WOMEN'S HEALTH AND PAEDIATRICS
MATERNITY UNIT

CAESAREAN SECTION

Amendments			
Date	Page(s)	Comments	Approved by
Sept 2004		Caesarean section Categories changed	Women's Health Clinical Governance Committee (WHCG)
Sept 2007		Guidance adjusted to reflect introduction of ICP which was released in Feb 2008	WHCG
Sept 2009		Complete review of document to comply with NICE and CNST guidance	Women's Health Guidelines Group
Nov 2012		Complete review of document to comply with NICE guidance	Women's Health Guidelines Group
Jan 2016		Theatre Location for surgery added	Women's Health Guidelines Group

Compiled by: Dr Sandra Newbold, Obstetric Consultant

In consultation with: Women's Health Guidelines Group

Ratified by: Women's Health Guidelines Group

Date ratified: January 2016

Date issued: **February** 2016

Next review date: **February** 2019

Target audience: All health professionals within the maternity services

Equality impact assessment carried out by:

Comments on this document to: Women's Health Guidelines Group

See also:

- Cannulation on the Labour Ward
- Fetal monitoring
- Use of antibiotic prophylaxis on the Labour Ward
- VBAC
- VTE prophylaxis
- Care of Women in the Observation Bay
- Women with HIV, Hepatitis B and C
- The trigger list for calling a consultant
- ASPH Infection control policy
- ASPH Wound care guidelines

This evidence based guideline has been developed to help ensure the consistent care and management of women having a caesarean section at Ashford and St Peter's Hospitals. Many people feel that having a baby by caesarean section is an easy option but this is not the case as there are many risks to the mother. Caesarean sections are major abdominal operations and as such the woman needs a high standard of pre- and post-operative care to minimise complications.

There are four categories for caesarean section (CS) undertaken within this department.

Category	Definition	Decision to delivery interval
Category 1	Involves an immediate threat to the life of the mother and/or fetus	Within 30 minutes
Category 2	Maternal or fetal compromise which is not immediately life-threatening	Within 45 minutes
Category 3	No maternal or fetal compromise but requires early delivery	Within 8 hours
Category 4	Delivery timed to suit woman and service provision	

Offer planned CS to women with:	**Do not routinely offer planned CS to women with:**	**Maternal request for CS**
✓ A term singleton breech (if external cephalic version is contraindicated or has failed) ✓ A twin pregnancy with non-cephalic first twin ✓ Primary genital herpes in the third trimester ✓ Major and Minor placenta praevia ✓ Some women with HIV (refer to BHIVA guidelines)	✗ Twin pregnancy (first twin is cephalic at term) ✗ Preterm birth ✗ A 'small for gestational age' baby ✗ Hepatitis B virus ✗ Hepatitis C virus ✗ Recurrent genital herpes at term ✗ Some HIV women on treatment (see BHIVA guidelines)	• Is not on its own an indication for CS • Explore and discuss specific reasons • Discuss benefits and risks of CS • Offer counselling if fear of childbirth • The clinician can decline a request for CS, but should offer referral to an obstetrician who will carry out the procedure

THEATRE LOCATION

Maternity theatres on the Labour ward will usually be the preferred location to undertake surgery for Caesarean Section.

Any decision made around the location for surgery in any case other than a straightforward caesarean section should involve the Consultant Obstetrician, Consultant Anaesthetist, Consultant Surgeon (if relevant), Consultant Paediatrician and the Senior Midwife.

The following factors should be considered to decide whether the Labour Ward Theatre is the most appropriate location for the surgery:

- The requirements of other specialities,
- Equipment,
- Staffing
- Whether transfer to ITU after surgery is likely

The requirement for NICU care should also be a factor in the decision making but not the primary reason for choosing Maternity Theatres.

These discussions and the decisions taken should be documented in the medical records.

