

Colostrum (first milk)

In the first few days after birth mothers produce a concentrated form of milk called colostrum. This colostrum is incredibly beneficial to the baby. It is very rich in protein. Colostrum contains high levels of antibodies and immunoglobulins (these two immune factors protect new babies from viruses and bacteria).

Advantages of breastfeeding for the mother and the baby

- Breast milk is designed for human babies it cannot be replicated.
- The milk is sterile and there is no need for bottles and sterilising equipment.
- The composition of breast milk changes to suit the needs of the growing baby.
- Breast milk is free, there is no cost involved.
- Breastfeeding **may** improve the mother-baby bond.
- The oxytocin produced when the baby suckles makes the uterus shrink to its pre-pregnancy size.
- Breast feeding can burn up to 1300 kcal per day helping the mother to return to her pre-pregnancy weight.
- The milk is at the correct temperature and does not need to be warmed.
- Colostrum provides the baby with maternal antibodies which help to protect the baby from a range of infections like diarrhoea, vomiting, chest, ear and urine infections, eczema and nappy rash.
- The baby is less likely to be overweight because there is no room for human error.

Parenting classes will discuss the option of **formula** feeding. Formula is the name for the milk powders or liquids manufactured as a breast milk substitute. Parents will need to think ahead if they plan to formula feed so that they can buy the equipment they will need. This equipment will include a sterilizer, feeding bottles and the formula milk itself.

Reasons why some women are advised to have their baby in hospital

- This is a multiple birth
- The mother is over 35
- There is a history of miscarriage
- There have been complications in the pregnancy
- The baby has abnormalities
- This is the first baby
- There were problems in a previous birth
- The home conditions are poor

Advantages of having a hospital birth

- There is a wider choice of pain relief options in hospital
- A chance to rest and have one to one time with the baby as visitor numbers and hours are restricted
- Free from household responsibilities/caring for other children
- Specialist equipment and medical professionals (EG forceps/obstetricians) readily available in case of emergency

Advantages of having a home birth

- The mother may feel more comfortable **in her own surroundings**
- There are no hospital routines or restrictions on visiting hours/numbers after the birth
- Intervention (forceps/ventouse) are less likely
- The mother can have all her family present at the birth
- The mother will know her midwife who is looking after her

Doula

Doulas provide continuous support for the whole family through pregnancy, birth and the early days of parenthood. Doulas are usually experienced women who have completed some basic training. They do not offer clinical skills and are not medically trained.

Other options

Midwife led maternity unit - Low risk births less likely intervention

Domino scheme

With a domino scheme, the midwife attends you at home when you go into labour until you both feel it's time to go into hospital. She'll come with you into hospital to deliver the baby, and then go home with you afterwards (asap after baby is born.) It's a good compromise between a home birth and a hospital one.

Private maternity hospital

Consultant led care – very expensive

Private midwife

Usually attends a home birth.

Cannot deliver in an NHS hospital

Paid for privately by the family

Role of the father or birth partner - physical support

During pregnancy

- Practical tasks like shopping and cleaning can be done by the birth partner if the mother is feeling tired.
- Looking after other children in order to enable the mother to rest or focus on preparing for the new baby
- The birth partner can learn breathing and relaxation techniques at the antenatal classes alongside the mother. This will enable them to practise them before labour and then use them successfully together during labour.

During Labour

- Massage the mother's back, shoulders or legs.
- Support the mother's body to reduce the pressure on her lower back or help her to change positions
- Time the contractions
- Supply drinks or snacks

Role of the father or birth partner – emotional support

During pregnancy

- Listen to the mother's worries and discuss her concerns about the pregnancy, the birth or caring for a new baby.
- Making arrangements at home for the birth. For example, who will look after any siblings during the birth.
- Help to put the birth plan together.

During Labour

- Offer encouragement during the contractions and the pushing
- Reassure the mother
- Help to find ways to pass the time between contractions
- Making sure the health professionals are aware of the mother's wishes/birth plan

Forceps look similar to tongs – a curved metal instrument that fits around the baby's head. They are carefully positioned either side of that head and then joined together at the handles.

- As the mother pushes with the contraction the obstetrician gently pulls to help deliver the baby
- Some forceps are designed to help to turn the baby to the right position to be born
- Forceps are usually more successful than ventouse but they are more likely to result in vaginal tearing.

Ventouse is a vacuum extractor

It is a plastic or metal cup that fits firmly onto the baby's head and attaches using suction.

