Consultation responses – Management of Neonatal Pain
Consultation close date – 02/07/2025

British Association of Perinatal Medicine

Name: tanya	**If you are answering on behalf of an organisation please state:**
General comments: This is a well written document and easy to use.	**Working Group Response:** Thank you for your kind comment- much appreciated
Specific comments:	

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Consultation close date – 25/06/2025

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Name: Jennifer Jones	**If you are answering on behalf of an organisation please state:**
General comments: This is a really useful document. It has great scope for practical implementation and local adaptation.	**Working Group Response:** Thanks for taking the time to read this document and for your comments.
Specific comments:	

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Name: Amanda Lawes	**If you are answering on behalf of an organisation, please state:**
General comments: I think this is a great document. Very clearly set out with useful infographics.	**Working Group Response:** Thank you for your input.
Specific comments: 1. Page 15 - no mention of insertion of CFM monitor needles as a painful procedure?	1. We have incorporated the CFM insertion into Table 6

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Name: Oliver Rackham	**If you are answering on behalf of an organisation, please state:**
General comments: Excellent document with really good advice for staff and, even more importantly, for parents. I like the reference chart in the Appendix :-) Generally easy to read. But there is a lot of information in the medication sections? Is that too much as units will need to have their own guideline and monographs for these anyway?	**Working Group Response:** Thanks for your kind comments and detailed review. We have kept the information in the pharmacological section as concise as possible. Hopefully neonatal units can use this framework to adapt local guidelines and streamline the content as they see fit. Specific comments
Specific comments: 1) Throughout - please refer to "neonatal unit" not NICU as this is relevant to all units. 2) Page 8 - table 1 - step 2 - could "comfort holding" be considered, rather than swaddling. FINE teaches us to comfort babies, not contain them. 3) Also in this step the "2 To Care" principle could be included; ie having a second person whose sole role is to comfort, ofr every interaction with a baby 4) Page 9 - para (e) - could this include use of comfort holding by parents, use of boundaries/nest/etc. 5) Page 11 - typo in penultimate paragraph - "address" not "addresses" 6) Page 12 - special consideration paragraph - some mention of or reference to oral aversion here? 7) Page 13 - table 4 - last line - typo "score" not "scores" 8) Page 14 - table 6 - under non-pharmacological measures, make it clear that the comfort holder (we prefer the phrase "2 To Care" to four-handed technique) add that the comfort holder is responsible solely for that, they are not an assistant in the procedure.	1) Thanks- we have streamlined the wording to the neonatal unit as suggested. 2) Comfort holding and swaddling are distinct non-pharmacological intervention. measures. Table 1 is aligned to Table 3 3) This is a concise table- we have elaborated this in non-pharmacological section under four handed cares. 4) Comfort holding by parents has been added. Developmental care measures are mentioned in non-pharmacological section 5) The typo has been corrected 6) These is already included in hypersensitivity 7) Thank you for spotting this- this has been corrected 8) As previously mentioned, this point is elaborated further in the non-pharmacological section. Neonatal units may adapt the phrasing to suit their context; however, we wish to emphasise that the involvement of four hands is essential

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9) Endotracheal suction - should "exceed" say "extend"	9) This has been revised in accordance with the suggestion
10) "Avoid cluster care and allow recovery" - is it worth saying that it takes an hour for a baby to recover and for stress hormone levels to fall again?	10) We have kept the tabulation concise to highlight specific measures. This has been detailed under non-pharmacological measures under pacing.
11) Page 15 - table 6 - as the tabel extends across 2 pages, can it be made clearer that all of those non-pharmacological measures apply on page 2 as well?	11) We have highlighted this at the end of table.
12) Page 20 environment modulations - section 2 - can there be more on use of boundaries, support of feet, use of cover/vertical boundary?	12) This has already been included (please refer to phrase 'provide physical support').
13) Pacing - (e) - could it be considered that some non-painful events, eg USS - if well planned can be better tolerated post feed when the baby is more settled and the procedure should take less time and therefore disturb the baby less?	13) Suggestion on pacing would contradict the statement to point (e) in this section. A minimal period of 30 mins post feed should be given for any procedures (non-invasive or invasive)
14) Page 21 - Four handed cares - could the phrase "2 To Care" be considered?	14) As above- please see response to point 8
15) We would advocate that it is always needed, not just desirable in those limited scenarios.	15) We have changed the wording to emphasise the need for four handed cares in these scenarios
16) The photograph in image 1 looks much more like containment than comfort holding. The baby has an NG tube in place. Should there be a nest or other boundaries? Parent should be bare below the elbows - how did they wash their hands with those sleeves?	16) This has been removed as sequence of comfort holding cannot be captured well in still photograph.
17) Page 22 - facilitated tucking - this is not the terminology used in FINE training?	17) Facilitated tucking is known terminology in NIDCAP modelling and is evidence based.
18) (b) "hips rotated to midline" or "knees to midline"? (hips can't be in midline) (c) head an neck should be "in line."	18) a. & b- This description is known for facilitated tucking

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19) but not patting or rubbing which is the natural instinct for soothing older children / adults.	19) We are not sure around what this comment refers to hence we were not able to address it.
20) Page 23 - general principles - quite a bit of repetition of what has already been said?	20) Some repetition is unavoidable due to how document is formatted. General summary brings key points from whole document hence repetition.
21) Page 27 - Opioids (should this be called morphine as fentanyl is dealt with separately below?)	21) Thank you for spotting this- we have added the subtitle of Morphine which got dropped in error.
22) Text and table - can it be made clearer that the dosing interval should remain at 4 hours in keeping with the duration of action? Is there any evidence or rationale to support extending dosing interval, rather than just reducing dose to smallest giveable dose and then stopping?	22) Text and table made clearer – now states "Dosing frequency should be every 4 hours". The extended dosing interval is given as an option only if required based on clinical consensus
23) Appendix A - support tool - could this refer to comfort holding rather than swaddle?	23) Please see the comment above regarding swaddle and comfort holding.
24) ETT is not just intubation (an ever rarer event in neonates) it is all airway procedures involving laryngoscopy. I know that won't fit in the box, but maybe a * and footnote to include LISA, MIST, etc?	24) For procedures like LISA, certainty of evidence to use sedative/analgesia is low/very low hence this suggestion has not been included. Reference https://pubmed.ncbi.nlm.nih.gov/35654833/. Additionally, BAPM framework for airway management covers this aspect.
25) Appendix B - would some photos of motor signs be helpful here	25) It would be difficult to include photos in this illustration- but description does suffice.
Thanks to the working group and BAPM for this framework	

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Name: Daniela Horta Machado	**If you are answering on behalf of an organisation please state:** Neonatal Unit
General comments: The draft framework on the Management of Neonatal Pain is a comprehensive and evidence-informed document that clearly demonstrates the authors' commitment to improving outcomes for neonates.	**Working Group Response:** Thanks for taking the time to read this document and for your comments.
Specific comments: 1) In terms of content, the document's emphasis on involving parents is strong, but could be strengthened further by including practical communication examples and a brief narrative illustrating effective parental involvement during procedures. 2) A short section acknowledging staff and family psychological wellbeing, especially in cases of prolonged neonatal pain or complex care, would support a more holistic approach. 3) The discussion around chloral hydrate and benzodiazepines is clear but could be reinforced with visual warnings given recent MHRA safety updates. 4) Language-wise, the document is inclusive, but it is a long document and wonder if it would be possible to be more compact. 5) Finally, clearer signposting to neurodevelopmental follow-up for high-risk neonates, as well as more emphasis on opioid-sparing strategies and early transition to non-invasive analgesia, would round off the framework's strengths and ensure alignment with long-term infant outcomes. 6) A note that references of 2003 and 2004 should not be mentioned alone, without a	**Response to specific comments** 1) The scope of framework does not allow for any further expansion, but we hope the framework allows the neonatal unit to develop their own guidance to provide examples. The narrative has already been included in form of tabulation and can be found on the BLISS UK website. 2) We have added a sentence to this effect. 3) Chloral Hydrate – we have brought the MHRA warnings into the main section in table 8 so that it is more visible. This is also reiterated in the text. 4) It has been hard to balance the length of this document without losing pertinent information. A summary has been provided for easy assimilation. 5) We have already emphasised the opioid sparing strategies and early transition to oral analgesia- please refer to pharmacological section – general principles, managing tolerance. The neurodevelopmental follow up of high risk neonates is a standard of care not just related to neonatal pain. 6) Evidence base related to neonatal pain especially randomised control trial has been scanty hence hallmark trial like