ELECTIVE CAESAREAN SECTIONS

When a decision for elective CS (category 4) is made:

- The woman's details and the reason for CS are documented in the elective CS diary.
- Elective CSs should only be booked for 39 weeks gestation or over, unless there is a MEDICAL indication to perform it earlier.
- An information sheet on CS should be given to the woman and an elective CS integrated care pathway (ICP) started.
- If over 32 weeks of pregnancy MRSA swabs must be taken and documented in notes.
- The date for the operation is given to the woman and an appointment made for her to attend pre-assessment clinic.

Pre-Assessment Clinic or Maternity Day Assessment Unit (MDAU)

The consultation will include:

- Discussion regarding the process on the day
- Pre-med (ranitidine and metoclopramide) issued by the midwife
- Bloods taken for FBC & group & save (cross match if requested by medical team)
- Check routine MRSA swabs have been taken.

On admission to Joan Booker/Labour Ward, the admitting midwife must ensure that:

- The woman has taken her ranitidine and metoclopramide and has been 'nil by mouth' for at least 6 hours, except for water which may be consumed up to 2 hours pre-op.
- Baseline assessment is documented e.g. pulse, blood pressure, temperature, urinalysis, abdominal palpation and fetal heart rate.
- Palpation: if the midwife feels that the presentation is not cephalic this must be discussed with the duty registrar. N.B. All women undergoing elective CS for breech presentation will have a scan on the day of surgery. The admitting midwife must arrange this scan with the ultrasound department (extension 2665).
- If CTG monitoring is required please refer to the *Fetal monitoring* guideline

- Correct patient details and drug allergies are recorded on the name bands
- FBC and group and save have been taken within the last seven days and the FBC result is in the notes (blood is not usually cross matched unless there is an atypical antibody or bleeding is anticipated e.g. placenta praevia). Results for all other bloods are documented in the notes.
- If blood is required it is in the labour ward fridge prior to surgery
- The admissions procedures are documented in the ICP
- The admission is entered on PAS and Evolution as appropriate.
- Consent form 1: Should be completed on the day by a doctor able to perform the procedure and deal with the complications. (This may change when the new consent forms and information leaflets are introduced).

EMERGENCY CAESAREAN SECTIONS

Emergency CS (categories 1, 2 & 3):
Preparation and documentation for emergency caesarean section should be the same as for an elective operation. However, verbal consent may be appropriate for a category 1 CS

The doctor who decides that an emergency CS is required **MUST** inform the shift leader immediately of the category of CS and record the following in the woman's notes:

- The category of CS
- The indication for CS
- The time of decision**: for all category 1** CS the clock must be activated.
- Any reason for delay MUST be clearly documented by the surgeon (or another member of staff) in the woman's notes
- Discussion with the consultant (if category 1 CS is indicated it may be appropriate that the shift leader speaks to the consultant).

The named midwife caring for the woman will inform the shift leader. The named midwife will commence an emergency CS ICP

The shift leader will notify the following personnel, indicating the degree of urgency:
- anaesthetic registrar
- ODP
- obstetric SHO if not already present
- paediatric SHO/registrar as appropriate
- NICU if appropriate.

If the women has an epidural in situ and it is a category 1 CS the midwife should give an initial epidural top up of 5ml L-bupivacine 5mg/ml (chirocaine 5mg/ml) followed 1 minute later by a second top-up of 5ml L-bupivaciane 5mg/ml on the anaesthetist's verbal instruction (to be signed later by the anaesthetist) as per obstetric epidural record.

The shift leader must ensure that one midwife (usually the named midwife) prepares the woman, and another midwife prepares theatre and scrubs for the CS.

Special attention should be given to:
- positioning the mother on her side if there is an abnormal CTG
- Administration of ranitidine and metoclopramide. Give the first dose or a repeat dose if none given within the last 8 hours
- IV access
- Blood results. Send FBC and group and save urgently to the laboratory unless already sent
- Consent form
- CTG monitoring must continue until the anaesthetist and surgeon are ready for skin preparation.
- Catheter care

THE PREPARATION OF WOMEN

The allocation of tasks should be flexible and it is important to work as a team, especially in an emergency situation.

