Acute Pain Management Measurement Toolkit

Victorian Quality Council
February 2007
The Acute Pain Management Measurement Toolkit (APMMT) has been developed by the Victorian Quality Council (VQC) to assist health services to measure the effectiveness of acute pain management at the individual patient level and at a wider system level. The toolkit has the potential for creating benchmarking of acute pain management at a statewide level. It is hoped that consistent and effective measurement of acute pain at all levels will result in improvements in the timeliness and effectiveness of patient treatment, as well as in a reduction of adverse events, thus improving the quality of patient care and clinical outcomes.

The project to develop the APMMT consisted of a number of stages:
- literature review
- hospital site visits and consultation
- development of toolkit.

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1. Introduction

It is an unfortunate fact that 25 to 50 per cent of patients in Australian hospitals experience at least one episode of moderate to severe pain during their hospital stay. Although these figures depend on the population surveyed, inadequate pain relief has been a consistent observation over the last 20 years, despite significant improvements in the understanding of acute pain and options for acute pain management. This failure stems from a number of causes, as has been investigated by many groups including the National Institute for Clinical Studies (NICS).
A number of consistent themes repeatedly emerge from investigation into inadequate pain management in hospitalised patients. NICS describes the major systemic deficiencies as ‘gaps in practice’ and ‘barriers to effective pain management’ at the level of the patient, the clinician and the system. The Australian and New Zealand College of Anaesthetists (ANZCA) Faculty of Pain Medicine has developed a Statement of Rights to Pain Management directed at these issues. These patient rights include:

- education about effective pain management options
- appropriate assessment and management of pain
- the results of assessment regularly recorded to facilitate ongoing care
- care by health professionals with appropriate training and experience
- effective pain management strategies supported by appropriate policies and procedures.

Without an ability to appropriately measure the intensity of pain and the quality of pain relief, many of these goals cannot be realised. Although it seems self-evident, it needs to be recognised that analgesic treatments must be adjusted to individual patient needs and this can only be achieved by using relevant tools. This is usually by some sort of pain score, most commonly derived from the patient’s subjective rating. This is appropriate because pain is a subjective experience. However, unless such a score is derived carefully, it may provide misleading information to the clinician and will not be reproducible over time or from patient to patient. For pain scoring to be used to guide clinical care, or to assess quality of management as an outcome measure, it needs to done in a way that is effective for the individual patient to use and meaningful to the clinician.

The VQC undertook the development of a multi-level system Acute Pain Management Measurement Toolkit (APMMT) that has been designed to provide resources at:

- the patient level
- the system (institution/health administration) level.

For an APMMT to work effectively, it needs to operate at these two levels. Patient-level pain measurement needs to be performed consistently and in a manner that lends itself to further analysis. Such measurement needs to include pain scores, interventions, outcomes and adverse or unintended events. The system level addresses the larger picture of the effectiveness of acute pain management within an organisation. This is achieved through the collation and analysis of aggregated patient-level data.

The APMMT addresses the need for a range of measurement and analysis tools appropriate for the diverse needs of pain assessment, and the evaluation of quality of pain management from an individual to an institutional level.

### 1.1 Acute pain management measurement

The use of a pain measurement tool enables staff to identify a patient’s current level of pain. This helps to:

- decide on appropriate intervention
  - no change if current therapy is working effectively to relieve pain
  - action where unacceptable pain is present.
- enable prioritisation
  - triage (emergency department)
  - review frequency of observations required
  - need for consultation by senior/more skilled clinicians.

Documentation of the level of pain also provides:

- a record of assessment
- an indication of a change in the patient’s condition
- a potential source of information regarding quality of care.

The APMMT’s key features are:

- subjective rating of the patient’s pain at rest and with movement, deep breathing or coughing
- objective assessment of whether the patient’s level of pain control was sufficient to enable appropriate activity to be undertaken relative to their condition
- a reliable scaling system
- simplicity and acceptability.
2. Subjective measures

The features of several subjective scoring tools are described on the following pages. It is important that the tool is selected on the basis of the patient’s individual needs. Where possible, the same assessment tool should be used throughout the patient’s admission. It is important to document the tool selected to ensure consistency.
All the subjective pain-scoring tools described utilise a rating from 0 to 10.

2.1 Visual analogue scale

Description
The visual analogue scale (VAS) is a horizontal line, typically 10 cm in length, anchored by textual descriptors and/or pictures at each end (Figure 1). An endpoint descriptor such as ‘no pain’ (a score of 0) is marked at the left end, and ‘worst pain imaginable’ or ‘worst possible pain’ (a score of 10) is marked at the right end. The patient is asked to indicate a point along the line that represents their perception of their pain. The VAS score out of 10 is determined by measuring the distance in cm from the left end of the line to the point that the patient indicates.

Figure 1. Horizontal visual analogue scale

The VAS may be applied by:
- using pen and paper, the patient places a line on the printed scale
- using a hand-held ‘ruler’ with a slider that can be positioned between the anchor points
- pointing a finger at a printed line, although this is less precise.

The design of the VAS is important. Descriptors should only be used for the anchor points. The choice of verbal descriptors needs to be meaningful, unambiguous and culturally appropriate. There should not be markings along the line.
Advantages

- As it is generally used as a subjective measure of pain intensity, this scale is of most value when looking at change within individuals.
- The VAS is well described in research, and has been shown to be a valid, reliable and sensitive clinical measure of pain that is amenable to statistical analysis.
- The VAS is simple to use and the wording can be written in many different languages.
- The VAS can be adapted to measure other subjective variables such as patient satisfaction, mood, pain relief and nausea.
- VAS showed significant positive correlation with numeric rating scales and the faces pain scale. Previous studies have shown reliability, validity and clinical sensitivity of the VAS as a measure of intensity of subjective pain.
- Changes in the VAS score represent a relative change in the magnitude of pain sensation.

Disadvantages

- Some patients have difficulty conceptualising pain as a straight-line continuum.
- The ability to use the VAS has been reported to be affected by personality, mood, age and culture.
- The VAS may be difficult to use in situations of severe pain.
- The VAS cannot adequately represent all aspects of pain perception.
- Although the VAS is a validated measure of pain, its administration requires additional nursing resources that may reduce compliance.
- Modifications to pain assessment rulers for VAS scores (for example, by adding colours to the scales) have, in some instances, created confusion.

Specific populations

Non-English speaking patients

Instruction cards for patients in use of the VAS are also available in multiple languages at this website.

Patients unable to read
The ruler can be explained using the faces as the end indicators.

Cognitively impaired patients
Some patients with mild impairments may be able to use the VAS. This may be achieved with careful presentation, instruction and plenty of time to complete the task. This should be repeated to ensure understanding before deciding to continue using this method of assessment. If the patient is unable to repeat a response using the ruler in a manner appropriate to questioning, another tool should be tried.

Hearing-impaired patients

ICU patients
Intubated and sedated patients will be unable to use the VAS ruler or other self-report pain assessment tools. Once sedation has ceased, some patients may be alert enough to use a VAS ruler. This should be attempted as an option for these patients. If psychomotor abilities are impaired at this point, a numerical rating scale or the faces rating scale may prove to be more helpful.

Recovery
Some patients remain drowsy from the anaesthetic received for their procedure. At this time, they would be unable to utilise the VAS. As the patient becomes more alert, they may be able to use a VAS before transferring to the ward area, and thereby obtain a baseline score for ward assessments.

Instructions for use
Explain to the patient that the purpose of the tool is to:

- understand the amount of pain they are experiencing
- work out if the pain medication they are receiving is doing enough
- decide if anything more needs to be done.

Ensure the patient is at rest.

Ask the patient to rate their pain (Appendix 1):
- The left end of the VAS means you have no pain.
- The right end of the VAS is the worst pain ever.
- Indicate the point along the line that represents the pain that you are feeling now.

Once the patient indicates how much pain they are feeling, the clinician reviews the reverse side of the ruler that has a number from 0–10. The number correlating with the position on the VAS that the patient pointed to is the pain rating recorded.

