

Specialist neonatal respiratory care for babies born preterm

Supplement 1: Glossary and abbreviations

NICE guideline <TBC at publication>

Supplement

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These supplementary materials were developed by the National Guideline Alliance, hosted by the Royal College of Obstetricians and Gynaecologists

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ISBN:

Contents

Glossary	5
Abbreviations	20

1 Glossary

Term	Definition
Abstract	Summary of a study, which may be published alone or as an introduction to a full scientific paper.
Aldosterone	A steroid hormone produced by the zona glomerulosa of the adrenal cortex in the adrenal gland.
Ameliorate	To make or become better, more bearable or more satisfactory.
Anaesthesia	Loss of pain sensation as intentionally induced by drugs or medication.
Antenatal Steroids (ANS)	Corticosteroids administered to pregnant women likely to deliver their babies preterm, with the aim of preventing respiratory distress syndrome in preterm babies.
Area under the receiver operating curve (AUROC)	Summary measure of the accuracy of a diagnostic test.
Arm (of a clinical study)	Subsection of individuals within a study who receive one particular intervention, for example placebo arm.
Association	Statistical relationship between 2 or more events, characteristics or other variables. The relationship may or may not be causal.
Attrition bias	Systematic differences between comparison groups for withdrawal or exclusion of participants from a study.
Automated oxygen titration	A control system which measures the oxygen saturation and automatically adjusts the oxygen flow to maintain saturation levels within a predefined target range.
Avoidance of mechanical ventilation (AMV)	A technique used to administer surfactant which involves the administration through a small endotracheal catheter without insertion of an endotracheal tube or invasive ventilation (synonym MIST, LISA).
Baseline	The initial set of measurements at the beginning of a study (after run-in period where applicable) with which subsequent results are compared.
Bayley's scale of infant development (BSID)	A scale used to measure infant and toddler development aged 1–42 months. It comprises measures of cognitive, motor and language development.
Bernese Pain Scale for Neonates	A multidimensional pain assessment tool used in neonates.
Bias	Influences on a study that can make the results look better or worse than they really are. Bias can occur by chance, deliberately or as a result of systematic errors in the design and execution of a study. It can also occur at different stages in the research process, for example during the collection, analysis, interpretation, publication or review of research data. For examples see Confounding factor, Performance bias, Publication bias Selection bias.
Blinding	The practice of keeping the investigators or subjects of a study ignorant of the group to which a subject has been assigned. For example, a clinical trial in which the participating patients or their doctors are unaware of whether they (the patients) are taking the experimental drug or a placebo (dummy treatment). The purpose of 'blinding' or 'masking' is to protect against bias. See also double-blind study and single-blind study.
Bronchopulmonary dysplasia (BPD)	Chronic lung disease that develops in preterm babies.
Case series	Report of a number of cases of a given disease, usually covering the course of the disease and the response to treatment. There is no comparison (control) group of patients.

Term	Definition
Case-control study	A study to find out the cause(s) of a disease or condition. This is done by comparing a group of patients who have the disease or condition (cases) with a group of people who do not have it (controls) but who are otherwise as similar as possible (in characteristics thought to be unrelated to the causes of the disease or condition). This means the researcher can look for aspects of their lives that differ to see if they may cause the condition. Such studies are retrospective because they look back in time from the outcome to the possible causes of a disease or condition.
Cerebral palsy	A non-progressive disorder of the central nervous system which affects muscle tone and which can affect cognitive function.
Chorioamnionitis (CA)	An inflammation of the fetal membranes (amnion and chorion) due to a bacterial infection.
Chronic lung disease	Chronic lung disease that develops in preterm babies (synonymous with bronchopulmonary dysplasia).
Clinical effectiveness	How well a specific test or treatment works when used in the 'real world' (for example when used by a doctor with a patient at home), rather than in a carefully controlled clinical trial. Trials that assess clinical effectiveness are sometimes called management trials. Clinical effectiveness is not the same as efficacy.
Clinical efficacy	The extent to which an intervention is active when studied under controlled research conditions.
Clinician	A healthcare professional who provides patient care. For example a doctor, nurse or physiotherapist.
Cochrane Review	The Cochrane Library consists of a regularly updated collection of evidence-based medicine databases including the Cochrane Database of Systematic Reviews (reviews of RCTs prepared by the Cochrane Collaboration).
Cohort	A group of people sharing some common characteristic (e.g. patients with the same disease), followed up in a research study for a specified period of time.
Cohort study	A study with 2 or more groups of people – cohorts – with similar characteristics. One group receives a treatment, is exposed to a risk factor or has a particular symptom and the other group does not. The study follows their progress over time and records what happens.
COMFORT scale	A non-intrusive method of assessing distress in ventilated babies in neonatal intensive care units.
Comorbidities	The presence of more than one disease or health condition in an individual at a given time.
Comparative group	The group in the study who do not receive the treatment/procedure or who receive the norm treatment. This group is used to measure against the treatment/procedure being investigated.
Concealment of allocation	The process used to ensure that the person deciding to enter a participant into an RCT does not know the comparison group into which that individual will be allocated. This is distinct from blinding and is aimed at preventing selection bias. Some attempts at concealing allocation are more prone to manipulation than others and the method of allocation concealment is used as an assessment of the quality of a trial.
Confidence interval (CI)	There is always some uncertainty in research. This is because a small group of patients is studied to predict the effects of a treatment on the wider population. The confidence interval is a way of expressing how certain we are about the findings from a study, using statistics. It gives a range of results that is likely to include the 'true' value for the population. The CI is usually stated as '95% CI', which means that the range of values has a 95 in 100 chance of including the 'true' value. For example, a study may state that "based on our sample findings, we are 95% certain that the