Maternity Assistants:

- TED stockings (measured for all women to be applied immediately after caesarean section).
- Hospital gown
- Remove all jewellery (except wedding ring which may be taped)
- Remove make-up

Midwife (in the room):

- Insert a 16 gauge intravenous cannula (refer to guidelines for *Cannulation on the Labour Ward)*
- Hair removal should be performed as near to the time of surgery as possible. Pre-operative shaving should be avoided. If there is hair over the likely site of incision this should be clipped. Using an electric razor with a disposable head.

Midwife (in theatre):

- Urinary catheterisation (if woman is not already catheterised) to be performed in theatre after spinal anaesthetic utilising:
  - aseptic technique
  - indwelling size 12CH catheter with 10ml balloon
  - appropriate drainage bag (use urometer bag if hourly urine output measurements are required after delivery).

MANAGEMENT IN THEATRE:

- The notes will accompany the woman to theatre.
- The partner may accompany the woman to theatre if appropriate. Partners will not remain in theatre for a general anaesthetic.
- The anaesthetist will prescribe and administer sodium citrate if required.
- Prophylactic antibiotics will be prescribed and given by the anaesthetist in theatre (refer to the guidelines for the use of antibiotic prophylaxis on the labour ward).
- For an elective caesarean section the midwife will listen to the fetal heart with a hand held doppler prior to skin preparation. This must be documented in the notes.
- For emergency CS the CTG must be continued until the anaesthetist and surgeon are ready for skin preparation
- It is expected that a midwife will 'receive' the baby and a health care assistant will 'run'.

N.B. The 'runner' must record the following on the theatre board (these will have to be retrospectively entered into the notes):

- Time of transfer-to-theatre
- Time of knife-to-skin
- Time of delivery of the baby and the placenta
- Time of completion.

If any unforeseen complications occur during surgery the duty consultant should be informed if appropriate (see trigger list for calling a consultant situated by the telephone at the midwives station). Clinical circumstances will dictate whether the consultant is asked to attend theatre urgently.

All babies delivered by Categories 1, 2 & 3 CS **should** have paired cord blood samples taken for arterial and venous pH and base excess where possible.

Surgical Technique:

Unless there is a clear rationale not to do so, the following operative techniques should be employed, as per the NICE Caesarean Section Guideline.

- Double gloves should be worn if the woman is a carrier of a blood-borne virus.
- The woman should be at a 15 degree left lateral tilt, to reduce aorto-caval compression.
- A transverse lower abdominal incision (Joel-Cohen) should be used.
- Do not use separate surgical knives for skin and deeper tissues as it does not reduce infection.
- If the lower segment is well formed, use blunt extension of the uterine incision.
- Use forceps only if there is difficulty in delivering the head.
- Remove placenta by controlled cord traction (reduced infection compared to manual removal).
- Use oxytocin 5iu by slow IV injection.
- Routinely undertake intraperitoneal repair of the uterus (exteriorisation may increase pain without necessarily improving surgical outcomes).
- Suture uterus in two layers.
- Do not suture the visceral or parietal peritoneum in uncomplicated cases.
- If there is a midline abdominal incision, use mass closure with a slowly absorbable continuous suture (PDS) to decrease the incidence of incisional hernias and wound dehiscence.
- Do not use superficial skin drains routinely as they do not reduce wound infection or haematoma formation.
- Do not routinely close the subcutaneous tissue space, unless there is >2cm of subcutaneous tissue.

Intra operative documentation

- Complete the Caesarean Section ICP (elective / emergency as appropriate)
- Commence fluid balance chart
- The anaesthetist will prescribe
    - appropriate analgesia and fluids
    - Subcutaneous enoxaparin as VTE prophylaxis policy and the woman's individual risk assessment
- Anaesthetic chart: will be completed by the anaesthetist

After surgery:

- The wound area should be cleaned and covered.
- If appropriate, analgesic suppositories should be given.
- The woman should be transferred to her own bed.
- Put on TED stockings (if not fitted before surgery).

