

Caesarean section

Understanding NICE guidance – information for
pregnant women, their partners and the public

April 2004



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Understanding NICE guidance – information for pregnant women, their partners and the public

Issue date: April 2004

To order copies

Copies of this booklet can be ordered from the NHS Response Line; telephone 0870 1555 455 and quote reference number N0479.

A version in Welsh and English is also available, reference number N0480. Mae fersiwn yn Gymraeg ac yn Saesneg ar gael hefyd, rhif cyfeirnod N0480. The NICE clinical guideline on which this information is based, *Caesarean section*, is available from the NICE website (www.nice.org.uk/CG013NICEguideline). A quick reference guide for health professionals is also available from the website (www.nice.org.uk/CG013quickrefguide), and from the NHS Response Line, reference number N0478.

National Institute for Clinical Excellence

MidCity Place
71 High Holborn
London
WC1V 6NA

www.nice.org.uk

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About this information

This information describes the guidance that the National Institute for Clinical Excellence (called NICE for short) has issued to the NHS on managing and treating women who plan or who need to have a caesarean section. It is based on *Caesarean section* (NICE Clinical Guideline no. 13), which is a clinical guideline for doctors, midwives, nurses, counsellors and others working in the NHS in England and Wales. The information in this booklet has been written chiefly for pregnant women, and particularly for women whose doctors or midwives have mentioned the possibility of a caesarean section. It may also be useful for partners, family members and anyone with an interest in pregnancy or in healthcare in general.

Clinical guidelines

Clinical guidelines are recommendations for good practice. The recommendations in NICE guidelines are prepared by groups of health professionals, lay representatives with personal experience or knowledge of the condition being discussed, and researchers. The groups look at the evidence available on the best

way of treating or managing a condition and make recommendations based on this evidence.

There is more information about NICE and the way that the NICE guidelines are developed on the NICE website (www.nice.org.uk). You can download the booklet *The Guideline Development Process – An overview for stakeholders, the public and the NHS* from the website, or you can order a copy by phoning 0870 1555 455 (quote reference number N0472).

What the recommendations cover

NICE clinical guidelines can look at different areas of diagnosis, treatment, care, self-help or a combination of these. The areas that a guideline covers depend on the topic. They are laid out in a document called the scope at the start of guideline development.

The recommendations in *Caesarean section*, which are also described here, cover:

- the information you can expect to receive from your doctor or midwife about caesarean section

- the most common reasons why you might need to have a caesarean section
- the benefits and risks of having a baby by a caesarean section compared with a vaginal birth
- what can be done to reduce the chances that you will need a caesarean section
- routine tests and treatments you should be offered if you have a caesarean section
- the care you can expect to receive before, during and after a caesarean section.

The recommendations here do not tell you about:

- the risks and benefits of caesarean section when it is used to deal with specific medical conditions that arise during pregnancy such as high blood pressure that happens for the first time during your pregnancy (pre-eclampsia)
- what will happen if you or your baby have a rare or complex condition such as a severe heart condition

- extra care you may need if you or your baby develop specific medical conditions in the course of your pregnancy or labour.

The information that follows tells you about the NICE guideline on caesarean section. If you want to find out more about caesarean section, or if you have questions about the specific treatments and options mentioned in this booklet, NHS Direct is a good starting point. Phone NHS Direct on 0845 46 47 or visit the website at www.nhsdirect.nhs.uk

How guidelines are used in the NHS

In general, health professionals working in the NHS are expected to follow NICE's clinical guidelines. But there will be times when the recommendations won't be appropriate for someone because of a specific medical condition, their general health, their wishes, lack of resources or a combination of all of these things. If you think that the treatment or care you receive does not match the treatment or care described in the pages that follow, you should discuss your concerns with your midwife or doctor.

If you want to read the other versions of this guideline

There are four versions of this guideline:

- this one
- the Quick Reference Guide, which is a summary of the main points in the NICE guideline; NICE has sent copies of the quick reference guide to doctors, midwives and other people working in the NHS
- the NICE guideline, *Caesarean section*, which includes all the recommendations
- the full guideline, which contains all the recommendations, and information about why they have been made.

All versions of the guideline are available from the NICE website (www.nice.org.uk). This version and the Quick Reference Guide are also available from the NHS Response Line – phone 0870 1555 455 and give the reference number(s) of the booklet(s) you want (N0479 for this version, N0480 for this version in English and Welsh and N0478 for the Quick Reference Guide).