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more recent reference as per academic recommendations. 7) A developmental care working group is on the making, and wonder if the framework could be included or linked up as pain & stress is a developmental care core measure. 8) As stress is mentioned during the literature review, i think for the index should be mentioned too: example: pain & stress - they are linked but distinct and it should be acknowledge in the contents. Great work to everyone involved!	NEOPAIN from early academic years is a pertinent inclusion. 7) As the 'Developmental Care' working group has not yet been established, inclusion of future framework is not possible, but we hope a link of this framework can be included when developmental care group has formatted the framework. 8) This has already been highlighted in the introduction

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Name: Sarah chan	**If you are answering on behalf of an organisation, please state:**
General comments:	**Working Group Response:**
Specific comments: 1. Page 36. Chloral hydrate is contraindicated in those with severe cardiac disease. Chloral is used regularly at GOSH on our NICU and in CICU for sedation prior to procedures and PRN for chronic patients. This includes patients with severe cardiac disease. I have forwarded the draft onto our pharmacist to investigate and to discuss with CICU. However, I have had a look at the referenced article by Wyness and am unconvinced that there is enough evidence for absolute contraindication. Looking at the rest of the literature on this, to me it seems that the arrhythmia case reports relate to overdosage. Would be good to know if you have used any other references to to back up this recommendation? Perhaps caution in cardiac patients and particularly for higher doses might be more appropriate.	1. The manufacturers specifically state that chloral hydrate is contraindicated in severe cardiac disease without reference to the dose given (reference now added to appendix). Reworded to state caution should be used when administering to patients with cardiac disease but kept the contraindication in severe cardiac disease. Decisions on the use of chloral hydrate should be made on an individual patient basis and in line with the neonatal formularies for individual trusts.

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Name: Nanna Christiansen	**If you are answering on behalf of an organisation please state:**
General comments: Very good	**Working Group Response:** Changes to clarify the role has been made
Specific comments: Suzannah Hibberd is currently listed as the chair of the NPPG, which is incorrect, please delete. She is a member of the NPPG Neonatology Specialist Interest Group	

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Name: Nipa Mitra	**If you are answering on behalf of an organisation please state:**
General comments:	**Working Group Response:**
Specific comments: Please could you amend my affiliation in the Section "Members of the working group " on page 4- wrongly written as "Papworth Hospital". Please correct to "East and North Hertfordshire Teaching NHS Trust ". Many thanks.	Changes have been made

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Name: Paul Cullis	**If you are answering on behalf of an organisation please state:**
General comments: Excellent, well-written, clear and evidence-based document. Considers holistic nature of pain, importance of parents/caregivers and non-pharmacologic measures.	Working Group Response: Thank you for your comments
Specific comments: 1. Table 7, P17, could be made clearer and I am not sure how 'evidence-based' this section is. Abdominal drain placement is less invasive than almost all of the procedures in the 'mild pain' section, unless what is meant is that the drain placement is done on NICU. The same could be said for any other procedure done on NICU, so this could be clarified. Similarly, MIS procedures are mentioned in the 'mild pain' section but many operations are later listed as causing 'severe pain' yet they could have been done MIS, e.g. CDH. The word 'open' should be applied before CDH, TOF/OA, and PDA to clarify this. The tables in general are not universally listed in the text so Table 7 as an example is not linked anywhere in the free text.	**Response to specific comments** 1. The evidence base for post-operative pain stratification in neonates is currently limited and primarily consensus-driven. The approach has been adapted from the SickKids Toronto guideline and reviewed by BAPS to ensure experiential relevance. We have revised the wording in Table to reflect your feedback. Our aim is that this stratification will support neonatal units in making informed decisions regarding the escalation and de-escalation of analgesia. A reference to Table 7 has now been included in the main text.

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Name: Christian Chadwick	**If you are answering on behalf of an organisation please state:** NPPG - Neonatology Special Interest Group
General comments: We would first like to acknowledge the hard work that has gone into producing a document full of excellent information that we feel will be well received. We hope that our comments are used to improve the document even further.	**Working Group Response:** Thank you for your comments and this through review. We have tried to address them as best as possible considering overall consultation comments.
General comments from the group:	
1. There is mention of alpha2 agonists and benzodiazepines at various points in the document, sometimes specific drug names are associated with these and sometimes not – should this be more consistent or at least refer to table 8.	1. We also refer to opioids throughout the document. Table 8, the appendix and the text explains which medications come under these labels. Added clarification to management of term neonates during invasive mechanical ventilation paragraph where midazolam and benzodiazepines were referred to separately.
2. Should there be some recommendations of doses / starting doses / usual dose ranges. I know this might be controversial, but would be good to have a table of these as options. If they are controversial, then perhaps this should be added to the research recommendations section. I bet lots of people are doing something different with paracetamol	2. The working group consensus is that this is a framework for practice rather than a detailed Trust guideline or formulary hence doses are not to be included due to the variation of practice throughout the UK.
3. Should there be a bit more about topical anaesthesia. I see LMX4 is mentioned, what about other products?	3. Decision made to remove brand names and refer to it as topical anaesthesia – a small paragraph added to highlight potential risk of excipients and methaemoglobinaemia.
4. I also wonder near the beginning that it should be clear that this document does not cover end of life/palliative control of pain.	4. The section on 'scope of document' already covers this aspect (refer to page 5)
5. There is some excellent information within the document and I think will be well received. I personally found it quite wordy and visually difficult to read (but it might just be me being tired on a Friday). I found the tables in the document much easier to read and I wonder if	5. We have tabulated as much information as possible. Some consultation comments have asked for more information hence it is hard to balance everyone needs

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some of the other sections would merit also being put into a tabular format, rather than a list of numbered points.	
6. Avoid the use of mcg as an abbreviation for micrograms	6. This has been amended
7. Generic drug names don't need a capital letter	7. This has been amended
8. I'd suggest that it could be improved by ensuring consistent use of units of measure eg table 10 has both hours and hrs. I'd propose that no units of measure are abbreviated as it does not make it any quicker to read or understand, if there are no abbreviations, but it may increase the risk of misinterpretation.	8. This has been amended
9. Dexmetetomidine dosing is expressed as 0.1mcg/kg/hour. We should follow the rules for prescribing from the BNFC and never abbreviate micrograms, because clinicians will follow the guideline and write or use the same abbreviation/hieroglyphic.	9. This has been amended
10. Page 3: Paragraph 1 - Executive summary states continuous infusions of benzo's are contraindicated. The rest of the document doesn't use the term contraindicated, but uses 'avoid'. Might just need some clarification or consistency in wording. Point 13 - Not sure 'contraindicated' is the right word. Maybe rephrase that benzodiazepines (including midazolam) should only be used on a short term basis for term babies and their use should be avoided in preterm babies	10. We agree- changes to executive summary has been made according to this suggestion
11. Point 14 - Is it just 'awareness of' measures? Shouldn't the use of these measures be embedded in practice?	11. Changes have been made to include this suggestion
12. Page 4: Both Neelam and Suzannah are described as 'Chair' which I assume is for the working group but as it's written looks like they are the chair of BAPM and NPPG respectively	12. Titles have been changed to bring clarity

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13. Page 5: language section – content great, but wording is a bit clunky. Suggest this change: "the guideline uses the terms women and mothers throughout, but this should also be taken to include people who do not identify as women through their pregnancy, labour and their postnatal period.	13. Thank you for this helpful wording- it has been included.
14. Page 6: Paragraph 3 – grammar: "The paradigm of brain injury in preterm neonates" (remove "the") Paragraph 5 – clarity.	14. The grammar has been corrected.
15. This paragraph is difficult to read, and the meaning is not immediately clear. Suggested rephrasing: "A universally accepted definition of prolonged pain in neonates has not yet been established. However, adopting a consistent definition is crucial to enhance both its assessment and management (Bretton-Piette, 2024). This framework is guided by a recently proposed consensus definition (Ilhan 2022; Bretton-Piette 2024) to support the measurement and treatment of prolonged pain."	15. Changes has been made to include this suggestion.
16. Page 8: Paracetamol First mention is on this page, but in multiple points through framework IV paracetamol should always be second (or 3rd) line to enteral/rectal - they don't mention rectal until the end, but it is really effective for neonates, IV involves lines and more nursing time and £	16.This has been amended to include rectal throughout and now ordered as enteral/rectal/IV where routes provided
17. Topical Anaesthesia I'm not sure why topical anaesthesia comes after opioids in the steps and where this fits for what procedure and what gestation	17. We have highlighted that this step can be considered early depending on procedure and gestational age.
18. Table 1, Step 1 Avoid painful procedures and unnecessary handling → Avoid unnecessary painful procedures and handling	18. Changes to language has been made as suggested

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Rationale – not all painful procedures are avoidable and doing so may result in greater harm to the baby	
19. Table 1, Step 5 Suggest local anaesthesia would be earlier in the steps for certain procedures e.g. topical local anaesthetic for venous cannulation or LP (if term and doesn't delay the LP). Similar comment about the placement of topical anaesthetics in table 5 pg 14 Rationale – the term steps might lead users to use step 3 paracetamol, then step 4 morphine, before considering if local anaesthesia is appropriate. Clarity here would limit exposure to systemic paracetamol or morphine to procedures where topical anaesthesia with non-pharmacological methods would not be effective/ appropriate. It may also be helpful to indicate that these steps are cumulative and can be layered rather than one or the other.	19. This has been addressed with response number 17. We have added topical anaesthesia early in table 5, pg 14. We have highlighted the important point you have made regarding steps being cumulative.
20. Page 9: Typo – insert "a" in section d: ... an option every time a procedure...	20. The grammatical error has been corrected
21. I have some concerns over the practicalities of this – are staff going to be able to phone a parent every time a painful procedure is required? Need to explore with individual parents first if this is something they would want to be contacted about if they were not at the bedside (especially in an unstable baby requiring multiple procedures – potential to increase parental anxiety, impact on sleep and stress levels (? And breast milk production) when away from the cotside – the dreaded phone call in the middle of the night). Would need to be individualised to families wishes which is fine but might be helpful to add something about that.	21. We have added to highlight communication around pain and comfort needs to be individualised.

