

Northern Neonatal Network

Glossary of Terms

Here are some common terms and definitions for parents.

This guide is not exhaustive you may still come across many other medical terms, if you are unsure of the language or jargon used please do ask the team caring for your baby to explain in more detail. Also different units may use different terms for similar equipment.

Acidosis

The blood is usually neutral, neither acidic nor alkali. Acidosis is an abnormally high level of acid in the blood. This can be because the lungs are not working well, because of inadequate amounts of oxygen reaching parts of the body or a combination of both.

Anaemia

Too little haemoglobin in the blood (see 'haemoglobin'). Sometimes this needs a blood transfusion which is more likely if the baby is ventilated (see "blood transfusion" and "ventilation"). At other times it gets better by itself or needs iron supplementation.

Apgar Score

A simple way of assessing a the baby's health, immediately after birth, by scoring 'points' for heart rate, breathing, skin colour, tone, and the baby's reactions. However, the most important part is the heart rate and breathing and some hospitals do not make a score but record essential information.

Apnoea

A temporary pause in breathing.

Apnoea of Prematurity

When a baby stops breathing for a period of 20 seconds or longer. It is often seen in premature babies and is due to the immaturity of part of the brain which controls breathing. Often the baby starts breathing on his/her own, but occasionally needs to be stimulated with a gentle shake. Caffeine is sometimes given to help stimulate the baby's breathing. Most babies will grow out of Apnoea of Prematurity by the time they are around 36 weeks.

Apnoea alarms or monitors

When babies are on a ventilator it doesn't matter if they take a pause in their breathing. Once the ventilator has been removed, any pauses are more of a problem. CPAP can help, but babies may also be fitted with a monitor that checks that they are breathing regularly. These set off an alarm if the baby pauses for too long between two breaths. "Apnoeic attacks" are short spells in which breathing is interrupted. These episodes often occur repeatedly.

Asphyxia

Too little oxygen and too much carbon dioxide in the blood of the foetus or baby. The most common time for asphyxia to occur is at birth.

Aspirate

This term is used in two different ways on the neonatal unit. Doctors and nurses may talk about 'checking the aspirate' before putting a milk feed down a naso or orogastric tube. This means that a syringe is attached to the end of the feeding tube to obtain a small amount of the baby's stomach contents. This should turn "ph" paper a certain colour, showing there is an acid reaction – this will mean that the tube must be in the stomach and it is safe for feeding.

Another way in which you may hear the term aspirate relates to when a substance other than air (meconium) is inhaled into a baby's lungs before the baby has been fully delivered. This is called meconium aspiration which can be a serious, although rare, condition (see Meconium and Meconium Aspiration for further information).

Audiology (hearing) tests

There are two main ways of assessing a baby's hearing. Both involve placing earphones over the baby's ears to deliver a series of clicks. The baby's responses to the clicks are then analysed.

Bagging

Putting a mask connected to a squeezable bag or pressure device over the baby's nose and mouth to help breathing.

Bilirubin

Yellow pigment in blood, which gives a yellow colouring to the skin. High levels can be dangerous.

Blood cultures

When it is suspected that a baby may have an infection, a small blood sample is collected and added to some special fluid. This is kept warm which encourages bacteria to grow and results are available after 48 hours. When it is known what bacteria are present, it can be checked that the baby is on the right antibiotics.

Blood gases

Laboratory test to find out levels of oxygen and carbon dioxide gases and acids in the blood. The purpose is to work out how well the lungs and circulation are functioning.

Blood gas monitors

A blood sample is taken either from an artery or from the heel of the foot. Monitoring blood gases is an essential part of the care of a sick baby. The number of gases that need to be done depends on the problems the baby has. It can be used to check that appropriate ventilation is being given as well as measuring sodium levels in the blood.

Blood pressure

This is the pressure generated in the arteries in the body by the pumping of the heart. It is often monitored in babies who are unwell and if abnormally low may be treated with drugs to improve it.

Blood transfusion

This is when extra blood is given. A blood transfusion may be needed to treat severe anaemia (a lack of red blood cells) or during or after an operation.

Bolus feeding

A method of feeding commonly used in premature and sick babies. Milk is given at set periods (usually ranging from every hour to every 4 hours) through the naso/oro gastric and may be increased or decreased according to the baby's condition and ability to "tolerate" or digest it.