Term	Definition
	'true' population blood pressure is not higher than 150 and not lower than 110". In such a case the 95% CI would be 110 to 150. A wide confidence interval indicates a lack of certainty about the true effect of the test or treatment – often because a small group of patients has been studied. A narrow confidence interval indicates a more precise estimate (for example if a large number of patients have been studied).
Confounding factor	Something that influences a study and can result in misleading findings if it is not understood or appropriately dealt with. For example, a study of heart disease may look at a group of people who exercise regularly and a group who do not exercise. If the ages of the people in the 2 groups are different, then any difference in heart disease rates between the 2 groups could be because of age rather than exercise. Therefore age is a confounding factor.
Containment holding	Holding a baby with one hand on its head and another around his or her lower back/bottom to provide reassurance and comfort.
Continuous outcome	Data with a potentially infinite number of possible values within a given range. Height, weight and blood pressure are examples of continuous variables.
Continuous positive airways pressure (CPAP)	A non-invasive ventilation technique that uses a low level of continuous air pressure to keep the airways open Usually administered via nasal prongs, or a nasal mask, not via an endotracheal tube.
Contraindicated	A situation in which a medication or treatment should not be administered, for a reason e.g. allergy or the potential for interaction, or because the intervention is known to be ineffective.
Control group	A group of people in a study who do not receive the treatment or test being studied. Instead, they may receive the standard treatment (sometimes called 'usual care') or a dummy treatment (placebo). The results for the control group are compared with those for a group receiving the treatment being tested. The aim is to check for any differences. Ideally, the people in the control group should be as similar as possible to those in the treatment group, to make it as easy as possible to detect any effects due to the treatment.
Conventional administration of surfactant	Administration of surfactant via an endotracheal tube.
Cost–benefit analysis (CBA)	Cost-benefit analysis is one of the tools used to carry out an economic evaluation. The costs and benefits are measured using the same monetary units (for example UK pounds) to see whether the benefits exceed the costs.
Cost–consequence analysis (CCA)	Cost-consequence analysis is one of the tools used to carry out an economic evaluation. This compares the costs (such as treatment and hospital care) with the consequences (such as health outcomes) of a test or treatment with a suitable alternative. Unlike cost–benefit analysis or cost-effectiveness analysis, it does not attempt to summarise outcomes in a single measure (such as the quality adjusted life year) or in financial terms. Instead, outcomes are shown in their natural units (some of which may be monetary) and it is left to decision-makers to determine whether, overall, the treatment is worth carrying out.
Cost-effectiveness analysis (CEA)	Cost-effectiveness analysis is one of the tools used to carry out an economic evaluation. The benefits are expressed in non-monetary terms related to health, such as symptom-free days, heart attacks avoided, deaths avoided or life years gained (that is, the number of years by which life is extended as a result of the intervention).
Cost-effectiveness model	An explicit mathematical framework which is used to represent clinical decision problems and incorporate evidence from a variety of sources in order to estimate the costs and health outcomes.

Term	Definition
Cost-minimisation analysis (CMA)	Cost-minimisation analysis is a type of economic evaluation which can be used when the alternatives being compared have equivalent clinical effectiveness. The costs of alternatives are compared in order to determine which is the cheapest.
Cost–utility analysis (CUA)	Cost–utility analysis is one of the tools used to carry out an economic evaluation. The benefits are assessed in terms of both quality and duration of life, and expressed as quality adjusted life years (QALYs). See also Utility.
Credible interval (CrI)	The Bayesian equivalent of a confidence interval.
Cross-over study design	A study comparing two or more interventions in which the participants, upon completion of the course of one treatment, are switched to another. A problem with this study design is that the effects of the first treatment may carry over into the period when the second is given. Therefore a crossover study should include an adequate ‘wash-out’ period, which means allowing sufficient time between stopping one treatment and starting another so that the first treatment has time to wash out of the patient’s system.
Cross-sectional study	The observation of a defined set of people at a single point in time or time period – a snapshot. (This type of study contrasts with a longitudinal study, which follows a set of people over a period of time.)
Douleur Aiguë Nouveau-Né	An acute pain rating score for neonates based on observation of their behaviour.
Decision analysis	An explicit quantitative approach to decision-making under uncertainty, based on evidence from research. This evidence is translated into probabilities, and then into diagrams or decision trees which direct the clinician through a succession of possible scenarios, actions and outcomes.
Diagnostic study	A study to assess the effectiveness of a test or measurement in terms of its ability to accurately detect or exclude a specific disease.
Dichotomous outcomes	Outcome that can take one of 2 possible values, such as dead/alive, smoker/non-smoker, present/not present (also called binary data).
Discounting	Costs and perhaps benefits incurred today have a higher value than costs and benefits occurring in the future. Discounting health benefits reflects individual preference for benefits to be experienced in the present rather than the future. Discounting costs reflects individual preference for costs to be experienced in the future rather than the present.
Diuretics	Medication which increases urine output.
Dominance	A health economics term. When comparing tests or treatments, an option that is both less effective and costs more is said to be ‘dominated’ by the alternative.
Double-blind study	A study in which neither the subject (patient) nor the observer investigator/clinician) is aware of which treatment or intervention the subject is receiving. The purpose of blinding is to protect against bias.
Drop-out	A participant who withdraws from a trial before the end.
Economic evaluation	An economic evaluation is used to assess the cost effectiveness of healthcare interventions (that is, to compare the costs and benefits of a healthcare intervention to assess whether it is worth doing). The aim of an economic evaluation is to maximise the level of benefits – health effects – relative to the resources available. It should be used to inform and support the decision-making process; it is not supposed to replace the judgement of healthcare professionals. There are several types of economic evaluation: cost–benefit analysis, cost–consequence analysis, cost-effectiveness analysis, cost-minimisation analysis and cost–utility analysis. They use similar methods to define and

