SANDWICH Intervention Package

The SANDWICH intervention is a care bundle with four interrelated and interdependent components. Each component part is essential to the overall intervention, therefore delivering each component is equally important.

This intervention can be delivered alongside your PICU's usual sedation and ventilation weaning practices. If your PICU has a sedation weaning or ventilation weaning protocol, please continue to use these as you did before. The bottom line is that the four component parts of the SANDWICH STUDY are delivered in addition to any usual practice.

The components of the care bundle are:

- Regular sedation assessment using the COMFORT original/Comfort B score
- Twice daily assessment of readiness for a Spontaneous Breathing Trial (SBT)
- Conducting a Spontaneous Breathing Trial (if criteria met)
- Multidisciplinary ward round daily to discuss
    - Child's sedation score and sedation requirements
    - Set COMFORT original/ COMFORT B target for the shift
    - Result of the readiness for an SBT screen +/- outcome of SBT

1. There should be at least one daily multidisciplinary ward round.

WHO IS INVOLVED? This should include at least the nursing and medical disciplines, but may include other disciplines such as physiotherapy, pharmacy and dieticians according to usual practice in your PICU. Daily sedation and ventilation targets must be fed back to the child's bedside nurse and recorded on the daily bedside record (see Appendix 1 explained further in section 3).

WHERE SHOULD IT TAKE PLACE? The round may be conducted at the bedside or a meeting room according to usual practice in your PICU. If conducted in a meeting room without the bedside nurse, then a subsequent face to face discussion should take place at the child's bedside with the bedside nurse.

WHAT IS REVIEWED REGARDING SEDATION? The round must discuss sedation management for the child which should include reviewing:

- the current trends in COMFORT/B scores and the preceding 24 hours;
- the prescribed sedative regimen and number of additional boluses required to be administered;
- Setting the target COMFORT Original/COMFORT B score range in accordance with the child's condition and ventilation plans (see COMFORT original and COMFORT B target range and Titration guideline in Appendix 2).

WHAT IS REVIEWED REGARDING VENTILATION? The round must discuss ventilation management which should include reviewing:
the result of the readiness for SBT screen criteria and the child's ventilation status;
Ventilation targets or weaning goals for the next 12-24 hours.

Please **tick the ward round checklist** to indicate these have been reviewed (Appendix 3). Please **keep a copy** of the Ward Round checklist in the dedicated SANDWICH folder to allow the research nurse to retrospectively record these discussions were performed. The research nurse will destroy the checklists after entering the data into the electronic case report form.

2. Minimum 6-hourly measurement of sedation using COMFORT/B.

The child's bedside nurse should undertake sedation assessment using either the COMFORT Original (Appendix 4) or COMFORT B tool (Appendix 5). Scores should be documented according to usual practice in the PICU. Units not already using COMFORT as a sedation tool will receive education and training on the COMFORT Behavioural score.

The bedside nurse should **actively** titrate the sedation infusions and/or prescribed PRN sedation medications in accordance with usual PICU policy. This means both **increasing and decreasing** intravenous or enteral sedation **to achieve the COMFORT target range set on the daily ward round.**

3. Twice daily assessment of criteria for readiness to perform a Spontaneous Breathing Trial (SBT)

WHO DOES THIS? Bedside nurses should undertake daily assessment of five criteria that indicate potential readiness to undertake an SBT. Results should be discussed at daily ward rounds, but can also be fed back to senior staff at any time.

WHEN IS THIS ASSESSED? A minimum of twice per day (end of night shift and early afternoon).
Screen towards the end of the night shift. If the patient passes the SBT screen, discuss with senior staff to consider commencing the SBT prior to the morning handover. This will enable early discussion of the SBT outcome and extubation if the SBT is successful.
Screen in the early afternoon to allow sufficient time to proceed to an SBT and possible extubation before the evening handover.
A minimum of two screens per day should be completed, but readiness for an SBT status can be screened multiple times according to the child's condition.

WHAT ARE THE CRITERIA?
$FiO_2 \leq 0.45$
$SpO_2 \geq 95\%$ (or as appropriate to underlying condition)
PEEP ≤ 8
PIP ≤ 22
Cough present
These should be ticked on the bedside record sheet (Appendix 1).

IF ALL CRITERIA ARE MET? Inform a senior member of staff (e.g. senior nurse, shift leader, nurse weaner, ICU registrar or consultant as appropriate in your unit) and ask if an SBT should be conducted. The criteria indicate potential readiness for undertaking an SBT, but the criteria do not capture the full picture. There may be valid reasons why an SBT should not be performed yet – if this is the case, ask senior staff to **explain**

why as this will help with your learning process. Record the reasons why the child did not proceed to SBT on the bedside record sheet (Appendix 1).

4. Spontaneous Breathing Trial (SBT)

WHO DOES THIS? The SBT should be performed by an appropriately trained member of staff who is competent to do so in your PICU.

HOW IS THIS PERFORMED? The child's ventilator mode should be changed to provide a positive end expiratory pressure **(PEEP) of 5 cmH2O** and a **Pressure Support of 5 cmH2O (above PEEP).** The SBT can be conducted for up to two hours. During this time, observe the child for signs of tolerance.

