

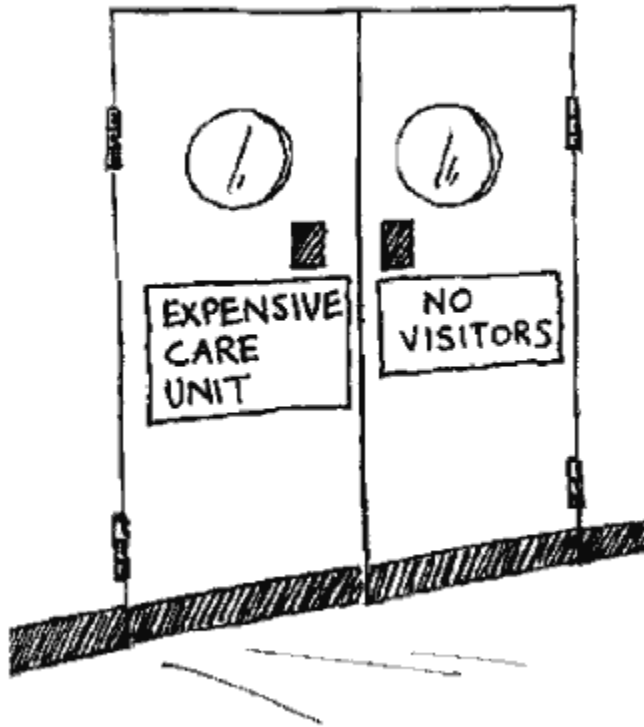
The Adult Non-Verbal Pain Score (ANVPS)

(Adapted by Lindsay Kirwan with permission from Strong Memorial Hospital, University of Rochester)

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Introduction



- The use of behavioural pain assessment tools in sedated mechanically ventilated patients
- Modification of the Adult Non-verbal Pain Score
- Implications for nursing practice

Aims & Objectives

- Necessity for pain assessment
- Pain assessment tools for critically ill patients
- Assessment of pain in the ICU

Why use behavioural & physiological indicators in ICU?

- Lack of patients self-report
- Subjective pain assessment tools generally inadequate
- Identified gap in clinical practice
- Critically ill patients experience moderate to severe pain in the ICU justifying the need to modify a suitable pain assessment tool



Behavioural & physiological signs of pain

- *Body posture e.g. guarding, tenseness
- *Distressed facial expression e.g. grimacing, frowning, wrinkling forehead, muscle contraction of eyes/mouth, crying
- *Ventilator non-compliance (Cheever 1999, Payen et al 2001)
- *Changes in vital signs < > HR, BP, SV, RR
- *Dilated pupils. Pallor, diaphoresis, tearing
- *Tachycardia, arrhythmias, <CO, >afterload & elevated CVP/PACWP
- <SpO₂, ABG readings
- >ICP, <cerebral perfusion (Gelinas et al 2004)

Reliability?

- Current evidence supports use of behavioural/physiological indicators (Payen et al 2001, Puntillo et al 1997)
- Changes in physiological variables non-specific to nociceptive stimulation (Young et al 2005)

Adaptation of the behavioural pain assessment tool

- Comprehensive literature review
- 15 studies identified in two consecutive literature searches
- Permission & support gained from R&D dept, ICU lead clinician, Pain consultant and CNS, Senior staff ICU, and study authors
- Odhner et al (2003) *Adult non-verbal pain scale* chosen for modification

Reasons for selection

- Simplicity, minimal modification required
- Intended for sole use of Level 3 sedated mechanically ventilated patients
- Scoring system paralleled the 0-10 VNRS currently used throughout the Trust
- Ability to stand alongside the ICU Ventilator Care Bundle
- Proven validity and reliability

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0-10 Verbal Numerical Pain Score (VNRS)

- 0 No pain
- 1-3 Mild pain
- 4-7 Moderate pain
- 8 -10 Severe Pain

OR

0 being “no pain at all” and 10
being “the worst pain
imaginable”



So tell me, what is
your pain on a scale
of 1 - 10?



Intensive Care Unit (ICU)
The Adult Non-Verbal Pain Score (ANVPS)

What is the ANVPS?