Term	Definition
	evaluate costs, but differ in the way they estimate the benefits of a particular drug, programme or intervention.
Effect (as in effect measure, treatment effect, estimate of effect, effect size)	A measure that shows the magnitude of the outcome in 1 group compared with that in a control group. For example, if the absolute risk reduction is shown to be 5% and it is the outcome of interest, the effect size is 5%. The effect size is usually tested, using statistics, to find out how likely it is that the effect is a result of the treatment and has not just happened by chance.
Effectiveness	How beneficial a test or treatment is under usual or everyday conditions
Effectiveness reviews	Evaluation of how beneficial a test or treatment is under everyday conditions.
Efficacy	How beneficial a test, treatment or public health intervention is under ideal conditions (for example in a laboratory).
Epidemiological study	The study of a disease within a population, defining its incidence and prevalence and examining the roles of external influences (for example infection, diet) and interventions.
EQ-5D (EuroQoL 5 dimensions)	A standardised instrument used to measure health-related quality of life. It provides a single index value for health status.
Endotracheal suctioning	The aspiration of secretions from the trachea of a baby on a ventilator via the endotracheal tube.
Evidence	Information on which a decision or guidance is based. Evidence is obtained from a range of sources including RCTs, observational studies, expert opinion (of clinical professionals or patients).
Evidence based	The process of systematically finding, appraising and using research findings as the basis for clinical decisions.
Evidence table	A table summarising the results of a collection of studies which, taken together, represent the evidence supporting a particular recommendation or series of recommendations in a guideline.
Exclusion criteria (clinical study)	Criteria that define who is not eligible to participate in a clinical study.
Exclusion criteria (literature review)	Explicit standards used to decide which studies should be excluded from consideration as potential sources of evidence.
Extended dominance	If Option A is both more clinically effective than Option B and has a lower cost per unit of effect when both are compared with a do-nothing alternative, then Option A is said to have extended dominance over Option B. Option A is therefore more cost effective and should be preferred, other things remaining equal.
Extrapolation	An assumption that the results of studies of a specific population will also hold true for another population with similar characteristics.
False negative	A diagnostic test result that incorrectly indicates that an individual does not have the disease of interest, when they do actually have it.
False positive	A diagnostic test result that incorrectly indicates that an individual has the disease of interest, when they actually do not have it.
Family integrated care (FIC)	A model of neonatal care which supports parents to be primary caregivers, as partners with the clinical team.
Fixed-effect model	In meta-analysis, a model that calculates a pooled effect estimate using the assumption that all observed variation between studies is caused by random sample variability. Studies are assumed to be estimating the same overall effect.
Fetal growth restriction (FGR)	A condition in which an unborn baby is smaller than it should be because it is not growing at a normal rate inside the womb.

Term	Definition
Follow-up	Observation over a period of time of an individual, group or initially defined population whose appropriate characteristics have been assessed in order to observe changes in health status or health-related variables.
Forest plot	A graphical representation of the individual results of each study included in a meta-analysis together with the combined meta-analysis result. The plot also allows readers to see the heterogeneity among the results of the studies. The results of individual studies are shown as squares centred on each study's point estimate. A horizontal line runs through each square to show each study's confidence interval. The overall estimate from the meta-analysis and its confidence interval are shown at the bottom, represented as a diamond. The centre of the diamond represents the pooled point estimate, and its horizontal tips represent the confidence interval.
Fraction of inspired oxygen (FiO ₂)	The fraction or percentage of oxygen in the air breathed.
Gestational age (GA)	Gestational age is a measure of the age of a baby, based on the length of time since the mother's last menstrual period in weeks.
Generalisability	The extent to which the results of a study hold true for groups that did not participate in the research.
Gold standard	A method, procedure or measurement that is widely accepted as being the best available to test for or treat a disease.
GRADE, GRADE profile	A system developed by the GRADE Working Group to address the shortcomings of present grading systems in healthcare. The GRADE system uses a common, sensible and transparent approach to grading the quality of evidence. The results of applying the GRADE system to clinical trial data are displayed in a table known as a GRADE profile.
Harms	Adverse effects of an intervention.
Health economics	Study or analysis of the cost of using and distributing healthcare resources.
Health-related quality of life (HRQoL)	A measure of the effects of an illness to see how it affects someone's day-to-day life.
Heel stick	Obtaining a sample of capillary blood from a baby's heel.
Heterogeneity	The term is used in meta-analyses and systematic reviews to describe when the results of a test or treatment (or estimates of its effect) differ.
Imprecision	Results are imprecise when studies include relatively few patients and few events and thus have wide confidence intervals around the estimate of effect.
Incidence	The incidence of a disease is the rate at which new cases occur in a population during a specified period.
Inclusion criteria (clinical study)	Specific criteria that define who is eligible to participate in a clinical study.
Inclusion criteria (literature review)	Explicit criteria used to decide which studies should be considered as potential sources of evidence.
Incremental cost	The extra cost linked to using one test or treatment rather than another. Or the additional cost of doing a test or providing a treatment more frequently.
Incremental cost effectiveness ratio (ICER)	The difference in the mean costs in the population of interest divided by the differences in the mean outcomes in the population of interest for one treatment compared with another.
Incremental net benefit (INB)	The value (usually in monetary terms) of an intervention net of its cost compared with a comparator intervention. The INB can be calculated for a given cost-effectiveness (willingness to pay) threshold. If the threshold is £20,000 per QALY gained then the INB is calculated as: (£20,000×QALYs gained) minus incremental cost.