- As the mother pushes with the contraction the obstetrician gently pulls to help deliver the baby
- The process leaves a small swelling on the baby's head which usually disappears quite quickly.
- This is not suitable on babies under 34 weeks as the head is too soft

Caesarean section

This involves an operation to remove the baby. An incision is made through the abdominal wall of the uterus so that the baby can be removed. Caesareans can be carried out under general anaesthetic. However, the preferred method is using an epidural anaesthetic so that the mother may remain conscious and the father can be present. This can be planned (**elective**) or an **emergency** situation

Breech birth

Babies are usually born head first, but occasionally they are born either feet or bottom first. This is called the breech position. If the baby appears to be in the breech position, towards the end of pregnancy, an obstetrician may try to turn it by manipulating the mother's abdomen.

Episiotomy

sometimes a small cut is needed in the perineum to prevent it tearing during the delivery of the head.

Stages of labour

Stage one – The neck of the uterus opens

- The **Muscles** in the uterus contract opening the cervix to 10cms
- The **contractions** usually start 20-30 mins apart and then become more frequent (closer together) and more painful
- If the head is not already **engaged** it will move into position
- It can take hours or even days to get into **established labour** (from 4cm)
- **Intense and rapid contractions** indicate that the mother is entering the transition stage of labour.

Stage two

- The **uterus**, cervix and vagina become the birth canal.
- **Strong** contractions help the mother to push the baby along (very tiring).
- when the head appears it is called **crowning**.
- The pushing stops, (panting/controlled breathing) as the head needs to be born slowly to avoid tearing the vagina.
- Once the head is out the **midwife** clears any mucus from the baby's airways.
- **Contractions** continue, each shoulder is then delivered and the rest of the body is born quite easily.

Stage three

- Once the baby is **breathing**, the umbilical cord is cut and the baby is now separate person
- The contractions begin again and the **placenta** detaches and is delivered.
- The baby may be **bluish** in colour for few minutes
- **Injection of syntocinon** given to mother to prevent excessive blood loss and speed up process.
- Episiotomy sewn up (if necessary)

Entonox (Gas and Air)

Breathed in through mask or mouthpiece

Advantages

Mother in control
Works quickly
No side effects for baby

Disadvantages

Wears off fast
Nausea
Not as strong as other drugs

Most effective in stage one

Pethidine (Diamorphine)

Drug given via injection into thigh

Advantages

Very strong pain relief
Allows mother to rest (lasts 2-4 hours)

Disadvantages

Can take 20 mins to take effect
Side effects can pass on to the baby if given too late
Can cause nausea

Most effective in stage one

Epidural

Drugs given via a small tube fed through a hollow needle into the space between the vertebrae

Advantages

Very strong/complete pain relief
No sickness or drowsiness

Disadvantages

Can take 40 mins to set up/take effect
May prolong labour
Baby needs to be monitored throughout
Most effective in stage one/two

Methods of pain relief

Water

Warmth (37°) relaxes the mother
Releases natural endorphins
Lowers blood pressure
Takes pressure off the back/feel lighter

Natural methods

Massage/music/breathing and relaxation exercises.
All designed to soothe and distract
Alternative methods
Hypnotherapy, acupuncture
Aromatherapy, reflexology
Not available in NHS hospitals
Remifentanyl

TENS

Small stimulator device attached to 4 sticky pads affixed to either side of the spine. Sends electrical current to the brain – release endorphins

Advantages

Controlled by the mother
Mobile – can move around with it
No drugs involved

Disadvantages

Cannot be used in water
Not a very strong method

Most effective in early stage one

Instrumental delivery – where an instrument (EG forceps) has to be used to deliver a baby.

The baby comes through in stage two



Forceps



Ventouse

Antenatal

Before Birth

Antenatal care is the care given to a pregnant woman and her baby during pregnancy.

The first antenatal appointment should happen before 10 weeks of pregnancy. It is usually between 8 and 12 weeks.

The aims of antenatal care

All of the medical professionals involved in antenatal care are committed to the following.

- A safe pregnancy and delivery, resulting in a healthy mother and baby.
- The identification and management of anything considered unusual (abnormal).
- The preparation of both parents for labour and parenthood.
- An emotionally satisfying experience.
- The promotion of a healthy lifestyle and understanding of the benefits of breastfeeding



The GP (usually first point of contact) will

- confirm the pregnancy
- answer any initial questions the mother may have
- make referrals to other professionals about existing medical conditions
- offer treatment for any non-pregnancy related medical problems
- respond to emergency concerns related to the pregnancy
- provide post-natal medical care for example give advice on contraception

The Obstetrician will be involved with more high-risk pregnancies and deliveries. This will usually be because there is a

- Pre-existing medical condition that makes the pregnancy or birth more complicated
- A complication with the mother or baby that is identified during the pregnancy
- Concern about the wellbeing of the baby (showing signs of distress)

Hospital Midwives

Hospital midwives are based in a hospital, a birth centre or midwife led unit. They staff the antenatal clinic in the hospital, the labour ward, and the postnatal wards.

