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Clinical Guideline

CAESAREAN SECTION

SETTING	Maternity Services, St Michael's Hospital
FOR STAFF	Medical, nursing and midwifery staff
PATIENTS	Patients undergoing caesarean section procedure

GUIDANCE

This is a practical guide to elective and emergency Caesarean section (CS). Antenatal provision of information and Vaginal Birth after Caesarean is not covered in this guideline.

Women requesting CS without obstetric indication

For pathway see appendix 1

Consent for CS

Written consent should be obtained even in emergencies. Risks of caesarean section should be explained as per the RCOG Consent Advice No 7; discussion should include risks to the mother and the fetus, as well as implications for future pregnancies and birth after CS. Fetal risks include cuts to the skin (approximately 2 in 100 cases) and respiratory morbidity (particularly for Elective CS).
For Elective CS use the UHBristol Caesarean Specific Consent form –v2 (Appendix 2).
However, it is recognized that in severe emergencies (Category 1 CS only) verbal consent is appropriate. The decision and the reasons for verbal consent must be documented.
A competent pregnant woman is entitled to refuse the offer of treatment such as CS, even when the treatment would clearly benefit her or her baby's health. Such a refusal and the relevant risks associated with it must be clearly documented in the notes.
A consultant obstetrician or ST6/7 should be involved in the decision for CS unless doing so would be life threatening to the mother of fetus.
The person making the decision for CS must clearly document the indications

- In the maternal hand held record
- On the operation note (Medway delivery record)

Urgency Categorisation

The urgency of CS should be documented using the following scheme in order to aid clear communication between healthcare professionals about the urgency.

Figure 1. A classification relating the degree of urgency to the presence or absence of maternal or fetal compromise

Urgency	Definition	Category
Maternal or fetal compromise	Immediate threat to life of woman or fetus	1
	No immediate threat to life of woman or fetus	2
	Requires early delivery	3
No maternal or fetal compromise	At a time to suit the woman and maternity services	4

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Category 1: Immediate threat to the life of the woman or fetus

- Includes CS for acute severe bradycardia, cord prolapse, uterine rupture, fetal blood sampling pH less than 7.2.
- Deliver as quickly as possible taking into account rapid delivery may be harmful incertain circumstances.
- Decision to delivery audit standard = within 30 minutes

Category 2: Maternal or fetal compromise which is not immediately life-threatening

- There is 'urgency' to deliver the baby in order to prevent further deterioration of either the mother or baby's condition.
- Deliver as quickly as possible, in most situations within 75 minutes, taking into account rapid delivery may be harmful in certain circumstances.
- Decision to delivery audit standard = within 30 and 75 minutes

Category 3: No maternal or fetal compromise but needs early delivery

- Includes CS carried out where there is no maternal or fetal compromise but early delivery is necessary e.g. breech with ruptured membranes
- Includes LSCS at < 37 weeks gestation for maternal or fetal reasons
- Decision to delivery standard = within 24 hours

Category 4: Elective CS

- Includes all CS carried out at a planned time to suit the mother and maternity team

Emergency Caesarean (Category 1, 2 & 3)

Emergency CS for maternal or fetal compromise should be undertaken within the time frames relevant to the category of urgency. However, it must be taken into account that emergency situations have the potential to cause psychological trauma to the mother.

Fetal distress:

Start Intra-Uterine Resuscitation

- Stop syntocinon
- Turn mother to left lateral
- Administer terbutaline 250 mcg SC
- Start / Increase IV fluids
- Administer facial 02

The **time of decision** (surgeon decides and woman consents in writing) and **reasons for any delay** in undertaking category 1 or 2 CS **must** be documented in both

- the partogram
- the operative note (Medway delivery record)

Pre-operative requirements

- Inform coordinating midwife who will liaise with the Anaesthetist and Theatre coordinator (**use 2222 call for category 1 CS)**
- Ensure woman is wearing an appropriate identification bracelet and check with the woman that the details on it are correct
- Obtain informed consent
- Site cannula if IV access not already established