Term	Definition
Indirectness	The available evidence is different to the review question being addressed, in terms of population, intervention, comparison and outcome (PICO).
InSuRe	Administration of surfactant by inserting an endotracheal tube, administering surfactant then removing the endotracheal tube immediately.
Intelligence quotient (IQ)	A standardized measurement of intelligence.
Intention-to-treat analysis (ITT)	An assessment of the people taking part in a clinical trial, based on the group they were initially (and randomly) allocated to. This is regardless of whether or not they dropped out, fully complied with the treatment or switched to an alternative treatment. Intention-to-treat analyses are often used to assess clinical effectiveness because they mirror actual practice: that is, not everyone complies with treatment and the treatment people receive may be changed according to how they respond to it.
Internal validity	How well an experiment is done and if it is clear that the variable being tested is what is causing the measured effect.
Intervention	In medical terms this could be a drug treatment, surgical procedure, diagnostic or psychological therapy. Examples of public health interventions could include action to help someone to be physically active or to eat a more healthy diet.
Intra-uterine Growth Restriction (IUGR)	A condition in which an unborn baby is smaller than it should be because it is not growing at a normal rate inside the womb because of inadequacy of blood supply
Intraventricular haemorrhage (IVH)	Bleeding into the ventricles inside the brain.
Intubate-surfactant-extubate (ISX)	Administration of surfactant by inserting an endotracheal tube, administering surfactant then removing the endotracheal tube immediately.
Invasive ventilation	Administration of respiratory support via an endotracheal tube or tracheostomy, using a mechanical ventilator.
Kangaroo care	A method of caring for a premature baby in which the infant is held in skin-to-skin contact with a parent for as long as possible each day.
Length of stay	The total number of days a patient stays in hospital.
Licence	See Product licence.
Likelihood ratio	The likelihood ratio combines information about the sensitivity and specificity. It tells you how much a positive or negative result changes the likelihood that a patient would have the disease. The likelihood ratio of a positive test result (LR+) is sensitivity divided by (1 minus specificity).
Less invasive surfactant administration (LISA)	Administration of surfactant through a small endotracheal catheter without insertion of an endotracheal tube or invasive ventilation.
Lost to follow-up	Patients who have withdrawn from the clinical trial at the point of follow-up.
Markov model	A method for estimating long-term costs and effects for recurrent or chronic conditions, based on health states and the probability of transition between them within a given time period (cycle).
Mean	An average value, calculated by adding all the observations and dividing by the number of observations.
Mean arterial pressure	The mean blood pressure during one cardiac cycle usually expressed in mm mercury (mmHg).
Mean difference	In meta-analysis, a method used to combine measures on continuous scales (such as weight), where the mean, standard deviation and sample size in each group are known. The weight given to the difference in means from each study (for example how much influence each study has on the overall

Term	Definition
	results of the meta-analysis) is determined by the precision of its estimate of effect.
Median	The value of the observation that comes half-way when the observations are ranked in order.
Meta-analysis	A method often used in systematic reviews. Results from several studies of the same test or treatment are combined to estimate the overall effect of the treatment.
Metachronous	At different times.
Methodology	Systematic, theoretical analysis of the methods applied to a field of study.
Minimal important difference (MID)	Threshold for clinical importance which represents the minimal important difference for benefit or for harm; for example the threshold at which drug A is less effective than drug B by an amount that is clinically important to patients.
Minimally invasive administration technique	Administration of surfactant through a small endotracheal catheter without insertion of an endotracheal tube or invasive ventilation.
Minimally invasive surfactant treatment (MIST)	Administration of surfactant through a small endotracheal catheter without insertion of an endotracheal tube or invasive ventilation.
Minute ventilation	The tidal volume of each breath in mL multiplied by the number of breaths per minute gives the minute ventilation in mL/min (usually expressed as mL/kg/min, which is achieved by dividing by the baby's weight in kg).
Morbidity	A diseased condition or state.
Morphological	Pertaining to morphology, which is the science of the form and structures of tissues.
Mortality rate	The number or percentage of dead subjects in a study.
Multidisciplinary team (MDT)	A team with members from different healthcare professions (including for example, oncology, pathology, radiology, nursing, speech and language therapy).
Multivariate model	A statistical model for analysis of the relationship between 2 or more predictors, (independent) variables and the outcome (dependent) variable.
Nasal continuous positive airways pressure (nCPAP)	A non-invasive ventilation technique that uses a low level of continuous air pressure to keep the airways open.
Necrotising enterocolitis (NEC)	A medical condition seen in preterm babies, where portions of the bowel undergo necrosis (tissue death).
Neonatal Infant Pain Scale	A 6-indicator scale which uses behaviours indicative of pain or distress.
Net monetary benefit (NMB)	The value (usually in monetary terms) of an intervention net of its cost. The NMB can be calculated for a given cost-effectiveness (willingness to pay) threshold. If the threshold is £20,000 per QALY gained then the NMB is calculated as: (£20,000×QALYs gained) minus cost.
Network meta-analysis (NMA)	Meta-analysis in which multiple treatments (that is, 3 or more) are being compared using both direct comparisons of interventions within RCTs and indirect comparisons across trials based on a common comparator.
Neurobehavioral clues	Sounds, characteristics of movements including facial expressions and physiological parameters such as heart rate, breathing patterns and skin tone which reflect the baby's current level of sensitivity or well-being and reveal their current developmental stage.
Neurodevelopmental outcomes	For the purposes of this guideline neurodevelopmental outcomes at ≥18 months have been defined as:

Term	Definition
	<p>In this guideline, neurodevelopmental outcomes at 18 months or older have been defined as:</p> <ul style="list-style-type: none"> - cerebral palsy (reported as presence or absence of condition, not severity) - neurodevelopmental delay (reported as dichotomous outcomes, not continuous outcomes such as mean change in score) <ul style="list-style-type: none"> o severe (score of more than 2 SD below normal on validated assessment scales, or a score of less than 70 on the Bayley scale of infant development mental developmental index [MDI] or psychomotor developmental index [PDI], or complete inability to assign score because of cerebral palsy or severe cognitive delay) o moderate (score of 1–2 SD below normal on validated assessment scales, or a score of 70-84 on the Bayley scale of infant development MDI or PDI) - neurosensory impairment (reported as presence or absence of condition, not severity): <ul style="list-style-type: none"> o severe hearing impairment (for example, deaf) o severe visual impairment (for example, blind).
Newborn individualised developmental care and assessment programme (NIDCAP®)	An approach which informs care for preterm babies by reading their behavioural cues of strength and sensitivity, and so learning to understand what the baby is communicating. This is then used to shape interactions and care, protecting and enhancing brain development and positively influencing the infant's potential for the person they will grow up to be. Working collaboratively with the baby and family and acknowledging that parents are the most important caregivers, is the core of NIDCAP®.
Non-invasive ventilation	Administration of respiratory support using a ventilator or flow-driver, but not via an endotracheal tube or tracheostomy.
Non-nutritive sucking	Sucking on a dummy during non-oral feeding.
Non-randomised	When subjects of a study are not allocated to a specific treatment/group at random.
Number needed to treat (NNT)	The average number of patients who need to be treated to get a positive outcome. For example, if the NNT is 4, then 4 patients would have to be treated to ensure 1 of them gets better. The closer the NNT is to 1, the better the treatment. For example, if you give a stroke prevention drug to 20 people before 1 stroke is prevented, the number needed to treat is 20.
Observational study	Individuals or groups are observed or certain factors are measured. No attempt is made to affect the outcome. For example, an observational study of a disease or treatment would allow 'nature' or usual medical care to take its course. Changes or differences in one characteristic (for example whether or not people received a specific treatment or intervention) are studied without intervening. There is a greater risk of selection bias than in experimental studies.
Occult	Hidden, or difficult to observe directly.
Odds ratio (OR)	Odds are a way to represent how likely it is that something will happen (the probability). An odds ratio compares the probability of something in one group with the probability of the same thing in another.