In circumstances where it is planned for a patient to be maintained on non-invasive ventilation with a PEEP >5 cm H20 following extubation it would be ill-advised to decrease the level of PEEP pre-extubation to less than their usual or planned NIV settings. The SBT method for this category of patient will be to provide a patient specific **level of PEEP appropriate to their planned NIV PEEP setting** and a **Pressure Support of 5cm H20 (above PEEP).**

In sites where Drager ventilators are in use with the facility to activate Automatic Tube Compensation (ATC), please deactivate ATC on commencing the SBT for SANDWICH.

HOW DO I KNOW THE CHILD IS TOLERATING AN SBT? Monitor the child for signs of respiratory distress:

- Clinically significant increase in heart (above pre-SBT rates)
- Clinically significant increase in respiratory rate (above pre-SBT rates)
- Clinically significant increase in FiO2 requirement
- Signs of increased work of breathing
    - Use of accessory muscles- nasal flaring, tracheal tug, marked sternal/subcostal/ intercostal recession, head bobbing or asynchronous breathing
- Onset of sweating not in keeping with environmental conditions
- Apnoeic episodes
- Change to level of alertness

If the child shows signs of respiratory distress, request an immediate review by a senior member of staff. The child's ventilation settings should be increased to a level they feel will be tolerated. This may result in a return to the original pre-SBT settings, or may result in an increase of support that is still below the pre-SBT level. In this way speed of weaning is increased even in those who an SBT was not successful to the point of extubation. Once the child has stabilised record the result and duration of the SBT on the bedside record. A free text section is provided on the back of the checklist (Appendix 1) for relevant additional information you wish to record.

WHAT HAPPENS WHEN THE SBT IS TOLERATED? If the child is breathing spontaneously with no distress, inform a senior member of staff to discuss and consider a decision to extubate. There may be valid reasons why extubation should not be performed yet – if this is the case, ask senior staff to **explain why** as this will help with your learning process. Extubation should be performed according to usual PICU practice and policy. If extubation occurs, record the date and time on the bedside record. If extubation does not occur, record the reasons on the bedside record.

APPENDIX 1

Bedside Record Sheet- Double sided sheet with a free text section to the back. This will allow the ‘other’ category to be most accurately documented, and any additional notes the bedside nurse feels are appropriate in the decision making process but not reflected in the checklist.

Bedside Record Sheet

Insert Patient Sticker:

Minimum Spontaneous Breathing Trial (SBT) Screen: **<u>at least once</u>** during the **Day shift** & **<u>at least once</u>** during the **Night shift.**

Date																
Time of screen 24 HR clock	e.g. 0600 & 1300															
COMFORT Target for shift																
SpO2	Aim															
	≥___															
	<___															
FiO2	≤0.45															
	>0.45															
PIP	≤ 22															
	> 22															
PEEP	≤ 8															
	> 8															
COUGH	Y															
	N															
Fitness for SBT relayed to SENIOR staff	Y/N															
If suitable for SBT, was it carried out? If NO why? (enter number, see below)	Y/N															
SBT start time 24HR clock																
SBT finish time 24HR clock																
SBT successful?	Y/N															
If SBT successful, did patient extubate? If NO why? (enter number, see below)	Y/N															

Please use the following criteria to identify why a patient has not progressed to a Spontaneous Breathing trial if they meet the screening criteria <u>OR</u> if they have a successful Spontaneous Breathing Trial and do not progress to extubation.

<u>Failure to Commence SBT / Extubate Key</u>

1- Neuromuscular weakness
2- Low consciousness: sedation or neurological
3- Airway protection reasons: secretions, oedema
4- High haemodynamic support
5- Expected return to theatre
6- Limited staff resources
7- Too late in the evening
8- Other (please specify over)

Bedside Record Sheet

Insert Patient Sticker:

Date & Time	

APPENDIX 2

(**2a**) COMFORT Original Score Titration guide

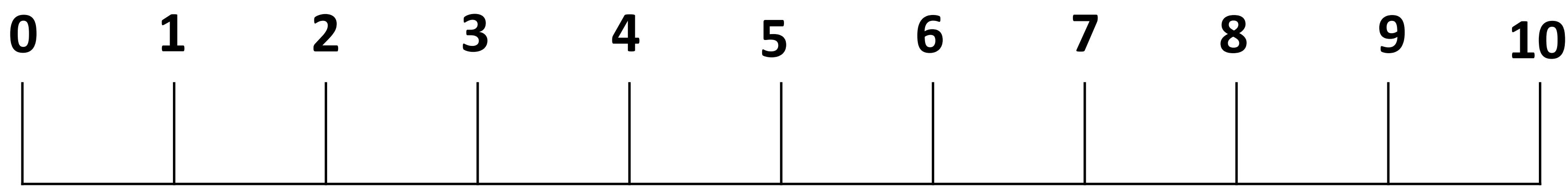
COMFORT Original Score Titration Guide

COMFORT Original Score

Score	NRS	Action
>26	NRS < 4	**Issue is SEDATION** Consider increasing/ adapting Sedation
>26	NRS > 4	**Issue is PAIN** Consider increasing/ adapting analgesia
18-25	NRS < 4	**Patient is comfortable**
14-17	NRS < 4	**Consider Weaning Sedation**
< 13		Patient is **OVER SEDATED** Wean Sedation

Nurse Reported Scale

Nurse reported pain score, can be replaced with appropriate alternative validated pain score e.g. FLACCS, FACES, CRIES, Patient Reported Score.



