

## Pain Management and Assessment for Healthcare Practitioners: Review Article

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**Abstract**

*Pain is an unpleasant feeling, produced by the brain indicating damage or potential injury to the body.*

*The assessment of a patient's experience with pain is a crucial component in providing effective pain management. Accordingly, effective pain management ought to include ways to reduce pain, increase comfort, improve physiological, psychological and physical function and increase most importantly increase satisfaction with pain management. In return this comprehensive pain assessment should not only allow for the healthcare professionals to describe the pain, make evaluate and make decisions about the pain, but also it could perhaps produce positive outcomes for the patient. Pain is subjective and thus only the patient can really know what he or she is feeling. In health care there are ways to go about assessing a patient's pain including self-report assessment and asking the patient information about his/her pain. However, the question is which way of exploring and assessing maybe more suited and is more effective for pain management. This paper examines the reliability of several widely used methods to assess patient's pain for healthcare practitioners and to determine which method is more suited and useful.*

**Keywords:** Pain, Acute Pain, Chronic Pain, Pain Assessment, Pain Management

**Introduction**

According to the International Association for the Study of Pain, pain is "An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage" [1]. The standard definition of pain is "whatever the experiencing person says it is, existing whenever the experiencing person says it does" [2]. The assessment of a patient's experience with pain is a crucial component in providing effective pain management.

Moreover, effective pain management ought to include ways to reduce pain, increase comfort, improve physiological, psychological and physical function and increase most importantly increase satisfaction with pain management. In return this comprehensive pain assessment should not only allow for the healthcare professionals to describe the pain, make evaluate and make decisions about the pain, but also it could perhaps produce positive outcomes for the patient. Pain is subjective and thus only the patient can really know what he or she is feeling. In health care there are ways to go about assessing a patient's pain including self-report assessment and asking the patient information about his/her pain. However, the question is which way of exploring and assessing maybe more suited and is more effective for pain

management? This review examines the reliability of several widely used methods to assess patient's pain for healthcare practitioners and to determine which method is more suited and useful.

**Statistics on Pain**

It is cited that pain affects more Americans than health conditions like heart disease, diabetes, etc [3]. The following highlight facts on pain in the United States:

- All People experience pain at one point in their
- 76.5 million Americans affected (26%)
- Annual cost to society 100 billion/year ,,
- Pain is the most common complaint in primary care offices
- Chronic pain costs society \$560-\$635 billion each year [4].
- The cost of chronic pain includes not only health care cost, but days missed from work; hours of work lost and lower wages [4].

**Classification of Pain**

There are several classifications of pain, but the most common type of pain is acute chronic pain; Somatic, neuropathic or visceral pain. This review will focus mainly on acute and chronic pain.

Acute pain is a pain that comes on quickly, but lasts a short time (such as a few weeks or months). This shortness serves as a warning sign for other problems. Acute pain is also common with

tissue damage like a sprain or a strain. A characteristic of acute pain is that it disappears after the injury has healed. With acute pain the symptoms of the injury or disease are present. Psychological effects may not be present and if present it is mainly anxiety. The causes of acute pain include trauma or pain from recent surgery. Acute pain is easy to treat and does not require a multidisciplinary approach.

In contrast, chronic pain has a gradual onset of pain, but unlike acute pain it lasts a long time. This type of pain is also not associated with tissue damage. The cause of chronic pain may or may not be known and it can persist after healing of the initial injury. Studies have demonstrated that individuals with chronic pain have a higher risk of developing depression, anxiety, anger and may have financial factors. Some causes of chronic pain include ongoing conditions such as arthritis, and back pain. Unlike acute pain chronic injury requires a multidisciplinary approach for its management. Management of pain starts with proper assessment of the pain.

### Assessment of Pain

Pain assessment is the 5th vital sign and is an important part of pain management. Regular Assessment and Reassessment of pain is very important in management of pain [5]. A comprehensive pain assessment includes a Pain Scale Assessment using Pain Assessment tools, a thorough Medical history, physical examination, review of systems and Diagnostic tests.