About caesarean section

Most women give birth through the vagina. Caesarean section is a surgical operation in which an obstetrician makes an opening in the mother's abdomen and womb and removes the baby through it. (An obstetrician is a doctor who has had specialist training in the care of women during pregnancy and childbirth.)

A caesarean may be planned in advance – for example, because the baby is positioned bottom first – or it may be done at short notice as an emergency if complications develop during your pregnancy or labour.

What you can expect from your care

You have a right to be involved in and make decisions about your care and treatment. To be able to do this, you need to understand what is involved and what your choices are. Your care will be provided by an antenatal healthcare team, which may include midwives, your GP or an obstetrician, and they should take account of your views and concerns.

During your pregnancy your midwife or doctor should give you information about birth that is based on the best available research evidence. You should be offered this information in a form that suits you if you have extra needs – if, for example, you do not speak or read English or if you have a disability. It should include accurate information about caesarean section, including:

- common reasons for needing a caesarean section
- what the procedure involves
- the risks and benefits of caesarean section compared with vaginal birth
- how having a caesarean section might affect any future pregnancies
- how having a caesarean section might affect your chances of having a vaginal birth in future.

Your midwife or doctor should encourage you to ask questions if there is anything you do not understand, and discuss them with you.

Consent for caesarean section

Your healthcare team should give you information about birth and caesarean section before they ask you to consent to the operation. They should do this in a way that respects your dignity, privacy, views and culture, while taking into account your medical circumstances. You have the right to decline a caesarean section even if this will harm you or your baby's health.

Making decisions about how to have your baby

To enable you to make decisions about how to have your baby, your midwife or doctor should discuss with you the benefits and risks of a caesarean section compared with a vaginal birth specific for your situation. He or she should make a note of this discussion.

If you need a caesarean section, your healthcare team should explain to you why it is necessary and record their reasons for carrying it out.

Your healthcare team should record the level of urgency of any caesarean section. They will do this using the following standard categories:

1. Where there is an immediate threat to your life or the life of your baby
2. Where there is concern about your health or the health of your baby, but your lives are not in immediate danger
3. Where there is no immediate concern about your health or the health of your baby, but you need an early delivery because of an existing condition
4. Where delivery is timed to suit you or your healthcare team.

If you request a caesarean section

Your doctor or midwife should explore and discuss your reasons with you and make a note of this; they will not automatically agree to arrange for a caesarean section if you ask for one. They should discuss the overall benefits and risks of caesarean section compared with a vaginal birth and make a note of this.

If you ask for a caesarean section because you have fears about giving birth, your midwife or doctor should offer you the chance to discuss your fears with a counsellor.

If your doctor doesn't think a caesarean section will benefit the health of you or your baby, he or she has the right to decline your request for one. However, they should offer to refer you to another doctor.

Effects of caesarean section on a woman's health

The table on the next page shows the effects of caesarean section on a woman's health. These risks do not apply to all women or all circumstances. If you have a caesarean section because of a problem that develops during pregnancy or labour, the risks will be different. Your midwife or doctor should discuss this with you.

Some problems – such as needing admission to an intensive care unit – are more likely after a caesarean birth than after a vaginal birth. It is not clear whether this happens as a result of a caesarean section or because of the reasons for needing a caesarean section. Pain in the abdomen affects about 9 of every 100 women who have a caesarean section, but most of the other problems are very rare.

There is more detailed information on the effects of caesarean section on women's health in Appendix A at the end of this booklet.

Summary of the effects of caesarean section for women

More likely after caesarean section	No difference after caesarean section	Less likely after caesarean section
<ul style="list-style-type: none"> • Pain in the abdomen (tummy) • Bladder injury • Injury to the tube that connects the kidney and bladder (ureter) • Needing further surgery • Hysterectomy (removal of the womb) • Admission to intensive care unit • Developing a blood clot • Longer hospital stay • Returning to hospital afterwards • Death of the mother • Having no more children • In a future pregnancy, the placenta covers the entrance to the womb (placenta praevia) • Tearing of the womb in a future pregnancy • In a future pregnancy, death of the baby before labour starts 	<ul style="list-style-type: none"> • Losing more than 1 litre of blood (haemorrhage) before or after the birth • Infection of the wound or lining of the womb • Injuries to the womb or genital organs, such as tearing around the neck of the womb • Bowel incontinence (no control of bowel actions) • Postnatal depression • Back pain • Pain during sexual intercourse 	<ul style="list-style-type: none"> • Pain in the area between the vagina and anus (the perineum) • Bladder incontinence 3 months after the birth • Sagging of the womb (prolapse) through the vaginal wall

Other considerations

Women usually spend longer in hospital after a caesarean section (on average, 3–4 days) than after a vaginal birth (on average, 1–2 days).