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- Send bloods for FBC and G&S if not already done
- Administer Ranitidine 150 mg orally or 50mg IV (prescription required)
- Put on anti-embolic stockings
- Mother to remove jewellery and underwear
- Put theatre gown on mother if time
- Transfer to theatre as quickly as possible
- Maintain left lateral position until anaesthesia is initiated **(cat 1 and 2 only)**
- Continue Fetal Monitoring until surgeon ready to commence **(cat 1 and 2 only)**
- Insert indwelling urinary catheter once anaesthesia effective
- Shave pubic area if time
- Call neonatologist

The surgeon should assist in the transfer to theatre unless there is an urgent need for them elsewhere.

- On arrival into theatre there must be clear communication of the patient's name, reason for caesarean section and urgency category.
- The urgency category may change once the patient is in theatre i.e. following recovery of a fetal bradycardia, and in this instance clear communication is required within the team.
- The operating surgeon must be ready for knife-to-skin as soon as adequate anaesthesia is achieved, particularly for category 1 CS.
- The surgeon should communicate with the neonatologist if there any additional concerns i.e. possible fetal sepsis or hypovolaemia
- It is the responsibility of the attending neonatologist to determine whether senior support is required.

Elective Caesarean (Category 4)

The risk of respiratory morbidity is increased in babies born by CS before labour, but this risk decreases significantly after 39 weeks.

- Planned CS should not routinely be carried out before **39** weeks.
- The reason should be clearly documented if a planned CS is performed before 39 weeks.
- If CS for Breech presentation with no other obstetric indication inform the woman that a scan will be performed on the morning of admission and if no longer breech a caesarean will not be required.

There is evidence that antenatal steroids can reduce the need for NICU admissions if an elective CS has to be performed before 39 weeks. This should be discussed on an individual patient basis.

Maternal Haemoglobin should be optimised antenatally to aim for a HB ≥110g/l at the time of elective section, if Haemoglobin <110 g/l at 36 weeks consider need for intravenous iron.

Booking elective CS in clinic

1. Written consent should be obtained by the obstetrician booking the CS (use the procedure specific consent form - appendix 2)
2. The CS date should be booked in the Caesarean Section diary by calling ANC on ext 25299/ 25297

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3. Give the patient's name, hospital number, EDD, gestation on the date of Caesarean (in weeks and days), indication and the named Consultant Obstetrician. Highlight any potential intraoperative risks.
4. Ensure the woman's correct telephone number is recorded in the diary
5. Give the woman the UHBristol Caesarean Section – Enhanced Recovery information leaflet and explain that the woman will be contacted on the evening before the planned CS to confirm the time of admission on the day of the procedure
6. Explain that occasionally the CS date may be changed if there is a need to re-prioritise cases due to clinical workload or complex cases
7. Arrange pre-op clerking appointment within 7 days of the agreed CS date
8. Provide anti-embolic stockings with instructions

The following may be done at the time of booking the CS or at a pre-op clerking appointment:

9. Arrange an anaesthetic review (bleep 2923)
10. A Group and Save (G&S) and a full blood count (FBC) should be taken within 7 days of the agreed CS date.
11. Prescribe and supply antacid/ anti-emetic regimen (premeds) and pre-op drinks. Women should be given instruction on the timing of their medications according to the time of admission on the day of the CS.

    Early admission
    - Take ranitidine at 10 pm
    - Come in at 8am
        - No food from 2am
        - Clear fluids until 6am
        - Take medication/ pre-op drinks at 6am

    Late admission
    - Take ranitidine at 10 pm
    - Come in at 10am
        - No food from 5am
        - Clear fluids until 9am
        - Take medication/ pre-op drinks at 9am
12. Provide Chlorhexidine skin wash and advise the woman to shower using this on the morning of the CS.

