**Appendix A:**

**Behavioral Pain Scale**

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description | Score | |
| Facial expression | Relaxed | | 1 |
|  | Partially tightened (e.g. brow lowering) | | 2 |
|  | Fully tightened (e.g. eyelid closing) | | 3 |
|  | Grimacing | | 4 |
| Upper limb movements | No movement | | 1 |
|  | Partially bent | | 2 |
|  | Fully bent with finger flexion | | 3 |
|  | Permanently retracted | | 4 |
| Compliance with mechanical ventilation | Tolerating movement | | 1 |
|  | Coughing but tolerating ventilation for the most of time | | 2 |
|  | Fighting ventilator | | 3 |
|  | Unable to control ventilation | | 4 |

Total 3-12

**Critical-Care Observation Tool**

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Description | Score | |
| Facial Expression | No muscular tension observed | Relaxed, neutral | 0 |
|  | Presence of frowning, brow lowering, orbit tightening and levator contraction | Tense | 1 |
|  | All of the above facial movements plus eyelid tightly closed | Grimacing | 2 |
| Body movements | Does not move at all (does not necessarily mean absence of pain) | Absence of movements | 0 |
|  | Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements  Pulling tube, attempting to sit up, moving limbs/thrashing , not following commands, striking at staff, trying to climb out of bed | Protection | 1 |
| Muscle Tension  Evaluation by passive flexion and extension of upper extremities | No resistance to passive movements  Resistance to passive movements  Strong resistance to passive movements, inability to complete them | Relaxed  Tense, rigid  Very tense to rigid | 0  1  2 |
| Compliance with the ventilator  (intubated patient)  OR  Vocalization (extubated patient) | Alarms not activated, easy ventilation  Alarms stop spontaneously  Asynchrony: blocking ventilation, alarms frequently activated  Talking in normal tone or no sound  Sighing, moaning  Crying out, sibbing | Tolerating ventilator or movement  Coughing but tolerating  Fighting ventilator  Talking in normal tone or no sound | 0  1  2  0  1  2 |
| Total |  |  | 0-8 | |

**Appendix B:**

**Pain Assessment And Management For The Critically Ill Patient**

Questionnaire number :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Are you currently employed as an ICU-nurse in an ICU for adults?

If yes: we would appreciate it if you would answer this questionnaire

If no: please do not answer questionnaire, but return it using enclosed envelope.

Name Hospital:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The following questions pertain to patients that are ABLE to communicate verbally or via other communication means.**

1. In your opinion, who can best evaluate pain severity ? (please select only one response)

a) physicians b) nurses c) patients d) family members

2. Do you use standardized pain assessment tools for patients that can communicate?

a) yes b) no

If yes, which standarized pain assessment tool(s) do you use? (several answers possible)

0-10 Numerical Rating scale(NRS)

Visual Analogue scale (VAS)

Verbal Rating scale (VRS)

Faces scale

McGill Pain Questionnaire (short form)

Brief pain inventory (Wisconsin)

Other (please explain) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. How often do you use a pain assessment tool for patients that are able to communicate?

a) never ( 0%) b) seldom (1-25 %) c) sometimes ( 26-50%) d) often ( 51-75%)

e) routinely (> 75 %)

3a. If you do not use a pain assessment tool, please specify your method of assessing pain.:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4. In your opinion, how important is pain assessment (e.g. numerical rating score) for patients that can communicate?

a) not important b) minimally important c) somewhat important

d) moderately important e) extremely important

5. How often do you assess and register pain scores for a stable patient that is able to communicate?

a) once an hour b) once every 1-4 hours c) once every 4-8 hours

d) once every 12 hours e) never f) only when necessary

6. In your opinion, how important is frequent pain assessment and registration for patients able to communicate?

a) not important b) minimally important c) somewhat important

d) moderately important e) extremely important

**The following questions pertain to patients that are UNABLE to communicate verbally or via other communication means.**

7. In your opinion, who can best evaluate pain severity ? (please select only one response))

a) physicians b) nurses c) family members

8. Do you use standardized pain assessment tools for patients that cannot communicate??

a) yes b) no

If yes, which standardized pain assessment tool(s) do you use? (several answers possible)

Adult non-verbal pain scale (Ohdner)

Behaviour Pain Scale ( BPS) (Payen)

PAIN algorithm ( Puntillo,1997)

Pain Behavior Assesment Tool (Puntillo,2004)

Behavioural Pain Rating Scale (Mateo)

Critical-Care Pain Observation Tool ( CPOT) (Gelinas)

Checklist of non-verbal pain indicators (Feldt)

REPOS-scale (Rotterdam Elderly Pain Obeservation Scale)

PACSLAC-D (Pain Assesment Checklist For Seniors With Limited Ability to Communicate-Dutch Language)

