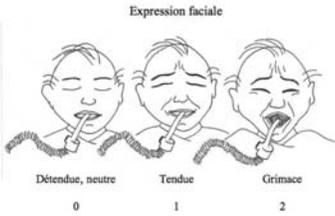


The Critical-Care Pain Observation Tool (CPOT)

(Gélinas et al., 2006)

Indicator	Score	Description	
Facial expression  Caroline Arbour, RN, B.Sc., PhD(student) School of Nursing, McGill University	Relaxed, neutral	0	No muscle tension observed
	Tense	1	Presence of frowning, brow lowering, orbit tightening and levator contraction or any other change (e.g. opening eyes or tearing during nociceptive procedures)
	Grimacing	2	All previous facial movements plus eyelid tightly closed (the patient may present with mouth open or biting the endotracheal tube)
Body movements	Absence of movements or normal position	0	Does not move at all (doesn't necessarily mean absence of pain) or normal position (movements not aimed toward the pain site or not made for the purpose of protection)
	Protection	1	Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements
	Restlessness/Agitation	2	Pulling tube, attempting to sit up, moving limbs/thrashing, not following commands, striking at staff, trying to climb out of bed
Compliance with the ventilator (intubated patients)	Tolerating ventilator or movement	0	Alarms not activated, easy ventilation
	Coughing but tolerating	1	Coughing, alarms may be activated but stop spontaneously
	Fighting ventilator	2	Asynchrony: blocking ventilation, alarms frequently activated
OR Vocalization (extubated patients)	Talking in normal tone or no sound	0	Talking in normal tone or no sound
	Sighing, moaning	1	Sighing, moaning
	Crying out, sobbing	2	Crying out, sobbing
Muscle tension Evaluation by passive flexion and extension of upper limbs when patient is at rest or evaluation when patient is being turned	Relaxed	0	No resistance to passive movements
	Tense, rigid	1	Resistance to passive movements
	Very tense or rigid	2	Strong resistance to passive movements or incapacity to complete them
TOTAL		___ / 8	

Brief description of each CPOT behavior:

Facial expression: The facial expression is one of the best behavioral indicators for pain assessment. A score of 0 is given when there is no muscle tension observable in the patient's face. A score of 1 consists of a tense face which is usually exhibited as frowning or brow lowering. A score of 2 refers to grimacing, which is a contraction of the full face including eyes tightly closed and contraction of the cheek muscles. On occasion, the patient may open his or her mouth, or if intubated, may bite the endotracheal tube. Any other change in facial expression should be described in the chart, and given a score of 1 if different from a relaxed (0) or grimacing (2) face.

Body movements: A score of 0 is given when a patient is not moving at all or remains in a normal position as per the nurse's clinical judgment. A score of 1 refers to protective movements, meaning that the patient performs slow and cautious movements, tries to reach or touch the pain site. A score of 2 is given when the patient is restless or agitated. In this case, the patient exhibits repetitive movements, tries to pull on tubes, tries to sit up in bed, or is not collaborative. Of note, body movements are the less specific behaviors in relation with pain, but are still important in the whole evaluation of the patient's pain.

Compliance with the ventilator: Compliance with the ventilator is used when the patient is mechanically ventilated. A score of 0 refers to easy ventilation. The patient is not coughing nor activating the alarms. A score of 1 means that the patient may be coughing or activating the alarms but this stops spontaneously without the nurse having to intervene. A score of 2 is given when the patient is fighting the ventilator. In this case, the patient may be coughing and activating the alarms, and an asynchrony may be observed. The nurse has to intervene by talking to the patient for reassurance or by administering medication to calm the patient down.

Vocalization: Vocalization is used in non-intubated patients able to vocalize. A score of 0 refers to the absence of sound or to the patient talking in a normal tone. A score of 1 is given when the patient is sighing or moaning, and a score of 2 when the patient is crying out (Aïe! Ouch!) or sobbing.