COMFORT Original Score Titration Guide

COMFORT Original Score

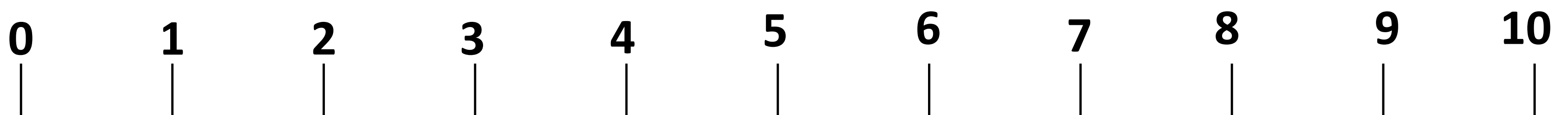
Score	Guidance
> 26	FLACCS < 4 **Issue is SEDATION** Consider increasing/ adapting Sedation
> 26	FLACCS > 4 **Issue is PAIN** Consider increasing/ adapting analgesia
18 - 25	FLACCS < 4 **Patient is comfortable**
14 - 17	FLACCS < 4 **Consider Weaning Sedation**
< 13	Patient is **OVER SEDATED** Wean Sedation

FLACCS Pain Score

FLACCS score can be replaced with appropriate alternative validated pain score e.g. FACES, CRIES, NRS, Patient Reported Score.

(Merkel et al. 1997)

RESPONSE	SCORE 0	SCORE 1	SCORE 2
FACE	No particular expression or smile	Occasional grimace or frown, withdrawn, uninterested	Frequent to constant quivering chin, clenched jaw
LEGS	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
ACTIVITY	Lying quietly, normal position, moves easily	Squirming, Shifting, back and forth, tense	Arched, rigid or jerking
CRY	No cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
CONSOLABILITY	Content, relaxed	Reassured by occasional touch, hug or being talked to- Distractible	Difficult to console or comfort



NO PAIN 0-1 | **MILD PAIN** 1-3 | **MODERATE PAIN** 4-7 | **SEVERE PAIN** 8-10

COMFORT Original Score Titration Guide

COMFORT Original Score

COMFORT Original Score	Assessment
> 26	AHTPS < 4 **Issue is SEDATION** Consider increasing/ adapting Sedation
> 26	AHTPS > 4 **Issue is PAIN** Consider increasing/ adapting analgesia
18 - 25	AHTPS < 4 **Patient is comfortable**
14 - 17	AHTPS < 4 **Consider Weaning Sedation**
< 13	Patient is **OVER SEDATED** Wean Sedation

Alder Hey Triage Pain Score

AHTPS score can be replaced with appropriate alternative validated pain score e.g. FACES, CRIES, NRS, Patient Reported Score.

(Stewart et al. 1995)

RESPONSE	SCORE 0	SCORE 1	SCORE 2
Cry / Voice	No complaint/ no cry	Consolable/ Not talking/ negative	Inconsolable/complaining of pain
Facial Expression	Normal	Short grimace <50% of time	Long Grimace >50% of time
Posture	Normal	Touching, rubbing, sparing	Defensive/Tense/ rigid/ arched
Movement	Normal	Reduced or restless	Immobile or Thrashing
Colour	Normal	Pale	Very Pale/ Green/Grey

0 1 2 3 4 5 6 7 8 9 10

NO PAIN	MILD PAIN	MODERATE PAIN	SEVERE PAIN
0-1	1-3	4-7	8-10

COMFORT Original Score Titration Guide

COMFORT Original Score 0-40	Action
>26	NICU PAT < 5 **Issue is SEDATION** Consider increasing/ adapting Sedation
>26	NICU PAT > 5 **Issue is PAIN** Consider increasing/ adapting analgesia
18-25	NICU PAT < 5 **Patient is comfortable**
14-17	NICU PAT < 5 **Consider Weaning Sedation**
< 13	Patient is **OVER SEDATED** Wean Sedation

NICU PAT Pain Score

Pain score, can be replaced with appropriate alternative validated pain score e.g. FACES, CRIES, NRS,FLACCS.

PHYSICAL	Posture/Tone	2- Flexed and/or Tense
		1- Extended
	Sleep Pattern	2- Agitated or withdrawn
		0- Relaxed
	Expression	2- Grimace
		1- Frown
	Cry	2- Yes
		0- No
	Colour	2- Pale/Dusky/ Flushed
		0- Pink
PHYSIOLOGICAL	Respirations	2- Apnoes
		1- Tachypnoea
	Heart Rate	2- Fluctuating
		1- Tachycardia
	Saturations	2- Desaturating
		0- Normal
	Blood Pressure	2-Hypotensive/ Hypertensive
		0- Normal
	Nurse Perceptions	2- Yes Pain
		0- No Pain

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

<5 = Nursing comfort measures >5 = Paracetamol & nursing comfort measures >10 = Paracetamol, opioid, nursing comfort measures, adjust dose of analgesia

COMFORT Original Score Titration Guide

COMFORT Original Score

Score		Action
> 26	→	**NIPS ≤ 2** **Issue is SEDATION** Consider increasing/ adapting Sedation
> 26	→	**NIPS ≥ 2** **Issue is PAIN** Consider increasing/ adapting analgesia
18 - 25	→	**NIPS ≤ 2** **Patient is comfortable**
14 - 17	→	**NIPS ≤ 2** **Consider Weaning Sedation**
< 13	→	Patient is **OVER SEDATED** Wean Sedation

NIPS Pain Score

NIPS score can be replaced with appropriate alternative validated pain score e.g. FLACCS, FACES, CRIES, NRS, Patient Reported Score.