The ANVPS is a behavioural pain scale specifically designed for sedated, mechanically ventilated patients nursed in an intensive care unit (ICU). These patients are unable to subjectively rate their pain using the traditional 0 - 10 verbal numerical rating score (VNRS). The ANVPS therefore assesses pain objectively by using research-validated behaviours and physiological signs to indicate whether the patient is experiencing pain.

How to use the ANVPS

Using the ICU sedation score should help indicate the patient's level of sedation and appropriateness to answer simple questions. It is possible that the patient would be aware enough to indicate/confirm their pain score or use an alternative method such as squeezing your hand to count the pain score out. Wherever possible, the patient should rate their own pain intensity before using the ANVPS. Use the traffic light systems on the algorithm to decide if this is possible. If not, assess the patient using the ANVPS to rate the patient's score, and total each category. There are five areas to assess:

1. Facial expression
2. Activity/movement
3. Guarding
4. Vital signs
5. Respiratory function

Each box has a score from 0-2; the totalled score will indicate if the pain is mild, moderate or severe. If uncertainty exists, regarding which number to score it is advisable, as a precaution, to score the higher number. Return to the algorithm and follow the guidelines liaising with the anaesthetist as appropriate - particularly regarding baseline parameters for vital signs, thereby maintaining early analgesic intervention.

Intensive Care Unit (ICU) The Adult Non-Verbal Pain Score (ANVPS)

It is important to remember that most of the identified behavioural and physiological signs on the ANVPS observed in critically ill patients often arise for reasons other than pain. For example, using inotropes will elevate vital signs. Maintain a high level of suspicion as this does not necessarily mean that the patient is not in pain and **opioids should always be titrated first before increasing sedation infusions.**

Begin an opioid infusion at the earliest possible opportunity; the ultimate goal is to diminish pain before the severity increases. The use of other analgesics, such as paracetamol, will also help to decrease the amount of opioid and sedation required. Consultation with the anaesthetists regarding non-steroidal anti-inflammatory drugs (NSAID's) is also worthy of consideration depending on the patient's pre-existing and current medical history.

Following the algorithm, try to maintain the patient's pain score at less than four. Once achieved continue to monitor pain scores four-hourly on the ICU observation chart, returning to the VNRS as soon as the patient can self-report their pain score either verbally or non-verbally.

References:

Odhner, M. Wegman, D. Freeland, N. Steinmetz, A. and Ingersoll, G. L. (2003) Assessing Pain Control in Nonverbal Critically Ill Patients ***Dimensions of Critical Care Nursing*** Vol 22: No 6: pp 260-267

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Intensive Care Unit (ICU)

Adult Non-verbal Pain Score (ANVPS)

Specific preconditions for use: *Level 3 mechanically ventilated sedated patients who are:*

- >16 years old
- post-operative ≥ 24 hours
- unable to use a Verbal Numerical Rating Score (VNRS)

Categories	0	1	2
Facial expression	No particular expression or smile	Occasional grimace, frown	Frequent grimacing, frowning or crying
Activity/movement	Laid quietly, normal position	Seeks attention through movement, slow cautious movements	Restless, excessive activity and/or withdrawal reflexes
Guarding	No positioning of hands over specific areas of body	Slight to moderate tenseness	Rigid/stiff
Vital Signs	Vital signs within individual patient's baseline parameters as set by Anaesthetist	Changes in last 4 hours: <ul style="list-style-type: none"> • SBP > 20mmHg • HR >20bpm 	Changes in last 4 hours: <ul style="list-style-type: none"> • SBP> 30mmHg • HR> 30bpm
Respiratory function	Tolerating ventilation	Mild asynchrony with ventilator / coughing	Severe asynchrony with ventilator

Abbreviations

- HR: Heart rate (beats per minute)
- SBP: Systolic Blood Pressure (mm mercury)
- R/M: Rest/Movement

Score each category 0- 2 to score a total out of 10

- Score 0 (no pain)
- Score 1-3 (mild pain)
- Score 4-7 (moderate pain)
- Score 8-10 (severe pain)

(Refer to algorithm and monitor every 4 hours minimum at R/M)

Consider pre-existing haemodynamic status, inadequate sedation, fluid depletion, and use of muscle relaxation when evaluating pain scores and liaise with medical staff accordingly. Increase analgesia if ANVPS is >3, aim to diminish pain before severity increases.