Then ask the patient to rate what happens to their pain when they move or cough.

**Documentation**
Document in accordance with your organisation’s documentation policies. It is recommended that the:
- type of subjective assessment tool used is recorded
- patient rating of pain (0–10) at rest and with activity is recorded.

### 2.2 Numerical rating scale

**Description**
The numerical rating scale (NRS) is another method of subjectively scoring pain. The NRS is a horizontal line with a scale from 0–10. Patients are asked to choose a number that relates to their pain intensity, where 0 represents no pain and 10 the worst possible pain. The NRS can be administered verbally and visually.

**Verbally**
A patient is asked: ‘How would you rate your pain at present out of 10, with 0 being no pain at all and 10 being the worst pain you could imagine?’

**Visually**
Figure 3. Linear representation of a numerical rating scale

**Advantages**
- The NRS has been validated as a verbal alternative to VAS, especially in more acutely ill patients.
- The NRS may be used without instrumentation.
- The NRS is straightforward and quick to use, and therefore encourages frequent assessment of pain.
- The results are simple to record.
- The NRS can be used with patients who have impaired psychomotor ability (that is, those who cannot move the sliding pointer or point to the appropriate position on a VAS ruler).
- Patients with cognitive impairment who do not understand the VAS may try using this method of pain scoring. Remember to explain the scale in simple terms and to repeat the explanation several times if required. Give the patient time to respond (at least 30 seconds) before ruling out this method of pain assessment.
- Some patients simply prefer using the NRS over the VAS ruler as they may find it difficult to judge pain between only two extremes.

**Disadvantages**
- Some patients have difficulty visualising their pain in numerical terms and cannot complete pain assessments this way.
- It is a uni-dimensional assessment tool.
- The NRS is not useful for patients who are confused. Alternative methods of assessing pain in these populations must be identified.
- Auditory cues should be standardised to ensure reliable scores are obtained.
- If verbal responses are not possible, a physical scale must be provided or an alternative used.

<table>
<thead>
<tr>
<th>Pain score 0-10 numerical rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10 Numerical rating scale</td>
</tr>
<tr>
<td>No pain</td>
</tr>
<tr>
<td>Moderate pain</td>
</tr>
<tr>
<td>Worst possible pain</td>
</tr>
</tbody>
</table>
Specific populations

Older population
The older population tend to be unable to complete the NRS, in part because they are unable to express pain numerically.\textsuperscript{19}

Visually impaired
Verbal administration can be effective when visual contact between patient and clinicians cannot be made. The NRS is easy to administer orally or in writing.\textsuperscript{20}

Multicultural use
The concepts of a NRS are easily translated like the VAS, and not as subject to interpretation as verbal descriptors.\textsuperscript{19,20}

Children
A numeric rating scale can be implied for small children (3–7 years old) by the use of poker chips (or equivalent counters). The parent or clinician is given the number of pieces that represent the amount of “hurt”.\textsuperscript{22,23,24}

ICU/inability to communicate verbally
A NRS cannot be used in patients who are intubated and sedated, as they cannot complete the task. The NRS could be used in an intubated patient if it were administered visually. Each patient would have to be assessed on an individual basis to see if they could use the tool appropriately. Some patients may be too sick to comply with such a method.

Instructions for use
Explain to the patient that the purpose of the tool is to:
\begin{itemize}
  \item understand the amount of pain they are experiencing
  \item work out if the pain medication they are receiving is doing enough
  \item decide if anything more needs to be done.
\end{itemize}

Ensure the patient is at rest.
Ask the patient to rate their pain (Appendix 1): ‘How would you rate your pain at present out of 10, with 0 being no pain at all and 10 being the worst pain you could imagine?’

The patient can answer verbally or by pointing to where they would rate their pain.
Then ask the patient to rate what happens to their pain when they move or cough.

Documentation
Document in accordance with your organisation’s documentation policies. It is recommended that:
\begin{itemize}
  \item the type of subjective assessment tool used is recorded
  \item the patient rating of pain (0–10) at rest and with activity is recorded.
\end{itemize}

2.3 Faces pain scale

Description
The faces pain scale (FPS) was first developed by Wong and Baker and is recommended for those aged 3 and older.\textsuperscript{25,26} An explanation is given to the patient that each face is a person who feels happy because he has no pain or sad because he has some or a lot of pain. The patient is then asked to choose the face that best describes how they feel. There may be six or seven faces in the scale.

![Figure 4. Wong-Baker faces pain scale](image)

Numbers may be printed under the faces but these should not be shown to the patient. Numbers are used to allow documentation of the pain score in the medical record.
Advantages
- The FPS has been validated in children.
- The FPS is useful for adults, especially those with cognitive disabilities or communication difficulties.
- The FPS is simple to administer.
- The FPS can be converted to a numerical value for charting.
- The FPS is widely used because it is easily photocopied and is popular among children and adults.21

Disadvantages
- The scales with ‘faces’ may have different degrees of sensitivity, and although reported to be valid and reliable for measuring pain, may create a ‘picture’ of what one experiencing pain should look like, and this has potential of being psychologically, or culturally biased.9
- Although the FPS has ranked categories, the differences between faces may not be linear in terms of pain intensity.
- Thresholds for intervention for the FPS have not been described.
- A physical tool is required to present to the patient.

Specific populations

**Adults**
Adults who have difficulty using the numbers on the VAS or NRS can be assisted with the use of the six facial expressions suggesting the various pain intensities. In the adult form, each face is accompanied by a descriptor such as ‘No hurt’ for the first facial expression.

**Children**
The FPS was originally designed and trialled with children so they could effectively express their pain. It has been found to be suitable for children over 3 years.27

**Multicultural use**
The Wong-Baker faces scale has been translated into various languages including Bosnian, Chinese, French, German, Italian, Japanese, Portuguese, Romanian, Spanish and Vietnamese.

**Visually impaired**
Due to the high degree of visual cueing, the FPS is to be difficult to use with patients that have limited vision.28, 29

**Cognitively impaired**
If carefully presented, the FPS can be valuable because some indication may be gained of intensity of pain, especially on repeat visits, without the patient needing to understand any concept of ranking. An assessment should be made of the patient’s ability to use the scale, as the concept of pain needs to be conveyed rather than mood. However, most studies have found either verbal descriptors or numerical ranking scales to be more accurate than FPS in cognitively impaired adults.29, 30, 31

**Older population**
If using the FPS, visual acuity will need to be adequate to interpret the expressions clearly. This scale has high completion rate within this group.19

**Instructions**
Explain to the patient that the purpose of the tool is to:
- understand the amount of pain they are experiencing
- work out if the pain medication they are receiving is doing enough
- decide if anything more needs to be done.

Ensure the patient is at rest. Ask the patient to point to the face that best describes the pain they are feeling. The far left face indicates ‘No hurt’ and the far right face indicates ‘Hurts worst’ (Appendix 1).

Then ask the patient to rate what happens to their pain when they move or cough.

**Documentation**
Document in accordance with your organisation’s documentation policies. It is recommended that:
- the type of subjective assessment tool used is recorded
- the patient rating of pain (0–10) at rest and with activity is recorded.
3. Objective measures
3.1 Behavioural pain assessment scale

There are many circumstances when meaningful self-reporting of acute pain is not feasible; for example, when:

- Patients are under the influence of residual sedatives or general anaesthetic agents.
- There is an absence of adequate verbal skills (neonates, children younger than 3 years).
- Patients cannot respond verbally.
- Patients are cognitively challenged.
- There is regression of linguistic ability in geriatric patients.
- Patients are intubated and sedated.
- Patients are too sick to respond.
- Combinations of the above.