Term	Definition
	<p>An odds ratio of 1 between 2 groups would show that the probability of the event (for example a person developing a disease, or a treatment working) is the same for both. An odds ratio greater than 1 means the event is more likely in the first group. An odds ratio less than 1 means that the event is less likely in the first group.</p> <p>Sometimes probability can be compared across more than 2 groups – in this case, one of the groups is chosen as the 'reference category' and the odds ratio is calculated for each group compared with the reference category. For example, to compare the risk of dying from lung cancer for non-smokers, occasional smokers and regular smokers, non-smokers could be used as the reference category. Odds ratios would be worked out for occasional smokers compared with non-smokers and for regular smokers compared with non-smokers.</p> <p>See also Confidence interval, Relative risk.</p>
Opportunity cost	The loss of healthcare resources displaced by investment in or introduction of another intervention. For example, the introduction of routine MR imaging for a specific condition might displace another group of patients from access.
Outcome	<p>The impact that a test, treatment, policy, programme or other intervention has on a person, group or population. Outcomes from interventions to improve the public's health could include changes in knowledge and behaviour related to health, societal changes (for example a reduction in crime rates) and a change in people's health and wellbeing or health status. In clinical terms, outcomes could include the number of patients who fully recover from an illness or the number of hospital admissions, and an improvement or deterioration in someone's health, functional ability, symptoms or situation. Researchers should decide what outcomes to measure before a study begins.</p>
p value	<p>The p value is a statistical measure that indicates whether or not an effect is statistically significant. For example, if a study comparing 2 treatments found that one seems more effective than the other, the p value is the probability of obtaining these results by chance. By convention, if the p value is below 0.05 (that is, there is less than a 5% probability that the results occurred by chance) it is considered that there probably is a real difference between treatments. If the p value is 0.001 or less (less than a 1% probability that the results occurred by chance), the result is seen as highly significant. If the p value shows that there is likely to be a difference between treatments, the confidence interval describes how big the difference in effect might be.</p>
Pairwise analysis	A process of comparing entities in pairs to judge which of each entity is preferred, or has a greater amount of some quantitative property.
Patent ductus arteriosus (PDA)	The ductus arteriosus is a normal connection between the aorta and pulmonary arteries which is present in fetal life, and which usually closes soon after birth. PDA occurs when the ductus arteriosus, fails to close; the condition is common in preterm babies because the usual conditions for closure are not present.
Parents and carers	Parents and carers refers to the primary care-givers for a baby at any given time. This can include, as well as the parents, other members of the extended family who provide care such as siblings, grandparents, aunts and uncles. It can also include foster carers or others nominated by the parents. It does not refer to nurses, health care assistants or other professional carers.
Performance bias	Systematic differences between intervention groups in care provided apart from the intervention being evaluated. Blinding of study participants (both the recipients and providers of care) is used to protect against performance bias.

Term	Definition
Perinatal	The perinatal period (for the purposes of this guideline) is defined as the period of time between 48 hours before birth up until 7 completed days after birth.
Peripheral oxygen saturation (SpO ₂)	A measure of the amount of oxygen in the peripheral blood, expressed as a percentage of the maximum amount of oxygen that haemoglobin in the blood can carry. It is measured using a pulse oximeter.
Periventricular leukomalacia (PVL)	A form of white-matter brain injury characterised by reduction of white matter (myelin) in the part of the brain which lies around the lateral ventricles. Preterm babies are at the greatest risk of disorder.
Placebo	A fake (or dummy) treatment given to participants in the control group of a clinical trial. It is indistinguishable from the actual treatment (which is given to participants in the experimental group). The aim is to determine what effect the experimental treatment has had over and above any placebo effect caused because someone has received (or thinks they have received) care or attention.
Placebo effect	A beneficial (or adverse) effect produced by a placebo and not due to any property of the placebo itself.
Pneumothrax	An injury to the lung which causes air to escape in the chest cavity.
Post-hoc analysis	Statistical analyses that are not specified in the trial protocol and are generally suggested by the data.
Post menstrual age (PMA)	The age of a baby calculated as the gestational age plus the age since birth.
Power (statistical)	The ability to demonstrate an association when one exists. Power is related to sample size; the larger the sample size, the greater the power and the lower the risk that a possible association could be missed.
Pre-eclampsia	A pregnancy complication characterised by high blood pressure and signs of damage to another organ system, often the kidneys.
Prevalence	The prevalence of a disease is the proportion of a population that are cases at a point in time.
Premature Infant Pain Profile (PIPP)	A 7-indicator composite measure developed to assess acute pain in preterm babies
Premature rupture of the membranes (PROM)	Rupture of the amniotic fluid sac ('waters') occurring more than 1 hour prior to the onset of labour.
Preterm baby	A baby born before 37 weeks. This can be sub-divided further: Babies born less than 28 weeks – extremely preterm Babies born 28 -31 ⁺⁶ weeks – very preterm Babies born 32 – 36 ⁺⁶ – moderate to late preterm.
Primary care	Healthcare delivered outside hospitals. It includes a range of services provided by GPs, nurses, health visitors, midwives and other healthcare professionals and allied health professionals such as dentists, pharmacists and opticians.
Primary outcome	The outcome of greatest importance, usually the one in a study that the power calculation is based on.
Primary respiratory support	Respiratory support that is initiated after stabilization in a preterm baby, which could be invasive ventilation, non-invasive ventilation or oxygen therapy. (It does not include a second type of respiratory support used when weaning a baby from a ventilator, or if a baby has been removed from respiratory support and then is re-ventilated).
Product licence	An authorisation from the Medicines and Healthcare Products Regulatory Agency (MHRA) to market a medicinal product.