IMMEDIATE POST-OPERATIVE MANAGEMENT

Post-operative management is the same for elective and emergency CS. All women should be recovered by an appropriately trained member of staff.

Observations for first two hours:

- Commence Modified Early Obstetric Warning (MEOWS) chart for documentation of all observations.
- Unless an individual plan is clinically indicated and has been directed by the anaesthetist or obstetric registrar, pulse, blood pressure, respiratory rate, sedation level and pain score should be recorded and documented every 15 minutes (or more often if there are any concerns) for one hour.
- These observations should then continue half-hourly for a further one hour if the observations are normal.
- Maternal Temperature once then 4 hourly if within normal limits

- ECG and pulse oximetry monitoring for at least one hour post-operatively.
- The pulse oximeter will give a continuous O_2 saturation measurement; this should be documented every 15 minutes. If the O_2 saturation falls below 95% at any time, this must be immediately reported to the anaesthetist.
- Blood loss should be observed at least every 30 minutes; if excessive the woman must be reviewed by an obstetric doctor.
- Check the wound site and drain at least every 30 minutes and document findings.
- Urine output should be documented as per the specific guidelines (for example – Post-partum haemorrhage, Pre-eclampsia).
- If the observations are not satisfactory, it is imperative that medical staff are asked to review the woman.

If epidural or spinal opiates have been used, respiratory rate and sedation scores must be recorded as indicated above and the woman observed for respiratory depression or excessive drowsiness. Inform medical staff immediately if either occurs.

If all observations are satisfactory after two hours and there have been no relevant pregnancy or operative complications, further observations, including respiratory rate, sedation and pain scores need only be recorded every four hours.

After a caesarean section under general anaesthetic, one-to-one care **must** be provided until the woman has regained airway control, cardio-respiratory stability and is able to communicate.

N.B. If complications arose before or during surgery e.g. PPH or severe pre-eclampsia, refer to the appropriate guidelines.

Continuation of treatments after delivery:

1. O_2 therapy:
As prescribed by the anaesthetist. In general this should continue until the woman is fully conscious and should maintain the oxygen saturation level at 95% or above. The anaesthetist must be informed if the oxygen saturation falls below 95%

2. Intravenous fluids:
These must continue until the woman is able to drink adequately. All fluids must be prescribed. If fluid restriction or replacement is required follow the appropriate guidelines.

3. Other intravenous infusions e.g. Syntocinon should be continued as prescribed by the doctor.

The post-operative regime must be decided and documented by the obstetrician.

CRITERIA FOR DISCHARGE FROM THE OBSERVATION BAY POST OPERATIVELY AND TRANSFER TO POSTNATAL WARD.

- Discharge from the observation bay in the postoperative period will usually be to the postnatal ward.
- Following an uncomplicated elective caesarean section under a regional anaesthetic discharge may be decided by the midwife (usually after 2 hours). Following emergency caesarean section the woman will be discharged as per Midwifery Discharge Criteria below but in addition must be reviewed by the SHO or registrar prior to transfer to the postnatal ward. Agreed transfer should be documented in the maternal records by the doctor.
- For midwifery discharge;
    - The MEOWS score must be within normal limits (see MEOWS chart).
    - Catheter draining clear urine in adequate amounts (see MEOWS chart).
    - Following regional block motor function in the lower limbs present.
    - Wound clean & dry
    - Lochia normal
    - Able to tolerate oral fluids

- Has adequate pain relief

The discharge from the observation bay to the postnatal ward by the midwife is documented in the ICP. Once the criteria for discharge are met the woman can then be transferred to the postnatal ward and handover of care documented in the maternal postnatal record.