Category	Score	Category	Score
Facial Expression	0- Relaxed (restful, neutral expression)	**Arms**	0- Relaxed (no random movements or rigidity)
	1- Grimace, furrowed brow, chin, jaw		1- Flexed/extended (tense straight arms, rigid &/or rapid extension)
Cry	0- No cry, quiet not crying	**Legs**	0- Relaxed (no random movements or rigidity)
	1- Whimper (mild moaning or intermittent)		1- Flexed/extended (tense straight arms, rigid &/or rapid extension)
	2- Vigorous cry (loud scream, shrill continuous)	**State of Arousal**	0- Sleeping/awake (quiet, peaceful, settled)
	2- Silent cry (based on facial movements if intubated)		1- Fussy (alert, restless & thrashing)
Breathing Pattern	0- Relaxed (usual pattern for infant)	**TOTAL SCORE:**	***Out of a maximum score of 7***
	1- Change in breathing (irregular, increased, gagging, breath holding)		

1	2	3	4	5	6	7
NO PAIN 0-1	MILD PAIN 2	MODERATE PAIN 3-4		SEVERE PAIN 5-7		

APPENDIX 2

(**2b**) COMFORT Behavioural Score Titration guide

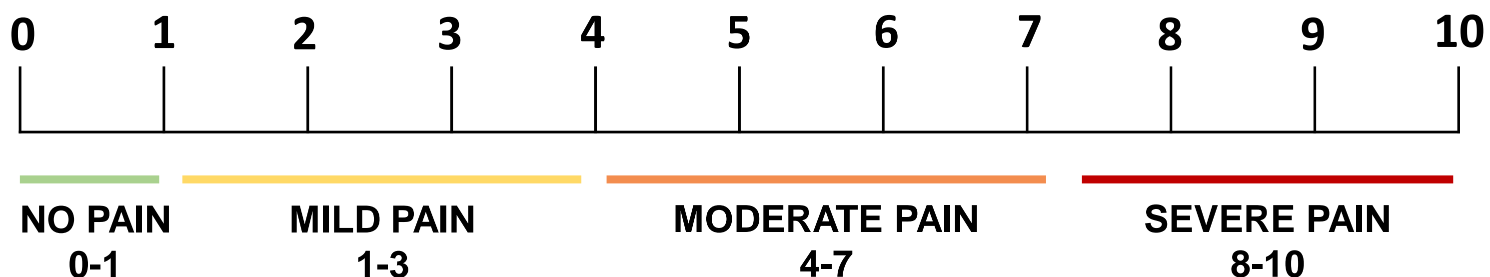
COMFORT Behavioural Score Titration Guide

COMFORT Behavioural Score 0-30

Score	Assessment
>17	NRS < 4 NISS < 2 **Issue is SEDATION** Consider increasing/ adapting Sedation
>17	NRS > 4 NISS ≥ 2 **Issue is PAIN** Consider increasing/ adapting analgesia
12- 17	NRS < 4 NISS ≤ 2 **Patient is comfortable**
10 – 12	NRS < 4 NISS ≥ 2 **Consider Weaning Sedation**
< 10	Patient is **OVER SEDATED** Wean Sedation

Nurse Reported Scale

Nurse reported pain score, can be replaced with appropriate alternative validated pain score e.g. FLACCS, FACES, CRIES, Patient Reported Score.



Nurse Interpreted Score for Sedation

1	2	3
UNDER SEDATED	ADEQUATELY SEDATED	OVER SEDATED
Agitated, Irritable actively fights vent	Lightly asleep, awake & relaxed	No response to ET suction or other procedure

Nurse interpreted level of sedation takes into account the bedside nurse expertise and normal behaviour or mannerisms as reported by parents/ guardians. Allows for interpretation to include emotional and neurodevelopmental factors.

COMFORT Behavioural Score Titration Guide

SANDWICH Sedation and Weaning in Children

COMFORT Behavioural Score

>17
- FLACCS < 4 NISS < 2 — **Issue is SEDATION** — Consider increasing/ adapting Sedation
- FLACCS > 4 NISS ≥ 2 — **Issue is PAIN** — Consider increasing/ adapting analgesia

12- 17
- FLACCS < 4 NISS ≤ 2 — **Patient is comfortable**

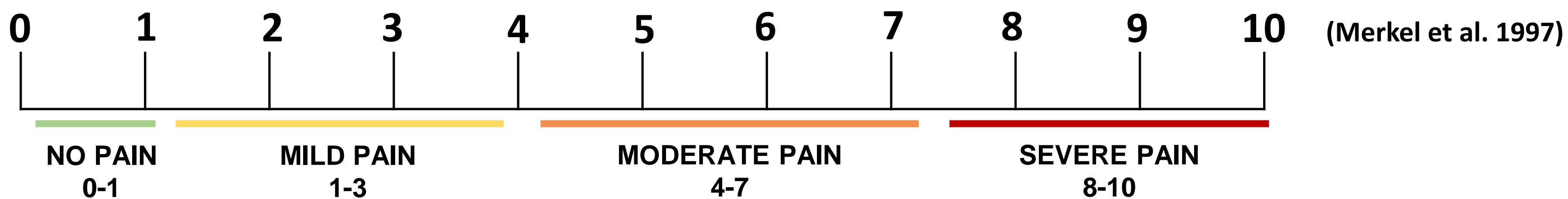
10 – 12
- FLACCS < 4 NISS ≥ 2 — **Consider Weaning Sedation**