Term	Definition
Prognosis	A probable course or outcome of a disease. Prognostic factors are patient or disease characteristics that influence the course. Good prognosis is associated with low rate of undesirable outcomes; poor prognosis is associated with a high rate of undesirable outcomes.
Prognostic factors	Disease characteristics that influence the course of the disease and which are used to predict the likely outcome.
Prospective study	A research study in which the health or other characteristic of participants is enrolled then monitored (or 'followed up') for a period of time, with events recorded as they happen. This contrasts with retrospective studies, which look back on events.
Protocol (review)	A document written prior to commencing a review that details exactly how evidence to answer a review question will be obtained and synthesised. It defines in detail the population of interest, the interventions, the comparators/controls and the outcomes of interest (PICO).
Psychological	Adjective of psychology, which is the scientific study of behaviour and its related mental process. Psychology is concerned with such matters as memory, rational and irrational thought, intelligence, learning, personality, perceptions and emotions and their relationship to behaviour.
Psychosocial	Concerned with psychological influences on social behaviour.
Publication bias	Publication bias occurs when researchers publish the results of studies showing that a treatment works well and don't publish those showing it did not have any effect. If this happens, analysis of the published results will not give an accurate idea of how well the treatment works. This type of bias can be assessed by a funnel plot.
Quality adjusted life year (QALY)	A measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality-of-life. One QALY is equal to 1 year of life in perfect health. QALYS are calculated by estimating the years of life remaining for a patient following a particular treatment or intervention and weighting each year with a quality-of-life score (on a scale of 0 to 1). It is often measured in terms of the person's ability to perform the activities of daily life, and freedom from pain and mental disturbance.
Quality of life	See Health-related quality of life.
Random effect model	In meta-analysis, a model that calculates a pooled effect estimate using the assumption that each study is estimating a different true treatment effect due to real differences between studies. Observed variation in effects are therefore caused by a combination of random sample variability (within-study variation) and heterogeneity between studies (between-study variation). The overall effects is an average of the estimated true study effects.
Randomisation	Assigning participants in a research study to different groups without taking any similarities or differences between them into account. For example, it could involve using a random numbers table or a computer-generated random sequence. It means that each individual (or each group in the case of cluster randomisation) has the same chance of receiving each intervention.
Randomised controlled trial (RCT)	A study in which a number of similar people are randomly assigned to 2 (or more) groups to test a specific drug or treatment. One group (the experimental group) receives the treatment being tested, the other (the comparison or control group) receives an alternative treatment, a dummy treatment (placebo) or no treatment at all. The groups are followed up to see how effective the experimental treatment was. Outcomes are measured at specific times and any difference in response between the groups is assessed statistically. This method is also used to reduce bias.

Term	Definition
Recruitment bias	When proper randomisation is not achieved when recruiting individuals, meaning that the sample obtained may not be representative of the population intended to be analysed.
Reference standard	The test that is considered to be the best available method to establish the presence or absence of the outcome – this may not be the one that is routinely used in practice.
Regimen	A plan or regulated course of treatment.
Relative risk (RR)	The ratio of the risk of disease or death among those exposed to certain conditions compared with the risk for those who are not exposed to the same conditions (for example the risk of people who smoke getting lung cancer compared with the risk for people who do not smoke). If both groups face the same level of risk, the relative risk is 1. If the first group had a relative risk of 2, subjects in that group would be twice as likely to have the event happen. A relative risk of less than 1 means the outcome is less likely in the first group. Relative risk is sometimes referred to as risk ratio.
Reporting bias	See Publication bias.
Resource implication	The likely impact in terms of finance, workforce or other NHS resources.
Respiratory distress syndrome (RDS)	Problems with respiration in preterm baby due to a lack of lung surfactant.
Retinopathy of prematurity (ROP)	A condition in which the blood vessels of the retina grow in an abnormal pattern in preterm babies.
Retrospective study	A research study that focuses on the past and present. The study examines past exposure to suspected risk factors for the disease or condition. Unlike prospective studies, it does not cover events that occur after the study group is selected.
Review question	The plan or set of steps to be followed in a study. A protocol for a systematic review describes the rationale for the review, the objectives and the methods that will be used to locate, select and critically appraise studies, and to collect and analyse data from the included studies.
Secondary care	Services provided by multidisciplinary team in the hospital, as opposed to the General Practitioner and the primary care team.
Secondary outcome	An outcome used to evaluate additional effects of the intervention deemed a priori as being less important than the primary outcomes.
Selection bias	Selection bias occurs if: <ul style="list-style-type: none"> • the characteristics of the people selected for a study differ from the wider population from which they have been drawn; or • there are differences between groups of participants in a study in terms of how likely they are to get better.
Sensitivity	How well a test detects the thing it is testing for. If a diagnostic test for a disease has high sensitivity, it is likely to pick up all cases of the disease in people who have it (that is, give a 'true positive' result). But if a test is too sensitive it will sometimes also give a positive result in people who don't have the disease (that is, give a 'false positive'). For example, if a test were developed to detect if a woman is 6 months pregnant, a very sensitive test would detect everyone who was 6 months pregnant but would probably also include those who are 5 and 7 months pregnant. If the same test were more specific (sometimes referred to as having higher specificity), it would detect only those who are 6 months pregnant and someone who was 5 months pregnant would get a negative result (a 'true negative'). But it would probably also miss some people who were 6 months pregnant (that is, give a 'false negative'). Breast screening is a 'real-life' example. The number of women who are recalled for a second breast screening test is relatively high because the test