The important part of assessment of pain starts with screening for the presence of any type of pain or risk factor through history. Thorough history of the patient reveals red flag and yellow flag. History will include the use of OPQRST (mnemonic); Onset of pain, palliative/provocative, quality of pain, Radiation of pain, Site/Location of pain and timing of onset of pain. Medical history of the individual must identify past medical history, medication, previous treatment, social history, occupational history and family history [6].

The other assessment that is significant is the use of pain rating scale which is self-administered by the individual being tested. Following history is a comprehensive physical examination of the patient [6]. Each pain region must be assessed separately when multiple region complaint is made. Since pain is subjective and the variability in the reporting of pain is based on individual's perception of pain it will be important to accept patient's self-pain reporting as accurate when assessing pain.

### Pain Assessment Tools

A quantitative assessment of the pain can be assessed using unidirectional and or multidirectional pain assessment scales. Uni-dimensional indicates intensity of pain while multi-dimensional indicates intensity and quality of pain.

Uni-Dimensional Pain Assessment Tool is simple and valid method of assessing pain that focuses on Intensity of pain. It simplifies pain by focusing on intensity. They are not used in isolation 1-2 scales

may be used at the same time. Unidirectional pain assessment tool takes less time to administer and requires less patient cognitive functionality. Uni-dimensional Rating Scales include: Visual Analogue scale (VAS), Numeric Rating scale (NRS), Verbal Rating scale (VRS) and Faces Pain scale. Uni-dimensional pain tools are used in clinical setting because it is easy to use [7].

### Visual Analogue Scale (VAS)

A 10 cm Horizontal or vertical line to indicate pain intensity with two extremes of pain at both ends of the line- No pain and worse pain (Figure 1). Patients are asked to rate their pain by marking along the line of the pain scale. The distance between the no pain and the patient's mark is measured.



Figure 1: Visual Analogue Scale.

VAS is a good tool for assessing variation in pain intensity as it is quick and easy to administer. This pain scale is easy to score and easy to compare the previous ratings by the patient. It is sensitive in assessing acute pain and sensitive in assessing changes in pain level. The limitations of VAS include that it is prone to error because of many steps of measurement. It is also time consuming and may be difficult for patient to understand, especially for cognitive dysfunction individuals, Non English speaking persons, the physically disabled and geriatric patients. Additionally, the VAS assessment can be administered either on paper or electronically [8].

### Numeric Rating Scale (NRS)

The Numeric Rating Score is an 11 point scale that asked the patient to rate their pain from 0 no pain to 10 worse pain possible (Figure 2). It is simple, reproducible and easy to comprehend. NRS can be administered graphically or verbally it is also sensitive to small changes in pain. NRS is applicable for anyone over the age of 8 with adequate cognitive abilities. Patient may not need to write anything, can verbalize the number and the provider will write it down. NRS is not reliable result for geriatric patients, non verbal and cognitive impaired.

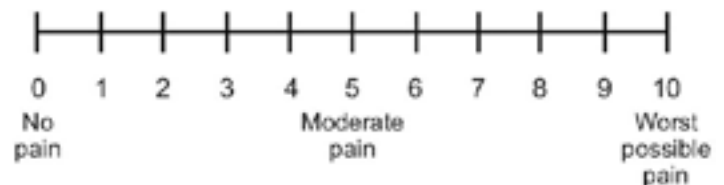


Figure 2: Numeric Pain Scale.

### Verbal Rating Scale (VRS)

VRS uses words that describe intensity of pain such as no pain, mild pain, moderate pain and severe pain. It is quick and easy to administer, valid and sensitive. Elderly patients prefer this scale method of pain scale assessment. Limitations of VRS are that the understanding and interpretation of pain mean different things for different patients depending on their background and cultures.

Another limitation is that it is not reliable for cognitively impaired patients. It has poor reproducibility.

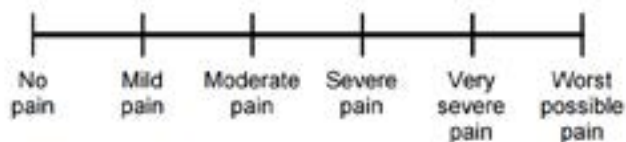


Figure 3: Verbal Pain Intensity Scale.