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22. Pain assessment tools: - There seems to be a lot of discussion around different assessment tools, but I am not actually clear what the final recommendation is here. Also should there be some links to the recommended tools, probably a bit more around how to use a specific tool and additional info as an appendix.	22. We have recommended commonly used tools which can be used for pain assessment and circumstances they are used- It is at the neonatal unit discretion to adapt a validated tool- it is adaptation of a pain tool which bring standardisation rather than type. This is a generic framework, limitation of length of this document does not allow us to include further description of how to use these tools. This can be easily found, and neonatal unit should include the description in their local guideline. We have already mentioned that Pain score should be mentioned in patient medical records (refer Page 13).
23. "The pain assessment scores should be included in the bedside observation chart" Suggest add "or EPR" to cover those who have gone paperless.	23. This has been added
24. Page 11: Pain Assessment bullet point 1 – grammar: Either remove the starting "A" or remove the "s" from "tools.	24. This error has been corrected
25. Pages 14 & 15: Paragraph 1 – Suggest formatting to highlight this paragraph's vital importance (e.g. make bold, use colour, increase font size).	25. We have not made this change as BAPM framework has certain format which this document adheres to for consistency.
26. Table 5- IM injection designated severe – has the committee considered the interpretation of their advice to use both non-pharmacological and pharmacological measures with respect to the IM vitamin K that the majority of neonates will receive at birth?	26. Thanks for bringing this specific circumstance into focus. Non-pharmacological measures are always adapted by midwifery team in these circumstances (non-nutritive sucking, skin to skin, parental comfort measures). Table is suggestion of level of pain procedure causes and team need to select these measures according to situation.

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27. "Venepuncture/ cannulation*" – what is the asterisk here referring the reader to – I can't find anything.	27. The typographical error has been corrected.
28. Where pharmacological options are given in column 3 – do they want to add any age/gestational limits – for example are they advocating the use of IV paracetamol for analgesia in infants <28 CGA	28. This should be specified in the local formulary. IV paracetamol can be used for <28 CGA. This is patient group which receive paracetamol for PDA closure. We are not aware of any CI.
29. Table 6- IM injection; pharmacological options – IM injection is general, and will refer to both immunisations and other medications. Suggest that use of paracetamol should be considered pre-procedure for immunisations. A qualifying statement could be included to say that paracetamol IV/PO should be used pre-procedure when the IM injection(s) are immunisations, and for other IM injections it can be used if needed post procedure).	29. This has already been stated in opening paragraph of this section and applies to all section not just IM injection. Please refer to the sentence in 1st paragraph *"implement non-pharmacological and pharmacological strategies prior to commencing procedure".* We have also included assessment of pain pre and post procedure as basic principle hence requirement post procedure should be addressed with adaptation of this principle.
30. Painful wound dressings; pharmacological options – can "fentanyl" be changed to "opioid"? Ventilated infants will have had different levels of exposure to opioids, it seems unnecessary to specify a specific agent rather than allow choice depending on individual patient suitability.	30. Our suggestion was based on properties of fentanyl – it's rapid acting and has shorter duration of action. We have added fentanyl or its derivative.
31. ROP Bevacizumab intravitreal injection; Procedure – suggest removing "Bevacizumab". Not all centres will use this, some choose Ranibizumab, however the pain management options for either should be the same. "ROP intravitreal injection" would be appropriate.	31. Thanks – we have made changes in document to reflect this.
32. ROP Bevacizumab intravitreal injection; Pharmacological options – as for painful wound dressings, suggest change of "fentanyl" top "opioid".	32. As above- Our suggestion was based on properties of fentanyl – it's rapid acting and has shorter duration of action. We have changed this to fentanyl or its derivative.

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33. ROP Bevacizumab intravitreal injection; Pharmacological options – should the choice of topical anaesthetic be specified, to be in-line with the UK ROP guidelines? These state pain relief using either proxymetacaine 0.5% or oxybuprocaine 0.4%.	33. We have added this according to suggestion.
34. Fractures and injuries; pharmacological options – spelling, change "analgesic" to "analgesia".	34. Typo has been corrected.
35. Ventilated vs Non-ventilated opioids seem to be more heavily handed out to those ventilated for procedures, compared to non ventilated in the table at the top, the text better describes appropriate use, I think you need to assess the current analgesic cover with ventilation prior to making this decision and if this is needed.	35. We have added a sentence below the table to highlight this.
36. Page 16: Contradicting info for post op "Regular pain assessment should be done using a validated tool" – on page 11 states none of the tools have been validated for post op pain.	36. The statements are not contradictory as we have specified Pain assessment should be done using validated tool. We have provided the list of pain tools validated to assess post-operative pain on page 12.
37. Page 17: Table 7- Severe Pain; Procedures – spelling, change "necrotizing" to "necrotising"	37. Typo has been corrected.
38. 'Low dose morphine' is often mentioned e.g. table 7, and page 18 paragraph 5. Does this need to be clarified by what this means in practice for a dose.	38. Morphine dosing has a range and the lowest end of range would be low dose- we are not giving specific doses within the Framework
39. Start at a low dose…..if morphine at a maximum dose then….. – I understand why definitions of low and max doses aren't given but how effectively will the guidance be implemented without these descriptors?	39. As you have highlighted, low and maximum dose cannot be defined in this framework, as this would be based on formulary adaptation of neonatal unit but an assessment of pain would lead to escalation or de-escalation. Please see the response to 38.
40. In the management of severe pain section the sentence is 'Commence IV morphine low dose morphine'. Doesn't need both instances of morphine.	40. This typographical error has been corrected.

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41. Page 18: Both these points are in the preterm section 5. In the first two weeks of life, preterm neonates have high sensitivity to morphine, hence only a low dose of continuous infusion should be used if needed. Versus Neonates should be given high initial opioid doses to reach a rapid analgesic effect by reaching therapeutic drug levels rapidly. The infusion should be decreased as soon as possible to the lowest effective dosage, based on pain scores." Bit confusing…clarity over whether preterm <2 weeks should or should not start with the higher opioid dose and then rapidly drop down. If not then start point 8 with "Preterm neonates two weeks and greater….."	41. We have reformatted the sentence to bring further clarity. First point is related to principle of avoiding opioids in early stage of life due to immature pharmacokinetics and balance to extubate babies as soon as possible to non-invasive ventilation Second point is related to what to do when decision has been made to commence opioid infusion, in certain circumstances as mentioned in point 7, this may need to occur in first two weeks.
42. Page 19: Point 10 - I'm not sure what the evidence is that supports this - and the quoted reference doesn't seem to for with the recommendation. Is this in routine practice in many places?	42. Please refer to section on Opioid rotation where this aspect has been discussed in detail (Page 30).
43. Page 20: Pacing a. Suggest rephrasing for improved flow: "Observe the baby's behavioural state for a few moments before starting a procedure, and provide relationship-based care" b. Should there be a mention regarding procedures and pump feeding? c. Under 2 b) should read stable not stabile	43. a. Changes have been made according to suggestion b. Non- pharmacological support with feed is based on act of sucking hence we have not mentioned pump feeding which is not a common practice. c. Typo has been corrected
44. Page 22: Massage Suggest including something to say that healthcare professionals should only offer neonatal massage if they have received appropriate training.	44. A sentence to this effect has been added.
45. Page 23: Paragraph 2 Add "agents" so sentence reads "When using analgosedative agents, their known…"	45. Added, thank you.