In many of these situations, pain severity can only be estimated by observing a patient’s behavioural and physiological responses to pain. Physiological responses to pain are numerous and are reflected in many bodily systems including respiratory (tachypnoea), cardiovascular (tachycardia, hypertension, vasoconstriction), gastrointestinal (abdominal rigidity, guarding), urinary (frequency), neuroendocrine (sweating, pupillary dilation, hyperglycaemia) and, of course, non-specific behavioural (posturing, crying, moaning and so on).32 Unfortunately, many of these features are not specific to acute pain and clinical assessment needs to consider a number of factors before drawing conclusions. Nonetheless, observation is a key area of clinical assessment and is used in critical areas such as emergency department triage and PACU to assist with management.

The behavioural pain scale below is an adapted version of Campbell’s (2000)33 unpublished works used in an ICU study trialled in two intensive care units based in Baltimore. This study was part of the Institute of Healthcare Improvement Project ‘Quantum leaps in patient safety’. It is a 10-point scale based on behavioural responses. This scale was recommended for use with adult patients who are unable to cooperate with nursing assessment.

Documentation

Document in accordance with your organisation’s documentation policies. It is recommended that:

- the type of assessment tool used is recorded
- the patient rating of pain (0–10) at rest and with activity is recorded.
### Table 1: Behavioural pain assessment scale

For patients unable to provide a self-report of pain: scored 0–10 clinical observation

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Face score:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Face</strong></td>
<td>Face muscles relaxed</td>
<td>Facial muscle tension, frown, grimace</td>
<td>Frequent to constant frown, clenched jaw</td>
<td>Face score:</td>
</tr>
<tr>
<td><strong>Restlessness</strong></td>
<td>Quiet, relaxed appearance, normal movement</td>
<td>Occasional restless movement, shifting position</td>
<td>Frequent restless movement may include extremities or head</td>
<td>Restlessness score:</td>
</tr>
<tr>
<td><strong>Muscle tone</strong></td>
<td>Normal muscle tone</td>
<td>Increased tone, flexion of fingers and toes</td>
<td>Rigid tone</td>
<td>Muscle tone score:</td>
</tr>
<tr>
<td><strong>Vocalisation</strong></td>
<td>No abnormal sounds</td>
<td>Occasional moans, cries, whimper and grunts</td>
<td>Frequent or continuous moans, cries, whimper and grunts</td>
<td>Vocalisation score:</td>
</tr>
<tr>
<td><strong>Consolability</strong></td>
<td>Content, relaxed</td>
<td>Reassured by touch, distractible</td>
<td>Difficult to comfort by touch or talk</td>
<td>Consolability score:</td>
</tr>
</tbody>
</table>

**Behavioural pain assessment scale total (0–10)** /10

* Assess muscle tone in patients with spinal cord lesion or injury at a level above the lesion injury. Assess patients with hemiplegia on the unaffected side.

** This item cannot be measured in patients with artificial airways.

Source: Campbell, M 2000, unpublished data

### Instruction
- Observe behaviours and rate each of the five measurement categories (0, 1 or 2) according to the descriptions provided.
- Add these ratings together.
- Document the total pain score out of 10.

### 3.2 Functional activity score

Along with subjective scoring, the patient’s functional ability must be considered. Effective pain relief should enable improved recovery due to the removal of functional limitations. The benefits of this are widely documented and generally accepted; however, a universal system for measurement of pain with activity has not been described. This is largely due to the fact that there are many functional effects resulting from the different locations of pain; for example, fractured ribs limit deep breathing and coughing, knee joint replacement surgery limits knee flexion, and abdominal pain limits breathing and ambulation.

After consideration of these issues, it was concluded that an activity-related score, the functional activity score (FAS), would be generally applicable as it is simple and observer rated.

### Instruction

All patients are to have an FAS recorded in addition to the chosen subjective score. This is an activity-related score. The patient is asked to (or attempt to) perform a task appropriate to their painful injury or rehabilitation requirements and then rated on how pain affects their ability to perform this task. For example, get the patient to deep breathe and cough for a thoracic injury, or move the affected leg for lower limb pain.

Nurses or physiotherapists are to observe the patient during the chosen activity and score A, B or C (Appendix 1).
**Score**

<table>
<thead>
<tr>
<th>Score</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>No limitation</td>
</tr>
<tr>
<td>B</td>
<td>Mild limitation</td>
</tr>
<tr>
<td>C</td>
<td>Severe limitation</td>
</tr>
</tbody>
</table>

* Relative to baseline. This refers to any restriction above any pre-existing condition the patient may already have.

- Scoring the patient at A indicates the patient is unrestricted (by pain/other factors) when performing the chosen activity.
- Scoring the patient at B indicates the patient’s activity is only mildly to moderately restricted (by pain/other factors) when performing the chosen activity. The activity can be largely undertaken.
- Scoring the patient at C indicates the patient’s activity is severely limited (by pain/other factors) when performing the chosen activity.

The patient’s response to the chosen activity should be recorded in the FAS column of the documentation chart.

**Note:** Patients who have received a spinal anaesthetic for their surgical procedure will have some extent of motor blockade. Functional activity scoring should be omitted until return of motor function in these patients.

If patients are assessed during this time they are likely to receive a false documentation of a C (severe limitation) reading. This limitation would be due to motor blockade and not pain itself.

**Example**

A patient is admitted with left lower lobe pneumonia. The patient has a subjective pain score of 5/10. The patient is asked to take a deep breath and cough to see the effect of this pain on their ability to perform this activity. If unrestricted or settles quickly, this would rate as A. If the patient attempts this activity but is reluctant to continue to do so because of pain, this would be classified as a B. If the patient refuses to attempt this activity, as any movement is just too painful, it would be classified as a C.

**Intervention required**

If the patient scores two consecutive FAS ratings of C (severe limitation), this would rate as inadequate analgesia. The patient would require review, and a change of analgesia regime should be required and/or consultation by senior/more skilled clinicians (see section 4).

If the patient’s subjective pain rating is greater than 7/10, together with a FAS rating of B or C, this is considered inadequate analgesia and a review is warranted as above.

**Examples**

**Scenario 1**

Patient F was day one post left total knee joint replacement operation. The patient’s analgesic regime consisted of:
- epidural infusion containing Fentanyl 2ug/ml and Ropivacaine 2mg/ml running at 8ml/hr. There has been no bolus or rate change since day 0 evening.
- Panadol regularly 1g 6 hourly
- Tramadol 50–100mg 6 hourly PRN
- Celecoxib 200mg twice a day.

Patient F was about to have physiotherapy and the physiotherapist performed a pain assessment.

Patient’s subjective pain score rating was 7/10.

Upon request, Patient F attempted to bend the left knee slightly off the bed. The FAS rating was scored as a C (severe limitation) as the patient was unable to perform the task at all.

As per protocol, the physiotherapist requested that the on-call anaesthetic registrar review the patient.

Upon review by the anaesthetic registrar, it was found that the patient was not only restricted by pain but also had a motor block, resulting in an inability to bend the knee and no quadriceps strength.

Patient F had pain on the top of the knee despite a good dermatomal blockade over the wound area. Upon further investigation, it was found the wound drain had been clamped for an extended period of time for bleeding.

Intervention:
- The wound drain clamp was released.
- The epidural infusion was ceased for 30 minutes and turned back on at 6ml/hr.
- The morning adjunct medications were given: Panadol, Tramadol and Celecoxib.
Thirty minutes post intervention, patient F was reassessed by the attending nurse:

- Their subjective pain score was 3/10.
- FAS was B as the patient could now perform the task with minimal pain.

Patient F was able to perform day one physiotherapy requirements that afternoon.

Scenario 2
Patient G was an elderly gentleman admitted to the respiratory ward with left lower lobe pneumonia. He had a past history of a left-sided stroke with some residual right-sided hemiplegia and was ambulant with the aid of a walking stick. Patient G also had residual dysphasia and is unable to verbalise but writes comprehensively.

On admission, Patient G was given an explanation of how pain assessment was performed and the importance of letting nursing or medical staff know when pain was increasing. After trialling the VAS ruler, it was found that he was able to move the slider on the ruler with his left hand providing he had assistance of someone to hold the ruler.