Elective CS in Women with Diabetes

- Delivery recommended by 38 weeks in women with Type 1 and Type 2 Diabetes
- Steroids should be considered if CS undertaken before 38 weeks with Supplementary insulin cover to optimise maternal glycaemic control; see guideline Supplementary IV Insulin Following Betamethasone
- Women with diabetes should not receive pre-op drinks
- When CS prioritised should be first on the operating list
- If requires insulin in pregnancy will need sliding scale insulin perioperatively; see guideline Diabetes in pregnancy Intrapartum Care

Practicalities of the Elective CS List

Elective CS lists are held daily on normal working days.
During the CDS handover the obstetrician responsible for running the CS list will be identified; this may be the Consultant, ST 6-7 or ST3-5 dependent on the complexity of the cases and the workload on CDS.
An extra obstetric SHO is allocated to help run this list, and is identified on the SHO rota.
If there is no dedicated 'Section SHO' then the SHO or consultant for CDS will assist.

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Theatre briefs take place at 8.30 (Mon-Thurs) and 9.00 am (Fri) to allow for patient review and pre-op checks between 8.00am to 8.30am.
The CS list will start promptly after the theatre brief.
The SHO should remain in theatre after the brief to complete the sign-in for the first patient.

The theatre brief should:

- Include the theatre practitioner, anaesthetic assistant, operating surgeon, anaesthetist and midwife/ nurse caring for the women
- Determine list order
- Share information about potential anaesthetic or surgical problems

Emergency obstetric cases take priority over elective CS cases.
The reasons for any significant delay in elective CS must be recorded on a clinical incident form and Medway.

Preoperative Checks

- Ensure woman is wearing an appropriate identification bracelet and check with the woman that the details on it are correct
- Check FBC results and that the G&S is in date
- Check e-match status. In high-risk women (placenta praevia, coagulation disorders etc.) liaise with the consultant obstetrician and anaesthetist to decide whether to cross-match blood/ use intra-operative cell salvage
- Confirm the gestational age according to the dating scan
- Check presentation by ultrasound before CS for Breech presentation
- Note position of placenta on past ultrasound reports
- Verify consent on admission to CDS
- Sign the admission VTE risk assessment on the drug chart
- Once the patient is in theatre the surgeon undertaking the procedure verifies:
    - the identity of the patient
    - the procedure to be carried out
    - consent
- The patient's name and the procedure to be undertaken is written on the board in theatre

All CS

Women's preferences for the birth, such as lowering the screen to see baby born, choice of music should be accommodated where possible. Only one partner/relative/friend is allowed in theatre for CS under regional anaesthesia unless exceptional circumstances in which case gain prior agreement with senior surgeon, anaesthetist, and CDS co-ordinator. If under General Anaesthetic birth supporters are not allowed.

WHO Surgical Checklist will be undertaken at every CS, however in the event of a category 1 CS the full check may be delayed until the situation allows a time out.

Neonatology attendance is required for all CS except elective (category 4) operations unless there is evidence of fetal abnormality or fetal problems are anticipated.

Antibiotic Prophylaxis will be administered at all CS. Antibiotics will be administered before knife to skin. Antibiotics effective against endometritis, urinary tract and wound infections, which occur in about 8% of women who have had a CS, should be used (refer to antibiotic policy).

Delayed Cord Clamping consider delayed cord clamping for at least 1 minute unless immediate neonatal resuscitation is required or there is significant maternal blood loss.

Cord Gases Paired cord blood samples should be taken and analysed after *all* CS. Results must be documented as per **Monitoring the Fetus in Labour** guideline.

Uterotonic agents

- **Carbetocin 100 micrograms** by *slow* intravenous injection should be given once the baby is born to encourage contraction of the uterus and to decrease blood loss
- **Syntocinon 5 – 10 units** may be recommended for women with significant cardiac disease (see Individualised maternal medicine care plans for recommended management)
- **If further uterotonics are required** use oxytocin infusion, syntometrine (unless contraindicated) and prostaglandins (misoprostol/ carboprost) as in guideline Management of Obstetric Haemorrhage.