Bradycardia

Sometimes described as "bradys". When the heart rate temporarily slows down, commonly in preterm babies. It is usually part of apnoea of prematurity (described above). In most cases the baby recovers on his/her own. Occasionally mild stimulation is needed to make the baby respond. These episodes stop after about 36 week's gestation.

Breast pump

Piece of equipment which is both manual and electric, used for expressing breast milk.

Bronchopulmonary Dysplasia (Chronic Lung Disease)

Problem with lungs in babies born extremely prematurely. Can be a major problem and sometimes means that babies need oxygen for a long time after they leave hospital. Tends to improve over the first year of life.

Candida

A yeast infection of skin and mucus membranes (mouth, digestive or genital tracts).

Cannula

A very small, short, soft plastic tube which is inserted into a baby's vein to give fluids or medicines directly into the bloodstream without having to keep using needles. The cannula has wings which are used to secure it in place using tape. Veins in the arms and legs are usually used although occasionally the veins in the baby's scalp have to be used. A cannula can last for several days but can also need to be changed every few hours.

Centile charts

Graphs showing the normal ranges of body measurements at different ages.

Cerebrospinal fluid (CSF)

Fluid produced within the chambers of the brain which flows down and around the spinal cord. If this flow is obstructed, the process by which the fluid is removed, is defective, the pressure rises and distends the chambers within the brain - leading to hydrocephalus. This is a rare complication.

Chest drain

Tube passed through the chest wall to drain off air leaking from the lung.

Chronic Lung Disease (CLD) – also known as Bronchi Pulmonary Dysplasia (BPD)

A disorder of the lung, which may have come about because the baby has been on a ventilator for a long time. When this happens, the baby needs more oxygen and may have difficulty breathing, which can take some time to improve. (see BLISS leaflet on Chronic Lung Disease)

Chronological age

A baby's age from the actual date of birth.

Cooling mattress

This is used for a specific condition where the brain needs to be cooled down to prevent brain damage. A cooling mattress is used for this.

Corrected age

The age a premature baby would be if he/she had been born on their due date.

CPAP (Continuous Positive Airway Pressure).

A form of treatment used to help a baby's breathing and to reduce the number of apnoeic attacks. Using a CPAP machine, the lungs are expanded by applying a small amount of pressure through small prongs just inside the nose or by a small mask over the nose. In some cases a premature baby may be on and off CPAP for several weeks.

CT scanner

This is a special type of x-ray machine that is more detailed than a normal x-ray. It is usually used to look in detail at parts of the brain.

Cyanosis

Reduced level of oxygen in the blood, which makes the skin, lips and nails appear bluish.

Developmental Care

Developmental care is all about making the baby's surroundings as free of stress as possible. This is done in several ways: reducing the amount of light and noise that the baby is exposed to; in some cases covering the incubator with a sheet or specially made cover; creating a 'nest' to nurse a baby in which makes them feel more comfortable and secure; reducing disruption to the baby; infant massage; parent involvement in caring for your baby on the unit – kangaroo care for example.

Dysmorphic

This term is used when the doctors and nurses see some features in a baby that might not be normal – however, in many cases, the features turn out to be normal and are of no concern. If there is a problem, a number of tests will be carried out, and if necessary, other specialists may be asked to look at your baby and give an opinion.

Drip

When fluids or blood are passed into a vein or artery, using a needle or plastic tube.

ECG (Electrocardiogram)

Graph showing heart's electrical activity.

EEG (Electroencephalogram)

Graph showing brain's electrical activity. This will need a specialist to interpret.

ECMO

ECMO stands for Extracorporeal Membrane Oxygenation. This is a machine that gives the blood oxygen from outside the body. It is sometimes used in specialist regional centres when treatment with a ventilator has not worked on babies with heart and lung problems. It is only available in 4 units in the UK.

Electrolytes

Essential substances in the body which, when dissolved, give solutions able to conduct electric current (for example table salt, sodium chloride, potassium chloride).

Endotracheal tube

Known as an "E.T. tube". Soft plastic tube inserted through the mouth or nose to the windpipe (trachea) which in turn is attached to a ventilator to help breathing. Also sometimes referred to as a 'tracheal tube' by anaesthetists. This latter term is likely to be used by more people in the future

Exchange transfusion

Replacing the baby's blood with blood from an adult donor. This may be to correct severe anaemia or reduce bilirubin levels in the blood to prevent harm to the baby.