< 10
- Patient is **OVER SEDATED** — Wean Sedation

FLACCS Pain Score (0-10)

Pain score, can be replaced with appropriate alternative validated pain score e.g. FACES, CRIES, Patient Reported Score. FLACCS of 4 or more is sufficient pain level to require intervention.

RESPONSE	SCORE 0	SCORE 1	SCORE 2
FACE	No particular expression or smile	Occasional grimace or frown, withdrawn, uninterested	Frequent to constant quivering chin, clenched jaw
LEGS	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
ACTIVITY	Lying quietly, normal position, moves easily	Squirming, Shifting, back and forth, tense	Arched, rigid or jerking
CRY	No cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
CONSOLABILITY	Content, relaxed	Reassured by occasional touch, hug or being talked to- Distractible	Difficult to console or comfort



Nurse Interpreted Score for Sedation

1	2	3
UNDER SEDATED	ADEQUATELY SEDATED	OVER SEDATED
Agitated, Irritable actively fights vent	Lightly asleep, awake & relaxed	No response to ET suction or other procedure

Nurse interpreted level of sedation takes into account the bedside nurse expertise and normal behaviour or mannerisms as reported by parents/ guardians. Allows for interpretation to include emotional and neurodevelopmental factors.

Comfort B FLACCS POSTER v3.0 FINAL 3rd December 2018

COMFORT Behavioural Score Titration Guide

SANDWICH

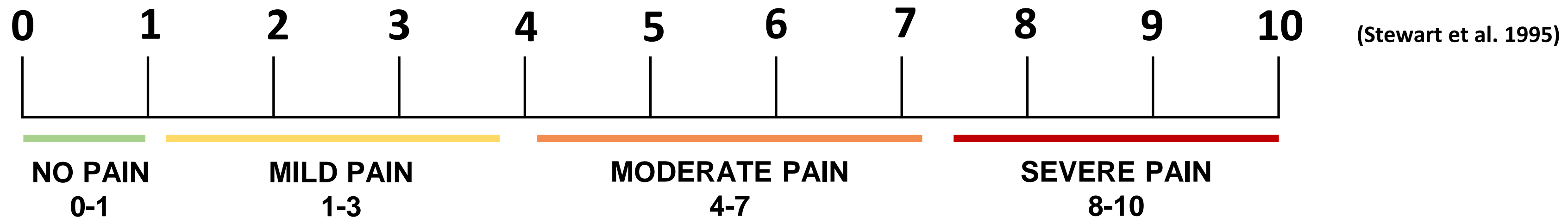
COMFORT Behavioural Score

Score	Guidance
>17	AHTPS < 4 NISS < 2 **Issue is SEDATION** Consider increasing/ adapting Sedation
>17	AHTPS > 4 NISS ≥ 2 **Issue is PAIN** Consider increasing/ adapting analgesia
12- 17	AHTPS < 4 NISS ≤ 2 **Patient is comfortable**
10 – 12	AHTPS < 4 NISS ≥ 2 **Consider Weaning Sedation**
< 10	Patient is **OVER SEDATED** Wean Sedation

Alder Hey Triage Pain Score (0-10)

Pain score, can be replaced with appropriate alternative validated pain score e.g. FACES, CRIES, Patient Reported Score. AHTPS of 4 or more is sufficient pain level to require intervention.

RESPONSE	SCORE 0	SCORE 1	SCORE 2
Cry / Voice	No complaint/ no cry	Consolable/ Not talking/ negative	Inconsolable/complaining of pain
Facial Expression	Normal	Short grimace <50% of time	Long Grimace >50% of time
Posture	Normal	Touching, rubbing, sparing	Defensive/Tense/ rigid/ arched
Movement	Normal	Reduced or restless	Immobile or Thrashing
Colour	Normal	Pale	Very Pale/ Green/Grey



Nurse Interpreted Score for Sedation

1	2	3
UNDER SEDATED	ADEQUATELY SEDATED	OVER SEDATED
Agitated, Irritable actively fights vent	Lightly asleep, awake & relaxed	No response to ET suction or other procedure

Nurse interpreted level of sedation takes into account the bedside nurse expertise and normal behaviour or mannerisms as reported by parents/ guardians. Allows for interpretation to include emotional and neurodevelopmental factors.

SANDWICH
Sedation and Weaning in Children

COMFORT Behavioural Score Titration Guide

COMFORT Behavioural Score

>17

- FACES < 4 NISS < 2
  Issue is SEDATION
  Consider increasing/ adapting Sedation
- FACES > 4 NISS ≥ 2
  Issue is PAIN
  Consider increasing/ adapting analgesia

12- 17

- FACES < 4 NISS ≤ 2
  Patient is comfortable

10 – 12

- FACES < 4 NISS ≥ 2
  Consider Weaning Sedation

< 10

- Patient is **OVER SEDATED**
  Wean Sedation

FACES Pain Score (0-10)

Faces pain score is suitable for children 3years and over who can self report their pain. Point to each face describing the pain intensity then ask the child to point to the face that best describes their pain.
FACES of 4 or more is sufficient pain level to require intervention.