Term	Definition
	is very sensitive. If it were made more specific, people who don't have the disease would be less likely to be called back for a second test but more women who have the disease would be missed.
Sensitivity analysis	<p>A means of representing uncertainty in the results of an analysis. Uncertainty may arise from missing data, imprecise estimates or methodological controversy. Sensitivity analysis also allows for exploring the generalisability of results to other settings. The analysis is repeated using different assumptions to examine the effect on the results.</p> <ul style="list-style-type: none"> • One-way simple sensitivity analysis (univariate analysis) – each parameter is varied individually in order to isolate the consequences of each parameter on the results of the study. • Multi-way simple sensitivity analysis (scenario analysis) – 2 or more parameters are varied at the same time and the overall effect on the results is evaluated. • Threshold sensitivity analysis – the critical value of parameters above or below which the conclusions of the study will change are identified. • Probabilistic sensitivity analysis – probability distributions are assigned to the uncertain parameters and are incorporated into evaluation models based on decision analytical techniques (for example Monte Carlo simulation).
Sepsis	An infection, usually a bacterial infection of the blood, which can lead to life-threatening organ dysfunction caused by a dysregulated response to infection.
Significance (statistical)	A result is deemed statistically significant if the probability of the result occurring by chance is less than 1 in 20 ($p < 0.05$).
Single blind study	A study in which either the subject (patient/participant) or the observer (clinician/investigator) is not aware of which treatment or intervention the subject is receiving.
Skin to skin contact (or care)	Holding a baby on the skin of a parent or carer, usually on the chest.
Specificity	<p>The proportion of true negatives that are correctly identified as such. For example, in diagnostic testing the specificity is the proportion of non-cases correctly diagnosed as non-cases. In terms of literature searching a highly specific search is generally narrow and aimed at picking up the key papers in a field and avoiding a wide range of papers.</p> <p>See also Sensitivity.</p>
Stabilisation	Facilitating and supporting a smooth transition from fetal to neonatal life. The process involves careful assessment of heart rate, colour (oxygenation), and breathing with provision of appropriate intervention where indicated.
Stakeholder	<p>An organisation with an interest in a topic on which NICE is developing a clinical guideline or piece of public health guidance. Organisations that register as stakeholders can comment on the draft scope and the draft guidance. Stakeholders may be:</p> <ul style="list-style-type: none"> • manufacturers of drugs or equipment • national patient and carer organisations • NHS organisations • organisations representing healthcare professionals.
Standard deviation (SD)	A measure of the spread or dispersion of a set of observations, calculated as the average difference from the mean value in the sample.
Subcutaneous	Beneath the skin.
Subgroup analysis	An analysis in which the intervention effect is evaluated in a defined subset of the participants in a trial, or in complementary subsets.

Term	Definition
Systematic review	A review in which evidence from scientific studies has been identified, appraised and synthesised in a methodical way according to predetermined criteria. It may include a meta-analysis.
Systemic therapy/treatment	Medicine, usually given by mouth or injection, to treat the whole body rather than targeting one specific area.
Time horizon	The time span over which costs and health outcomes are considered in a decision analysis or economic evaluation.
Treatment allocation	Assigning a participant to a particular arm of a trial.
True negative	A diagnostic test result that correctly indicates that an individual does not have the disease of interest when they actually do not have it.
True positive	A diagnostic test result that correctly indicates that an individual has the disease of interest when they do actually have it.
Univariate	Analysis which separately explores each variable in a data set.
Utility	In health economics, a utility is the measure of the preference or value that an individual or society places upon a particular health state. It is generally a number between 0 (representing death) and 1 (perfect health). The most widely used measure of benefit in cost-utility analysis is the quality-adjusted life year, but other measures include disability-adjusted life years (DALYs) and healthy year equivalents (HYEs).
z-scores	A measure of how many standard deviations below or above the population mean a raw score is.

1 Abbreviations

Abbreviation	Definition
A/C or AC	Assist control
AE	Adverse event
AMED	Allied and Complementary Medicine database
AMSTAR	Assessing the Methodological Quality of Systematic Reviews
AMV	Avoidance of mechanical ventilation
ANS	Antenatal Steroids
AOP	Apnoea of prematurity
AUC	Area under the curve
AUROC	Area under the receiver operating curve
BiPAP	Biphasic positive airways pressure
BNF	British National Formulary
BP	Blood pressure
BPD	Bronchopulmonary dysplasia
BMI	Body mass index
bpm	Beats per minute
BPSN	Bernese Pain Scale for Neonates
BSID	Bayley scale of infant development
BW	Body weight OR birth weight
BUN	Blood urea nitrogen
CA	Chorioamnionitis
CASP	Critical Appraisal Skills Programme
CCTR	Cochrane controlled trials register
CDSR	Cochrane database of systematic reviews
CEAC	Cost-effectiveness acceptability curves
CI	Confidence interval
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CLD	Chronic lung disease
CMV	Conventional mandatory ventilation
CNS	Clinical nurse specialist
CoNS	Coagulase negative Staphylococci
CP	Cerebral palsy
CPAP	Continuous positive airways pressure
CRIB	Clinical risk index for babies
CrI	Credible interval
D, d	Days
DAN	Douleur Aiguë Nouveau-Né
DARE	Database of abstracts of reviews of effects
DOL	Days of life
EBM	Expressed breast milk
ECC	Early cessation of caffeine
EDIN	Échelle Douleur Inconfort Nouveau-Né (neonatal pain and comfort scale)
eMIT	Electronic market information tool