Community Midwives

These midwives see women at home or in a specialised clinic (usually in a health centre or children's centre). They attend home births and provide postnatal care for both home and hospital births. They visit new mothers at home for up to 10 days after birth.

Independent Midwives

They work and are employed privately outside of the NHS.

Other medical professionals

Sonographer – does ultrasounds

Anaesthetist – doctor specialising in pain relief

Paediatrician – doctor specialising in the care of babies and children



RO57 Topic Area 2 – Antenatal care and preparation for birth

Knowledge Organiser

Routine tests carried out at an antenatal clinic

Blood pressure

To check it does not get too high which can lead to pre-eclampsia which may cause premature labour. High blood pressure can also interfere with the blood supply to the placenta. Signs are swollen ankles and excessive weight gain.

Urine Test

To test for sugar which may indicate diabetes and protein indicating a kidney or bladder infection and pre-eclampsia. **Ketones** may be present if the mother has been vomiting. Some **STIs** may also be detected through the urine.

Examination of the uterus

Examination of the abdomen will give an idea of the size and position of the foetus

Foetal Heartbeat

From 16 weeks this will become routine. The midwife will listen to the baby's heartbeat as this will indicate if the baby is distressed possibly as a result of restricted blood flow (poor oxygen levels)

Mother's weight

Too much could put strain on the mother's heart. Too little could indicate the baby is not developing properly. On average the weight gain in pregnancy is 2 stones

Blood tests taken during pregnancy

Anaemia

To check there is enough iron in the blood. If the levels are low supplements can then be given.

Blood group

To establish blood type should a transfusion be required in an emergency

Immunity to Rubella

To see if the mother has immunity to the disease as the baby could be at risk. If she is not immune she will be given a vaccination after the baby is born.

HIV

The mother can be given advice/treatment. Help with types of birth and feeding

Antenatal classes (learn about)

Before labour

Healthy lifestyle in pregnancy – so that the mother can make healthy lifestyle choices EG foods to eat and avoid

The development of the unborn baby – to help the new parents understand how the baby is developing and how their lifestyle can have an impact on the baby

Delivery options – home or hospital birth. Intervention techniques that may be used EG forceps

During labour

Methods of pain relief – so that the mother knows what types are available and how they work so that she can plan what methods she may use

What will happen during labour – so that they understand the process that the body will go through and what will happen in each stage

Relaxation and breathing exercises – these are taught so that the parents can practise these as a method of controlling pain

After labour

Advantages of breast and bottle feeding – so that the mother understands the benefits of breast feeding and can make an informed choice about feeding methods

How to care for the new baby – to give advice and help new parents to prepare for how to look after their new baby

The mother's health after the birth – so that she knows what to expect

The Dating Scan (first scan at 8-14 weeks)

- The sonographer estimates when the baby is due (the estimated date of delivery, or EDD) based on the baby's measurements.
- Checks the baby's development
- Checks how many babies there are
- Checks that the baby is growing in the right place

The anomaly scan (18 and 21 weeks)

- Checks the amniotic fluid levels
- Measures the internal organs of the foetus
- Checks the size, position and functions of the placenta
- Checks for cleft palate and other skeletal abnormalities
- May detect Spina Bifida



Nuchal fold translucency test

Nuchal translucency is a collection of fluid under the skin at the back of the baby's neck. It can be measured using ultrasound. All babies have some fluid at the back of their neck. But many babies with Down's syndrome have an increased amount.

Triple test

A screening test for Down's syndrome, Edwards' syndrome and Patau's syndrome is available between weeks 10 and 14 of pregnancy. It's called the combined test because it combines an ultrasound scan with a blood test. The blood test can be carried out at the same time as the 12-week scan.

Non-invasive prenatal screening (NIPT) carried out at 10 weeks

DNA from the mother and foetus is extracted from the mother's blood sample to screen for the increased chance of specific chromosome problems, such as Down's syndrome, Edward's syndrome or Patau's syndrome.

Amniocentesis test (15-18 weeks)

This is when a hollow needle is inserted through the mother's abdominal wall and into the uterus to obtain a sample of the amniotic fluid. This will help to detect Spina Bifida and other chromosome disorders like Down', Edwards' and Patau's syndrome. It will usually take place at 16-18 weeks and the results will take 3 weeks. This carries a small risk of miscarriage

Chronic Villus Sampling

(CVS) is a test where a small piece of the placenta is removed and the cells examined to detect Down's syndrome or other inherited disease like Sickle Cell Anaemia. This test can be carried out from 11 weeks and the results will take 3-5 days. Carries a 1-2% of miscarriage