(Wong & Baker, 1988)

Nurse Interpreted Score for Sedation

1	2	3
UNDER SEDATED	ADEQUATELY SEDATED	OVER SEDATED
Agitated, Irritable actively fights vent	Lightly asleep, awake & relaxed	No response to ET suction or other procedure

Nurse interpreted level of sedation takes into account the bedside nurse expertise and normal behaviour or mannerisms as reported by parents/ guardians. Allows for interpretation to include emotional and neurodevelopmental factors.

COMFORT Behavioural Score Titration Guide

COMFORT Behavioural Score

Score	Guidance
>17	CRIES < 4 NISS < 2 **Issue is SEDATION** Consider increasing/ adapting Sedation
>17	CRIES > 4 NISS ≥ 2 **Issue is PAIN** Consider increasing/ adapting analgesia
12- 17	CRIES < 4 NISS ≤ 2 **Patient is comfortable**
10 – 12	CRIES < 4 NISS ≥ 2 **Consider Weaning Sedation**
< 10	Patient is **OVER SEDATED** Wean Sedation

CRIES Pain Score (0-10)

Pain score, can be replaced with appropriate alternative validated pain score e.g. FACES, FLACCS, Patient Reported Score.
CRIES of 4 or more is sufficient pain level to require intervention.

RESPONSE	SCORE 0	SCORE 1	SCORE 2
Cry	No cry or cry which is not high pitched	High pitched cry but consolable	High pitched cry and inconsolable
Requires 0_2 to maintain SaO_2 >95%	No	Requiring O_2 <30%	Requiring O_2 >30%
Increased vital signs	Heart rate & blood pressure +/- 10% baseline	10-20% increase in heart rate or blood pressure	>20% increase in heart rate or blood pressure
Expression	Neutral	Grimace	Grimace / grunt
Sleeplessness	No	Wakes frequently	Constantly awake

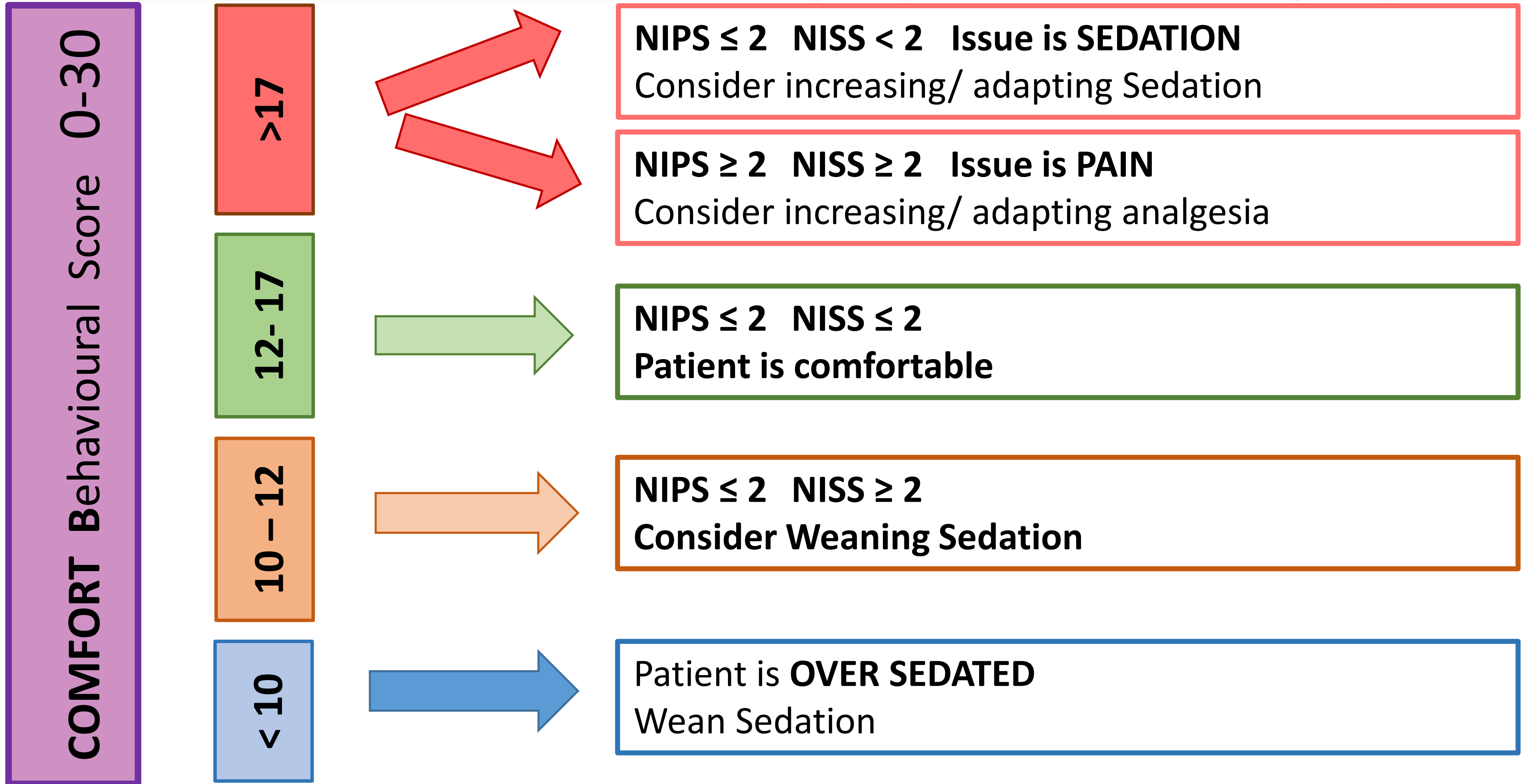
(Krechel & Bildner, 1995)