Pain assessment on admission:

- Patient’s subjective pain score was 2/10.
- His FAS was B (mild limitation) when asked to deep breathe and cough.

Upon questioning, Patient G wrote that this is his usual ability when deep breathing and coughing. This was documented as his baseline ability in the health record and as a comment on the observation chart. This level was to be recorded as an A if Patient G was able to reach this level of activity.

On day 1, Patient G was reassessed for pain just prior to getting out of bed:

- His VAS rating was 5/10.
- His FAS upon attempting to deep breathe and cough was B (mild limitation). The patient wrote that performing this task was more uncomfortable than normal, but settled quickly once coughing ceased. This level of activity was recorded as a FAS of B as the patient has an increased limitation from the baseline level.

Patient G was given Panadol and reassessed half an hour later:

- His VAS rating was now 2/10.
- His FAS was A and he was able to perform physiotherapy activities.

Scenario 3
Patient M was admitted via the emergency department to the hospital’s medical ward. Her primary diagnosis was exacerbation of rheumatoid arthritis. She has been on NSAIDS for greater than 18 months.

Patient M’s pain levels had increased with this flare-up and her ability to care for herself had declined. She was admitted for treatment with 1g of Methylprednisolone and her pain medications were increased.

Patient M was assessed using an NRS. Her preference for using numbers over the VAS ruler was due to trouble sliding the pointer. Her fine motor skills were impaired by her condition.

When asked about her current pain level, she rated it as 8/10. Due to her medical history, she was asked what her baseline level of pain was when she was well. Patient M rated this as 5/10. This information was documented in her progress notes as the score to aim for with pain management interventions.

The patient was assessed using the FAS. Patient M normally had difficulty walking but managed to shuffle to the bathroom with the aid of a four-pronged walking stick when well. This level of mobility was recorded in the patient’s health record as a baseline level of A (no limitation), and the aim of treatment was to achieve this level by time of discharge.

Due to her acute flare-up affecting mostly her knees, it was decided that her ability to move up the bed would be the task used to assess functional activity. Patient M was asked to perform this task and found it difficult to complete. This was documented as a B (mild to moderate limitation). She was then given her prescribed dose of OxyContin 10mg BD and Panadol 1g QID.

Patient M was reassessed one hour later to determine the effectiveness of analgesia dosing. The FAS was A. The VAS had decreased to 6/10. When asked, Patient M stated she was happy at this level.

Over a period of one week, Patient M’s pain control improved to a VAS of 5–6/10. Her FAS, which at times escalated to a B with physiotherapy activities, improved to an A level. She was able to move to the bathroom using her walking stick as her condition responded to treatment.
4. Timing of pain scoring
4. Timing of pain scoring

The initial pain assessment should be established and recorded at preadmission clinic or at time of admission if possible.

The rationale for this is to:
- introduce the concept of pain assessment, and the reasons for this, to the patient
- determine the pain scoring system most suited to the patient
- establish a baseline score and allow monitoring for changes above this level. Some patients have pre-existing pain problems and their baseline pain rating may well be 7/10 instead of 0/10
- allow a treatment plan to be developed and discussed if required.

To enhance the patient’s understanding of pain assessment and measurement, a patient education brochure has been designed entitled Managing your pain (Appendix 2). Ideally, this should be given to the patient at preadmission to take home and read, or on admission in conjunction with the explanation of the chosen subjective scoring system. Patients in the emergency department could also read the patient education brochure where required.

The frequency of this assessment will largely depend on the patient’s status:
- If the patient has no pain on admission, 0 is recorded in the pain score (0–10) column and the patient is to be instructed to inform staff if pain develops. This may only need to be recorded once a day.
- The frequency of assessment should be increased if the pain is poorly controlled or if the pain stimulus or treatment interventions are changing. Pain assessment may need to occur one to two hourly until the pain episode is under control (for example, post-procedural pain).
- If a patient has an analgesic infusion in progress, pain scoring will be more frequent as:
  - this indicates a higher intensity of pain needing to be controlled
  - there is a need to ensure appropriate safety monitoring occurs.

The frequency may vary for individual analgesia strategies; for example, patient-controlled analgesia, epidural analgesia, opioid infusions or plexus blockade.

- Patients should be reassessed after any analgesic treatment to see if the treatment was effective, whether further treatment is warranted, and whether any side effects have occurred as a consequence of the treatment (for example, nausea, vomiting, and sedation).
- Pain should be assessed as part of final hospital discharge.
5. When to treat
5. When to treat

**When to treat**

- When patients are obviously in pain or not focused enough to learn to use a pain-rating scale, pain treatment should proceed without a pain rating.\(^{21}\)

- A pain rating of greater than 3/10 signals the need to revise the treatment plan with higher doses of analgesia or different medications and other interventions.\(^{21}\)

**Reportable level of pain**

- If the patient has persistent severe pain, consecutive scores of 8–10/10, after a reasonable time interval (for example, 30 minutes), an episode of inadequate analgesia has occurred and the patient should be reviewed (Appendix 3).

- If the patient scores two consecutive FAS ratings of C (severe limitation), this is considered an episode of inadequate analgesia and the patient should be reviewed (Appendix 3).

- If the patient’s subjective pain rating is greater than 7/10, together with a FAS rating of B or C, this is an episode of inadequate analgesia and warrants review.

**Rationale**

- The initial treatment may not be enough to treat the pain problem.

- Other medical problems may be occurring simultaneously, which may escalate a painful problem and require review by a medical officer.

- New interventions may require increased analgesia for a short period of time (for example, dressing change).
6. Monitoring for side effects

There are a number of potential side effects from the use of drugs and techniques to relieve acute pain. These range from:

- the frequent but seldom injurious side effects, such as pruritus or mild sedation
- those which, depending on their severity, may delay recovery such as nausea, vomiting or motor blockade with limb weakness
- the rare side effects that may result in permanent disability, such as an epidural haematoma or opioid-induced respiratory arrest.
6. Monitoring for side effects

6.1 Sedation

All patients receiving opioid or sedative agents must have their sedation level and respiratory rate assessed regularly to:

- ensure patient safety by identifying excessive sedation or lowered respiratory rate and responding as necessary
- identify when analgesia strategies may need to be modified as a result of changing sedation or respiratory levels
- allow the patient to function and cooperate with rehabilitation activities.

The sedation score measures the patient’s level of wakefulness and their ability to respond appropriately to verbal command. It is a four-point scale using the criteria listed below.

<table>
<thead>
<tr>
<th>Sedation score</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Awake, alert</td>
</tr>
<tr>
<td>1</td>
<td>Mild sedation, easy to rouse</td>
</tr>
<tr>
<td>1S</td>
<td>Asleep, easy to rouse</td>
</tr>
<tr>
<td>2</td>
<td>Moderate sedation, unable to remain awake</td>
</tr>
<tr>
<td>3</td>
<td>Difficult to rouse</td>
</tr>
</tbody>
</table>

0 = Awake, alert: The patient is awake, alert and responds appropriately to verbal command.

1 = Mild sedation, easy to rouse: The patient rouses easily from sleep/rest, is able to stay awake and is alert and cooperative.

1S = Asleep, easy to rouse: This sedation scoring option is to be used at night, when the patient would normally be asleep. The patient must be assessed if they are on any opioid or sedative agents to ensure their sedation level is not increasing despite having a normal respiratory rate. The patient should stir or move when normal blood pressure and pulse observations are carried out. If this does not occur, attempts should be made to wake the patient to ensure their sedation score has not increased.

2 = Moderate sedation, unable to remain awake: The patient is frequently asleep or drowsy when observed. The patient is drowsy on waking, able to follow commands but unable to remain awake.

3 = Difficult to rouse: The patient is difficult to rouse or unrousable. The patient has difficulty with following commands or is unable to follow commands.

Aim

The optimal aim is for a sedation score of 0 or 1. Patient assessment should be documented (see Appendixes 4 and 5 for examples).