Thromboprophylaxis

- VTE Risk Assessment will be completed in line with the local guideline **Thromboprophylaxis During Pregnancy, Labour & Postnatal Period**
- All women undergoing CS require anti-embolic stockings unless specifically contraindicated
- Where appropriate prescribe Low Molecular Weight Heparin (Clexane)

Post CS information letter (appendix 3)

- Women delivering by their 1st or 2nd CS should have a 'Post Caesarean Information Letter' completed by the surgeon when the operation notes are written
- If the women is deemed not suitable for VBAC in a future pregnancy this letter will not be completed and this will be indicated on the operation notes

Anaesthetic Care (see obstetric anaesthesia guideline)

The obstetrician informs the anaesthetist of the urgency category and indication
Women having a CS should be given information on different types of post-CS analgesia so that analgesia best suited to their needs can be offered.
Women are encouraged to have CS under regional anaesthesia rather than GA because it is safer and results in less maternal and neonatal morbidity. This includes women who have a diagnosis of placenta praevia.
General anaesthesia for emergency CS should include preoxygenation, cricoid pressure and rapid sequence induction to reduce the risk of aspiration.
The surgeon must be ready for immediate knife-to-skin.
The operating table for CS should have a lateral tilt of 15 degrees.

Surgical Technique

If problems are encountered timely senior support (ST6/7 or consultant) must be requested.

The surgeon should use the technique he/she is most familiar with and taking into account the good practice points from the NICE guidance, these include:

- Follow *infection control* precautions. Wear double gloves for Serology positive women.
- Use a *Joel Cohen* technique if possible (appendix 4)
- *Blunt* rather than sharp extension of the uterine incision results in less blood loss and lower PPH incidence
- Repair the uterus in two layers
- Do not *routinely* exteriorize the uterus
- If possible use controlled cord traction and *not* manual removal of the

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placenta to reduce the risk of endometritis
- Do not routinely close the visceral or the parietal peritoneum
- In the event that a midline abdominal wall incision is used, the abdominal wall should be closed by a mass closure technique using slowly absorbable sutures (PDS or equivalent)
- Routine closure of the fat layer does not reduce the incidence of wound infection, however the fat layer should be closed where there is >2cm subcutaneous fat

Post-Operative Care
Care will be administered as detailed in **Recovery after Obstetric Operative Intervention** guideline
Early eating and drinking: Women who are recovering well after CS and who do not have complications can eat and drink when they feel hungry or thirsty.
Urinary catheter removal: Removal of the urinary bladder catheter should be carried out once a woman is mobile after a regional anaesthetic and not sooner than 12 hours after the last epidural 'top up' dose or spinal.

Post CS discussion
The obstetrician undertaking the post-operative review on day 1 or 2 will:

- Ensure mother understands the indication for CS
- Discuss implications for future pregnancies before discharge
- Give the post CS information letter to the woman and discuss as appropriate
- Tick the box on the P/N review sticker to indicate that the letter has been given and discussed

The process for continuous audit, multidisciplinary review of audit results and subsequent monitoring of action plans.

Process	Tool	Responsibility of:	Frequency of review	Responsibility for: (plus timescales)			
				Review of results	Development of action plan and recommendations	Monitoring of action plan and implementation	Making improvement lessons to be shared
Documentation of • Classification of Urgency of CS • Timing of all grade 1 CS • Reason for performing a grade 1 CS	Continuous Clinical Audit	Multi-professional group reporting to CDS Working party (CDSWP)	Continuous Audit- reviewed monthly at CDSWP	Monthly at CDSWP Presented quarterly to Women's Services Clinical Audit Meeting	Multi-professional group undertakes recommendations and action planning	Review and monitoring monthly at CDSWP	See CDSWP monitoring proforma for dissemination of learning