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46. General principles Point 3 – Suggest rephrasing: Continuous infusions of analgosedatives is discouraged in stable neonates. In these infants, pre-emptive use of an analgosedative can be considered before a painful procedure.	46. Reworded as suggested
47. Point 4 – Suggest slight re-wording to aid readability: Use the lowest therapeutic dose of an analgesic required to produce the desired degree of analgesia to minimise adverse effects.	47. Reworded as suggested
48. Point 7 – Missing a "the": "…on continuous opioid infusion, the same opioid…"	48. Added, thank you
49. Point 10 - unsure what evidence there is to support this (or is this consensus from the working group)	49. Please refer to section on Opioid rotation where this aspect has been discussed in detail (Page 30).
50. NSAIDs Likely in this section – add in why we don't use NSAIDs in neonatal population	50. The working group considers that including this information would not enhance the Framework, as Trusts are expected to consult their local medicine formularies for details on individual medications
51. "To minimise tolerance, convert intravenous analgosedative to oral agents as soon as possible"If bioavailability is taken into account in the dose conversion is there any evidence of lower tolerance developing from the same systemic amount of morphine if given orally compared with IV? Seems a little odd to me , but I'm happy to be corrected!	51. Yes – see page 29. When giving the medication continuously via the IV route, tolerance will develop more rapidly than when giving intermittent oral doses.
52. Page 24: Table 8 a) Opioids; Route – suggest to add IV bolus to both Morphine and Fentanyl b) Higher up in the document there has been lots of emphasis on using intermittent opioid boluses in preference to continuous infusions. This isn't reflected in this table	52. Table 8 a) IV bolus added to table b) IV bolus added to table

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c) Hypnotics; Indications – suggest move the warning that is currently a footnote to the indications box. More likely to be read if alongside the drug it refers to.	c) Footnote moved into indications box
d) Benzodiazepines/Hypnotics; Effect - chloral and midazolam do not have pain relieving properties need to be clear (does say adjunct but is sedation not analgesic) for older babies (and in future younger ones too we could consider alimemazine too)	d) In table it clearly states in the effect column benzodiazepines and hypnotics are for sedation
e) Is there scope to include Gabapentin?	e) Gabapentin included in opioid induced hyperalgesia section. Little /No evidence on gabapentin in other area of pain management
53. Page 26: Chloral Hydrate "although it is increasingly less frequently used" – suggest re-wording to "although its usage is declining"	53. Reworded as suggested
54. Sucrose i) I don't agree that all doses need to be prescribed. This is not a medicine so prescription is not legally required. I do think that it should be documented (that may be on a prescription chart/software or elsewhere).	54. We have changed this sentence to 'All doses should be documented'.
55. Page 27: Fentanyl a) Suggest adding a note that the conversion calculation is included later on b) Could do with clarification of weaning rate for those that were on IV - once reduced IV, switched to oral – if you then follow table 10 as suggested there are 2 different interpretations of wean at 20% of the original dose – the original IV dose (as an oral equivalent) or the oral dose they have just switched to – 20% of either of these two will be significantly different c) table 10 has both hours and hrs	55. Fentanyl a) Referred to table 11 for IV to oral conversions. b) Clarified to original *oral* dose c) Hrs all changed to hours
56. Page 28: Dexmedetomidine	

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Suggest adding a note that the conversion calculation is included later on	56. Referred to table 11
57. Managing tolerance and hyperalgesia Methadone and Gabapentin included in algorithm – should these be included in Table 8 earlier in framework?	57. Methadone removed from document based on working group consensus. Very limited experience and evidence regarding the use of gabapentin in neonates so line added stating seek specialist advice if considering use for opioid induced hyperalgesia – decision not to add to table 8
58. Dexmetetomidine dosing is expressed as 0.1mcg/kg/hour. We should follow the rules for prescribing from the BNFC and never abbreviate micrograms, because clinicians will follow the guideline and write or use the same abbreviation/hieroglyphic.	58. All mcg corrected to micrograms
59. Page 29: Opioid conversion the opioid conversion tables need to be referenced, there are differing values out there (between 10- 25) and based on what is stipulated if you were on 3mcg/kg/hr fentanyl you would switch to 45mcg/kg/hr morphine, in practice we use 10x and would switch to a lower value of 30mcg/kg/hr (factor of 10) and then adjust to response , this enables us to reduce the overall opioid used over time (hopefully) but does need nurses to be responsive to withdrawal and symptoms etc	59. There is a wide range of opioid conversion measures. Members of the NPPG neonatal SIG committee met to discuss and an expert consensus was obtained.
60. Make clear table 11 refers to rotation of IV opioids	60. Original Table 11 removed and paragraph regarding conversion added
61. Under strategies to prevent or delay tolerance, first line should read focussed, not focus. Table 11: Is this strategy being used anywhere? It is a 'potential approach' but would be good to know what backs it up, even if it is use in a single centre	61. Focus corrected. Original table 11 removed and paragraph regarding conversion added. Centres are using opioid rotation, one example is Evelina London Neonatal Unit, GSTT
62. Page 30: Table 12	

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a) Morphine; Dose calculation – Should we include a time after the first oral dose to stop the IV infusion (e.g. 30mins)? b) Fentanyl; Dose calculation – same as for morphine c) Dexmedetomidine; Dose calculation – should we include the dose from which Dexmedetomidine can be converted to oral clonidine (as is in the clonidine instructions). i.e. Dexmedetomidine can be converted to oral clonidine if the dose is 1.5micrograms/kg/hour or less. d) Clonidine; Dose calculation – could the last statement about IV dose >1microgram/kg/hour include the option to either continue to wean the IV rate or proceed with oral switch as described? e) Iv fentanyl to oral morphine, column 3 – I think it should read something like this: Calculate the total daily IV fentanyl dose in micrograms: e.g. Current dose in mcg/kg/hr x working weight (kg) x 24 Multiply this figure by 20 (for bioavailability potency/conversion factor) to give the equivalent dose of oral IV morphine. Then multiply this figure by 2 (for bioavailability) to give total daily oral morphine dose. Divide this into six equal doses and prescribe 4 hourly in micrograms Stop the IV infusion after the first oral dose	62. Table 12 a) Added when to stop IV infusion b) Added when to stop IV infusion c) Maximum rate on PICUs is 1.4microgram/kg/hr and in neonates this is less so this is not required d) Added to the weaning clonidine section: If switching to oral clonidine is not possible, continue to wean the IV clonidine by approximately 20% of the original rate each day until stopped. e) Amended
63. In table 12 a. the current doses are expressed as microgram/kg/hour and the dose calculation is written as mcg/kg/hr. I'd propose microgram/kg/hour is always used. b. I think the second sentence for the dose calculation fentanyl-morphine oral should read: Multiply this figure by 20 (conversion factor) to give the equivalent dose of IV morphine.	63. Table 12 a. Amended b. Amended
64. Page 31: Hyperalgesia	

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Fantastic section – incredibly well written, good impactful point-making. Love this!	64. Thank you for your kind comment.
65. Page 32: I don't really agree with the first sentence, while the document is largely evidence based there were also consensus decisions based on anecdotal evidence and personal experience (e.g. the opioid conversion). This is fine and what the working group is charged with doing as per the aims at the start of the document, so I think this first line should be changed to reflect that.	65. We have changed the sentence to reflect this.
66. Page 35: a. In terms of disadvantages to using medicines, paracetamol and morphine/ opioids are well known to be involved in significant errors in terms of dosing and x10 errors causing significant harm, worth a mention her b. Page 36: Midazolam column 2 "Rapid clearance due to short half-life in older children" – would be more useful to put the info about clearance in preterm and term neonates here.	66. Appendix C a. This is not in the scope of this Framework b. Clearance in preterm addressed in disadvantages column
67. Throughout the document drug names start with a capital letter	67. Amended throughout
68. P8 Step 2: not everyone should have sucrose/EBM so should probably say if possible	68. If feeds are contraindicated, neonates will not receive milk. Exclusion criteria for sucrose have been outlined within the text. To maintain the clarity and integrity of the overarching principles, we have chosen not to incorporate this suggestion
69. Page 8 step 3: is rectal paracetamol not encouraged as only states iv or oral. Same question throughout the rest of the document too	69. This has been added
70. page 14 table 6: lidocaine cream- if says over 1 month CGA, does it mean corrected age?	70. Have now written it in full
71. page 14 table 6: Post procedure ?rectal paracetamol	71. We have added this option