Nurse Interpreted Score for Sedation

1	2	3
UNDER SEDATED	ADEQUATELY SEDATED	OVER SEDATED
Agitated, Irritable actively fights vent	Lightly asleep, awake & relaxed	No response to ET suction or other procedure

Nurse interpreted level of sedation takes into account the bedside nurse expertise and normal behaviour or mannerisms as reported by parents/ guardians. Allows for interpretation to include emotional and neurodevelopmental factors.

COMFORT Behavioural Score Titration Guide



NIPS Pain Score 0-7

NIPS score can be replaced with appropriate alternative validated pain score e.g. FLACCS, FACES, CRIES, NRS, Patient Reported Score.

Category	Score
Facial Expression	0- Relaxed (restful, neutral expression)
	1- Grimace, furrowed brow, chin, jaw
Cry	0- No cry, quiet not crying
	1- Whimper (mild moaning or intermittent)
	2- Vigorous cry (loud scream, shrill continuous)
	2- Silent cry (based on facial movements if intubated)
Breathing Pattern	0- Relaxed (usual pattern for infant)
	1- Change in breathing (irregular, increased, gagging, breath holding)

Category	Score
Arms	0- Relaxed (no random movements or rigidity)
	1- Flexed/extended (tense straight arms, rigid &/or rapid extension)
Legs	0- Relaxed (no random movements or rigidity)
	1- Flexed/extended (tense straight arms, rigid &/or rapid extension)
State of Arousal	0- Sleeping/awake (quiet, peaceful, settled)
	1- Fussy (alert, restless & thrashing)
TOTAL SCORE:	*Out of a maximum score of 7*

1	2	3	4	5	6	7
NO PAIN	MILD PAIN	MODERATE PAIN		SEVERE PAIN		

Nurse Interpreted Score for Sedation

1	2	3
UNDER SEDATED	ADEQUATELY SEDATED	OVER SEDATED
Agitated, Irritable actively fights vent	Lightly asleep, awake & relaxed	No response to ET suction or other procedure

Nurse interpreted level of sedation takes into account the bedside nurse expertise and normal behaviour or mannerisms as reported by parents/ guardians. Allows for interpretation to include emotional and neurodevelopmental factors.

APPENDIX 3

Ward round generic checklist **OR** unit specific checklist adapted to include SANDWICH specific questions.

Most Units already utilise a ward round checklist or format. In this section we will ask permission to adapt their checklist to include two new criteria

What is the target range for COMFORT/COMFORT B today?
Was the Spontaneous Breathing Trial (SBT) screen criteria reviewed and discussed?

The Ward Round Checklist must be completed on every ward round for each ventilated patient enrolled in the trial. Once completed the checklist (generic or unit specific) should be stored in a dedicated folder for the Research Nurse. The research nurse will destroy the paper copy of the ward round checklist using an appropriate method once he/she has completed data collection for that day.

Ward Round Checklist

Spontaneous Breathing Trial Screen Criteria:
- FiO2 ≤ 0.45
- SpO2 ≥ 95% (or as appropriate to underlying condition)
- PEEP ≤ 8
- PIP ≤ 22
- Cough present

DATE & TIME: ______________________________

PATIENT NAME										
Was COMFORT trend discussed?										
COMFORT target for next 24 hours?										
Was Ventilation goal/target discussed?										
Spontaneous Breathing Trial Screen reviewed?										

DATE & TIME: ______________________________

PATIENT NAME										
Was COMFORT trend discussed?										
COMFORT target for next 24 hours?										
Was Ventilation goal/target discussed?										
Spontaneous Breathing Trial Screen reviewed?										

Ward Round Checklist

Spontaneous Breathing Trial Screen Criteria:

- $FiO_2 \le 0.45$
- $SpO_2 \ge 95\%$ (or as appropriate to underlying condition)
- PEEP ≤ 8
- PIP ≤ 22
- Cough present

DATE & TIME: ______________________________

PATIENT NAME										
Was COMFORT trend discussed?										
COMFORT target for next 24 hours?										
Was Ventilation goal/target discussed?										
Spontaneous Breathing Trial Screen reviewed?										

DATE & TIME: ______________________________

PATIENT NAME										
Was COMFORT trend discussed?										
COMFORT target for next 24 hours?										
Was Ventilation goal/target discussed?										
Spontaneous Breathing Trial Screen reviewed?										