The above table outlines the minimum requirements to be audited; additional audits will be commissioned in response to deficiencies identified within the service through morbidity and mortality reviews/benchmark data provided by CHKS or in response to national initiatives e.g. NICE, RCOG guidelines, CNST standards
Version 5.2
Reviewed and Updated September 2015

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Consultation
CDS Working Party, Antenatal Working party, Supervisors of Midwives

Ratified by
CDS Working Party October 2015

Date: Oct 15
Review Due: Oct 18

RELATED DOCUMENTS

Thromboprophylaxis During Pregnancy, Labour & Postnatal Period
Recovery after Obstetric Operative Intervention
Monitoring the Fetus in Labour
Obstetric Anaesthesia guideline
Obs & Gynae Antibiotic Guideline
Anaemia Antenatal & Postnatal
Supplementary IV Insulin Following Betamethasone
Diabetes in pregnancy Intrapartum Care

REFERENCES

- NICE guideline CG132 Caesarean Section November 2011
- NHS Litigation Authority – Clinical Negligence Scheme or Trusts (2001). Maternity – Clinical Risk Management Standards
- RCOG Good Practice No 11. Classification of urgency of caesarean section – A continuum of risk London 2010
- RCOG Consent advice No.7 Caesarean Section London October 2009
- Lucas DN, Yentis SM, Kinsella SM, Holdcroft A, May AE, Wee M and Robinson PN (2000).
  Urgency of caesarean section-a new classification. Journal of the Royal Society of Medicine, 93, 346-350
- RCOG - Clinical Effectiveness Support Unit (2001). The Use of Electronic Fetal Monitoring: The use and interpretation of cardiotocography in intrapartum fetal surveillance. Evidence-based Clinical Guideline Number 8. London: RCOG Press
- Thomas J, Paranjothy S. RCOG - Clinical Effectiveneness Support Unit (2001). The national sentinel caesarean section audit report. London: RCOG Press
- Thomas J, Paranjothy S, James D (2004). National cross sectional survey to determine whether the decision to delivery interval is critical in emergency caesarean section. BMJ;328:665-7
- Tuffnell DJ Wilkinson K, Beresford N (2001). Interval between decision and delivery by caesarean section – are current standards achievable? Observational case series. BMJ;322:1330-3
- CEMACH – Why Mothers Die 2000-2002. RCOG press London.
- RCOG (2004). Obtaining Valid Consent. Clinical Governance Advice No. 6. London: RCOG Press
- Mathai M, Hofmeyr GJ. Abdominal surgical incisions for caesarean section. Cochrane Database of Systematic Reviews 2007, Issue 1.

SAFETY

There are no unusual or unexpected safety concerns to staff or patient.

QUERIES

Contact Emma Treloar Bleep 2789 or the obstetric on call team on Central Delivery Suite. Telephone 25213/4 for contact bleep numbers

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Appendix 1 **Pathway for women requesting CS without obstetric indication**

Request for CS without obstetric indication made by the mother

Midwife or obstetrician identifying request must:

- Explore, discuss and record specific reasons for request
- Give and discuss caesarean section leaflet
- Discuss and document overall risks and benefits of CS vs. vaginal birth
- Ensure 'Help yourself to a normal birth' patient information leaflet is given and discussed
- Patients not already under Consultant Led care should be transferred to consultant led care and referred to a Consultant Antenatal Clinic to discuss their options further
- Include other members of the team if necessary to ensure she has accurate information (e.g. consultant obstetrician, midwife, anaesthetist)

Obvious mental health disorder

See *Mental Health in Pregnancy* Pathway (link)

Previous birth trauma identified

Childbirth anxiety / tocophobia identified

Recommend:

- Birth Trauma Association – website information; some listeners available by phone and email; contact details for other mums in similar situations (www.birthtraumaassociation.org.uk)
- Bluebell-07738 628 842
- Womankind-0845 458 2914
- Mothers For Mothers-0117 9756006