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72. page 14 table 6: who can sucrose be used for?	
73. page 15 table 6 cont'd: bevacizumab-chloral - do we recommend chloral	72. Please refer to Page 26 which describes sucrose in detail 73. Chloral hydrate is hypnotic not analgesics
74. page 15 table 6: bevacizumab-topical anaesthetics-what would these be?	74. We have added this.
75. page 15 table 6: post chest drain removal-IV bolus of paracetamol-i don't think 'bolus' is the right word. ?'stat dose'	75. Changed to stat dose
76. Page 15 TH: ...some medications can have the potential...	76. Typo corrected
77. page 16 number 4: cytochrome P450	77. Corrected
78. page 16: 'neonates are benefitted from ERAS'. ? Doesn't make sense	78. Sentence has been made clearer
79. Page 16 key principles number 8: or renal impairment	79. This indication has been added.
80. page 17 table 7 moderate pain: ?i don't understand why there are 2 sentences saying to increase dose by 10%	80. Duplication has been removed
81. page 17 table 7 severe pain: line 3 'commence iv morphine low does morphine' -does not make sense.	81. Duplication removed
82. page 18 number 8: does this mean bolus and then infusion, or to start infusion at high rate for a couple of hours?	82. The sentence has been reformatted for clarity. We can't give time limitation as it depends on analgesic effect and can be achieved even earlier than 2 hours.
83. page 21: sucrose-what doses are recommended as different in a lot of references	83. We have highlighted lack of the evidence base around this aspect but mention the volume range seen in few guidelines. Trust would need to have their own local policies.
84. page 24 table 8 chloral: rectal need right suppository size. Enteral need to be on good feed volumes/fully enterally fed as gastric irritant. Also thought that we were trying to get away from using chloral	84. The Framework is intended to guide practice; for detailed information, clinicians should refer to their local formularies. The recommendation for

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85. Page 25 alpha 2 agonists: ?need to highlight earlier in document about lack of evidence for use as people will not get this far through document. Also 2024 Cochrane review said 'insufficient evidence to support routine use...'. Sentence about only using from 4-6 weeks also needs to be much earlier in document	chloral is included- only for use when absolutely necessary**.** 85. This is explained in the text directly below the pharmacological table
86. Page 26 chloral: says only 'when absolutely necessary'-needs to be much earlier in document	86. This has been added to the table
87. page 27 table 10: 'small dose' what is small dose?	87. There are dose ranges and a small dose is at the lower end of the dosing range
88. page 28 figure 1: opioid tolerance 'add drug' ?what drug	88. This is generic principal figure for opioids
89. page 28 figure 1: opioid induced hyperalgesia- mentions gabapentin and methadone suddenly-need more info and evidence base/dosing etc if going to start mentioning using these	89. Reference to this has already been highlighted -please note hyperalgesia itself is rare occurrence. These medications have been appropriately mentioned where their role has been recognised.
90. page 29 Table 11: calculations are not eqivalent when working them both ways!	90. Removed table 11 and written conversion factor and additional considerations
91. page 30 table 12: ?evidence for using conversion of 20 from fent to morphine-i have only ever seen 10. Also weaning later on suggests conversion of 10. 5mcg/kg/hr morphine and 0.5mcg/kg/hr fent.	91. This is an expert consensus, hospitals in the UK use numerous different conversions
92. page 30 table 12 dexmede to clonidine: is there a max enteral clonidine dose	92. The clinicians would need to refer to local guidance and formulary for dosing
93. page 35 appendix c fentanyl: renail impairment is nothing to do with histamine release	93. Reworded to avoid confusion
94. page 36 appendix c cont'd: dexmede and caffeine-a big worry!	94. Acknowledged

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Name: Anne Marie Heuchan	**If you are answering on behalf of an organisation please state:**
General comments: The document as a whole is a really excellent and well constructed document with a great deal of useful information. However the comments relating to the side effect profile of midazolam in the preterm population, with the exception of potential impact of blood pressure when given at high doses, are not supported by the references or clinical experience. As a result the language cautioning on the use of midazolam in the preterm population is not appropriate and should be modified. Whilst Midazolam should not be used as a first line agent for pain it is an effective adjunct for sedation. In tertiary referral and surgical units in particular, preterm babies (< 37 weeks) including those with complex post operative/ medical or respiratory problems, additional sedation is often required. At present we have little experience with alpha 2 agonists with no safety studies in the preterm population. There is a strong likelihood that best practice in some situations will still include midazolam as an adjunct to opiates for some complex preterm infants for some time. Given the weight given to BAPM frameworks, citing Midazolam as erroneously as a cause of IVH and adverse neurological outcomes (including brain haemorrhage, seizures and delirium) in this high risk preterm population, could potentially cause significant medicolegal problems for clinicians and undue distress for families.	**Working Group Response:** Midazolam wording has been discussed and amended in the document The risks in the appendix have been referenced and hopefully it is clear that this should only be used in pre-term infants where other options have already been tried.

Name: Sian Gaze	**If you are answering on behalf of an organisation, please state:**
General comments: Great resource.	**Working Group Response:** Thank you
Specific comments:	Response

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1. Page 15- consider removing bevacizumab or add ranibizumab (as this is licensed for ROP). 2. Page 15 and Page 24 - consider removing LMX-4? Or adding the alternatives available (Emla, Ametop) 3. Page 24 - does oxycodone have a place for consideration for opioid management? Aware that it's commonly used in some neonatal units in the UK e.g. surgical centres 4. Page 27 - Opioids - is the title Morphine missing? Before a) 5. Page 28 - clonidine weaning by 0.6mcg/kg/hr is impractical - can it be changed to 0.5mcg/kg/hr? 6. Page 28 - dexmedetomidine wean seems unnecessarily complicated - can it be simplified please?	1. This has been changed to ROP intravitreal injection 2. Removed LMX4 and now referred to topical anaesthesia 3. Some centres are using Oxycodone in post-surgical neonatal patient with good effect. Evidence currently is very limited hence we have not recommended this option in the framework 4. This error has been corrected 5. The clonidine weaning is not mentioned as 0.6mcg/kg/hr in the document 6. This has been reworded

Name: Nick Lansdale	**If you are answering on behalf of an organisation please state:** Neonatal Surgical Forum (joint BAPS/BAPM/NNSIG)
General comments: The working group producing the framework did not appear	**Working Group Response:**

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representative of all professionals managing pain in neonates e.g. there was no input from anaesthetists, pain nurses or surgeons. We know that peri-operative pain is managed differently on neonatal units compared to children's hospitals and newborns often appear to have longer durations of intravenous opiates. To ensure credibility and widespread adoption, if the framework wants to advise on peri-operative pain, it would seem sensible to revise these sections with the assistance of anaesthetists, pain specialist nurses and surgeons.	Thank you for your review and comments. For record, after receiving your comments on 2nd July 2025, BAPS and APAGBI were given further one month to contribute to this consultation. No further comments were received At the start of consultation, BAPM requested representation from Pain specialist group but no response was received or either representation or any comments on this consultation
Specific comments from members of the Neonatal Surgical Forum	**Response to specific comments**
1. 'BAPM pain management FFP is a generally well written and evidence informed document underpinned by sound principles of practice.	1. Thank you for your comment
2. I agree with Paul that the examples of surgeries associated with “mild”, “moderate” and “severe” post op pain seem a bit random and they might be better to more general e.g. MIS (mild) versus open thoracotomy / laparotomy (severe) and emphasise the need for standardised post op pain assessment to escalate analgesia appropriately.'	*2.* The evidence base around post-operative pain stratification is minimal. This table is largely consensus based and adapted from a Canadian (Sick kid Toronto) guideline. We have provided stratification to highlight need to adapt standardised pain assessment and opioid sparing strategies which is essential in neonates. We hope this would encourage neonatal unit to adapt an escalation and de-escalation pathway for analgesia. We have added a sentence for individualisation *“Consider the difficulty of the procedure/surgery. If pain is more than expected consider other factors e.g. medical device, extravasation”.*
3. I think it is excellent, well-written and mostly evidence-based. My only issue is with Table 7. I appreciate the need for categorisation of pain severity but the table is muddled up and I doubt evidence based. As examples, "Severe pain" is expected for CDH repair, PDA, and TOF/OA, which presumably refers to open	3. Changes have been made in Table 7 to classify open and minimally invasive surgery- this is consensus based and adapted from another guideline (as commented above).