Note: A patient’s respiratory status should be considered along with sedation levels. Remember, extreme sedation nearly always precedes respiratory depression.

Sedation scoring is used primarily to assess the effect of opioid analgesia; it is not designed to assess neurological state. It does not replace systems such as the Glasgow coma scale where these are indicated.

Intervention required

A sedation score of 2 indicates that sedation is increasing and may worsen to a score of 3 if nothing is changed. The opioid analgesic or sedative doses need to be reviewed at this point. A medical officer or anaesthetist on call should be notified of the patient’s status and appropriate adjustments made.

Observations of the patient should increase in frequency until the sedation level improves.

A sedation score of 3 indicates that a patient has already received too much opioid (or sedative) for continued safe care in a ward environment. If the patient is on an infusion containing an opioid, this should be stopped, naloxone should be considered and a medical officer must be notified urgently. If there is a pain service, the pain registrar should be notified. A MET or Code Blue can be called.

Guide

- If a patient has a sedation score of 2, a decrease in the dose of analgesia should be considered and the patient monitored more frequently.
- If the patient has a sedation score of 2 and a respiratory rate of less than 8, the infusion should be stopped, naloxone given and a medical officer notified.
- If the patient has a sedation score of 3, the infusion should be stopped, naloxone given and a medical officer notified urgently (MET/Code Blue).
6.2 Respiratory depression
A slow respiratory rate in the presence of opioid analgesia is likely to indicate opioid-induced respiratory depression. This will be accompanied by an increase in the sedation score.

If the respiratory rate is slow, without an increase in sedation levels, it is unlikely to be opioid related. It must be remembered that there are many impacting factors to consider including co-administration of other sedative agents, concurrent disease states affecting both respiratory depression and sedation levels (for example, obstructive sleep apnoea, intermittent airway obstruction, surgery type) that may influence susceptibility to respiratory depression.

The respiratory rate should always be considered with a sedation scoring assessment. The optimal aim is a sedation score of 0 or 1 with a respiratory rate greater than 10. Respiratory rate should be documented (see Appendices 4 and 5 for examples).

Intervention required
A sedation score of greater than or equal to 2 and a respiratory rate of less than 8 must be reported to a medical officer or anaesthetist for investigation and instructions.

Oxygenation saturations of less than 90 per cent for longer than one minute should also be reported.

Guide
As for sedation score assessment section.

6.3 Motor blockade
Patients receiving epidural analgesia require motor blockade assessment with the aim of:

- minimising leg weakness from extended sensory blockade
- early identification of inadvertent epidural catheter migration into the subarachnoid space
- ensuring spinal cord compression, epidural haematoma or abscess are identified early
- allowing patients to move as freely as possible.

The Bromage scale is used to measure motor blockade. This method of assessment is designed to measure the degree of motor blockade in the lower limbs caused by epidural local anaesthetics.

<table>
<thead>
<tr>
<th>Score</th>
<th>Motor block</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None, full flexion of knees and feet</td>
</tr>
<tr>
<td>1</td>
<td>Partial, just able to move knees and feet</td>
</tr>
<tr>
<td>2</td>
<td>Almost complete, only able to move feet</td>
</tr>
<tr>
<td>3</td>
<td>Complete, unable to move feet or knees</td>
</tr>
</tbody>
</table>

0 = (None) Full flexion of knees and feet: The patient has a Bromage score of 0. This means that there is no motor involvement of the lower limbs. Full strength and movement is possible.

1 = (Partial) Just able to move knees and feet: The patient has a Bromage score of 1. This means the patient is able to flex their knees and ankles. Some decrease in strength is noted to quadriceps when resistance is applied.

2 = (Almost complete) Only able to move feet: The patient has a Bromage score of 2. The ability to flex their knees is lost. Ankles still have full range of movement. There is little to no quadriceps strength.

3 = (Complete) Unable to move feet or knees: The patient has a Bromage score of 3. No movement is possible in the lower limbs. The patient has a total motor block.

The degree of motor blockade varies depending upon the clinical circumstances, and may differ from side to side.

Example
- A Bromage score of 3 or full block is desirable during surgery under a spinal anaesthetic (for example, total knee joint replacement).
- Immediately following surgery, and for the first few hours postoperatively, a Bromage score of 2 may be observed in patients who have had a spinal or epidural anaesthetic.
- Six hours after a spinal anaesthetic, a Bromage score of 1 is desirable.

Aim
The aim of postoperative analgesia is a Bromage score of 0 to 1. Patients with thoracic epidurals should have a Bromage score of 0. Patients with lumbar epidurals inserted may have a Bromage score of 1, as the block required to reach the wound area may be quite low (for example, total knee replacement).
A patient with a motor deficit must not be ambulated as attempting to do so may cause further injury. It is important to realise that the patient’s sense of body orientation may be impaired due to the sensory block.

**Intervention required**

Any prolonged motor deficit must be communicated to an anaesthetist.

- Patients who have returned to the ward after a spinal anaesthetic with an expected motor block of 2 to 3 must be observed closely to see that it recedes to a Bromage score of 0 to 1. The anaesthetist must be notified if the block does not recede after four hours.

- A Bromage score of greater than 1 at any other time must be reported to an anaesthetist for assessment.
  - This may result in the infusion being stopped for a short time to check that the motor block recedes as the local anaesthetic wears off.
  - If the motor block does not recede, an epidural haematoma or abscess must be considered. An MRI may be requested to investigate this.

- Any patient developing a motor block of 3 (having previously been less) should have their local anaesthetic infusion turned off immediately while awaiting clinical review by the anaesthetist. If no local anaesthetic is being infused and the motor block deteriorates, an emergency situation exists that requires immediate anaesthetic review.

- An anaesthetist must be notified if a motor block increases quickly as this may indicate that the epidural has migrated into the CSF. The epidural should be turned off while awaiting a clinical review by the anaesthetist.

### 6.4 Hypotension

Hypotension can occur as a side effect of the local anaesthetic component of epidural analgesia. Hypotension that is directly related to analgesic techniques can be due to excessive block height or, more commonly, relative hypovolemia/dehydration.

**Note:** Hypotension is almost always contributed to by hypovolemia.

Blood pressure must be monitored closely in patients receiving epidural local anaesthetics with the aim of:

- identifying early other causes of hypovolemia; for example, bleeding (increased drainage in drain tubes), cardiac pump failure (intraoperative myocardial ischaemia or infarct), and reduced circulating volume due to intraoperative fluid shifts/ileus
- identifying excessive epidural blockade causing lost of vasomotor tone from sympathetic blockade (T1–T12)
- identifying hypotension that is associated with bradycardia, block extended above T4 and having a direct effect on the cardiac sympathetic system (T1–T4)
- identifying hypotension that may be a result of catheter migration into the CSF

**Intervention required**

If the following haemodynamic limits have been reached, the anaesthetist or unit responsible for the patient must be notified:

- systolic blood pressure < 100mmHg
- pulse rate < 55 with blood pressure < 100mmHg.

More specific parameters may be set for individual patients depending on age and medical condition.

Lying the patient flat and raising feet on a pillow helps to stabilise some patients. Administration of O2 (6l/min) via facemask helps increase oxygen supply to the brain until hypotension can be stabilised.

Advice must be obtained as severe hypotension may require aggressive resuscitation including ceasing the epidural infusion, fluid resuscitation, and administration of vasopressors such as ephedrine or Aramine, or drugs to increase the heart rate (for example, atropine).

**Note:** Hypotension associated with any decrease in conscious state must be a MET call.
6.5 High epidural blockade

High epidural blockade results from the extension of the local anaesthetic component toward the head (cranially). This can occur suddenly after an epidural bolus dose, or gradually if the rate of the epidural infusion is too high. Catheter migration through the dura into the subarachnoid space is rare but can cause a rapidly increasing blockade with associated symptoms.