Post operative medication is to be prescribed by the SHO prior to leaving the labour ward

CARE IN THE FIRST 24 HOURS

- The urinary catheter may be removed
  - Once a woman is mobile after regional anaesthetic provided that full sensation has been restored and that there have been no significant fluid balance discrepancies and
  - not sooner than 12 hours after the last epidural 'top-up' dose.

  For most women, this means the catheter will be removed day 1 post -delivery.
  Ideally the catheter should be removed in the morning so that the urine output can be accurately documented.
- The first two voided volumes should be recorded in the notes. A void of over 150ml on both occasions is deemed satisfactory. (See bladder care guideline). If there are any concerns, the midwife must discuss with the doctor and consider an estimation of a post-void residual volume.
- If the woman is recovering well and there are no complications, the woman can eat and drink when she feels hungry or thirsty.
- Enoxaparin 40 mgs should continue once daily (for a minimum of seven days) or as per the woman's individual VTE assessment)
- 2nd dose should be prescribed between 20 and 28 hours after the initial dose, for those with a once daily regime.
- If the woman has had any obstetric complications she must be reviewed by the obstetrician
- Early discharge can be considered from 24hrs post caesarean section with follow-up at home if the woman recovering well, apyrexial and no complications are apparent. ie She should be mobile, eating and drinking, passing urine and her pain controlled. It is not necessary for the woman to have her bowels open prior to discharge.

Regular analgesia should be given as required (see MEOWS chart)

- Paracetamol and ibuprofen if there are no contraindications
- If the woman is intolerant of NSAIDS, regular co-codamol or Tramadol 100mg SR and should be prescribed along with fybogel, one sachet daily.

DOCUMENTATION

- The surgeon should document the operation in the woman's CS ICP including a plan of post-operative management.
- Observations and treatment given must be recorded on the appropriate charts.
- All computer records must be completed before the woman is transferred from the Labour Ward.
- An obstetrician should discuss the CS operation with the woman, the reasons for it, and the implications for future pregnancies and labours, prior to discharge from hospital.
- It should documented in both the ICP (by the operating surgeon) and purple postnatal care plan (by the midwife) whether the woman is suitable for VBAC. Women should be provided with this information verbally prior to discharge from hospital and subsequently in a letter, sent out by day 10 postnatally. Thought should be given in circumstances where there has been an adverse outcome whether this letter is appropriate (for example, if a woman has had an intrauterine or neonatal death).

Monitoring

Compliance with this guideline will be monitored by review of maternity records as detailed in the table below. Where deficiencies are identified action plans will be developed and changes implemented and disseminated as required.

Element to be monitored	Lead	Tool	Frequency	Reporting arrangement	Acting on recommendations and Lead(s)	Change in practice and lessons to be shared
a. ***classification of all caesarean sections as agreed by the maternity service*** b. ***timing for Grade 1 classification of caesarean section as agreed by the maternity service*** c. **requirement to document the reason for performing a Grade 1 caesarean section in the health records by the person who makes the decision** d. need to include a consultant obstetrician in the decision making process unless doing so would be life threatening to the woman or the fetus e. requirement to document any reasons for delay in undertaking the caesarean section f. requirement for all women to be offered antibiotic and thrombo prophylaxis g. care of the mother in the first 24 hours following delivery requirement to discuss with women the implications for future pregnancies before discharge	**Standard lead** Faris Zakaria Consultant Obstetrician	Audit of all health care records of category 1 caesarean sections	Continuous audit of emergency caesarean sections Annual audit of elective caesarean sections	LW forum	**Criterion Lead** Sandra Newbold Lead Consultant Labour Ward Louise Emmett Labour Ward manager	• Communication bulletin • Quality and safety half days. • Educational half days • staff meetings and any other meeting as appropriate One or any of the above