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surgery, but this is not stated, yet in "mild pain", MIS procedures are included. "Colostomy formation" caused "Mild pain" but "Abdominal drain insertion" and "Gastroschisis silo insertion" cause "Moderate pain" - I cannot believe that the former is less uncomfortable than the latter. "Laparotomy (excludes colostomy formation)" causes "Severe pain" yet why would an ileostomy creation in a non-inflamed abdomen e.g. meconium ileus or ileal atresia cause any different discomfort from "Colostomy formation" In the "Mild pain" category.'	
4. 'It classifies common neonatal surgical procedures by expected pain severity (mild, moderate, severe) and tailors pain management strategies accordingly. However, some of the surgical procedures listed in Table 7 seem somewhat mismatched to the severity of pain expected in the postop period e.g. Inguinal hernia, Colostomy classed as "mild pain" should probably be "moderate".'	4. Changes have been made according to suggestion
5. 'The framework touches on regional anaesthesia as part of a multimodal approach, but there's room to expand. Techniques like caudal, TAP blocks, wound catheters etc. could be described in more detail, especially since they can be really helpful in reducing opioid use after surgery.'	5. Expansion of regional anaesthesia is out of scope of this framework. This modality is not commonly used in neonates. It would also need specialist input
6. In some centres, dedicated Acute Pain Teams may be available and can provide valuable support in developing tailored pain management plans, especially for more complex or high-risk cases.'	6. We have included a sentence in refractory pain section.
7. 'The term "Anaesthetist" is notably absent from the document, despite the fact that Paediatric Anaesthetists play a key role in perioperative pain management. It would be helpful to acknowledge this, especially in sections discussing postoperative care, multimodal analgesia, and regional	7. Adaptation of ERAS pathways involves surgeon and anaesthetists- we have made this explicit in key principles and ERAS pathways.

techniques. Collaboration with Anaesthetic Consultants should be encouraged as standard good practice, as postoperative pain strategies are often an extension of intraoperative planning.'	
Specific comments: See above 8. The key area which needs review and the involvement of anaesthetists and surgeons is post-operative pain and Table 7.	8. Please see the comments above

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Name: Jasmine Taylor ST8 Neonatal GRID trainee, St Mary's Manchester Rebecca Hinton Lead Pharmacist North West ODN Catherine Firth Neonatal Pharmacist	**If you are answering on behalf of an organisation please state:**
General comments: **Introduction** is well-written and complete.	**Working Group Response:** Thanks for your comments
Specific comments: Key Principles Section 1. Point 2 is contradictory: it advises consistent tool use yet states different tools may be appropriate in different situations. Please clarify or reword. 2. Point 4 could be shortened or removed, as it contains background information rather than a core principle. 3. Points 5–8 need strengthening: a. More emphasis on non-pharmacological approaches is needed. b. Consider rephrasing to reflect practical application and evidence base more clearly.	1. We have provided the details in pain assessment section on page 11. A single pain assessment tool may not be validated for different situation hence a validated tool should be used consistently depending on situation e.g. acute procedural pain, prolonged pain or post operative pain. 2. We disagree with this suggestion, as it is important to emphasise the principle of avoiding overtreatment. 3. a. The framework has expanded on point 5-8 later and provided separate section for each. b. This has been emphasised in point 7 *A combination of non-pharmacological approaches **should be used** consistently to promote comfort and to support babies during painful procedures*
Tables 1. Table 1 a. is practical and well laid out. Consider whether this could be better visualised as a flowchart for ease of use. b. Step 1 vs Step 2: Do these need to be separate defined steps? Consider combining if overlap exists.	1. Table 1 a. Thank you for suggestion – the tabulation clearly identifies measures and the steps are cumulative which would be difficult to reflect in a flow chart. b. We have added a sentence at the end of the table suggesting that all steps are cumulative and can be layered.

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2. Table 3: Lacks post-operative pain scoring systems—please include these.	2. As explained in text, Table 3 highlights only commonly used pain assessment tools validated for both preterm and term. We have mentioned the validated tools for post operative pain on page 12.
3. Table 6 a. *Venepuncture vs Arterial Puncture*: Why is topical anaesthetic considered only for venepuncture? Should this be expanded? b. *LMX4 only*: Why is EMLA excluded? c. *Chloral for procedures*: Strengthen guidance—make clear it is not recommended for multiple doses.	3. a. Been expanded b. Removed LMX4 and made more generic c. Added in avoid multiple doses
4. Table 7 a. *Morphine boluses*: More clarity needed on when and how to use boluses. b. *Severe Pain – Paracetamol*: Duration of use should be longer—please review.	4. Table 7 a. Need for Morphine bolus would be defined by pain assessment b. We have recommended regular paracetamol administration for the first 48 hours. Neonatal units may choose to continue this either regularly or on a PRN basis thereafter. Setting a 48-hour ceiling for review encourages reassessment and helps prevent inadvertent prolonged use of regular paracetamol
c. *Severe Pain – Benzodiazepines*: These are not analgesics—this table should explicitly state that.	c. Benzodiazepine has been mentioned as adjunct sedative not analgesics – this is sometime required during recovery in complex cases
5. Figure 1: • The evidence base for *neonatal hyperalgesia* needs to be clarified—how robust is it? • Inclusion of *ketamine, methadone, gabapentin* appears inappropriate; possibly extracted from a paediatric guideline. Recommend adapting the figure for neonatal relevance only.	5. Figure 1 a. We have expanded this in Hyperalgesia section on page 31 b. We have provided the appropriate references in both figure and later in section. These are from both neonates and infant population. Evidence base in this area is limited but case reports are available.

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• *Ketamine*: Consider expanding discussion. Inclusion in tables is inconsistent with lack of narrative explanation and no established neonatal dosing in major UK references.	c. Ketamine – regular use is limited in neonates due to neurotoxic effect but case reports of its use in procedural sedation and hyperalgesia exist- hence this drug has been mentioned in Figure 1. The dosage of drugs is not included in this framework as it would depend on local policies and formulary.
6. Drug-Specific Clarifications Opioid Weaning (p. 27): The line "Reduce continuous infusion rate by 5 micrograms/kg/hour, and consider weaning every 12–24 hours as tolerated" appears to refer only to *morphine*. Please clarify this. 7.Opioids Post-Extubation: The sentence on not discontinuing opioids post-extubation (on low dose and spontaneous breathing) is valid but could be clearer. Suggested rewording: *"Opioids may be continued at low doses following extubation with non-invasive ventilation, as tolerance typically mitigates the risk of respiratory depression."*	6. Paragraph been amended to be made clearer 7. Sentence has been reworded
8. Sedation and Adjuncts a. Sedating Antihistamines: Consider referencing their role, especially in relation to PICU sedation practices. b. Chloral Hydrate: ○ Add single dose use for *ROP screening*. ○ Remove mention of use in *opioid weaning* from Table 8. c. Alpha-2 Agonists: ○ List *clonidine* before *dexmedetomidine*. ○ The statement regarding clonidine should reflect wider UK use: *"While published evidence (Romantsik 2017) is insufficient to support routine use of clonidine as an analgosedative, it is more commonly used across UK neonatal units than dexmedetomidine."*	8. a. "We have decided not to include sedating antihistamines in the Framework at this time, as they are not routinely used for neonatal sedation and further evidence is required to support their inclusion. b. Chloral hydrate – ○ this is not recommended for screening ○ removed mention of use in opioid weaning in table 8 c. Alpha-2 Agonist- ○ We are not sure why we have been asked to list alpha-2 agonist in this sequence? As mentioned, there is insufficient evidence for clonidine use in neonates. In addition, it has lower sensitivity for a2 receptors

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	compared to Dexmedetomidine .We also could not find evidence to support that Clonidine is more commonly used across the neonatal units compared with dexmedetomidine in the UK neonatal unit. We have presented a balanced view, neonatal unit can adapt practice according to their experience and policies
9. Sucrose a. Clarify that repeated doses for the *same* procedure are not recommended. b. All doses should be *prescribed*— what is the justification, given that sucrose is classified as a food supplement and not a medicine? c. Emphasise that s*ucrose should always be used for painful procedures unless contraindicated*.	9. Sucrose a. We have clarified when and how repeat dose can be given. b. This has been changed to documented *c.* This would contradict the statement mentioned as point e- *Sucrose should only be used where breast milk is not available.* If breast milk is available, it should be the choice rather than sucrose.
10. Appendix C Would it be possible to add recommended indications for the medications listed in this appendix?	10. The medications are for analgesia and if needed adjunctive sedation. Their categories are mentioned in Table 6 with further specific consideration in section below.