Women who have a caesarean section are less likely to start breastfeeding in the first hours after the birth, but if they do start they are just as likely to continue breastfeeding as those who have a vaginal delivery.

Women who have a caesarean section are more likely to have one again in the future, although there is not enough evidence to know why this is (see page 39).

Risks to your baby

In general, caesarean section does not increase or decrease the risk of your baby having an injury to the nerves in the neck and arms, or bleeding inside the skull, having cerebral palsy or dying. These are very rare complications, and affect less than 20 in 10,000 babies.

The most common problem affecting babies born by caesarean section is breathing difficulties. About 35 of every 1000 babies born by caesarean section have breathing problems just after the birth, compared with 5 of every 1000 babies after a vaginal birth.

Medical reasons for considering a caesarean section

Medical reasons for planning a caesarean section

There are many reasons why you might be offered a caesarean section that is planned in advance. For example, you should be offered this if:

- your baby is positioned bottom first (known as the breech position) at the end of your pregnancy
- you have placenta praevia (a condition where the placenta is low lying in the womb and covers all or part of the womb entrance)
- you have certain viral infections, namely:
 - HIV
 - HIV together with hepatitis C virus
 - a first infection (but not a recurrence) of genital herpes in the last 3 months of your pregnancy.

If your baby is positioned bottom first

Most babies move into a head-first position in the womb before they are born.

If you have had no problems with your pregnancy and your baby is still bottom first (known as the breech position) at 36 weeks, your midwife or doctor should offer you a procedure called external cephalic version (ECV). This means they gently try to move the baby round to head first by placing their hands on the mother's abdomen and pushing from the outside. ECV does not always work, but if the baby moves so that it is head first, it can usually be born vaginally in the normal way.

You should not be offered ECV if:

- your waters have broken
- you are in labour
- you have a scar on your womb, or if your womb is irregularly shaped
- the health of your baby is at risk
- you have any vaginal bleeding
- you have an existing medical condition.

If your baby is positioned bottom first at the end of your pregnancy and you are not able to have ECV, or it has not been successful, you should be offered a caesarean section. This reduces the risk of your baby dying or being injured during birth.

If you have a viral infection

This guideline is only about caesarean section. If there are other treatments to reduce the chance of you passing on a viral infection to your baby, your doctor or midwife will talk to you about them.

If you have HIV, or HIV and hepatitis C virus, having a caesarean section will reduce the risk of passing on these infections to your baby.

You do not need a planned caesarean section if you have hepatitis C virus alone, because it will not reduce the risk of passing the virus to your baby.

If you have hepatitis B and you have agreed for your baby to have vaccination and immunoglobulin (an injection of antibodies) once it is born, you will not need a caesarean section because this will not reduce the risk of passing on the infections to your baby.

If you have a first-ever infection of genital herpes in the last 3 months of your pregnancy, you should be offered a caesarean section. But if you have a recurrence of genital herpes at the time of the birth you should not be offered a planned caesarean section, unless you have agreed to take part in a research programme. There is not enough evidence to tell us whether caesarean section cuts down the risk of passing the herpes virus on to your baby if you are having a recurrence at the time of birth.

If you are expecting twins

If you are expecting twins, the risks to their health and lives at the time of birth are about four times greater than for singleton babies.

If the first twin is in the breech (bottom-first) position you should be offered a planned caesarean section. This is in line with current medical practice, although it is not certain that caesarean section will cut down the risks to the babies.

If your babies are due to be born, you are healthy and have not developed complications in the pregnancy, and the first twin is in the head-first position (the normal position for

birth), you should not routinely be offered a planned caesarean section, unless you have agreed to take part in a research programme. It is not certain that planned caesarean section improves the health of the second twin in these circumstances.

If you are expecting twins and have had no problems with your pregnancy you should not have a caesarean section before the 38th week of your pregnancy. Having a caesarean section any earlier than this increases the chances of the babies having breathing problems when they are born.

If your baby is small

Babies who are not growing well in the womb are known as 'small for gestational age' babies. They have a higher risk of dying or being ill around birth, but there is not enough evidence to tell us whether having a planned caesarean section makes any difference to this risk. In these cases you should not routinely be offered a planned caesarean section unless you have other complications or you have agreed to take part in a research programme.