Express Breast Milk (EBM)

This means to use a pump, your hands or both to obtain milk from mum's breasts – the milk can be stored in a freezer or given directly to the baby.

Extubate

Removing the endotracheal tube (see above) from the windpipe.

Fontanelle

Soft spots on a baby's head which disappear as the bones grow together by 18 months.

Gases & Gas Monitor

See Blood Gases and Blood Gas Monitor

Gestational age

The number of weeks the baby has been in the womb is known as the gestation. A term baby is one who is born after 37 full weeks in the womb but before 42 weeks. If born before 37 weeks then the baby is premature or preterm. To work out the expected delivery date (EDD) of your baby, count from the first day of your last period and add on 40 weeks.

Glucose Monitor

This is a machine that can measure the amount of glucose (sugars) in the blood.

Grunting

Noise made by a baby with breathing difficulty.

Haemoglobin

Carries oxygen around the body. It is contained in the red blood cells

Head box

Plastic box placed over a baby's head to allow accurate control of oxygen delivery.

Head circumference

Measurement of the maximum distance around the baby's head.

Heat shield

Clear plastic shell placed over the baby to prevent heat loss.

High Flow

A means of giving oxygen/air via small nasal prongs that are placed in baby's nostrils and measured in litres per minute. Often used after CPAP and before progressing to "low flow" and vice-versa.

High Frequency Oscillatory Ventilation

A very different type of ventilator that may be used is called a 'high frequency oscillator'. Whereas with most ventilators you can see the baby's chest rise and fall at the breathing rate which has been set, oscillators use very fast rates of 600-1200, so the baby's chest vibrates. This may look alarming but this type of ventilation works extremely well for some of the lung conditions that babies may get.

Humidity

To prevent premature babies losing too much water through their skin, they are often nursed in warm, humidified incubators. Humidity (water) is also added to the gases the baby breathes through the ventilator.

Hyaline Membrane Disease (HMD) or Respiratory Distress Syndrome (RDS)

A breathing problem in which the tiny air sacs (alveoli) in the lungs tend to collapse instead of keeping filled with air. More common with increasing prematurity and usually needing treatment with a ventilator or CPAP.

Hydrocephalus

When too much 'cerebrospinal' fluid accumulates inside the chambers of the brain. The increased pressure within the brain may cause a rapid increase in head size. This only occurs rarely/

Hypocalcaemia

A lower than normal level of blood calcium.

Hypoglycaemia

Abnormally low blood glucose level.

Hypothermia

When the body temperature drops below 35.5 degrees Celsius (95 degrees Fahrenheit).

Hypoxia

Abnormally low amount of oxygen in the body tissues.

Incubator

This is a heated bed covered by a clear plastic box which allows the baby to be kept warm without clothes so that they can be monitored very closely. Extra oxygen can be run into the incubator if needed. The levels of oxygen can be very closely controlled and monitored.

Incubator cover

This is a special cover that is made to fit over an incubator, to shield light and noise.

Infusion pump

An infusion pump is like a syringe that provides fluids, medicine or nutrients directly into the blood. It can be given over a set period of time.

Intermittent Mandatory Ventilation (IMV)

This is when an infant is partly helped to breathe by a ventilator, and still allowed to take its own spontaneous breath.

Intermittent Positive Pressure Ventilation (IPPV)

A way of helping breathing mechanically.

Intra-gastric Infusion (IGI)

A method of feeding commonly used in premature and sick babies. Milk is pumped very slowly at a set rate through the naso/oro gastric or jejunal tube by a special infusion pump and may be increased or decreased according to the baby's condition and ability to "tolerate" or digest it.

Intra-ventricular haemorrhage (IVH)

This is a problem which affects babies born prematurely where there is bleeding into the ventricles of the brain. An IVH can be serious but in many cases it causes no long term problems. These are graded 1-4 according to their size and are detected on an ultrasound scan. Grade 1 bleeds are quite common in premature babies and have no long-term consequences. Grade 4 bleeds (the most severe) involves bleeding into the brain tissue itself and may have consequences for the baby's future development.