APPENDIX 4

COMFORT Original Score

Bedside Record Sheet- Double sided sheet with a free text section to the back. This will allow the bedside nurse the opportunity to comment on specific COMFORT scores calculated and actions taken as he/she feels necessary.

ICU COMFORT SCORE

Insert Patient Sticker:

Time & Date of Assessment																	
Alertness	1 - Deeply asleep (eyes closed, no response to changes in environment)																
	2- Lightly asleep (eyes mostly closed, occasional responses)																
	3 - Drowsy																
	4 - Awake & alert																
	5 - Awake & hyper-alert																
Calm/Agitation	1 – Calm																
	2 - Slightly anxious																
	3 – Anxious																
	4 - Very anxious																
	5 – Panicky																
Respiratory Response	1 - No spontaneous respiration, no cough																
	2 - Spontaneous breathing no resistance to ventilator																
	3 – occasional cough or resistance to ventilator																
	4 - Actively breathes against ventilator or coughs																
	5 - Fights ventilator coughing or choking																
Physical Movement	1 - No movement																
	2- Occasional (three or fewer) slight movements																
	3 - Frequent, (> 3) slight movements																
	4 - Vigorous movements limited to extremities																
	5 - Vigorous movements include torso & head																
Blood Pressure MAP	1-BP below baseline																
Baseline	2- BP consistently at baseline																
BP MAP :______________	3- Infrequent elevation of >15% (1-3 times)																
BP MAP >15% :_________	4- Infrequent elevation of >15% (more than 3 times)																
BP MAP <15% :_________	5- Sustained elevation of >15%																
Heart Rate Baseline	1- Heart rate below baseline																
Base HR: __________	2- Heart rate consistently at baseline																
HR >15%: __________	3- Infrequent elevation of >15% (1-3 times)																
HR <15%: __________	4- Infrequent elevation of >15% (more than 3 times)																
	5- Sustained elevation of >15%																
Muscle Tone	1 - Muscles totally relaxed; no muscle tone																
	2 - Reduced muscle tone; less than normal																
	3 - Normal muscle tone																
	4 - ↑ muscle tone & flexion of fingers & toes																
	5 - Extreme muscle rigidity & flexion of fingers & toes																
Facial Muscles	1 - Facial muscles totally relaxed																
	2 - Normal facial tone																
	3 - Tension evident in some muscles (not sustained)																
	4 - Tension evident throughout muscles (sustained)																
	5 - Facial muscles contorted & grimacing																
Comfort Score																	
Pain Score: Numeric Rating Scale (0 = no pain 10 = worst possible pain)																	
Observer Signature																	

ICU COMFORT SCORE

Insert Patient Sticker:

ADDITIONAL NOTES AS REQUIRED

Time & Date	

APPENDIX 5

COMFORT B Score

Bedside Record Sheet- Double sided sheet with a free text section to the back. This will allow the bedside nurse the opportunity to comment on specific COMFORT scores calculated and actions taken as he/she feels necessary.

COMFORT Behavioural Score

Insert Patient Sticker:

Date Time															
Alertness	1 - Deeply asleep (eyes closed, no response to changes in environment)														
	2 - Lightly asleep (eyes mostly closed, occasional responses)														
	3 - Drowsy (etc)														
	4 - Awake & alert etc														
	5 - Awake & hyper-alert etc														
Calmness/ Agitation	1 – Calm														
	2 - Slightly anxious														
	3 – Anxious														
	4 - Very anxious														
	5 – Panicky														
Respiratory Response *(Use for mechanically ventilated patients only)*	1 - No spontaneous respiration														
	2 - Spontaneous & ventilator respiration														
	3 - Restless or resistance to ventilator														
	4 - Actively breathes against ventilator or coughs														
	5 - Fights ventilator														
Crying *(Use for spontaneous breathing patients only)*	1 Quiet breathing, no crying														
	2 - Occasional sobbing/ moaning														
	3 - Whining														
	4 - Crying														
	5 - Screaming or shrieking														
Physical Movement	1 - No movement														
	2 - Occasional (three or fewer) slight movements														
	3 - Frequent, (> 3) movements														
	4 - Vigorous movements limited to extremities														
	5 - Vigorous movements include torso & head														
Muscle Tone	1 - Muscles totally relaxed; no muscle tone														
	2 - Reduced muscle tone; less than normal														
	3 - Normal muscle tone														
	4 - ↑ muscle tone & flexion of fingers & toes														
	5 - Extreme muscle rigidity & flexion of fingers & toes														
Facial Tension	1 - Facial muscles totally relaxed														
	2 - Normal facial tone														
	3 - Tension evident in some muscles (not sustained)														
	4 - Tension evident throughout muscles (sustained)														
	5 - Facial muscles contorted & grimacing														
Comfort Score															
COMFORT Target Score															
Pain Score: Numeric Rating Scale (0 = no pain 10 = worst possible pain)															
Sedations Score : Nurse Interpreted Sedation Score (1= under sedated 2= adequate 3= over sedated)															
Observer Signature															

Produced with permission of M.van Dijk & Temple Street Children's University Hospital ICU/ Pain Control Team.
COMFORT B Score v3.0 Final 29th March 2018

COMFORT Behavioural Score

SANDWICH
Sedation and Weaning in Children

Insert Patient Sticker:

ADDITIONAL NOTES AS REQUIRED

Time & Date	