If your baby is premature

Babies born too early have a higher risk of death or complications. However, there is not enough research to tell us whether having a planned caesarean section makes any difference to these risks. In this situation you should not routinely be offered a planned caesarean section unless you have other complications or you have agreed to take part in a research programme.

If you are planning a normal birth, what choices may affect your chance of needing a caesarean section?

Tests to predict if you will need a caesarean section

You should not be offered X-rays of your pelvis, or vaginal examinations to measure the size of your pelvic bones, because they do not help to predict the course of your labour. For the same reason, your healthcare team do not need to take any account of your height, the size of your feet or the size of your baby in trying to predict the course of your labour.

Where you have your baby

If you are healthy and there are no problems expected in your pregnancy, you should be aware that having your baby at home can reduce the chance of needing a caesarean section.

If you are healthy and have no problems in your pregnancy, having your baby in a 'midwifery-led unit' does not affect the chance of your having a caesarean section.

Things that reduce your chance of needing a caesarean section

Some things are known to cut down the chances of needing a caesarean section. They may also affect other aspects of your labour or the birth that are not considered in this guideline.

- You should be aware that having another woman with you for support throughout your labour reduces the chance of having a caesarean section.

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- If you are still pregnant after 41 weeks of pregnancy, you should be offered induction of labour (to have your labour started off). This is safer for the baby and reduces the chance that you will have a caesarean section (for information about induction of labour, see the NICE guideline *Induction of labour*; details on page 42).
- The use of a chart called a partogram to follow the progress of your labour also makes a caesarean section less likely. At 4-hourly intervals, your midwife or doctor will offer to do a vaginal examination to measure how far your cervix has opened up (dilated), and feel your abdomen to see how the baby is moving downwards. If the progress of your labour lags more than 4 hours behind the average they should discuss with you what your options are (including whether you can go ahead with a vaginal birth), and take action as appropriate.
- Having a consultant (senior) obstetrician involved in decision making about caesarean section reduces the chances that a woman will have a caesarean section.

- In some cases, the midwife or doctor will need to monitor the baby's heartbeat and contractions throughout labour, using electronic devices that are attached to the abdomen. This is called cardiotocography, or CTG for short. The trace may make your doctor or midwife suspect there is a problem, when in fact your baby is fine. If they suspect your baby is not coping well with labour, further action may be taken. This could include immediate caesarean section, but usually another test should be offered before the decision is made. The test is a 'fetal blood sample'. This is done by passing a small tube through a speculum (a metal instrument which is inserted into your vagina) to take the sample from a pinprick on the baby's scalp. This sample will be tested to see if the baby is coping well with labour. Having this test may avoid an unnecessary caesarean section. (For more information about monitoring the baby's heartbeat see the NICE guideline *Electronic fetal monitoring*; details on page 41.)

Things that do not affect your chance of having a caesarean section

Some things make no difference to the chances of needing a caesarean section, although they may affect other aspects of your labour or the birth that are not considered in this guideline. These include:

- walking around while you are in labour
- not lying on your back in the second stage of labour
- being in water during your labour
- having epidural pain relief during labour
- taking raspberry leaves
- early breaking of the waters through amniotomy (this is done by placing a plastic hook into a woman's vagina in order to break the amniotic membranes around the baby and release the amniotic fluid)
- active management during labour (a type of care that includes one-to-one support from a midwife, early breaking of the waters, and the early use of the drug oxytocin to encourage the womb to contract).

There is no research that tells us whether using complementary therapies (such as acupuncture, aromatherapy, hypnosis, herbal products, nutritional supplements, homeopathic medicines or Chinese medicines) during labour cuts down the chance of having a caesarean section.

Reasons for needing an emergency caesarean section

You may need an emergency caesarean section because:

- there is concern that your baby's health is compromised
- your labour is not progressing
- you have vaginal bleeding during pregnancy or labour
- you go into labour before the date of your planned caesarean section.

In some situations your baby may need to be delivered very quickly (within half an hour).

If you have an emergency caesarean section, you are at risk of vomiting during the operation. If this happens, fluid and food particles from your stomach may pass into your lungs (this is known as aspiration) and can cause potentially serious inflammation (known as aspiration pneumonitis). You should be aware that eating during labour may increase the amount of food and fluid in your stomach, and this may increase the risk of aspiration if you have an emergency caesarean section. Drinking drinks that have the same concentrations of salt and sugar as human body fluid (known as isotonic drinks) during labour gives you energy without giving you a full stomach.