Consider referral to Psychological Health Services at St. Michael's Hospital

Recommend:

- IAPT (Improving Access to Psychological Therapies) – NHS provided
  - Bristol – LIFT Psychology. Can self-refer on 0117 982 3209
  - Weston-super-Mare – Positive Steps. Can self-refer on 0800 688 8010
  - Gloucestershire – LIFT Psychology. Can self-refer on 0117 378 4270

Consider referral to Psychological Health Services at St. Michael's Hospital

36/40 Consultant ANC

Offer and book elective caesarean section if vaginal birth remains an unacceptable option or if an indication for caesarean section develops during pregnancy e.g. breech presentation, placenta praevia

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Appendix 2

Consent Form 1

Hospital no: _____

NHS no: _____

Surname _____

Forename _____

Gender _____ D.o.B. ___/___/_____

Name of proposed procedure or course of treatment

Caesarean section

An operation to deliver your baby/ babies through a cut in the tummy, this can be a planned procedure for example if the baby is breech or you have had a previous caesarean section; or an emergency caesarean if there are complications of labour or concerns about the wellbeing of you or your baby.

Statement of health professional *(to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)*

I have explained the procedure to the patient. In particular, I have explained:

The intended benefits*: Safe delivery of baby/babies in a situation where the risks of vaginal delivery are more than those of a caesarean section operation*

Serious or frequently occurring risks

Frequent risks:

- *Common: persistent wound and abdominal discomfort, repeat caesarean section in subsequent pregnancies, readmission to hospital, minor cuts to the baby's skin*
- *Uncommon: haemorrhage (bleeding), infection, breathing difficulties in baby*

Uncommon but Serious risks:

- *Emergency hysterectomy (removal of the womb) , 7-8 women in every 1000 (uncommon)*
- *Need for further surgery at a later date, 5 women in every 1000 (uncommon)*
- *Admission to intensive care unit, 9 women in every 1000 (uncommon)*
- *Increased risk of a tear in the womb in future pregnancies, 2-7 women in every 1000 (uncommon)*
- *Developing a blood clot in the veins of the leg or lung, 4-16 women in every 10 000 (rare)*
- *Stillbirth in future pregnancies, 1-4 women in every 1000 (uncommon)*
- *In a future pregnancy, the placenta covers the entrance to the womb (placenta praevia), 4-8 women in every 1000 (uncommon)*
- *Injury to the urinary system, 1 woman in every 1000 (rare)*
- *Injury to the bowel, 1 woman in every 1000 (rare)*
- *Death, approximately 1 woman in every 12 000 (very rare)*

Any extra procedures which may become necessary during the procedure

☐ blood transfusion

☐ other procedures*: hysterectomy(removal of the womb), repair to damaged organs*

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

- The following leaflet/tape has been provided: _____
- This procedure will involve: ☐ general and/or regional anaesthesia ☐ local anaesthesia ☐ sedation

Doctor's Signature ……..…. Date ……

Name (PRINT) …… Job title ……..

Contact details (if patient wishes to discuss options later) ……

Top copy accepted by patient: yes/no (please ring)

Statement of interpreter (where appropriate)

I have interpreted the information above to the patient to the best of my ability and in a way which I believe he/she can understand.

Signature…….. Date……

Name (PRINT)……..

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Appendix 3

University Hospitals Bristol NHS
NHS Foundation Trust

St Michaels's Hospital
Southwell Street
Bristol
BS2 8EG
Tel: 0117 3425201

Name:

Address:

Hospital ID:

Dear

About your caesarean section

Congratulations on the birth of your baby on:

Your baby was born by caesarean section because:

After giving birth by caesarean most women are able to give birth vaginally in future pregnancies. If you have another pregnancy you will be seen by an obstetrician as well as your midwife and they will discuss your birth options with you. Most women (around 3 out of every 4) who plan a VBAC (Vaginal Birth after Caesarean) go on to give birth to their next baby vaginally and unless your obstetrician or midwife advises otherwise, we recommend that you plan for a VBAC with any future baby.