Intravenous (IV) lines

IV lines are the fine tubes which are sometimes inserted into a blood vessel, usually in a hand, foot, arm or leg in order to give fluid or medicine directly.

Intravenous nutrition

A way of supplying all the most vital nutrients directly into the blood by using a central line or via a plastic tube into a peripheral vein.

Jaundice

Yellowness of the skin/whites of the eyes caused by a raised level of bilirubin in the blood. It is very common in all babies and is caused by the normal breakdown of the baby's red blood cells. However, high levels can be dangerous and phototherapy (shining blue light onto the baby's skin) may be required.

Jejunal feeding

Introducing milk, using a special soft tube, directly into the jejunum (part of the small intestine).

Long line

This is the line that is passed into a vein in the arm, leg or scalp with the end of the line lying close to the heart. These lines are used to give the baby feeds directly into a vein when starting milk feeds has to be delayed. They can be left in place much longer than the smaller "peripheral" cannulas used for drugs and other fluids.

Low Birth Weight (LBW)

Less than 2500g. Very Low Birthweight (VLBW), Less than 1500g. Extremely low birthweight, less than 1000g.

Low Flow Oxygen

Small amounts of oxygen given via very small "nasal prongs" that are placed just inside a baby's nose. Measured in "cc's" or cubic centimetres per minute rather than the litres per minute used in "high flow".

Lumbar Puncture (LP) or Lumbar Tap

If there is evidence of a severe infection, doctors may want to take a sample of fluid that surrounds the spinal cord. This fluid flows down from the brain, so analysing it should show if the infection is present in this vital part of the nervous system. A small needle is used, and a doctor will insert this between two bones low in the baby's back. While many important nerves run through the spine, they will not be damaged because these nerves are higher than the level where this needle is placed. A local anaesthetic is often used to reduce any discomfort for the baby.

Meconium

Dark greenish material that builds up in the baby's digestive system before birth, and usually starts being passed as bowel movements within 24 hours of birth.

Meconium Aspiration

A baby who becomes distressed before delivery may pass meconium (the dark greenish material described above) while he or she is still in the womb. If the baby then inhales the fluid in which he or she is "floating" in the womb, the sticky material partially blocks the airways, causing breathing difficulties around the time that the baby is born.

Morphine

This drug is used to reduce the discomfort and stress that babies may experience from some of the necessary treatments being given. It can reduce their own breathing, so is usually reduced or stopped when a baby is taken off a ventilator. If a baby has needed it for quite a long time, they may become jittery when it is stopped due to the effects of drug withdrawal.

MRI scans

An increasing number of neonatal units have access to MRI scanners. These can give very useful computer generated pictures of the organs inside a baby without harming the baby. If your baby has an MRI scan, he or she will be placed in a special incubator that keeps him or her safe and warm while inside the scanner. MRI images are extremely useful for assessing the extent of any brain damage and give useful information on the way that the brain is maturing. In most hospitals, the MRI unit is a distance from the neonatal unit, so the baby may need to be in a stable condition for this investigation to be possible.

Nasal Cannula

Small tubes usually used for low flow oxygen.

Nasogastric Feeds (NG Feeds)

Feeding using a fine, soft tube (nasogastric tube) passed through the nose or mouth into the stomach.

Nasogastric tube

This is a long, thin, soft plastic tube which is passed via a baby's nose into his/her stomach. This tube is used to give milk to a baby until he/she is strong enough to take milk from the breast or a bottle. Sometimes the tube is passed through the mouth and into the stomach.

Neonate

The first four weeks of the life of a baby (up to 28 days).

Necrotising Enterocolitis (NEC)

When a section of the wall of the intestine is swollen or inflamed because of damage to the lining. This is often linked to a period in which the blood flow to the gut wall has been reduced. The abdomen may swell up, and blood is passed through the bowels. Air penetrates the wall of the digestive tract; sometimes, though rarely, the hole may form a perforation in the gut wall and need surgery.

NICU

Neonatal Intensive Care Unit

Nitric oxide

This is normally produced in the body to relax blood vessels and so improves blood flow to all parts of the body. When the blood vessels to the lungs remain narrowed, nitric oxide is sometimes given in the inhaled air and oxygen to cause them to relax and allow blood flow to the lungs.

NNU

Neonatal Unit

Oedema

Swelling caused by too much fluid in the tissues under the skin.