Having a caesarean section

If you have a planned caesarean section, this should not normally be done before the 39th week of pregnancy. This is because if your baby is born early, there is a chance it might have breathing problems soon after birth. These problems are less likely if the baby is born after 39 weeks.

Tests before a caesarean section

If you are having a caesarean section you should be offered a blood test to check whether you are anaemic.

Around 4–8 of every 100 women lose more than a litre of blood at the time of caesarean section. Some women have a high risk of this happening, if they have:

- heavy bleeding before labour (known as antepartum haemorrhage)
- placental abruption (where the placenta separates from the wall of the womb)
- placenta praevia (where the placenta is lying across the entrance to the womb)
- uterine rupture (a tear in the womb, often along the scar of a previous caesarean section).

If you have any of these problems, you may need a blood transfusion and you should have the caesarean section at a maternity unit with blood transfusion services.

If you have been healthy during your pregnancy, you do not need to have:

- screening tests for blood clotting
- grouping and saving of serum (this is when a sample of your blood is taken, the blood group is analysed and then the sample is saved in the hospital blood bank ready to be used to order a blood transfusion if you need one)
- an ultrasound scan before a caesarean section; it does not cut down your risk of heavy blood loss or the risk of injury to the baby.

Anaesthetics for caesarean section

A caesarean section should usually be done using a regional anaesthetic, which numbs the lower part of the body and means you will be awake during the operation. This is safer for you and the baby than a general anaesthetic (where you are put to sleep). Spinal and epidural anaesthetics are types of regional anaesthetic. You may be given the anaesthetic in the operating theatre or in a separate room next to the theatre.

You should be given information about the different kinds of pain relief that you can use after the operation, so that you can be prescribed whatever best suits your needs. If you have a regional anaesthetic for your operation, you should also be offered diamorphine, given by an injection into your spine at the same time that the anaesthetic is given. This reduces the need for other pain relief afterwards.

You will need to have a bladder catheter inserted to empty your bladder because, with a regional anaesthetic, you will not be able to tell if your bladder is full and needs to be emptied.

If you are having a regional anaesthetic, you should also be offered a drug called ephedrine or phenylephrine, which will be given through a drip to reduce your risk of low blood pressure during the operation.

If you have an emergency caesarean section, your healthcare team should cut down the risk of vomiting and aspiration into the lungs (see page 27) by:

- offering you drugs or acupuncture (which involves wearing wrist bands that apply pressure to special points in your wrists) to try to prevent nausea and vomiting

- offering you antacids to reduce the acidity in your stomach and drugs to keep the amount of food in your stomach low, and reduce its acidity
- using standard emergency procedures such as giving you oxygen through a mask before a general anaesthetic, and the anaesthetist applying pressure with his or her hand at the front of your neck to block the airway and prevent particles going into your lungs.

Maternity units should follow accepted good practice when giving anaesthetics to women in labour. When a person is under general anaesthetic, a tube may need to be inserted through the mouth or nose to feed air and oxygen down to the lungs. Maternity units need to have a procedure in place for what to do when attempts to do this fail.

The operation

You have more risk of a blood clot if you have a caesarean section, so you should be offered things during and after the operation to reduce the risk of this happening, such as elastic support stockings, help to walk around soon after the CS, or injections. Your doctor should assess your risks of blood clots when deciding which of these you need.

If you are awake during the operation, a screen will be placed across your abdomen so that you do not see the operation being done. You may be able to choose to have the screen lowered, so that you see the baby being born. You may also be able to have music playing, or have silence in theatre so that your voice is the first the baby hears. If you are interested in any of these things, you should discuss them with your midwife or doctor.

During caesarean section, the operating table will be tilted sideways to an angle of at least 15°. This reduces your chance of getting low blood pressure and feeling sick during the operation, because it takes the weight of your womb off major blood vessels in your abdomen.

Whenever possible, the obstetrician will make a horizontal cut across your lower abdomen (just below the line of your pubic hair) to reach your womb. This opening along your 'bikini line' will cause you less pain afterwards and look better than an 'up and down' scar. Sometimes the baby's skin may be cut while the opening in the womb is being made. This happens to about 2 of every 100 babies.

You should be given the drug oxytocin by slow injection into a vein once your baby is born to encourage your womb to contract and cut down blood loss.

You should be offered antibiotics at the time of your caesarean section because they cut down the risk of getting an infection afterwards.

