pain scores for at least 12 hours for diamorphine and 24 hours for morphine. [2004] CG 132 1.6.2.4 For women who have had epidural opioids or patient-controlled analgesia with opioids, there should be routine hourly monitoring of respiratory rate, sedation and pain scores throughout treatment and for at least 2 hours after discontinuation of treatment. [2004] CG 132 1.7.1.3 CS wound care should include: removing the dressing 24 hours after the CS; specific monitoring for fever; assessing the wound for signs of infection (such as increasing pain, redness or discharge), separation or dehiscence; encouraging the woman to wear loose, comfortable clothes and cotton underwear; gently cleaning and drying the wound daily; if needed, planning the removal of sutures or clips. [2004] CG 132 1.7.1.6 Women who have had a CS are at increased risk of thromboembolic disease (both deep vein thrombosis and pulmonary embolism), so healthcare professionals need to pay particular attention to women who have chest symptoms (such as cough or shortness of breath) or leg symptoms (such as painful swollen calf). [2004]
Proposed quality statement	Women who have had a CS have the potential risks and complications monitored until discharged to routine post natal care
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that women who have had a CS have the potential risks and

	complications monitored until discharged to routine post natal care **Process:** The proportion of women who have had a CS that had potential risks and complications monitored until discharged to routine post natal care Numerator – The number of people in the denominator that had the potential risks and complications following CS monitored until discharged to routine post natal care Denominator – The number of women who had a CS **Outcome:**
Definitions	Complications refers to those listed in CG132 recommendations 1.8.2 **Routine post natal care** .
Questions for the TEG	What are the specific issues we need to focus on in relation to post CS care that are different to routine post operative / post surgical care?

9.1.2 Clinical and cost-effectiveness evidence

The above recommendations CG 32 are concerned with general post-surgical care that are likely to be covered in other cross cutting quality standards. The GDG included reference to the UK obstetric anaesthesia guidelines that suggest postoperative care of a CS patient should be in accordance with the care of any postoperative patient as laid out in guidelines for post-anaesthetic recovery.

The full clinical guideline (2004) reports that there were 3 deaths in the previous Confidential Enquiry into Maternal Death triennium report in which poor postoperative care was a contributing factor. The importance of monitoring the patient adequately postoperatively was emphasised in the report

9.1.3 Patient experience

In the NSCSA (2001), 10% of women who had CS required special care postoperatively within a high dependency unit, 3.5% of these women were transferred to an intensive care unit.

9.1.4 Patient safety

A patient safety incident is any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS care (see Appendix A). A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) didn't identify any issues specifically related to problems associated with post natal monitoring.

However a number of incidents that related to post CS complications that may have been identified if good monitoring processes were in place were identified. These incidents included; post-partum haemorrhage following CS (including secondary post-partum haemorrhage), general post-operative problems, sepsis / wound breakdown and maternal collapse post CS.

9.1.5 Current practice

The national confidential enquiry into maternal death report[7], reported that there remains an urgent need for the routine use of a national modified early obstetric warning score (MEOWS) chart in all pregnant or postpartum women who become unwell and require either obstetric or gynaecology services.

9.1.6 Current indicators

No current indicators were identified.

[7] National confidential enquiry into maternal death "Saving mothers lives" (2011)

Appendix A: Definition of patient safety

The National Patient Safety Agency (NPSA) defines patient safety in the following terms:

Every day more than a million people are treated safely and successfully in the NHS, but the evidence tells us that in complex healthcare systems things will and do go wrong, no matter how dedicated and professional the staff. When things go wrong, patients are at risk of harm, and the effects are widespread and often devastating for patients, their families and the staff involved. Safety incidents also incur costs through litigation and extra treatment, and in 2009/10 the NHSLA paid out approximately £827, 000,000 in litigation costs and damages. These incidents are often caused by poor system design rather than the error of individuals i.e. ‘they are an accident waiting to happen’.

In short patient safety could be summarised as ‘The identification and reduction of risk and harm associated with the care provided to patients ‘or ‘Preventing patients from being harmed by their treatment’. Examples of this might be ‘operating on or removing the wrong organ, ten times the dose of an opioid, giving a colonoscopy to the wrong patient with the same name as someone else in the waiting room etc.’ These risks are unlikely to be identified through clinical trials or traditional evidence bases and so other evidence sources, such as the National Reporting and Learning System, need to be analysed to highlight the risks and improve system development. This does not however give an accurate picture of prevalence in that way that methods such as casenote review may do.