PAINAD (Pain Assessment in Advanced Dementia)

Other (please explain)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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9. How often do you use a pain assessment tool for patients that are unable to communicate?

a) never ( 0%) b) seldom (1-25 %) c) sometimes ( 26-50%) d) often ( 51-75%)

e) routinely (> 75 %)

10. If you do not use a pain assessment tool, please specify your method of assessing pain.:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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11. In your opinion, how important is a pain assessment tool (e.g. numerical rating score) for patients that are unable to communicate?

a) not important b) minimally important c) somewhat important

d) moderately important e) extremely important

12. How often do you assess and register pain scores for a stable patient that is unable to communicate?

a) once an hour b) once every 1-4 hours c) once every 4-8 hours

d) once every 12 hours e) never f) only when necessary

13. Which of the following behaviors do you see as a pain indicators ?

Never Seldom Sometimes Often Routinely

a) closing eyes 🞏 🞏 🞏 🞏 🞏

b) rigidity 🞏 🞏 🞏 🞏 🞏

c) verbal noise 🞏 🞏 🞏 🞏 🞏

d) eyebrow frowning 🞏 🞏 🞏 🞏 🞏

e) fighting ventilator/ 🞏 🞏 🞏 🞏 🞏

alarms ventilator 🞏 🞏 🞏 🞏 🞏

f) splinting 🞏 🞏 🞏 🞏 🞏

g) grimacing 🞏 🞏 🞏 🞏 🞏

h) trembling 🞏 🞏 🞏 🞏 🞏

i) balling of fists/teeth 🞏 🞏 🞏 🞏 🞏

grinding

j) sighing 🞏 🞏 🞏 🞏 🞏

k) slow, careful 🞏 🞏 🞏 🞏 🞏

movements

l) huddled 🞏 🞏 🞏 🞏 🞏

m) attempts to climb out 🞏 🞏 🞏 🞏 🞏

of bed

n) repeatingly touching 🞏 🞏 🞏 🞏 🞏

an area of the body

o) call for attention 🞏 🞏 🞏 🞏 🞏

through movements

p) pulling on ET tube 🞏 🞏 🞏 🞏 🞏

q) hitting personeel 🞏 🞏 🞏 🞏 🞏

r) attemts to sit up 🞏 🞏 🞏 🞏 🞏

s) thrashing limbs 🞏 🞏 🞏 🞏 🞏

t) resistance to passive 🞏 🞏 🞏 🞏 🞏

movements

u) not following 🞏 🞏 🞏 🞏 🞏

commands

v) withdrawl 🞏 🞏 🞏 🞏 🞏

w) watchfulness 🞏 🞏 🞏 🞏 🞏

x) restlessness 🞏 🞏 🞏 🞏 🞏

y) arching 🞏 🞏 🞏 🞏 🞏

If you know of other behavioural indicators of pain, please note here (optional):

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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14. In your opinion, how important is frequent pain assessment and registration for patients that are unable to communicate?

a) not important b) minimally important c) somewhat important

d) moderately important e) extremely important

15a. In your opinion, how important are physiological indicators (e.g. tachycardia ) for pain assessment?

a) not important b) minimally important c) somewhat important

d) moderately important e) extremely important

15b. Which physiological indicators do you see as an indication of pain?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**The following questions pertain to pain assessment for ALL intensive care patients.**

16. How important is pain assessment for the following classifications of ICU patients?

Not Minimally Somewhat Moderately Extreme

a) post-operative ICU patients 🞏 🞏 🞏 🞏 🞏

b) medical(non-surgical) 🞏 🞏 🞏 🞏 🞏

ICU patiënt

c) patients with an GCS< 8 🞏 🞏 🞏 🞏 🞏

d) trauma ICU patients 🞏 🞏 🞏 🞏 🞏

e) ICU patients with burnwound 🞏 🞏 🞏 🞏 🞏

f)” end-of-life” ICU patients 🞏 🞏 🞏 🞏 🞏

g) patients receiving sedatives 🞏 🞏 🞏 🞏 🞏

17. How important is the assessment for the need for pre-emptive analgesia, prior to the following procedures (in other words, analgesic administration prior to a painful procedure)?