Checking your baby's health

A trained practitioner who is skilled in resuscitating newborn babies should be present if your healthcare team think that your baby's health is at risk. If you have had a caesarean section because of suspected distress in the baby, your healthcare team should measure the pH balance (acidity) of the blood in the artery in the baby's umbilical cord. This will help them to confirm whether your baby was distressed.

Babies born by caesarean section are more likely to have a lower temperature than normal. Your healthcare team should follow accepted good practice for keeping babies warm (for example, having a higher temperature in the operating theatre, or wrapping the baby in blankets).

Your healthcare team should encourage you to have skin-to-skin contact with your baby as soon as possible. This tends to improve how women feel about their baby, their mothering skills and their chances of successfully breastfeeding. It also tends to reduce the amount a baby cries.

You can find more information on how your healthcare team will carry out the operation in Appendix B on page 50.

After the operation

Immediately after the operation you should be observed on a one-to-one basis by a properly trained member of staff until you are breathing normally and are able to talk and communicate clearly.

After you recover from the anaesthetic, the staff looking after you will check your breathing rate, heart rate, blood pressure and whether you are feeling pain or feeling sleepy every half hour for 2 hours, and then every hour. These observations will be done for a number of hours, depending on what type of anaesthetic you had during the operation. If you are not feeling well or if the observations are changing then a doctor will come and see you.

If you have had a caesarean section, you may have more difficulty starting to breastfeed your baby. Therefore, you should be offered extra support and help to do this. Once you have started breastfeeding, you are as likely as other women to be able to carry on.

Unless you have an infection that needs treatment, you do not need to continue to have antibiotics after your caesarean section.

You should be offered pain relief that you can control yourself with drugs such as morphine (called patient-controlled analgesia or 'PCA'). However, these can make you drowsy and nauseous, so you should also be offered non-steroidal anti-inflammatory drugs (NSAIDs), such as diclofenac, if they are suitable for you. Taking NSAIDs can cut down the amount of morphine-like painkillers (such as diamorphine) that you might need.

If you are recovering well and you have no problems after your caesarean section, you should be able to eat and drink if you are thirsty or hungry.

Your bladder catheter will be removed once you are able to walk and at least 12 hours after the last 'top-up' of your epidural.

Your wound dressing will be removed after 24 hours. Wound drains do not cut down infection or the risk of bruises, so they should not be used as a matter of routine in caesarean section. Wound drains do reduce the chances of infection for women who are very overweight, however, and should be offered to them.

If you have had a caesarean section, your healthcare team should give you the opportunity to discuss the reasons for it and any other related issues at an appropriate time. They should keep a record of the reasons for carrying out a caesarean section.

Current good practice for the care of your baby after a caesarean section should follow the accepted care for any newborn.

Going home

Women generally stay in hospital for 3–4 days after a caesarean section. But if you and your baby are well, and if you wish to go home early, you should be able to go home earlier than this (after 24 hours) and have follow-up care at home.

In addition to routine postnatal care, you will need advice about recovering after a caesarean section and possibly about other complications if you had these during pregnancy or childbirth.

When you go home, you should be given regular pain killers to take for as long as you need them. For severe pain you should be offered co-codamol and ibuprofen; for moderate pain, you should be offered co-codamol; and for mild pain, you should take paracetamol.

You should be given advice about how to look after your wound. Advice should cover wearing loose, comfortable clothes and cotton underwear, gently cleaning and drying the wound daily, and looking out for possible wound infection (such as more pain, redness or discharge) or fever.

You should tell your midwife or doctor if you have symptoms such as pain on passing urine, or leaking urine.

You should tell your midwife or doctor if your vaginal bleeding increases, or becomes painful. After caesarean section, this is less likely to be due to retaining part of the placenta, and more likely to be due to infection in the lining of the womb.

You should tell your midwife or doctor if you develop a cough or shortness of breath, or swelling and pain in your calf, so that they can make sure that these symptoms are not due to a blood clot.

After a caesarean section, you will not be able to do some activities straight away such as driving a car, carrying heavy things, exercise or having sex. You should only start these once you feel that you are able to do so and when they do not cause you pain. If you are unsure, you could discuss this with your midwife.

If you have a caesarean section, you are not more likely than other mothers to have any of the following: difficulty breastfeeding, postnatal depression, pain during sex or difficulty controlling your bowels.