Abbreviation	Definition
ETS	Endotracheal suctioning
ETT	Endotracheal tube
FGR	Foetal growth restriction
FIC	Family integrated care
FiO ₂	The fraction or percentage of oxygen in the air breathed
FN	False negative
FP	False positive
g	Grams
GA	Gestational age
GA	General anaesthetic
GC	Guideline committee
GMFCS	Gross motor function classification system
GP	General Practitioner
GRADE	Grading of Recommendations Assessment, Development and Evaluation
GSTT	Guy's and Saint Thomas' Trust
H ₂ O	Water
HCP	Healthcare practitioner
HF	High flow (also referred to as 'Hi flow')
HFFI	High frequency flow interruption
HFNC	High flow nasal cannula
HFOV	High frequency oscillatory ventilation
HFV	High frequency ventilation
HHFNC	Humidified high flow nasal cannula
HHHFNC	Heated humidified high flow nasal cannula
hr, h	Hour
HR	Hazard ratio
HRG	Healthcare Resource Group
HRQoL	Health-related quality of life
HTA	Health Technology Assessment
ICC	Intermediate cessation of caffeine
ICER	Incremental cost-effectiveness ratio
IMV	Intermittent mandatory ventilation
InSuRe	Intubate, surfactant, rapid extubation
IPPV	Intermittent positive pressure ventilation
IQ	Intelligence quotient
IQR	Interquartile range
ISX	Intubate, surfactant, extubate
ITT	Intention to treat
IUGR	Intra-uterine growth restriction
IV	Intravenous
IVH	Intraventricular haemorrhage
k	Number of studies or publications
kg	Kilogram
kPa	Kilopascal

Abbreviation	Definition
L/min	Litre per minute
LCC	Late cessation of caffeine
LDI	Language development index
LISA	Less invasive surfactant administration
LR-	Negative likelihood ratio
LR+	Positive likelihood ratio
LMA	Laryngeal mask airway
M	Mean
MA	Meta-analysis
MABP	Mean arterial blood pressure
MAP	Mean arterial pressure
MD	Mean difference
MDI	Mental development index
MDT	Multidisciplinary team
mg	Milligram
M-H	Mantel-Haenszel test
MID	Minimally important difference
MIDIRS	Maternity & Infant Care Database
mL	Millilitre
MIST	Minimally invasive surfactant therapy
mmHg, mmHg	Millimetres of mercury
MR	Mean ratio
N, n	Number of participants
N/A	Not applicable
NaCl	Sodium chloride
N/C	Not calculable
NCPAP	Nasal continuous positive airways pressure
NEC	Necrotising enterocolitis
NGA	National Guideline Alliance
NHC	Neonatal home care
NHS	National Health Service
NHSBSP	National Health Service Breast Screening Programme
NICE	National Institute of Health and Care Excellence
NICU	Neonatal intensive care unit;
NIDCAP®	Newborn individualised developmental care and assessment programme
NIHR	National Institute of Health Research
NIMV	Nasal intermittent mandatory ventilation
NIPPV	Nasal intermittent positive pressure ventilation
NIPS	Neonatal Infant Pain Scale
NIV	Non-invasive ventilation
NMA	Network meta-analysis
NMB	Net monetary benefit
NNH	Number needed to harm
NNS	Non-nutritive sucking

Abbreviation	Definition
NNT	Number needed to treat
NR	Not reported
NRCT	Non-randomised controlled trial
NRS	Non-invasive respiratory support
ns	Not significant
NSPLV	Non-synchronised pressure limited ventilation
O ₂	Oxygen
O:E	Observed: expected
O-E	Observed minus expected
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
OR	Odds ratio
P/IVH	Peri/intraventricular haemorrhage
pO ₂ (PaO ₂)	Partial pressure of oxygen (in arterial blood)
pCO ₂ (PaCO ₂)	Partial pressure of carbon dioxide (in arterial blood)
PDA	Patent ductus arteriosus
PDI	Psychomotor developmental index
PICO	Population, intervention, comparison, outcome
PICOTS	Population, intervention, comparator, outcome, timing and setting
PIPP	Premature Infant Pain Profile
PLV	Pressure-limited ventilation
PMA	Post-menstrual age
PNS	Paediatric Nursing Specialist
PPD	Postpartum depression
PPM	Parts per million
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PROM	Premature rupture of the membranes
PROMS	Patient-reported outcome measures
PRVC	Pressure regulated volume control
PS	Performance status
PSA	Probabilistic sensitivity analysis
PSS	Personal social services
PSV	Pressure support ventilation
PTV	Patient-triggered ventilation
PVL	Periventricular leukomalacia
QALY	Quality-adjusted life years
QoL	Quality of life
QUIPS	Quality in prognostic studies
RCOG	Royal College of Obstetricians and Gynaecologists
RCT	Randomised controlled trial
RDS	Respiratory distress syndrome
ROBIS	Risk of bias in systematic reviews
ROC	Receiver operating characteristics
ROP	Retinopathy of prematurity

Abbreviation	Definition
RCT	Randomised controlled trial
RR	Relative risk/risk ratio
s	Seconds
SpO ₂	Oxygen saturation measured by pulse oximetry
SCBU	Special care baby unit
SCN	Specialist care nursery
SD	Standard deviation
SE	Standard error
Sens	Sensitivity
SF-12	12-Item Short Form Survey
SF-36	36-Item Short Form Survey
SGA	Small for gestational age
SIMV	Synchronised intermittent mandatory ventilation
SiPAP	Synchronised positive airways pressure
SIPPV	Synchronised intermittent positive pressure ventilation
SNRC	Specialist neonatal respiratory care
SPC	Summaries of product characteristics
Spec	Specificity
SPLV	Synchronised pressure limited ventilation
SpO ₂	Peripheral oxygen saturation
SR	Systematic review
STCPL	Synchronised time-cycled pressure ventilation
TA	Technology appraisal
TCPL	Time-cycled pressure limited ventilation
tcPO ₂	Transcutaneous oxygen measurement
TN	True negative
TP	True positive
TPN	Total parenteral nutrition
TSU	Technical support unit
TTV	Target tidal volume
VAPS	Volume-assured pressure support
VAS	Visual analogue scale
VG	Volume guarantee
VGv	Volume guarantee ventilation
VLV	Volume limited ventilation
vs	Versus
VTV	Volume targeted ventilation
wk	Week
WTP	Willingness-to-pay