Muscle tension: Muscle tension is also a very good indicator of pain, and is considered the second best one in the CPOT. When the patient is at rest, it is evaluated by performing a passive flexion and extension of the patient's arm. During turning, the nurse can easily feel the patient's resistance when she is participating in the procedure. A score of 0 is given when no resistance is felt during the passive movements or the turning procedure. A score of 1 refers to resistance during movements or turning. In other words, the patient is tense or rigid. A score of 2 consists of strong resistance. In such cases, the nurse may be unable to complete passive movements or the patient will resist against the movement during turning. The patient may also clench his/her fists.

Directives of use of the CPOT

1. The patient must be observed at rest for one minute to obtain a baseline value of the CPOT.
2. Then, the patient should be observed during nociceptive procedures (e.g. turning, wound care) to detect any changes in the patient's behaviors to pain.
3. The patient should be evaluated before and at the peak effect of an analgesic agent to assess whether the treatment was effective or not in relieving pain.
4. For the rating of the CPOT, the patient should be attributed the highest score observed during the observation period.
5. The patient should be attributed a score for each behavior included in the CPOT and muscle tension should be evaluated last, especially when the patient is at rest because the stimulation of touch alone (when performing passive flexion and extension of the arm) may lead to behavioral reactions.

Observation of patient at rest (baseline).

The nurse looks at the patient's face and body to note any visible reactions for an observation period of one minute. She gives a score for all items except for muscle tension. At the end of the one-minute period, the nurse holds the patient's arm in both hands – one at the elbow, and uses the other one to hold the patient's hand. Then, she performs a passive flexion and extension of the upper limb, and feels any resistance the patient may exhibit. If the movements are performed easily, the patient is found to be relaxed with no resistance (score 0). If the movements can still be performed but with more strength, then it is concluded that the patient is showing resistance to movements (score 1). Finally, if the nurse cannot complete the movements, strong resistance is felt (score 2). This can be observed in patients who are spastic.

Observation of patient during turning.

Even during the turning procedure, the nurse can still assess the patient's pain. While she is turning the patient on one side, she looks at the patient's face to note any reactions such as frowning or grimacing. These reactions may be brief or can last longer. The nurse also looks out for body movements. For instance, she looks for protective movements like the patient trying to reach or touching the pain site (e.g. surgical incision, injury site). In the mechanically ventilated patient, she pays attention to alarms and if they stop spontaneously or require that she intervenes (e.g. reassurance, administering medication). According to muscle tension, the nurse can feel if the patient is resisting to the movement or not. A score 2 is given when the patient is resisting against the movement and attempts to get on his/her back.

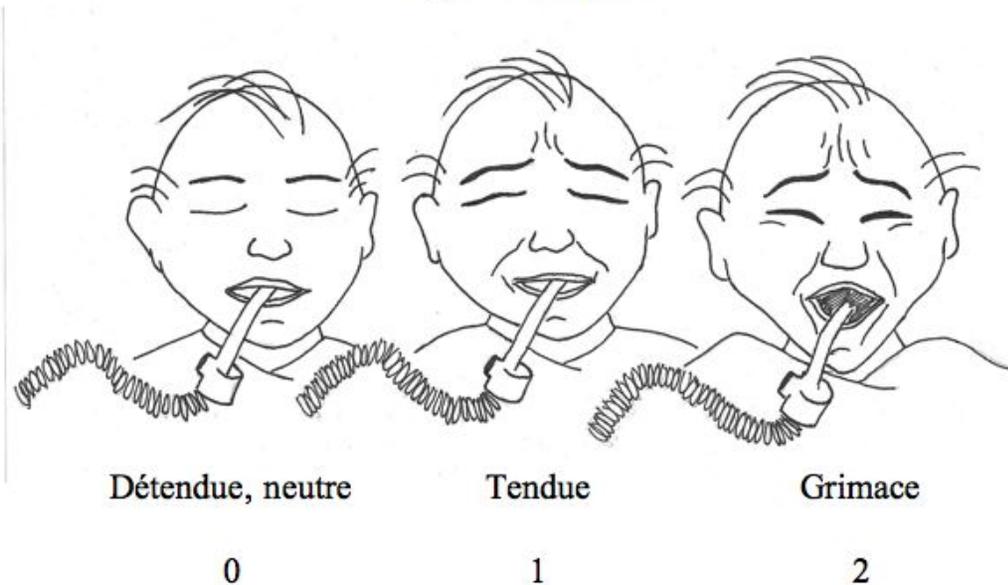
Facial expressions

0
Relaxed, neutral
(no muscle tension)

1*
Tense
(frowning, brow lowering, orbit
tightening, little levator contraction)