Regular dermatome assessment can assist in identifying early signs of a high epidural block. Dermatome levels should be assessed:

- on return to the ward postoperatively to establish baseline levels
- once a shift when patient is stable so changes in the levels can be easily identified
- when the patient complains of an increase in pain levels
- when hypotension or bradycardia occurs
- with any decrease in limb movement/increase in Bromage score
- following an epidural bolus to determine the effect
- when there is clinical suspicion of an extensive blockade.

Dermatome assessment should be documented with the upper and lower limits clearly written; that is, T4 to T12. Both sides of the patient should be assessed. If they are not the same, document separate levels for each side; for example, R) T4 to T12 and L) T6 to L1.

Method

- Using ice in a glove, test an unaffected area, usually the forehead.
- Ask the patient to identify if this feels cold. This establishes baseline coldness.
- Move the ice down from approximately T2 until the patient states that they feel less cold or cannot feel the cold at all. This is the top dermatome level.
- Continue to move the ice down until the patient states that the coldness is increasing or is the same as the forehead. This is the bottom dermatome level.
- Repeat on the other side of the patient to assess for symmetry.

Intervention required

Nurses are required to notify the anaesthetist or unit responsible for the patient if the following signs and symptoms occur:

- The epidural blockade reaches T4 or above nipple line.
- The patient complains of tingling or numbness in the fingers.
- The presence of weakness in the arms such as a weak handgrip.
- Any respiratory difficulty.

Reporting of these levels may require cessation or a reduction in the epidural rate or bolus volumes as per instructions given.

Example

Patient X received an epidural bolus. Assessment of the dermatome levels showed the level was above T2 and patient X complained of numbness in his little fingers but was otherwise stable. Patient X had an abdominal wound and did not require a block this high.

These signs and symptoms must be reported. If the block continues to move in a cranial direction the patient may become hypotensive, bradycardic or experience respiratory compromise. The anaesthetist would usually request that the epidural is ceased for a period of time and be restarted at a lesser rate. Patient X will require closer monitoring during this time until the block has regressed and symptoms have subsided.
6.6 Back pain

Back pain can occur as a result of direct nerve damage, an epidural abscess (infection in the epidural space) or a haematoma (bleeding in the epidural space). It may result from positioning during surgical procedures or reflect an exacerbation of an underlying condition.

Signs and symptoms include:
- unexpected or new back pain
- pain, inflammation or swelling at the epidural insertion site
- temperature > 38.5°C
- tingling, numbness or weakness in either or both legs
- new urinary or faecal incontinence.

These symptoms can occur while the epidural infusion is working, during manipulation of the epidural catheter and after removal. The patient must be educated to inform nursing staff of changes in leg strength, sensation, or the occurrence of any new back pain.

**Intervention required**
**THIS IS A MEDICAL EMERGENCY**

The anaesthetist responsible for the patient must be notified immediately for urgent neurological assessment and MRI to take place in a timely manner.

Signs and symptoms must be documented in the patient’s progress notes.

In the event of unplanned epidural removal, the anaesthetist must be notified and the patient closely monitored for signs of an epidural haematoma.

6.8 Nausea and/or vomiting

Nausea and vomiting may be caused by many conditions including intra-abdominal pathology or surgery, visceral pain (renal or biliary colic), neurological events, hypotension and psychological factors. Opioid analgesia is associated with an increased incidence in this side effect.

Most episodes of nausea and vomiting can be simply treated with antiemetics. However, some patients continue to have symptoms despite treatment. These patients will require review and consideration of a change in their opioid regime.

**Intervention required**

Any nausea or vomiting not responding to prescribed treatment must be reported to the anaesthetist or unit responsible for the patient. Patients can be reviewed and appropriate adjustments made.

6.9 Urinary retention

Urinary retention can occur with opioid analgesia and neuraxial local anaesthetic agents. This is uncommon in patients with epidural analgesia, as most will have an indwelling catheter in place.

There are other reasons for a decrease or absence in urine output, such as blood loss, dehydration, acute renal failure or inadequate cardiac pump function. These factors must be taken into consideration before determining that analgesia is the cause of the urinary retention.

**Intervention required**

If the patient complains of a full bladder and/or cannot urinate, the unit responsible for the patient must be notified and a thorough assessment conducted to identify the causal agent.

---

6.7 Pruritus

Pruritus (or itching) is a side effect that can occur in some patients as a result of the activation of opioid receptors in the spinal cord (for example, caused by the opioid component of the epidural). It rarely occurs with opioid infusions. This side effect is often tolerated well by patients with reassurance and explanation of the reason for their itching. However, some patients find this intolerable and may request treatment.

**Intervention required**

If the patient requests treatment for pruritus (itching), notify an anaesthetist or the unit responsible for the patient. Options include decreasing the opioid dose, use of an antihistamine or occasionally a low dose of naloxone.
6.10 Local anaesthetic toxicity

Local anaesthetic toxicity is caused by:

- overdose of the drug in the epidural space (rare in analgesic doses)
- rapid absorption of normal drug dose inadvertently injected intravascularly
- hypersensitivity to the drug – a very rare occurrence.

Signs and symptoms include:

- CNS: anxiety, agitation, tingling around the mouth, drowsiness, convulsions
- CVS: hypotension, cardiac arrhythmia's

Intervention required

If any of the above symptoms occur, the infusion should be ceased, the medical officer or anaesthetist notified, resuscitation equipment ready, and staff prepared to call a code if the patient worsens.

If the epidural catheter migrates further than the level defined for catheter markings at skin level, the patient must be monitored for the above symptoms and the medical officer or anaesthetist notified.

For an example of a simplified list of reportable observations, see Appendix 3. This card can be placed at the end of each patient’s bed as a prompt of reportable levels.
7. Documentation
As mentioned in the introduction, the APMMT operates at the patient level and the system level. Patient-level pain measurement needs to be performed consistently and in a manner that lends itself to further analysis. Such measurement needs to include pain scores, interventions, outcomes and adverse or unintended events.

The system level addresses the larger picture of the effectiveness of acute pain management within an organisation. This is achieved through the collation and analysis of aggregated patient-level data.

Documentation is essential if both these areas are to be addressed. Samples of documentation tools have been provided (Appendices 4 and 5). An example of documentation that will assist in the system-wide analysis of pain management is provided in Appendix 6. In determining the approach to documentation of acute pain management, health services should be wary of duplicating information in multiple observation charts.
Appendix 1: Pain rating scales

Visual analogue scale (VAS)

Numerical rating scale (NRS)

Faces rating scale (FRS)

Wong-Baker face scale
**Pain rating scales instructions**

**Subjective pain score**

All patients are to have a functional activity score recorded in addition to the chosen subjective score.

Visual analogue scale (VAS)

Instruct the patient to point to the position on the line between the faces to indicate how much pain they are currently feeling. The far left end indicates ‘No pain’ and the far right end indicates ‘Worst pain ever’.

Numerical rating scale (NRS)

Instruct the patient to choose a number from 0 to 10 that best describes their current pain. 0 would mean ‘No pain’ and 10 would mean ‘Worst possible pain’.

Faces rating scale (FRS)

Adults who have difficulty using the numbers on the visual/numerical rating scales can be assisted with the use of the six facial expressions suggesting various pain intensities. Ask the patient to choose the face that best describes how they feel. The far left face indicates ‘No hurt’ and the far right face indicates ‘Hurts worst’. Document number below the face chosen.

**Behavioural rating scale**

For patients unable to provide a self-report of pain: scored 0–10 clinical observation

<table>
<thead>
<tr>
<th>Face</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face muscles relaxed</td>
<td>Facial muscle tension, frown, grimace</td>
<td>Frequent to constant frown, clenched jaw</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Restlessness</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet, relaxed appearance, normal movement</td>
<td>Occasional restless movement, shifting position</td>
<td>Frequent restless movement may include extremities or head</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Muscle tone*</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal muscle tone</td>
<td>Increased tone, flexion of fingers and toes</td>
<td>Rigid tone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vocalisation**</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>No abnormal sounds</td>
<td>Occasional moans, cries, whimpers and grunts</td>
<td>Frequent or continuous moans, cries, whimpers or grunts</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consolability</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content, relaxed</td>
<td>Reassured by touch, distractible</td>
<td>Difficult to comfort by touch or talk</td>
<td></td>
</tr>
</tbody>
</table>

**Behavioural pain assessment scale total (0–10) /10**

* Assess muscle tone in patients with spinal cord lesion or injury at a level above the lesion injury. Assess patients with hemiplegia on the unaffected side.