### Wong-Baker Faces Pain Rating Scale (WBFS)

The Wong-Baker Face scale combines numbers and faces for pain assessment. WBFC Uses Face drawing to represent facial expression during different level of pain. Face scales uses self-reporting to evaluate pain intensity [9]. Individuals with written problem can use the scale. Results obtained when accessing children might be misleading because of discrepancy in perception of pain, experience of pain and expression of pain. This pain scale has high reliability and validity. The pitfalls include that a lot of explaining is required. The faces may convey different messages [9]. Children may choose a face that they sympathise with rather than the face that represent them compliance may be difficult to assess.



Figure 4: Wong-Baker FACES Pain Rating Scale.

### Limitations of the Unilateral pain Assessment tool

Memory of pain is not always accurate

The Mild Moderate and Severe pain on VAS may correspond to different values on NRS and VAS. The best way to take care of the limitation which will be to combine two or three pain scales.

### Multidimensional Pain Assessment Tool

Multi-dimensional pain assessment tools provide further information about the characteristics of pain and its impact on the individuals.

The McGill Pain Questionnaire (figure 5) is the most frequently used multidimensional pain scale for the measurement of pain even though it is not a perfect tool. This method of pain Assessment allows individuals to provide a good description of their pain intensity and quality based on their experience. It provides further information about the characteristics of pain and its impact on the individual. Brief pain inventory which assesses pain intensity and associated disability [9]. It assesses the sensory, affective and evaluative dimensions of pain. McGill Pain Questionnaire is one tool that can assess additional dimension of pain, it provides more

complex information about patient pain. It is used for assessing chronic pain, pitfall is that it is time consuming and used mostly in research settings.

McGill Pain Assessment tool uses Self reporting Questionnaire [9], the scale is based on patient's experiences which Indicate intensity, quality of pain and associated disability. The McGill Pain Questionnaire consists of 20 descriptor word groups that measures four dimensions of pain (sensory, affective, evaluative, and miscellaneous), along with a rating scale of present pain intensity [9]. They are further sub-divided into 20 sub- classes each containing words of various degrees. 3 scores are obtained of which one is from each dimension and the total score is calculated. Reliable and used in clinical research

The McGill Pain Questionnaire multidimensional approach assesses the following: 1) Quality of pain, 2) Severity of pain, 3) Chronicity, 5) Factors that are associated with pain, 6) Factors that contribute to pain and 7) Location of pain. Its distribution includes investigating the etiology. It also assesses the Mechanism of pain/ injury and barrier to pain assessment and management are also assessed using McGill Pain questionnaire.

### Discussion

Unidirectional pain assessment (Figure 5) tool takes less time to administer and requires less patient cognitive functionality. This method of pain assessment provided ongoing assessment and provides fit back to how the treatment the individual is receiving is working out. Uni-dimensional pain sale is easy to use and understand by both the patients and the provider. It is readily available and inexpensive to use. Limitations of Uni-dimensional pain scale are the risk of oversimplifying the pain. Provider putting more focus on the number than the patient pain.

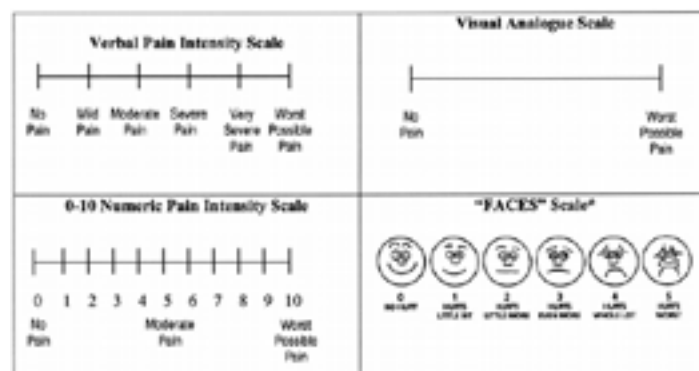


Figure 5: Uni-Dimensional Pain scales.

### Reliability

When tested during acute stage of pain, VAS is noted to be more reliable than VRS and NRS. When the VAS test is repeated within a short time, 90 % of the scores will be close meaning that VAS can be repeated. VAS is more reliable when comparing rating of same patient. It is unreliable with inter-patient comparison of pain [10]. The research has tested the reliability of the VAS, VRS and NRS and all three was found to be reliable and valid [11,12]. The VAS

was found to score higher than the VRS and the NRS. The VRS was noted to have more reliable scientific information. It is difficult for the cognitive impaired patient to reproduce the result.