2
Grimacing
(contraction of the whole face: frowning,
brow lowering, eyes tightly closed, levator
contraction – mouth may be opened or the
patient may be biting the endotracheal tube)

Expression faciale



By Caroline Arbour, RN, B.Sc., PhD(student), McGill University

* A score of 1 may be attributed when a change in the patient's facial expression is observed compared with rest assessment (e.g. open eyes, tearing).

Inspired by : Prkachin, K. M. (1992). The consistency of facial expressions of pain : a comparison across modalities. *Pain*, 51, 297-306.

References

- Gélinas, C. (2010). Nurses' Evaluations of the Feasibility and the Clinical Utility of the Critical-Care Pain Observation Tool. *Pain Management Nursing*, 11(2), 115-125.
- Gélinas, C., & Arbour, C. (2009). Behavioral and physiological indicators during a nociceptive procedure in conscious and unconscious mechanically ventilated adults: Similar or different? *Journal of Critical Care*, 24, 628.e7-e17.
- Gélinas, C., Fillion, L., & Puntillo, K. A. (2009). Item selection and Content validity of the Critical-Care Pain Observation Tool: An instrument to assess pain in critically ill nonverbal adults. *Journal of Advanced Nursing*, 65(1), 203-216.
- Gélinas, C., Harel, F., Fillion, L., Puntillo, K. A., & Johnston, C. (2009). Sensitivity and specificity of the Critical-Care Pain Observation Tool for the detection of pain in intubated adults after cardiac surgery. *Journal of Pain & Symptom Management*, 37(1), 58-67.
- Gélinas, C. (2007). Management of pain in cardiac surgery ICU patients : Have we improved over time? *Intensive and Critical Care Nursing*, 23, 298-303.
- Gélinas, C., & Johnston, C. (2007). Pain assessment in the critically ill ventilated adult: Validation of the Critical-Care Pain Observation Tool and physiologic indicators. *The Clinical Journal of Pain*, 23 (6), 497-505.
- Gélinas, C., Fillion, L, Puntillo, K., Viens, C., & Fortier, M. (2006). Validation of the Critical-Care Pain Observation Tool in adult patients. *American Journal of Critical Care*, July, 15 (4), 420-427.
- Gélinas, C., Viens, C., Fortier, M., & Fillion, L. (2005). Les indicateurs de la douleur en soins critiques. *Perspective Infirmière*, 2 (4), 12-22.
- Gélinas, C., Fortier, M., Viens, C., Fillion, L., & Puntillo, K. (2004). Pain assessment and management in critically-ill intubated patients: a retrospective study. *American Journal of Critical Care*, 13 (2), 126-135.
- Herr K, Coyne PJ, Key T, Manworren R et al. (2006). Pain assessment in the nonverbal patient: Position statement with clinical practice recommendations. *Pain Management Nursing*, 7(2), 44-52.
- Puntillo KA, Morris AB, Thompson CL, Stanik-Hutt J et al. (2004). Pain behaviors observed during six common procedures: Results from Thunder Project II. *Critical Care Medicine Journal*, 32(2):421-427.
- Tousignant-Laflamme, Y., Bourgault, P., Gélinas, C., & Marchand, S. (2010). Assessing pain behaviors in healthy subjects using the Critical-Care Pain Observation Tool (CPOT) : A pilot study. *The Journal of Pain*, 11(10), 983-987.

Author Contact Information

Céline Gélinas, N, PhD
Assistant Professor
McGill University
School of Nursing
3506, University Street
Wilson Hall, Room 420
Montreal, Qc H3A 2A7 Canada
Phone: (514) 398-6157
Email: celine.gelinas@mcgill.ca

Researcher
Centre for Nursing Research
Jewish General Hospital
3755 Cote Sainte Catherine Road, Room H-301.2
Montreal, Qc H3T 1E2 Canada
Phone: (514) 340-8222 ext.4645