Not Minimally Somewhat Moderately Extreme

a) re-positioning 🞏 🞏 🞏 🞏 🞏

of patiënt

b) ET suctioning 🞏 🞏 🞏 🞏 🞏

c) wound care 🞏 🞏 🞏 🞏 🞏

d) drain removal 🞏 🞏 🞏 🞏 🞏

e) invasive line 🞏 🞏 🞏 🞏 🞏

placement

f) Spontaneous breathing 🞏 🞏 🞏 🞏 🞏

(weaning) trial

18. How often is pain management discussed during nurse-to-nurse reporting?

a) never b) seldom c) sometimes d) often e) routinely

19. How often is pain scoring discussed during the nurse-to-nurse reporting?

a) never b) seldom c) sometimes d) often e) routinely

20. How often is pain management and pain scoring discussed during medical rounds?

a) never (b) seldom c) sometimes d) often e) routinely

21. How often do physicians prescribe analgesia based on pain scores or other assessment parameters?

a) never b) seldom c) sometimes d) often e) routinely

22. In your opinion, what are the consequences of untreated pain? (optional)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Barriers to pain assessment and management**

23. Cross for each item below how often this affects your ability to assess and treat pain.

Never Seldom Sometimes Often Routinely

a) Nursing workload 🞏 🞏 🞏 🞏 🞏

b) Unavailable (standardized) 🞏 🞏 🞏 🞏 🞏

pain assessment tools

c) Lack of familiarity/education 🞏 🞏 🞏 🞏 🞏

with (standardized) pain

assessment tools

d) Instable patient (e.g. instable 🞏 🞏 🞏 🞏 🞏

hemodynamics)

e) Patiënt unable to 🞏 🞏 🞏 🞏 🞏

communicate

f) Lack of protocols/ 🞏 🞏 🞏 🞏 🞏

guidelines for pain

assessment

g) Low priority of pain 🞏 🞏 🞏 🞏 🞏

management by the ICU team

h) No specific place 🞏 🞏 🞏 🞏 🞏

for charting pain

i) Poor pain assessment 🞏 🞏 🞏 🞏 🞏

and pain management

registration

j) Sedation interference 🞏 🞏 🞏 🞏 🞏

with pain assessment

k) Poor communication of 🞏 🞏 🞏 🞏 🞏

pain and analgesic

management priorities

within the ICU team

l) Lack of protocols/guide- 🞏 🞏 🞏 🞏 🞏

lines for pain management

m) Ineffective analgesic 🞏 🞏 🞏 🞏 🞏

dosages

Other, namely

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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24. Cross for each item below the extent to which this affects the adequate delivery of effective pain management.

Never Seldom Sometimes Often Routinely

a) Pain assessment and 🞏 🞏 🞏 🞏 🞏

management is a priority

in the ICU

b) Enthousiatic and motivated 🞏 🞏 🞏 🞏 🞏

personel

c) The use of standardized 🞏 🞏 🞏 🞏 🞏

pain assessment tools

d) Protocols and guidelines 🞏 🞏 🞏 🞏 🞏

are utilized

e) Physicians prescribe 🞏 🞏 🞏 🞏 🞏

adequate dosages of

analgesics

f) Continuing education on 🞏 🞏 🞏 🞏 🞏

pain is followed

g) Advanced practice nurses 🞏 🞏 🞏 🞏 🞏

work in the ICU

h) Pain team consultants 🞏 🞏 🞏 🞏 🞏

consult in the ICU

Other, namely

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Pain Education**

25. Have you read the Dutch Association for Intensive Care Guidelines for management of sedation and analgesia?

a) yes b) no c) not sure

26. Have you been educated on the following topics during or after your training as critical care nurse?

Yes No Not sure

a) Pain physiology 🞏 🞏 🞏

b) Pijnmetingen bij de IC patient 🞏 🞏 🞏

c) Physiological consequences of 🞏 🞏 🞏

untreated pain

d) Psychological consequences of 🞏 🞏 🞏

untreated pain

e) Painful conditions and procedures 🞏 🞏 🞏

f) Principles/ strategies of 🞏 🞏 🞏

pharmacological pain management

g) Non-pharmacological pain management 🞏 🞏 🞏

techniques

h) Practice recommendations/guidelines 🞏 🞏 🞏

27. If you have had training in pain assessment and management in the ICU, how satisfied were you?

a) not satisfied b) minimally satisfied c) somewhat satisfied d) moderately satisfied e) very satisfied

**Demographic data**

28. How many years of experience do you have as a qualified nurse?

🞏 < 2 years 🞏 >2-5 years 🞏 5-10 years 🞏 > 10 years

29. How many years are you working as an ICU nurse within the ICU?

🞏 < 2 years 🞏 >2-5 years 🞏 5-10 years 🞏 > 10 years

30. Qualifications:

a) in-service (diploma) b) Bachelors c) Masters d) PhD

31. Employment status:

a) full-time b) part-time c) now and then (on call)

32. Shifts:

a) days only b) evenings/nights only c) all shifts

33. Primary speciality of your ICU:

a) surgical b) cardiosurgical c) burns

d) combined ICU (please specify):

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) medical f) neuro g) trauma

34a. Number of ICU’s in your hospital:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

34b. Number of ICU beds:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

35. Hospital type:

a) Academic b) Teaching c) Regional/Community

36. Adherence region hospital :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If you wish to be informed of the results, please write your e-mail here:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Thank You very much for completing the questionnaire.