### Variability

Pain rating scale is very important tool to use in evaluation of pain. There is evidence that show that patient is able to use pain rating scales to communicate their pain intensity with their clinicians. Pain scale rating is easy to administer but interpretation of the pain scale is the problem. The key to successful pain management assessment starts with accepting the patient pain to be real, using correct tool assess pain based on the client that the healthcare practitioner is working with. It is important that the patient understand the tool that the patient is working with and also understand how to use the pain scale. Communication is also another important factor in obtaining a correct result from the pain assessment scale.

The one-dimensional pain-rating scales reviewed are reliable and valid; VAS can provide ratio level data and can be repeated. It is the most difficult to use in a clinical setting. VRS is the least sensitive but still easy to use. NRS is more sensitive while VRS is simpler.

### Conclusion

According to Melzack & Torgerson (1971), the focus on a single dimension to assess and understand a person's pain experience (e.g. a pain intensity score) does not capture the complexity of pain. The authors also noted that the language of pain could provide a more meaningful way to assess the multidimensional nature of the pain experience.

Pain Assessment is very important to management of pain. Assessment of pain starts with the patient history. Pain is subjective and assessment and treatment should be patient focused. Patients' self-reporting (expression) of their pain is regarded as the gold standard of pain. Multidisciplinary approach is the best approach in assessment and management of pain.

All pain rating scales are reliable, valid and appropriate for use in a clinical setting. Visual analogue scale has more pitfalls than the other uni-dimensional pain rating scale. NRS is very sensitive. With healthcare practitioners the "Numerical Rating Scale has good sensitivity and generates data that can be statistically analysed for audit purposes" [6]. The Verbal Rating Scale is simpler, but it lacks sensitivity and data produced from the rating scale may be misunderstood [6].

It is important for healthcare practitioners to understand that there are potential for error with any pain scale [6]. Barriers in Pain Assessment occur because pain is subjective and relies on rating of patient. Errors occur also when there is little or no communication between the patient and the healthcare practitioner.

No pain scale is perfect as demonstrated. However, they all have their own benefits and limitations. Errors can be minimized by combining 2 or more pain scales during assessment and also by

obtaining an accurate and comprehensive medical history of the patient.

### References

1. International Association for the Study of Pain (IASP) IASP Taxonomy.
2. Mc Caffery, Margo (1968) Nursing practice theories related to cognition, bodily pain, and man-environment interactions. Los Angeles: University of California Los Angeles Students.
3. American Academy of Pain Medicine (AAPM) AAPM facts and figures on pain.
4. <https://www.uspainfoundation.org/education/>
5. Curtiss, Carol and McKee A (2004) Pain Management for Primary Care Clinicians. Assessment of the person with pain. In: Lipman, (Edn). American Society of Health System Pharmacists 27-42.
6. Registered Nurses' Association of Ontario (RNAO) (2013) Assessment and management of pain: Third edition. International Affairs & Best Practice Guidelines (iaBPG). Toronto, ON: Registered Nurses' Association of Ontario.
7. Williamson A, Hoggart B (2005) Pain: a review of three commonly used pain rating scales. J Clin Nurs 14: 798-804.
8. Jensen MP, Karoly P, Braver S (1986) The measurement of clinical pain intensity: a comparison of six methods. Pain 27: 117-126.
9. Melzack R (1975) The McGill Pain Questionnaire: major properties and scoring methods. Pain 1: 277-299.
10. Lara-Munoz C, De Leon SP, Feinstein AR, Puente A, Wells CK (2004) Comparison of three rating scales for measuring subjective phenomena in clinical research. I. Use of experimentally controlled auditory stimuli. Archives of Medical Research 35: 43-48.
11. Bijur PE, Silver W, Gallagher EJ (2001) Reliability of the visual analog scale for measurement of acute pain. Acad Emerg Med 8: 1153-1157.
12. Rosier EM, Iadarola MJ, Coghill RC (2002) Reproducibility of pain measurement and pain perception. Pain 98: 205-216.
13. <http://wongbakerfaces.org/faces-download/>

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