*** NB Concentrate on titrating opioids first NOT sedation***

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Implications for nursing practice

- Role of advocate
- Using a pain assessment tool helps formulate treatment decisions (Puntillo et al 2002)
- Behavioural pain assessment tools now acknowledged as useful facilitators of proxy pain assessments (Young et al 2005)
- Acknowledgement of pain as 5th vital sign (Blenkharn et al 2002)

The way forward using the K.I.S.S system

Get the basics right

- Pain scores now printed on ICU observation chart
- Pain assessment and equipment information compiled in one folder at each desk
- Encouragement of use of analgesia before commencement of sedation
- Minimum of four hourly observation of pain score recorded on ICU or MEWS chart using any pain assessment tool



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Intensive Care Unit

PAIN ASSESSMENT TOOLS

Level 3 Sedated mechanically ventilated patients

- Assess the patient's sedation score.
- If the patient is only lightly sedated and can indicate by some method their pain score e.g. squeezing your hand use the 0 - 10 Verbal Numerical Rating Score (VNRS) and categorise as follows:

0 No pain
1-3 Mild pain
4-7 Moderate pain
8-10 Severe pain

- If this is unsuitable, try the Visual Analogue Scale (VAS) overleaf.
- If the patient is unable to communicate their pain score by any means follow the Adult Non-Verbal Pain Score (ANVPS) algorithm located in the pain information file situated at each patient's desk.
- Document the patient's pain score on the ICU observation chart alongside the sedation score.

Level 3 Non-sedated mechanically ventilated patients

- Use the 0 -10 Verbal Numerical Rating Score (VNRS) explaining that 0 is "no pain at all" and 10 is "the worst pain imaginable" to help the patient identify their own pain score:

0 No pain
1-3 Mild pain
4-7 Moderate pain
8-10 Severe pain

- If the patient is unsuccessful at providing a pain score try using the Visual Analogue Scale (VAS) overleaf.
- If the above methods fail, use the Adult Non-Verbal Pain Score (ANVPS) algorithm.
- **Remember** to continue assessing the patient for the ability to self-report their own pain score returning to the VNRS at the earliest opportunity.
- Document the patient's pain score on the ICU observation chart.

Level 2 or 3 patients who are awake and able to verbalise their own pain score

- Use the 0 -10 Verbal Numerical Rating Score (VNRS) to assess the patient's pain as indicated previously:

0 No pain
1-3 Mild pain
4-7 Moderate pain
8-10 Severe pain

- For some patients using the Visual Analogue Scale overleaf can help them determine their pain score.
- For Level 2 patients record the pain score on the patient's Adult Patient Observation Chart every four hours minimum.
- For patients using Patient Controlled Analgesia (PCA) /Epidural infusions assess the pain score as indicated on the forms, documenting these on the PCA form for patients using PCA and the Adult Patient Observation Chart for patients using Epidural infusions along with the patient's vital signs.

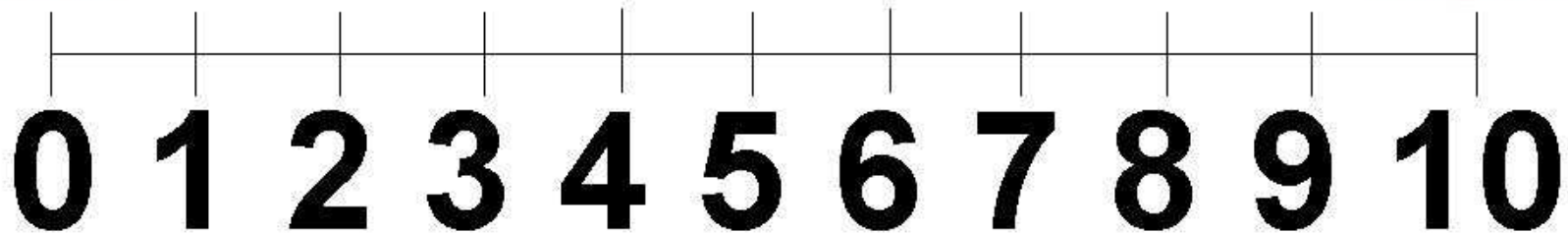
Point to a number to help us assess your pain