Open cots

Once a baby can regulate their own body temperature, they can be transferred from an incubator into an open cot (a cot without a roof).

Orogastric tube

A fine tube passed through the mouth and into the stomach used to give milk to the baby.

Oscillator

A high frequency oscillator is a breathing device (ventilator) that delivers very rapid breaths at a low pressure into the baby's lungs. This can reduce the amount of damage to an infant's fragile lungs compared to a conventional ventilator.

Oxygen saturation

This is measured by determining the pinkness of the blood as it flows through the hand or foot of the baby. A drop in the baby's blood oxygen level can be immediately detected as an episode of 'desaturation' (desats) and the alarm will alert the baby's nurse when it occurs. If the baby is moving around a lot, this can interfere with the oxygen measurement and cause falsely low measurement/saturation levels.

Parenteral nutrition

This is the process of giving nutrition directly into the bloodstream, often referred to as TPN, total parenteral nutrition. The solutions contain sugars, proteins, fats, and vitamins – everything the baby needs to grow. Parenteral feeding solutions are often given through a central line, also known as a long line.

Patent Ductus Arteriosus (PDA)

A common problem for very premature babies is that a small connection between the vessels supplying the lungs with blood and the vessels supplying blood to the body remains open. This connection is open while the baby is in the womb, but should close after birth. Doctors call it a patent ductus arteriosus. In full-term babies this normally shuts down within hours of birth, but it can remain open in premature babies, or reopen if the baby gets an infection. This is normally spotted on an ultrasound (also called an echocardiograph) scan and your baby may be given drugs to help close it. On rare occasions an operation may be needed.

PEEP (Positive End Expiratory Pressure)

Pressure applied during breathing out, which helps keep the lungs from collapsing while the baby is on the ventilator.

Periodic breathing

When pauses of up to ten seconds take place in the baby's breathing.

Periventricular Leukomalacia (PVL)

If parts of the developing brain are deprived of oxygen and blood flow for too long, the brain cells may die and be replaced by fluid cysts. These can be seen in the ultrasound examinations (ultrasound scan) of a baby's brain and depending on the area affected, may indicate future developmental problems.

Persistent Foetal Circulation

Before birth, the blood vessels of the lung are narrow. If the blood vessels do not relax after birth, blood flow to the lungs is reduced. Oxygen, and sometimes drugs, are given to open the narrow vessels.

pH

This is about the acidity (low value) or alkalinity (raised value) of the blood. A value close to 7.4 is normal for arterial blood.

Phototherapy

Using blue (not ultraviolet) light to reduce the bilirubin level (also see Jaundice).

Physiotherapy

Special exercises to improve or relieve physical problems.

Pneumothorax

When there is air between the lung and chest wall if a lung has leaked air.

Posset

When the baby spits up a small amount of milk after feeding.

Pre-eclampsia

Occurs in about 1 in 14 pregnancies and causes around a third of all premature births. It can be dangerous, particularly if it develops rapidly. The main symptoms are headaches and swollen feet, which are associated with high blood pressure. Although bed-rest can help, the only way to stop pre-eclampsia is to deliver the baby early.

Preterm baby

A baby born before reaching 37 completed weeks is premature.

Pulse Oximeter

Also known as a Saturation Monitor. It is used to monitor the amount of oxygen in the baby's blood. It is very sensitive and often sounds an alarm even though the baby may be OK. It works by shining red light through the hand or foot. From the amount of light absorbed, the oxygen levels can be established.

Respiratory Distress Syndrome

This is a breathing problem that preterm babies can develop. It occurs because of a lack of surfactant in the lungs and the baby appears to breathe quickly (tachypnoea) and the chest appears to be sucked in when the baby breathes. Oxygen is often needed and the baby may need help with breathing (using Ventilation and CPAP).

Resuscitate

This is to revive from death or unconsciousness by providing first aid procedures. Sometimes it is also used, less accurately, in referring to babies who needed help with breathing at birth.

Retinopathy of Prematurity (ROP)

Damage to the retina area of the eye that is sensitive to light; usually linked to prematurity and the amount of oxygen in the blood reaching the retina and is prevalent in the most premature babies (less than 28 weeks). These babies are routinely checked for ROP.