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Name: hannah gormley	**If you are answering on behalf of an organisation please state:** *Yorkshire and Humber Neonatal ODN – OTs*
General comments: Really fantastic resource!	**Working Group Response:** Thank you for your comment
Specific comments: 1. Page 3 “Non-pharmacological support for babies should be provided by parents, or by health care professionals when parents cannot be present” - I wonder whether this sentence could also reflect that parents may not feel they can always provide support although they are present 2. Page 7 “The importance of parents as part of the care giving team should be recognised. They should be involved in their child’s care from the beginning” - I wonder again if we reword this to highlight the staff should facilitate the parents’ involvement. 3. Page 8 “Parental involvement: skin-skin care, modification of the sensory environment”. I wonder if the sensory environment should be on a separate sentence with more examples (eg. Dim light, reduce noise, etc). Also there are many other ways parents can be involved and support their baby including positive touch if cannot offer skin-to-skin for whatever reason 4. Page 8 “Pre-emptive use of non-pharmacological interventions” - I wonder if we can write this in more plain English. Many staff do not have English as first language and may not understand fully what is being advised. This is stated in a more accessible way on page 14 “ Health care professionals should anticipate the severity of pain likely to be associated with a particular procedure and implement non-pharmacological and pharmacological strategies prior to commencing procedure (Laudiano-Dray 2020).” 5. Page 11 - It is imperative to train staff to use the assessment tools which have been	**Response to specific comments** 1. We have added this situation 2. We have expanded on this aspect in the section addressing communication with parents during painful procedures 3. We have revised the table; The role of parents has been further expanded in the following section. 4. The tabulated format is intended to illustrate a structured approach. As noted, we have expanded on this aspect in the subsequent sections. While the term 'pre-emptive' has been used throughout the document, no concerns regarding its interpretation have been raised by others. 5. This has been changed

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adopted by a NICU to improve clinical utility (Fortney 2020) - could we state neonatal unit rather than NICU to ensure it is clear this applies to SCU, LNU, NICU?	
6. Table 14 – This is a great resource, however I think as a visual resource it could be improved as there are pharmacological strategies individualised to procedures but the middle column makes it a bit difficult to match these. I understand it may be a way to state that non-pharmacological should always be used but maybe easier to follow by swapping the columns.	6. Table 4 has been adapted to emphasise that non-pharmacological measures should be implemented universally and, in some cases, may be sufficient as the sole intervention. Reordering the columns would compromise this intended context
7. Page 20 - "Insulate the incubator with cot covers to limit sound exposure from monitors and alarms" - I wonder if this could be further detailed to ensure its clear <u>when</u> incubators should be covered	7. As these are universal developmental care measures, further expansion within this Framework is not considered necessary.
8. Page 20 - Use adjuncts such as comfort squares containing colostrum/ expressed milk or a <u>knitted octopus</u> (I wonder if we should not mention the octopus specifically as some units may use but I am also aware some have removed from units)	8. Neonatal units may have varying practices; the mention of adjuncts in the Framework does not mandate their use or non-use. Decisions regarding their application should be guided by local policies.
9. Page 21 – Breastfeeding/EBM - I wonder if it could be useful to mentioned about being aware of NBM/establishing oral feeding/safety here	9. We have added the phrase 'where appropriate' to the sentence.
10. Page 21 NNS – as above, I wonder if it would be helpful to state different options (eg dummy/gloved finger) and highlight some babies may not yet have this established in order to be helpful as a comforting measure (look for individualised cues)	10. Each neonatal unit will have its own guidance and may adapt the methods according to local policies
11. Page 22 – could a photo also be added to facilitated tucking?	11. We have already exceeded the page limitation for this framework and are unable to add any other resources. We hope BAPM framework for developmental care would illustrate some of the measures
12. Page 22 – Massage – should it be stated that neonatal massage should only be offered under supervision of a certified practitioner?	12. We have added a sentence to this effect.

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Name: Josie Anderson	**If you are answering on behalf of an organisation please state:** Bliss
1. **General comments:** Bliss strongly welcomes key principle six of this draft framework that references the importance of parents as part of the care giving team during pain management. To strengthen this, we recommend explicitly referencing the model of family integrated care, which provides a well-evidenced framework for embedding parent partnership in practice	**Working Group Response:** Thank you for your review and comments 1.Adaptation of the family-integrated care model has now been incorporated into the Framework.
Specific comments	
2. Page 6, para 6 Use of ''Osteogenesis imperfecta'' as an example of a condition causing acute episodic pain. While true, I wonder if this might not be the best medical condition to suggest as an example, given its association with chronic pain, and therefore may also fit into the explanation of prolonged pain also, which might be confusing.	2. This condition has been included as an example within the referenced definition and reflects a direct adaptation; therefore, no changes have been made.
3. <u>Page 7, para 6</u> It is welcome to see both developmental care strategies and the importance of parental involvement being recognised. However, we would recommend that these are separated out so that parental involvement is a key principle for pain management in and of itself, with an additional point added to this to recognise that parents not only play an important role in managing pain, but in recognising pain and distress in their babies, and bringing this to the attention of the clinical team.	3. Sentence has been reformatted to include your suggestion.
4. Page 9 "Communicating with parents in painful procedures" suggests a one-way flow of information, professionals *talking to* parents, rather than the active involvement of parents in pain management, which the body of the section clearly supports. We recommend something like "Supporting parent partnership in pain management".	4. We have updated the heading in accordance with the suggestion.

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5. The section focuses mostly on management (e.g., being present, offering comfort), but parents can also play a vital role in *noticing (and therefore assessing)* signs of pain, especially subtle cues that professionals might miss. BAPM's Perioperative Care of Extremely Preterm Babies (2024) report specifically references parental involvement in assessment, noting that the "Engagement of parents in pain assessment and management has been shown to have a positive impact on their satisfaction with neonatal services and care of their baby"(pg18). This section sets the tone for how parent partnership is framed across the document. Omitting pain assessment here may unintentionally narrow the perceived scope of involvement. Referencing both assessment and management together reinforces that parents have a continuous, active role, not just when procedures happen.	5. We have expanded the scope of this section and included an additional point emphasising the importance of supporting parents in the assessment and management of their infant's pain
6. This section would also benefit from including an introductory sentence to frame parent involvement as part of the family integrated model of care, referencing BAPM's *Family Integrated Care: A Framework for Practice* (2021).	6. This point has been incorporated into the opening paragraph, with an appropriate reference included
7. We also propose an additional sentence in the following section (bolded) to reflect the table on p10:*"Enabled* to make informed choices about how they would like to be involved in their baby's treatment and care. The information about pain should be objective, and our natural tendency to downplay the existence of pain should be avoided (Seers 2018). **Equally, health professionals should avoid suggesting that parents would be better off not seeing their baby in pain.** Talking about pain especially in neonates, is highly sensitive and needs to be done compassionately, using words that parents understand, at a time when parents can be receptive to the information. "	7. This sentence has been added, with formatting aligned to the existing style—hence, it has not been written in bold. The importance of this aspect has already been emphasised in Table 2, under the section 'When?
8. Page 9, a (and throughout) Where Bliss is mentioned, can it be amended to 'Bliss' rather than 'BLISS,' please?	8. This has been amended.

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9. Pages 9-10- It is positive to see Bliss' information used here as a source / reference, however this could be expanded further given the breadth of information we have on our website for both parents and health professionals; helpful to reference here and also in Appendix A https://www.bliss.org.uk/parents/in-hospital/being-involved-in-your-babys-care-and-procedures - this section covers all elements of this information, and in particular to note: The role of parents in comfort and pain relief https://www.bliss.org.uk/parents/in-hospital/being-involved-in-your-babys-care-and-procedures/role-of-parents-in-comfort-and-pain-relief The role of parents in medical procedures https://www.bliss.org.uk/parents/in-hospital/being-involved-in-your-babys-care-and-procedures/role-of-parents-in-medical-procedures Working with the neonatal team https://www.bliss.org.uk/parents/in-hospital/being-involved-in-your-babys-care-and-procedures/working-with-the-neonatal-care-team How healthcare professionals can support parents https://www.bliss.org.uk/parents/in-hospital/being-involved-in-your-babys-care-and-procedures/how-healthcare-professionals-can-support-parents	9. We have now referenced Bliss as a resource under point (f) and included a hyperlink to the Bliss website. Appendix A currently serves as a visual guide for staff to support parents during various procedures.
10. Page 12 For usability, can ALPS-Neo be added into Table 3? We propose the addition of a further sentence (in bold) in the following paragraph, to avoid the dismissal of babies' discomfort during more straightforward care procedures, even if it doesn't reach specified pain thresholds.	10. As highlighted in the text, the tabulation presents *commonly* used pain assessment tools applicable to both term and preterm infants. ALPS-Neo is not widely used and is specifically validated for continuous pain assessment. While the Framework group felt that referencing this tool would be beneficial, it has not been included in the table as use in routine practice is not common

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11. "Preterm neonates have hypersensitivity to sensory stimuli. This may be documented by an exaggerated response to procedures that are not generally painful such **as** moving, handling e.g. nappy changes. **However, these procedures may still cause discomfort and stress to the baby and should be undertaken with due care, with consideration given to maximising the baby's comfort throughout**"	11. The suggested sentence has been added
12. Page 15, Table 7 Lumbar puncture – topical anaesthetic is suggested for babies over 1-month CGA. Are there options for babies before reaching this age? Also, I assume that the consideration of opioids if mechanically ventilated applies to all ages, but as an age cut off is mentioned in this box, it would be good to be explicit about that with regards to opioids here.	12. As noted in the text, there are no alternative options for topical anaesthesia in infants under 1 month corrected gestational age. Opioids may be used at any gestation; however, due to the risk of respiratory depression, their use in self-ventilating neonates is not recommended. This has already been specified within the Framework
13. Pages 20-22 These pages provide an excellent overview of non-pharmacological pain management techniques, and it is welcome to see reference to parental involvement in these cares referenced throughout. Some of these elements emphasise the importance of parents being with their baby as often as possible. It would be helpful to include, either in this section or a separate standalone, a statement recognising the support parents need to maximise their ability to be with their baby – including access to good on-unit facilities, accommodation and support with travel, food and drink and other associated barriers and costs which inhibit parental presence on the unit. Framing the continued development of an infrastructure which supports parental presence and partnership as being an enabler for effective pain-management and optimal care would be a welcome addition to this guideline.	13. We have added a sentence to this effect in supporting parent partnership section as it sits better under this subsection. Non-pharmacological measures section expands on practical aspect of the pain relief measures.