**0 being “no pain at all” and
10 being “the worst pain imaginable”**



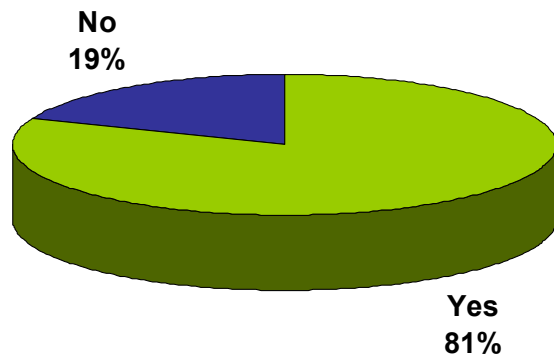
**No pain
at all**

**Worst pain
imaginable**

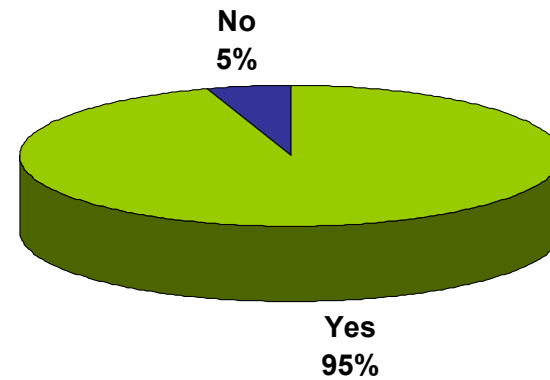


Audit 2008

Do you use the Adult Non-Verbal Pain Score?



Do you find it easy to use?



Audit 2008

Is there anything that you find particularly useful with the tool?

- **Able to assess whether patient is in pain or discomfort and act accordingly i.e. give extra analgesia**
- **Easy to follow**
- **Easy to understand**
- **Flow chart easy to use**
- **Flow chart helps**
- **I like the simplicity whilst achieving a good outcome**
- **It is useful to have parameters flow chart easy to follow**
- **It is very informative, easy to use for ventilated patients**

For the future

- Rolling programme of staff education
- Involvement of patients visitors, information poster sited in visitors room
- Need for continuity therefore cross-site implementation



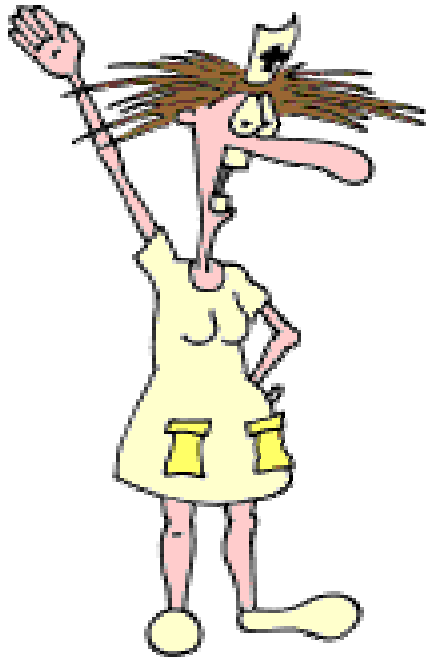
Remember

*“Because I am here and am supplied by my friends with the necessary means, he can be saved, like those who came before him in the same condition and those who will come after him, whilst otherwise he would have fallen victim to the torture. This does not mean merely that I can save his life. We must all die. But that I can save him from days of torture, that is what I feel as my great and ever new privilege. **Pain is a more Terrible Lord of Mankind than Death itself.**”*

(Albert Schweitzer 1932)

Any Questions?

Any hospital wishing to modify or
copy the Scale please contact:



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Thank you for listening

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