** This item cannot be measured in patients with artificial airways.

---

**Functional activity score***

(Cough/movement)

A – No limitation
B – Mild limitation
C – Severe limitation

*Relative to baseline

**Behavioural rating scale**

The behavioural pain assessment scale is designed for use with non-verbal patients unable to provide self-reports of pain.

- Rate each of the five measurement categories (0, 1 or 2).
- Add these together.
- Document the total pain score out of 10.

**Functional activity score**

This is an activity-related score. Ask your patient to perform an activity related to their painful area (for example, deep breathe and cough for thoracic injury or move affected leg for lower limb pain).

Observe your patient during the chosen activity and score A, B or C.

A – No limitation meaning the patient’s activity is unrestricted by pain
B – Mild limitation means the patient’s activity is mild to moderately restricted by pain
C - Severe limitation means the patient ability to perform the activity is severely limited by pain

*Relative to baseline refers to any restriction above any pre-existing condition the patient may already have.
**QUESTIONS?**

**What if I already take painkillers?**

If you are taking painkillers on a regular basis, you must let your doctor know. This will ensure that you get the treatment that is best suited to you.

**How often will you be checking on me?**

You will be checked every few minutes to every few hours depending on your condition. You can also press the nurse call button to call for assistance whenever you need it. Nursing staff will always be nearby.

**Who will be checking on me?**

Your nurses will be checking you most often, with your treating doctors usually seeing you daily. If you have had surgery and are using special painkilling methods, nurses and doctors from the hospital’s Acute Pain Service will be visiting you at least daily.

**Will this ensure that all my pain will be gone?**

Although we would like to take away all the pain and discomfort you might experience, in reality it often cannot be removed completely.

However our aim is to make you as comfortable as possible, especially when moving around and performing activities you need to do to get better.

---

**Are painkillers bad for you or addictive?**

No, having painkillers to ease short-term pain is not addictive. However, all medications may produce side effects, so you must tell the medical staff if you feel sick or very sleepy.

---

**MORE QUESTIONS?**

Write any questions you have here as a reminder to ask your nurse or doctor on admission.

---

**MANAGING YOUR PAIN**

How you can help us to best respond to your needs – making your recovery as painfree as possible...

---

Insert Health Service logo here
WE CARE ABOUT YOUR PAIN - YOU CAN HELP TOO...

Tell us about your pain

By controlling your pain as best we can, you are likely to recover faster. You need to tell us how you feel and particularly how strong your pain is. You will be asked on a regular basis to rate your pain – this is how we know how you are feeling and what is working best for you.

How to tell us

When you come into the hospital you may be given a ‘pain ruler’, which has a sliding pointer that you can position to indicate how much pain you are feeling.

Positioning the pointer at the far left end indicates ‘No Pain’ and the far right end indicates ‘Worst Pain Ever’. Slide the pointer to the position in between the faces which best represents how much pain you are currently feeling. You will then be asked to rate your pain in the same way after moving or coughing to see if that makes a difference.

What else can you do?

Ask for pain relief before you get too uncomfortable. It is harder to ease pain once it has taken hold.

Remember to tell your nurse or doctor about any pain that doesn’t get better, even after having pain medicine.

Pain Treatment Options

Your pain may be treated in a number of ways - what works best for you will be decided by you and your doctors and nurses and based on the location and type of pain that you have.

Some options include:

- Tablets that you swallow
- Occasional injections
- Continuous drip containing pain medicine
- Patient Controlled Analgesia (PCA) small doses of pain medicine controlled by you
- Local Anaesthetics given near your wound that block the feeling of pain
- Epidural Pain Medicine given into your back that blocks pain over your wound.
- Special techniques used when moving and coughing that minimize discomfort.

Tell us where your pain is and what it’s like

Pain from different parts of the body comes from different causes. Knowing where your pain is coming from and how it feels (aching, burning, stabbing) helps us to give you the best treatment.

These pictures show how this might look on the ruler.

- No Pain
- Not much pain at all
- Quite a lot of pain
- Worst Pain Ever
Appendix 3: Reportable observations

<table>
<thead>
<tr>
<th>Reportable observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notify anaesthetist or unit responsible for the patient if any of the following parameters occur</td>
</tr>
<tr>
<td>Pain score 0–10</td>
</tr>
<tr>
<td>Persistent severe pain – consecutive scores of 8–10/10 and/or 2 consecutive FAS of C (severe limitation)</td>
</tr>
<tr>
<td>Pain</td>
</tr>
<tr>
<td>Functional activity score (FAS)</td>
</tr>
<tr>
<td>equals inadequate analgesia</td>
</tr>
<tr>
<td>Sedation score</td>
</tr>
<tr>
<td>Sedation score of &gt;= 2 and respiratory rate &lt; 8</td>
</tr>
<tr>
<td>Motor deficit (epidural specific)</td>
</tr>
<tr>
<td>Motor block (Bromage score) &gt; 1 for prolonged period (1-2 hours)</td>
</tr>
<tr>
<td>Increase in motor block during epidural infusion or post epidural removal</td>
</tr>
<tr>
<td>Back pain (Epidural SPECIFIC)</td>
</tr>
<tr>
<td>Pain, inflammation or swelling at the epidural insertion site</td>
</tr>
<tr>
<td>Fever – temperature &gt; 38.5°C</td>
</tr>
<tr>
<td>New tingling, numbness or weakness in either or both legs</td>
</tr>
<tr>
<td>New urinary or faecal incontinence</td>
</tr>
<tr>
<td>High block (epidural specific)</td>
</tr>
<tr>
<td>Tingling/numbness in fingers</td>
</tr>
<tr>
<td>Presence of weakness in arms</td>
</tr>
<tr>
<td>Respiratory difficulty</td>
</tr>
<tr>
<td>Severe hypotension</td>
</tr>
<tr>
<td>T4 or above nipple line (epidural specific)</td>
</tr>
<tr>
<td>Hypotension (epidural specific)</td>
</tr>
<tr>
<td>Systolic blood pressure &lt; 100 mmHg</td>
</tr>
<tr>
<td>Pulse rate &lt; 55 with blood pressure &lt; 100 mmHg</td>
</tr>
<tr>
<td>Pruritus (itching)</td>
</tr>
<tr>
<td>If patient complains and/or requests treatment</td>
</tr>
<tr>
<td>Nausea, Vomiting</td>
</tr>
<tr>
<td>Not responding to prescribed treatment</td>
</tr>
<tr>
<td>Urinary retention</td>
</tr>
<tr>
<td>Patient is unable to void</td>
</tr>
</tbody>
</table>
Appendix 4: Observation chart

![Observation chart](image-url)
<table>
<thead>
<tr>
<th>Date</th>
<th>Oral</th>
<th>Enteral</th>
<th>Infusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Input Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Urine</td>
<td>N/V</td>
<td>Vomitus</td>
</tr>
<tr>
<td>Date</td>
<td>Output Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Water Balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Date</td>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Date</td>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Date</td>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Urea</td>
<td>Creatinine</td>
<td>Uric Acid</td>
</tr>
</tbody>
</table>
Appendix 5: Dosage and observation chart – special analgesia
SPECIAL ANALGESIA NURSING OBSERVATIONS

Continuous Intravenous Narcotic Infusions
Must be administered into a dedicated IV line or using an IV set with a one way valve in the main line.
OBSERVATIONS: Respiratory Rate | Hourly for first 12 hours, 2 hourly thereafter (during waking periods).
Sedation Score | As above
Pain Score | As above
Blood Pressure | 4 hourly after RPAO
Heart Rate | 4 hourly after RPAO
Temperature | 4 hourly after RPAO
Dose administered | Hourly

Patient Controlled Analgesia
Must be administered into a dedicated IV line or using an IV set with a one way valve in the main line. Observations as for Continuous Intravenous Narcotic Infusions.