Having a baby when you have had a caesarean section before

If you have already had a caesarean section, it is not certain what the overall effect on your health is likely to be if you have another caesarean section rather than a vaginal birth. When you and your doctors are discussing whether to plan a caesarean section or a vaginal birth, your doctors should take account of:

- your preferences and priorities
- the overall risks and benefits of caesarean section
- the risk of tearing the wall of the womb (known as uterine rupture), along the scar from the previous caesarean section
- the risk to you and your baby's life and health around the time of birth.

If you want to have a vaginal birth, your healthcare team should support you in this decision. You do need to be aware that some rare but serious complications are increased with

vaginal birth after a caesarean section. These possible complications include your scar tearing apart or the baby dying. For these reasons, during your labour, you should be offered electronic fetal heart rate monitoring, and be cared for in a maternity unit where a caesarean section can be done very quickly if needed, and where there are blood transfusion services. This is even more important if your labour is induced, because the risks of some complications, such as the scar tearing apart, are higher.

Studies have shown that pregnant women who have had both a previous caesarean section and a previous vaginal birth are more likely to have a vaginal birth than those who have had only a previous caesarean section.

Where you can find more information

If you need further information about any aspect of having a caesarean section, or about the care that you are receiving, please ask your midwife, doctor or another member of your healthcare team. You can discuss this guideline with them if you wish, especially if you aren't sure about anything in this booklet. They will be able to explain things to you.

For further information about the National Institute for Clinical Excellence (NICE), the Clinical Guidelines Programme or other versions of this guideline (including the sources of evidence used to inform the recommendations for care), you can visit the NICE website at www.nice.org.uk. At the NICE website you can also find information for the public about other maternity-related guidance.

- Antenatal care: routine antenatal care for healthy pregnant women (*NICE Clinical Guideline 6*)
- Pregnancy and childbirth: electronic fetal monitoring (*NICE Clinical Guideline C*)

- Pregnancy and childbirth: induction of labour (*NICE Clinical Guideline D*)
- Pregnancy – routine anti-D prophylaxis for rhesus negative women (*NICE Technology Appraisal no. 41*).

If this is your first pregnancy, your midwife or doctor should offer you a copy of *The Pregnancy Book*, which is published by the Departments of Health in England and Wales. This tells you about most aspects of pregnancy. You can get information on common problems during pregnancy from NHS Direct (telephone 0845 46 47; website www.nhsdirect.nhs.uk).

Glossary

Antenatal healthcare team – the health professionals providing care during pregnancy, such as midwives, GP or an obstetrician (this will vary depending on the type of antenatal care you have chosen and where you plan to give birth).

Complications – extra health problems after an operation or arising from another condition or infection.

Consultant obstetrician – a senior doctor who has had specialist training and experience in the care of women during pregnancy and childbirth.

Full term – the 37th to 41st weeks of pregnancy; this is the full and normal duration of pregnancy.

Induction of labour – methods that are used to start labour. These include a membrane sweep, breaking the waters, using tablets inserted into a woman's vagina or a drip.

Isotonic fluids – drinks that have the same concentrations of salt and sugar as human body fluid.

Midwifery-led unit – a unit close to a labour ward that provides care led by midwives, with a minimum of medical interventions and in a home-like environment. Different phrases may be used to describe this type of unit. If you are not sure, ask your doctor or midwife.

Obstetrician – a doctor who has received specialised training and experience in the care of women during pregnancy and childbirth.

Oxytocin – a hormone naturally produced by the body which causes the womb to contract. A synthetic copy of this hormone is sometimes used during childbirth to increase or start contractions of the womb.

Prolapse – when the womb, bladder or bowel sags from its normal position and protrudes through the vaginal wall. It is more common after a vaginal birth than after a caesarean section because the muscles supporting the womb get stretched during a vaginal birth.

Regional anaesthetic – a type of anaesthetic that numbs the lower part of your body. The anaesthetic drugs are either given through an injection into the spine before the start of the operation, or run into your spine through a small tube (catheter). The catheter may have been put in place as part of the epidural used for pain relief during labour, or at the time of the operation.

Speculum – a metal instrument that is inserted into a woman's vagina so that examination of the cervix and vagina can be done. It is used in smear tests and most gynaecological examinations.

'Top-up' epidural dose – doses of anaesthetic drugs given via the epidural catheter to maintain the effects of the epidural.

Appendix A: Summary of the effects of caesarean section on women's health

This table shows the effects of a caesarean section on women's health. It shows the problems that are more or less likely after a caesarean section than a vaginal birth, but not the problems where there is no difference.

The figures in the table are the best estimate we have, but it is impossible to be precise about the effects, because different studies often give different results.