References

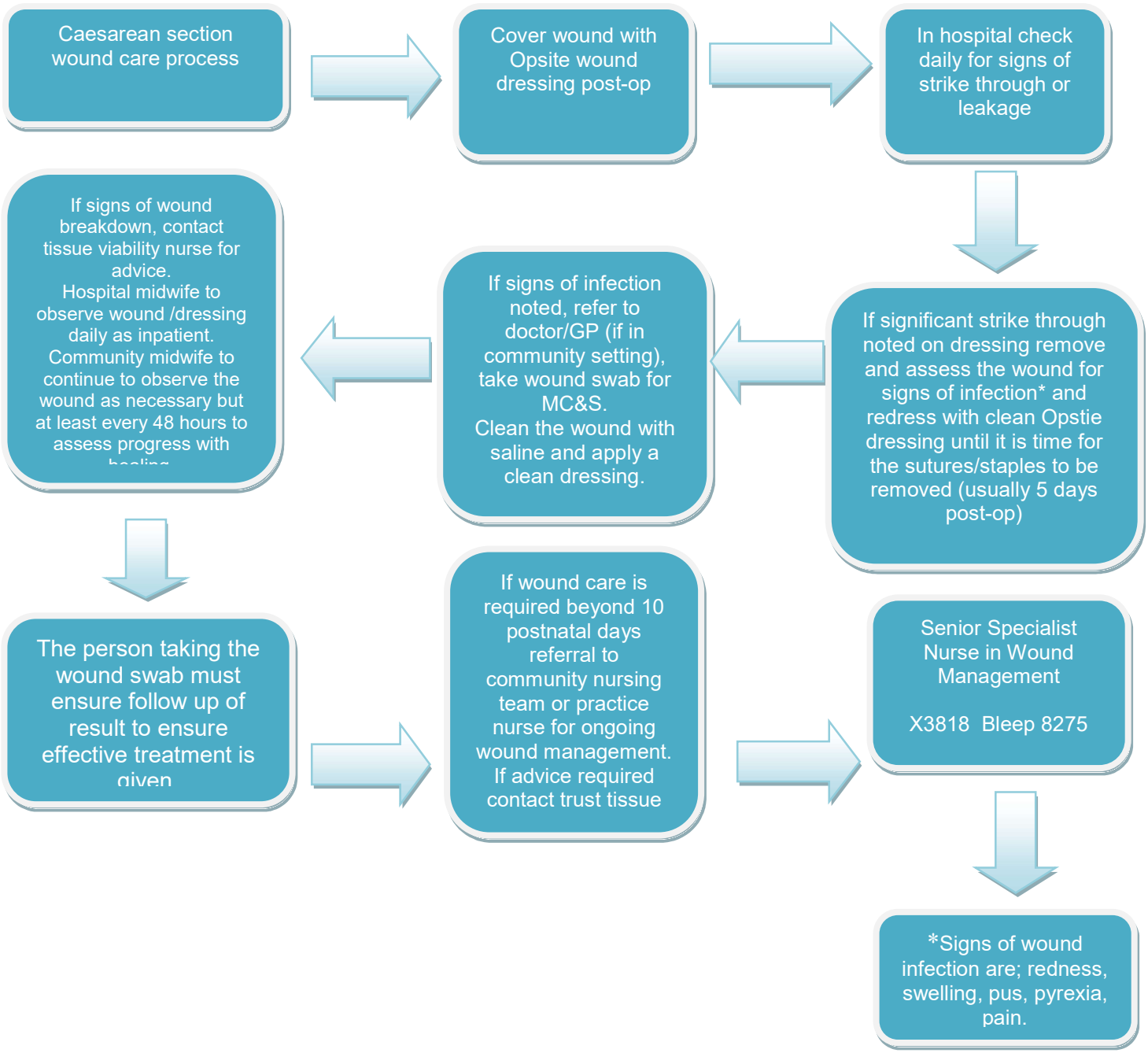
1. BHIVA (2012) Guidelines for the management of HIV infection in pregnant women
2. Caesarean Section Clinical guideline. National Collaborating Centre for Women and children's Health. Pub: RCOG April 2004:
3. NICE (2011) Caesarean Section: *Clinical Guideline November 2011*.
4. Royal College of Obstetricians and Gynaecologists. (2010). *Classification of Urgency of Caesarean Section- A Continuum of Risk. Good Practice No.11.* London: RCOG. Available at: www.rcog.org.uk