Epidural Narcotic Infusions
IV access must be maintained. No additional parneteral narcotics may be given without consulting the on-call Anaesthetic Registrar.
Administration of bolus dose may only be given by the on-call Anaesthetic Registrar or an accredited Epidural Nurse. Observations as for Continuous Intravenous Narcotic Infusions.

Epidural Combined Narcotic and Local Anaesthetic Infusions
IV access must be maintained. No additional parneteral narcotics may be given without consulting the on-call Anaesthetic Registrar.
Administration of bolus dose may only be given by the on-call Anaesthetic Registrar or an accredited Epidural Nurse. Observations as for Continuous Intravenous Narcotic Infusions.

ADDITIONAL OBSERVATIONS
Blood Pressure
Respiratory Rate
Sedation Score
Sensory Block Assessment
Motor Block Assessment
Other observations as for Continuous Intravenous Narcotic Infusions

Continuous Subcutaneous Narcotic Infusions (Refer MS 10/88)
OBSERVATIONS: Respiratory Rate | 4 hourly for first 12 hours, then once per shift (if dose unchanged)
Sedation Score | As above
Pain Score | Hourly until pain control achieved, then 4-hourly (while patient awake)
Done Administered | As change of syringe
Pump Function OK | Per shift
Site of Infusion | Per shift

REPORTABLE OBSERVATIONS
Notify Anaesthetist or Unit responsible for the patient if any of the following parameter occur.

PAIN
• Continuous subjective pain scores of 6-10 (persistent severe pain)
• 2 consecutive Functional Activity Scores (FAS) of C (Severe Limitation)

SEDATION
• Sedation Score of ≥ 3
• Sedation Score of ≥ 2 and Respiratory Rate < 9

PRURITUS
• If patient complains and/or responsive treatment

NAUSEA / VOMITING
• Not responding to prescribed treatment

URINARY RETENTION
• Patient is unable to void

STANDING ORDERS
Respiratory Rate
• ≤ 12/min or Sedation Score > 3,
• PCA: Place PCA control button away from patient.
• Other infusions: Turn off infusions.
• Give Naseol 8 mg IV stat.
• Then report 3 hourly PRN and RR > 10 and patient responsive.
• Call Urgent Anaesthetic Registrar.

Respiratory Rate: 8 - 10/min or Sedation Score = 2
• PCA: Reduce HOUS Dose by: 0.5 mg (Morphine), 5 mg (Pethidine)
• Cease background infusion
• Notify Urgent Anaesthetic Registrar.

PAIN Score > 2
• Give supplemental analgesia if ordered.
• Increase PAC bolus dose or Narcotic Infusion rate if orders appropriate.
• Notify Urgent Anaesthetic Registrar.

Dermatome Level
• If block extends towards the head to T4 or T5 notify the on-call Anaesthetic Registrar.
• If patient uprights to allow regression of block if observations are stable;
  • Monitor BP & HR

VOC Acute Pain Management Measurement Toolkit
## DOSAGE & OBSERVATION CHART
### SPECIAL ANALGESIA

**UNIT:**

**PROCEDURE:**

**DATE OF PROCEDURE:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Temp °C</th>
<th>B.P.</th>
<th>H.R.</th>
<th>O2 L/minute</th>
<th>SpO2 on O2%</th>
<th>SpO2 on RA %</th>
<th>Respiratory Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sedation Score</th>
<th>Pain Scale (Circle)</th>
<th>VAS</th>
<th>NRS</th>
<th>Facoet</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
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<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>9</td>
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<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>9</td>
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</table>

<table>
<thead>
<tr>
<th>Functional Activity Score</th>
<th>Dermatome</th>
<th>Sensory</th>
<th>Motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>T2</td>
<td>T4</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>T5</td>
<td>T7</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>T10</td>
<td>T12.11</td>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>Block</th>
<th>1.2 on lower</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Bromage / Motor Block</th>
<th>2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hourly Volume</th>
<th>Bolus Doses</th>
<th>Total Doses/ Total Doses Delivered</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>/</td>
<td>/</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cumulative TOTAL</th>
<th>Comments</th>
<th>Analgesic Method</th>
<th>Inclusion (N)</th>
<th>Vomiting (V)</th>
<th>Pruritis (P)</th>
<th>Antimetics given</th>
<th>Supplemental Analgesics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Sedation Score:**
- 0: Awake/Awake
- 1: Mild Sedation
- 2: Moderate Sedation, unable to remain awake
- 3: Difficult to Rouse

**Pain Score 0-10**
- 0: No Pain
- 10: Most Possible Pain

**Functional Activity Score**
- A: No Limitation
- B: Mild Limitation
- C: Severe Limitation

*Relative to baseline*
# Acute Pain Management Measurement Toolkit

## Pain Assessment Chart

```
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Temp °C</th>
<th>B.P.</th>
<th>H.R.</th>
<th>O₂ Litres/min</th>
<th>SpO2 on O₂%</th>
<th>SpO2 on RA %</th>
<th>Respiratory Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Sedation Score</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Pain Scale (Circle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAS</td>
</tr>
<tr>
<td>NRS</td>
</tr>
<tr>
<td>Faces</td>
</tr>
<tr>
<td>Behavioral</td>
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<table>
<thead>
<tr>
<th>Functional Activity Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Dermatome Sensory Block</th>
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</thead>
<tbody>
<tr>
<td>T12</td>
</tr>
<tr>
<td>T14</td>
</tr>
<tr>
<td>T16</td>
</tr>
<tr>
<td>T17</td>
</tr>
<tr>
<td>T19</td>
</tr>
<tr>
<td>T112 + 1.1</td>
</tr>
<tr>
<td>L2 or lower</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Botox Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hourly Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botox Does</td>
</tr>
<tr>
<td>/</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cumulative TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botox Total</td>
</tr>
<tr>
<td>/</td>
</tr>
</tbody>
</table>

```

## Comments

- Analgesic Method: [ ]
- Nausea (N): [ ]
- Vomiting (V): [ ]
- Pruritus (P): [ ]
- Autonomic Drugs: [ ]

## Botox Score

- No score: Full flexion of knees and feet.
- 1: Partially able to move knees and feet.
- 2: Almost completely unable to move feet.
- 3: Completely unable to move feet or knees.

## Dermatome

- T2: Mid Scapulae
- T4: Nipple line
- T7: Incisional
- T10: Umbilicus
- L12 - L1: Groin
- L2: Lateral and anterior upper thigh
Appendix 6: Analgesia treatment summary form

Analgesia Treatment Summary Form

Does this patient have a pre-existing pain condition (> 3 months)?

Was acute pain relief needed during this admission?

If yes, what treatment for pain relief was used (select one or more):
- Oral medications (inc. opioids, NSAIDs, paracetamol)
- IM or S/C analgesics
- IV analgesic infusions (opioids, ketamine, NSAIDs)
- Patient controlled analgesia (PCA)
- Peripheral Nerve Block Catheter Infusion (e.g. femoral, axillary, paravertebral)
- Epidural or spinal infusion

Was Naloxone (Narcan) given during this admission?

Did a significant clinical event occur which was likely to be related to analgesic therapy?
- HDU / ICU admit
- MET call
- Cardiorespiratory arrest
- Severe hypotension

Did a peripheral nerve injury occur resulting in a deficit persisting after discharge?

Was a CT or MRI performed to investigate a possible epidural haematoma or abscess?

Did an epidural haematoma or abscess occur?

Health Information Services use only:

Number of days of acute pain therapy this admission:
(i.e. number of days more than three pain assessments or FAS entered)

Number of days in which a functional activity scale score of
References