If you would like to discuss anything arising from this letter or need any further information clarified, please contact your community midwife in the first instance.

You can get further information from

- www.caesarean.org.uk
- www.Nct.org.uk or 0300 330 0700
- www.powertopush.ca
- National Institute of Clinical Excellence at www.nice.org.uk/guidance?action=download&o=29336
- Association for Improvements in the Maternity Services: www.aims.org.uk or on 0300 365 0663. They also publish a booklet called 'Birth after Caesarean'

Signed: Print Name:

Job Title: Date:

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Appendix 4

Technique of Abdominal Incision for Caesarean Section

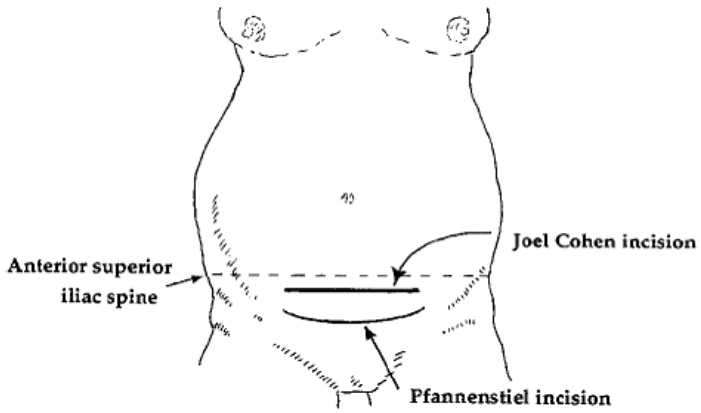
Pfannenstiel Incision

The traditional lower abdominal incision for caesarean delivery is the incision described in 1900 by Pfannenstiel. Classically, this incision is located two fingers-breadth above the pubic symphysis. Here the skin may be entered via a low transverse incision that curves gently upward, placed in a natural fold of skin (the 'smile' incision). After the skin is entered, the incision is rapidly carried through subcutaneous tissue to the fascia, which is then nicked on either side of the midline. The subcutaneous tissue is incised sharply with a scalpel. Once the fascia is exposed, it is incised transversely with heavy curved Mayo scissors. In the standard technique, the upper and then the lower fascial edges are next grasped with a heavy toothed clamp, such as a Kocher, and elevated. Under continuous tension, the fascia is then separated from the underlying muscles by blunt and sharp dissection. Once the upper and lower fascia have been dissected free, and any perforating vessel sutured or electrocoagulated, the underlying rectus abdominus muscles are separated with finger dissection. If the muscles are adherent, sharp dissection is necessary to separate them. The peritoneum is then opened sharply in the midline. The initial entry is then widened sharply with fine scissors exposing intraperitoneal contents.

Joel-Cohen Technique

Joel-Cohen (Joel-Cohen 1977) described a transverse skin incision, which was subsequently adapted for caesarean sections. This modified incision is placed about 3 cm below the line joining the anterior superior iliac spines. This incision is higher than the traditional Pfannenstiel incision. Sharp dissection is minimised. After the skin is cut, the subcutaneous tissue and the anterior rectus sheath are opened a few centimetres only in the midline. The rectus sheath incision may be extended laterally by blunt finger dissection (Wallin 1999) or by pushing laterally with slightly opened scissor tips, deep to the subcutaneous tissues (Holmgren 1999).The rectus muscles are separated by finger traction. If exceptional speed is required in the transverse entry, the fascia may be incised in the midline and both the fascia and subcutaneous tissue are rapidly divided by blunt finger dissection (Joel-Cohen 1977).

The Joel-Cohen incision has several advantages compared to the Pfannenstiel incision. These include less fever, less pain (and therefore less analgesic requirements), less blood loss, shorter duration of surgery and shorter hospital stay.



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