Most of the problems are rare. Some problems – such as needing admission to an intensive care unit – are more likely after a caesarean birth than after a vaginal birth. It is not clear whether this happens as a result of a caesarean section or because of the reasons for needing a CS. This is the case for the complications marked (a) in the table.

How many women does this affect, out of every 10,000 women?		
	Caesarean section	Vaginal birth
More likely after a caesarean section		
Pain in the abdomen (tummy)	900	500
Bladder injury ^a	10	0.3
Injury to the tube that connects the kidney and bladder ^a	3	0.1
Needing further surgery ^a	50	3
Hysterectomy (removal of the womb) ^a	Up to 80	1 or 2
Admission to intensive care unit ^a	90	10
Developing a blood clot ^a	Between 4 and 16 overall (no detailed figures available)	

How many women does this affect, out of every 10,000 women?		
	Caesarean section	Vaginal birth
More likely after a caesarean section <i>continued</i>		
Longer hospital stay	3 to 4 days	1 to 2 days
Returning to hospital afterwards ^a	530	220
Death of the mother ^a	0.82	0.17
Having no more children ^a	4200	2900
In a future pregnancy, the placenta covers the entrance to the womb (placenta praevia)	40-70	20-50
Tearing of the womb in a future pregnancy ^a	40	1
In a future pregnancy, death of the baby in the womb before labour starts ^a	40	20

How many women does this affect, out of every 10,000 women?		
	Caesarean section	Vaginal birth
Less likely after caesarean section		
Pain in the area between the vagina and anus (the perineum)	200	500
Bladder incontinence 3 months after the birth	450	730
Sagging of the womb (prolapse) through the vaginal wall ^a	500 overall (no detailed figures available)	
<p>^aIt is not clear whether the increased risk of these problems is a result of a caesarean section or because of the reasons for needing a CS.</p> <p>Note: Very rarely, women develop a blood clot after having a baby. This happens to between 4 and 16 of every 10,000 women who have a baby, and the risk is nearly four times higher after a caesarean section than after a vaginal birth. Sagging of the womb through the wall of the vagina (called a prolapse) is uncommon – it affects about 500 of every 10,000 women who have a baby – and the risk is nearly twice as high after a vaginal birth than after a caesarean section.</p>		

Appendix B: Surgical techniques for caesarean sections

Healthcare professionals should be encouraged to wear two pairs of surgical gloves (double gloves) when taking part in a caesarean section on women who are HIV positive, to reduce the risk of infecting healthcare professionals during the operation. They should follow general recommendations on safety in surgery to reduce the risk of HIV infection of staff.

To make the opening into your body cavity, the obstetrician should use a horizontal cut across the abdomen, 3 cm above your pubic bone (a type of cut known as a Joel Cohen incision). This takes less time than other kinds of cut and reduces the chance of you having a fever after the operation.

The obstetrician does not need to use separate surgical knives for opening the skin and the tissues inside as this does not decrease the risk of wound infection. The obstetrician should use their fingers, rather than operating scissors, to widen the opening in the womb when making the cut on the womb to take the

baby out. This reduces bleeding during the caesarean section, the need for blood transfusion during the operation, and the risk of bleeding after the birth.

Forceps should only be used when there is difficulty in delivering the head of the baby at caesarean section.

The obstetrician should sew up your womb by keeping it inside your abdomen, rather than lifting it out. Lifting your womb out of your abdomen is likely to cause you more pain and does not cut down the risk of infection or excessive bleeding.

To reduce the risk of infection of the lining of your womb (endometritis), the obstetrician should remove your placenta by pulling steadily on the umbilical cord to bring it out of the womb. He or she should close up the opening in the wall of the womb with two layers of stitches.

The layer of tissue over the womb (peritoneum) does not need to be stitched and should be left to heal and close over naturally; you will need less pain relief as a result. Your obstetrician should usually only close up the space of tissue under your skin if you are very overweight, in order to reduce the risk of infection.

If you have had to have an 'up and down' cut, the obstetrician should use a single line of continuous stitches (rather than a series of single stitches) which are slowly absorbable (that is, they will dissolve after a few months) to close your abdominal wall. This reduces the risk of the wound becoming infected or splitting open, and the risk of developing a hernia (where deep tissues, such as the bowel, protrude through the wound).



*National Institute for
Clinical Excellence*

**National Institute for
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MidCity Place
71 High Holborn
London
WC1V 6NA

www.nice.org.uk