RSV (Respiratory Syncytial Virus)

This virus causes cold-like symptoms and affects a large proportion of all babies. RSV can cause breathing difficulties if the lungs are affected. If your baby was born prematurely, is prone to getting lung infections or was born with a congenital heart problem, he or she could be at greater risk of being made more seriously ill if infected with RSV. Very high risk babies might be considered for injections of preventative treatment.

Saturation Monitor

see Pulse Oximeter

Scans

The scan machine used is similar to that used to scan mothers during pregnancy and the commonest scan is of the head. This is done with a small probe on the fontanelle (the soft spot on top of the baby's head). There can be many reasons for doing scans but usually it will be to check the preterm baby as they are at risk of bleeding into the brain. Other parts of the body which may need scanning are usually the abdomen or the heart. A scan of the heart is often called an echocardiograph, shortened to an 'echo'.

SCBU

Special Care Baby Unit.

SGA (Small for gestational age).

Baby whose birth weight is lower than that of 90% of babies of the same gestational age.

Sleep study

This is a test done on babies who have been on oxygen for a long time and is often performed a short time before the baby is due to go home. The test establishes whether the baby can keep his own oxygen levels in a safe range. If the baby is to go home on oxygen, then the test is used to set the amount of oxygen that the baby will need. Usually the sleep study will take place over a period of 12 hours and must include a period when the baby is in quiet sleep as this is the time that the body's oxygen levels are at their lowest.

Steroids

Steroids are given antenatally to mothers where the birth seems likely to occur early. The drug crosses the placenta and causes the baby's lungs to mature for breathing. In babies with chronic lung disease, it may be difficult for the baby to come off mechanical ventilatory support. Low doses of steroids may be given to reduce any inflammation in the lung. Repeated courses of steroids are now usually avoided because there is concern that they may be contributing to some of the developmental problems occurring later in some of these babies' lives.

Surfactant

A mixture of chemicals that prevent the lungs from collapsing when the baby breathes out. Production of surfactant in the lungs starts at about 24 weeks but is not well developed before 36 weeks gestation. This can be the cause of Respiratory Distress Syndrome (RDS) – see above. Replacement surfactant can be given as a liquid into the lungs of the premature baby.

Syringe Driver

A syringe driver is used to gradually and continuously give small amounts of fluids (with or without medications) to patients.

Tachycardia

Rapid heart beat.

Tachypnoea

Rapid breathing rate.

Temperature skin probe

This is a small device that is placed on the skin and is able to measure the babies' temperature.

Total Parenteral Nutrition (TPN)

Placing a long, fine tube into a vein in the arm or leg means that mixtures of nutrients can be dripped directly into a baby's blood stream. Initially the mixture may contain glucose, salts and water, with amino acids, fats, vitamins and minerals being added in due time. This TPN is particularly useful for babies who are very unwell or whose stomach and gut are not developed enough to digest food.

Transcutaneous monitors

This is a monitoring device that is placed on the skin to measure the blood oxygen levels

Transport incubators

This is a specialised incubator that is used if the baby needs to be transferred to another hospital via ambulance.

Tube feeding

This is when the baby is fed through a small fine tube that runs from the nose or mouth directly into the stomach. It is mainly used when a baby is very sick and is unable to feed itself. May be given either continuously via a machine (IGI) or periodically (Bolus Feeds) depending upon the baby's age and/or condition

Ultrasound scan

See scans above

Umbilical artery catheter (UAC)

Plastic tube inserted through one of the two umbilical arteries. Used to take blood samples which will be analysed. Some catheters have a special device that monitors the amount of oxygen there is in the blood.

Umbilical venous catheter (UVC)

Plastic tube inserted through into the umbilical vein. Used to give TPN (see above) and intravenous fluids.

Ventilation

Mechanical support with breathing, so that the baby will be able to have normal levels of oxygen and carbon dioxide in their blood when unable to achieve them for him/herself.

Vital signs monitors

This is a monitor that measures vital signs such as blood pressure, heart rate and oxygen saturation levels

Vitamin K

A naturally occurring vitamin which is important for the clotting of blood. Newborn babies often lack sufficient vitamin K and are therefore given it to prevent them from developing a tendency to bleed. Given by mouth to most term babies but usually given by intramuscular injection when babies are born prematurely or are admitted to the NICU poorly.