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Name: Maya Asir **Email:**	**If you are answering on behalf of an organisation, please state:**
General comments: Really well written guideline and very helpful and comprehensive. Thank you!	**Working Group Response:** Thank you for your feedback
Specific comments: 1. Page 20: "*e. Use adjuncts such as comfort squares containing colostrum/ expressed milk or a knitted octopus.*" This makes it sound like the squares have colostrum or milk on them. Maybe better worded "such as comfort squares, colostrum/ expressed milk or a knitted octopus"? 2. Page 26: *Sucrose :* I would suggest that the dose (amount) recommendation is given as well as how it should be delivered. "repeated doses" and prescription are mentioned but not how much that does should be. *3. Exclusion criteria as below (Austin 2015)* *Caution in Neonates with significant respiratory distress, feed intolerance or altered gag/swallow reflex. For these neonates breast milk or sucrose may be applied by swab on anterior part of tongue.* This implies that a large dose is given which needs swallowing, which unfortunately does happen, this relates back to my comment above. I also wouldn't mention gag reflex here. Would suggest instead "altered oral or swallow reflexes" . Would also suggest saying it is best to pair it with sucking. And if the neonate doesn't suck then giving other options for delivery e.g., the small, recommended dose into the cheek or on a swab on anterior part of the tongue as mentioned here. The last sentence re applied by swab on anterior part of tongue implies that that's not how it's usually delivered. Paired with the concern about swallow again suggests this is a large amount that may be delivered in the back of the mouth, so would help to clarify recommended dose.	1. Sentence has been changed to reflect this 2. There is insufficient evidence to recommend optimal dosage. We have added a sentence to this effect 3. We have changed the sentence and added a sentence regarding optimum effective administration

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Name: Dr Karen Bartholomew	**If you are answering on behalf of an organisation please state:** Association of Paediatric Anaesthetists of Great Britain and Ireland
General comments: The BAPM framework offers a comprehensive, evidence-based approach to neonatal pain management, emphasising multimodal strategies and individualised care. It highlights the importance of validated pain assessment tools and judicious pharmacological use. The following few comments are from a quick look only, as we were first madeaware of the consultation only two days ago.	**Working Group Response:** Thank you for your review and comments. For the record, following receipt of your feedback on 2nd July 2025, BAPS and APAGBI were given an additional month to contribute to the consultation. Further comments were received and have been addressed in the subsequent section.
Specific comments: 1. It classifies common neonatal surgical procedures by expected pain severity (mild, moderate, severe) and tailors pain management strategies accordingly. However, some of the surgical procedures listed in Table 7 seem somewhat mismatched to the severity of pain expected in the postop period e.g. Inguinal hernia, Colostomy classed as "mild pain" should probably be "moderate". 2. The framework touches on regional anaesthesia as part of a multimodal approach, but there's room to expand. Techniques like caudal, TAP blocks, wound catheters etc. could be described in more detail, especially since they can be really helpful in reducing opioid use after surgery. 3. In some centres, dedicated Acute Pain Teams may be available and can provide valuable support in developing tailored pain management plans, especially for more complex or high-risk cases. 4. The term "Anaesthetist" is notably absent from the document, despite the fact that Paediatric Anaesthetists play a key role in perioperative pain management. It would be helpful to acknowledge this, especially in sections discussing postoperative care, multimodal analgesia, and regional techniques. 5. Collaboration with Anaesthetic Consultants should be encouraged as standard good practice, as postoperative pain strategies are often an extension of intraoperative planning. Apologies, due to tight time frame, unable to include page numbers etc	**Response** 1. Changes have been made to this table in line with suggestions received from BAPS 2. Expansion of regional anaesthesia is out of scope of this framework. This modality is not commonly used in neonates and falls under Anaesthetic expertise. 3. We have included a sentence to include this suggestion. 4. Adaptation of ERAS pathways involves surgeon and anaesthetists- we have made this explicit in Key principles and ERAS pathways. 5. Please see the comments above

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Name: Oshan Vimmi (R0A) Manchester University NHS FT	**If you are answering on behalf of an organisation please state:** APAGBI NAN-UK
General comments:	**Working Group Response:**
Specific comments: Excellent document. 1. There are many references to prescribing LOW dose opiates & providing the facility for boluses when required - this essentially describes the technique of NCA - Why not just call it that? 2. Weaning is an issue, but NCA protocols can be structured as to facilitate 'self-weaning' as the demand drops - I find it strange that this isn't mentioned 3. Regarding the section on managing post-operative pain- there should be a clear distinction made between the management of ventilated vs self-ventilating neonates. Continuous opiate infusions are appropriate post-op if the neonate remains ventilated. 4. This is a very comprehensive and very useful document. One small comment regarding 'pharmacological options'. There are a couple of 'pharmacological options tables' which include the option of topical local anaesthetic and suggest using LMX4 from 1 month (I assume this means 44 weeks CGA). Is there a reason this could not be EMLA, as in the BNFc EMLA can be used from 37weeks CGA. This could potentially allow topical analgesia in younger babies?"	Thank you for your comments 1. In neonatal units, decisions regarding the administration or titration of opioids are not made independently by nursing staff. Therefore, the term 'NCA' has not been used. 2. In neonates with complex need- weaning protocols are often individualised. Again, NCA is currently not applicable in neonates. 3. During post operative phase- management of pain takes precedence and it is common neonatal practice to not extubate until opioids has been weaned. If there is an ongoing requirement of opioid infusion, invasive ventilation is maintained 4. Removed brand names and made more generic. Added topical anaesthesia paragraph to indicate that some can be used from 37 weeks. Local formularies will give further information.

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Name: Anoo Jain	**If you are answering on behalf of an organisation please state:**
General comments:	**Working Group Response:**
Specific comments: Dear Framework team Thanks for taking the time and considerable effort to capture a huge topic in a clinical framework for our colleagues and patients. Some general suggestions/comments;	Thank you for your comments
1. Perhaps useful to consider a statement along the lines of use of terms noxious, stress, pain to describe the adverse reaction of newborn to necessary intervention but use pain throughout the document if appropriate	1. We have already highlighted this aspect in introduction section (para 4)
2. Pain scales - consider de-escalation of pain relief if scores are low - ie indicating over analgesia or sedative use	2. A sentence to this effect has been added
3. P16 - harmonise use of american (with a z) or english (with an s) spellings - in Post operative Management of pain - both used - check document.	3. This has been corrected
4. Is analgosedative a word that people understand - it was a new one to me	4. 'Analgosedative' is a recognised term that effectively encompasses the actions of opioids, alpha-2 agonists, and ketamine.
5. Can you define what prolonged use might be? You mention rotation after 3-4 weeks, does that mean consider rotation at this stage as I think most people would be considering this sooner (our PICU colleagues use 10-14 day rotations).	5. Usually, neonate starts to show a need for higher dosage in 3-4 weeks. This can occur earlier in some cases. If pain scores are high despite of being on high dose opioid an opioid rotation at this point would be recommended.
6. For me very useful to see what recommended doses of given agents are - could this be an appendix?	6. As this is a Framework for practice, formulary-specific applications have not been included, as these are expected to vary across local setting.
7. Youve carefully mentioned used of A2 agonists as an addition to opioid use. Then	7. That is correct, alpha-2 agonist are opioid sparing agents- hence opioids

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when weaning say wean the opioid first. Does that mean we would have a newborn infant on A2 agonists alone? This seems to be the 'guidance' we are told about from PICU Again well done for putting this together I recognise the work involved and am really grateful for you and the group for doing this	are weaned first then alpha-2 agonist. IV Alpha-2 agonist can be continued even if child is extubated.