PREFACE

These guidelines have been compiled as an aide-memoire for all staff concerned with the management of neonates, to work towards a more uniform standard of care across the West Midlands Neonatal Operational Delivery Networks' hospitals (https://www.networks.nhs.uk/nhs-networks/west-midlands-neonatal-operational-delivery/neonatal-guidelines)

These guidelines have been drafted with reference to published medical literature and amended after extensive consultation. Wherever possible, the recommendations made are evidence based. Where no clear evidence has been identified from published literature the advice given represents a consensus of the expert authors and their peers and is based on their practical experience.

No guideline will apply to every patient, even where the diagnosis is clear-cut; there will always be exceptions. These guidelines are not intended as a substitute for logical thought and must be tempered by clinical judgement in the individual patient and advice from senior colleagues.

There is a possibility that a guideline may be updated between publication and the next edition in 2 years' time. Any instrumental change in guideline before the next edition will be published on the network website https://www.networks.nhs.uk/nhs-networks/west-midlands-neonatal-operational-delivery

The guidelines are advisory, NOT mandatory

Prescribing regimens and nomograms
The administration of certain drugs, especially those given intravenously, requires great care if hazardous errors are to be avoided. These guidelines do not include comprehensive guidance on the indications, contraindications, dosage and administration for all drugs. Please refer to the Neonatal Unit's preferred formulary; either the **Neonatal Formulary: Drug Use in Pregnancy and the First Year of Life, 8th Edition 2020**, or the **BNF for Children** available at https://bnf.nice.org.uk/. Adjust doses as necessary for renal or hepatic impairment.

Practical procedures
DO NOT attempt to carry out any of these procedures unless you have been trained to do so and have demonstrated your competence.

Legal advice
How to keep out of court:

- Write the patient's name and unit number on the top of each side of paper
- Time and date each entry
- Sign and write your name legibly after every entry
- Document acknowledgement of results of all investigations (including radiology)
- Document all interactions including discussions with parents (and who was present)

Supporting information
Where possible the guidelines are based on evidence from published literature. It is intended that evidence relating to statements made in the guidelines and its quality will be made explicit.

Where supporting evidence has been identified it is graded I to V according to standard criteria of validity and methodological quality as detailed in the table below. A summary of the evidence supporting each statement is available, with the original sources referenced (intranet/internet only). The evidence summaries are developed on a rolling programme which will be updated as the guideline is reviewed.

Level	Treatment	Treatment harms	Prognosis	Diagnosis

	benefits			
1	Systematic review of randomized trials or n-of-1 trials	Systematic review of randomized trials, systematic review of nested case-control studies, n-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Systematic review of inception cohort studies	Systematic review of cross sectional studies with consistently applied reference standard and blinding
2	Randomized trial or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Inception cohort studies	Individual cross sectional studies with consistently applied reference standard and blinding
3	Non-randomized controlled cohort/follow-up study	Non-randomized controlled cohort/follow-up study provided there are sufficient numbers to rule out a common harm	Cohort study or control arm of randomized trial	Non-consecutive studies, or studies without consistently applied reference standards
4	Case-series, case-control studies, or historically controlled studies	Case-series, case-control, or historically controlled studies	Case-series or case-control studies, or poor quality prognostic cohort study	Case-control studies, or poor or non-independent reference standard
5	Mechanism-based reasoning	Mechanism-based reasoning	n/a	Mechanism-based reasoning

Excerpt from: OCEBM Levels of Evidence Working Group. The Oxford Levels of Evidence 2. Oxford Centre for Evidence-Based Medicine. 2011. http://www.cebm.net/index.aspx?o=5653

Evaluation of the evidence-base of these guidelines involves review of existing literature then periodical review of anything else that has been published since the last review. The editors encourage you to challenge the evidence provided in this document. If you know of evidence that contradicts, or additional evidence in support of the advice given in these guidelines, please forward it to the Clinical Guidelines Developer/Co-ordinator, bedsideclinicalguidelines@uhnm.nhs.uk).

Evidence-based developments for which funding is being sought

As new treatments prove more effective than existing ones, the onus falls upon those practising evidence-based healthcare to adopt best practice. New treatments are usually, but not always, more expensive. Within the finite resources of each Trust and of the NHS as a whole, adoption of these treatments has to be justified in terms of the improvements they will bring to the quality or cost-effectiveness of care. The priorities for funding new areas of treatment and patient care will be determined at Trust level.

Feedback and new guidelines

The Bedside Clinical Guidelines Partnership, and the West Midlands Neonatal Operational Delivery Networks have provided the logistical, financial and editorial expertise to produce the guidelines. These guidelines have been developed by clinicians for practice based on best available evidence and opinion. Any deviation in practice should be recorded in the patient's notes with reasons for deviation. The editors acknowledge the time and trouble taken by numerous colleagues in the drafting and amending of the text. The accuracy of the detailed advice given has been subject to exhaustive checks. However, any errors or omissions that become apparent should be drawn to the notice of the editors, via the Clinical Guidelines Developer/Co-ordinator, bedsideclinicalguidelines@uhnm.nhs.uk, so that these can be amended

in the next review, or, if necessary, be brought to the urgent attention of users. Constructive comments or suggestions would also be welcome.

There are still many areas of neonatal care which are not included: please submit new guidelines as soon as possible for editorial comment.

For brevity, where the word ‘parent(s)’ is read, this means mothers, fathers, guardians or others with parental care responsibilities for babies.