APPENDIX

1. WOUND CARE

APPENDIX 1

Caesarean section Wound Care April 2012



EQUALITY IMPACT ASSESSMENT TOOL

Name: Care of Women undergoing caesarean section

Policy/Service: Women's Health Directorate

Background • Description of the aims of the policy • Context in which the policy operates • Who was involved in the Equality Impact Assessment
• To ensure consistent and high standards of care within the maternity service. • Maternity Services labour care • Maternity Guideline group
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
• Impact assessment revealed no obvious impact identified • N/A • The multidisciplinary team delivering maternity care had the opportunity to contribute to development of the policy.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
• No impact identified
Conclusion • Provide a summary of the overall conclusions
• No impact
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
• Impact assessment will be reviewed at next policy review

Guidance on Equalities Groups

Race and Ethnic origin (includes gypsies and travellers) (consider communication, access to information on services and employment, and ease of access to services and employment)	**Religion or belief** (include dress, individual care needs, family relationships, dietary requirements and spiritual needs for consideration)
Disability (consider communication issues, access to employment and services, whether individual care needs are being met and whether the policy promotes the involvement of disabled people)	**Sexual orientation including lesbian, gay and bisexual people** (consider whether the policy/service promotes a culture of openness and takes account of individual needs
Gender (consider care needs and employment issues, identify and remove or justify terms which are gender specific)	**Age** (consider any barriers to accessing services or employment, identify and remove or justify terms which could be ageist, for example, using titles of senior or junior)
Culture (consider dietary requirements, family relationships and individual care needs)	**Social class** (consider ability to access services and information, for example, is information provided in plain English?)

If further assessment is required please see the Integrated Single Equality Scheme.

For advice in respect of answering the above questions, please contact HR Manager, on extension 2552.

PROFORMA FOR RATIFICATION OF POLICIES AND GUIDELINES BY RATIFYING COMMITTEE

Policy/Guidelines Name:	CAESAREAN SECTION
Name of Person completing form:	Jacqui Rees
Date:	Nov 2012
Author(s)	DR SANDRA NEWBOLD, CONSULTANT

(Principle contact)	OBSTETRICIAN
Name of author to attend ratifying committee when guideline is discussed	Jacqui Rees
Date of final draft	Nov 2012
Has this policy/guideline been thoroughly proof-read to check for errors in spelling, typing, grammar and consistency?	Yes
By whom:	Women's Health Guidelines Group
Is this a new or revised policy/guideline?	revised

Describe the development process used to generate this policy/guideline.
Women's Health Guidelines Group, Labour Ward Forum, Obs & Gynae Consultants
Who is the policy/guideline primarily for?
Health Professionals working within the maternity service
Is this policy/guideline relevant across the Trust or in limited areas?
Maternity Services
How will the information be disseminated and how will you ensure that relevant staff are aware of this policy/guideline?
Intranet, newsletters, educational half day, training sessions
Describe the process by which adherence to this policy/guideline will be monitored.
See *monitoring section of policy*
Is there a NICE or other national guideline relevant to this topic? If so, which one and how does it relate to this policy/guideline?
See *reference section of policy*
What (other) information sources have been used to produce this policy/guideline?
See *reference section of policy*
Has the policy/guideline been impact assessed with regard to disability, race, gender, age, religion, sexual orientation?
No impact
Other than the authors, which other groups or individuals have been given a draft for comment
All obstetric Consultants, Women's Health Guidelines Group, Supervisors of midwives, Paediatricians
Which groups or individuals submitted written or verbal comments on earlier drafts?
Any comments received considered by Women's Health Guidelines Group
Who considered those comments and to what extent have they been incorporated into the final draft?
All comments considered
Have financial implications been considered?
Yes