



Prevention of Post Intensive Care Syndrome in adult ICU patients

Reta Loodus RN, APN, MSc

Post Intensive Care Syndrome (PICS)

- PICS refers to new or worsened physical impairments, mental health, cognitive imapairments or social problems.
- ► These impairments may persist even after leaving intensive care unit or hospital.
- ▶ PICS occurs in more than 50% of patients six months after hospitalization in the intensive care unit.



2023

Intensiivravijärgse sündroomi ennetamine täiskasvanul

Eesti Anesteesia- ja Intensiivraviõdede Ühing



PICS guideline

Prevention of PICS

| A | Assessment, prevention, and management of pain |
|---|--|
| B | Both spontaneous awakening trials and spontaneous breathing trials |
| c | Choice of sedation and analgesia |
| D | Delirium assessment, prevention, and management |
| E | Early mobility and exercise |
| F | Family engagement and empowerment |
| | |

| | Bundle Element | Primary Accountability | Additional Team Member Responsibility |
|---|--|--|--|
| Α | Assessment, prevention, and management of pain | RN | Physician; Pharmacist or PharmD |
| В | Both spontaneous awakening trials and spontaneous breathing trials | RN; Respiratory care practitioner | Physician; Pharmacist or PharmD; RN |
| С | Choice of sedation and analgesia | Physician | RN; Pharmacist or PharmD |
| D | Delirium assessment, prevention, and management | RN | Respiratory care practitioner; Pharmacist or PharmD; Physician; Physical therapist and/or occupational therapist |
| Ε | Exercise and early mobility | Physical therapist and/or occupational therapist; RN | RN, Respiratory care practitioner |
| F | Family engagement and empowerment | RN; Family | All |
| G | Good sleep | RN | Physician; Pharmacist or PharmD; Respiratory care practitioner; Family |

Assessment, prevention, and management of pain

- Adequate assessment of pain using validated tools.
- Assessing and treating pain adequately are necessary to optimize recovery and reduce risks for the development of short-term and long-term problems.
- Verbal or visual pain scale vs behavioral pain scale.
- Multimodal approach to pain management includes nonpharmacological therapies

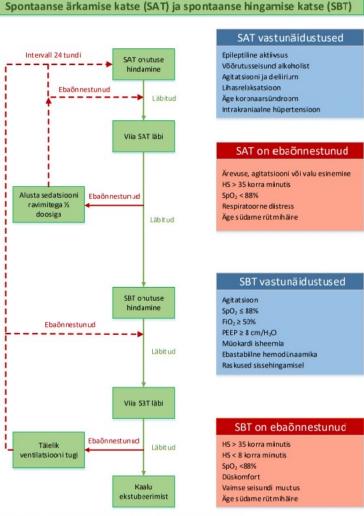
Assessment of pain:

- upon arrival at the department
- at least 6 times a day
- at rest
- before standard care procedures (i.e turning, endotracheal suctioning)
- during activities and procedures
- prior to administration of an analgesic
- > at the peak effect of an analgesic
- 1 hour after opioid administration

B - Both spontaneous awakening trials and spontaneous breathing

trials

Coordination of spontaneous wakening and breathing trials is the basis for weaning from mechanical ventilation.



"Wake Up and Breathe" Protocol Spontaneous Awakening Trials (SATs) + Spontaneous Breathing Trials (SBTs) No active seizures q24 hrs No alcohol withdrawal **SAT Safety** No agitation Screen No paralytics No myocardial ischemia Normal intracranial pressure Perform SAT Anxiety, agitation, or pain Respiratory rate > 35/min SpO2 < 88% Respiratory distress Acute cardiac arrhythmia Restart sedatives at 1/2 dose pass SBT Safety Screen No agitation Oxygen saturation ≥ 88% FiO2 = 50% SBT Safety PEEP ≤ 7.5 cm H2O Screen No myocardial ischemia No vasopressor use Inspiratory efforts Perform SBT SBT Failure Respiratory rate > 35/min Respiratory rate < 8/min Full ventilatory SpO2 < 88% support Respiratory distress pass Mental status change Acute cardiac arrhythmia Consider extubation

Abbreviations: PEEP, positive end-expiratory pressure; Spo₂, oxygen saturation. © 2008 Vanderbilt University. All rights reserved.

Posa, P., Singh, J., & Stollings, J. L. (Eds.). (2020). ICU Liberation Second edition. Society of Critical Care Medicine.

Joonis 1. Spontaansete ärkamise ja hingamise katsete kriteeriumid¹¹.

C - Choice of sedation and analgesia

- Analgosedation first analgesics, then, if necessary, sedatives.
- Timing of analgesic administration before procedures.
- Opioids at the lowest effective doses for procedural pain are favored.

D - Delirium assessment, prevention, and management

- Delirium has been subtyped according to motoric manifestations into hyperactive delirium, or hypoactive delirium.
- Use appropriate tools for screening delirium.
- When identifying delirium, it is important to think about the reason for its occurrence.



Delirium prevention strategies

Frequent reorientation

Day/night cycle maintenance

minimizing light at night to improve sleep quality

Nonpharmalogical sleep protocols

Ear plugs at night

removing catheters and physical restraints as early as safely possible

Early mobilization

Use of own eyeglasses/hearing aids

Minimize extraneous noise

Adequate analgesia based on frequent objective monitoring

Avoid deliriogenic medications

E - Early mobility and exercise

Ohutuse hindamine:

Stabiilne hemodünaamika

- Puudub aktiivne südameisheemia
- · Raviskeemis ei ole uusi või tõusvates dooside vasopressoreid
- FiO2 ≤60% ja PEEP ≤10

Kanüülid/kateetrid on fikseeritud

- · Hingamistee ja invasiivsed seadmed on adekvaatselt fikseeritud
- Femoraalsoontes ei ole ajutist südamestimulaatorit või iuhtekanüüli

Reageerib häälele

RASS -2 kuni 2

Turvaline meeskond

- · Vajalikud meeskonnaliikmed on kohal
- Abiyahendid on kättesaadavad



Eesmärk: Sirgelt istumine

ja jõu arendamine

 Eelmise sammu punktid Patsient asendi muutus iga

2 tunni järel (ise või abiga)

peaosa kõrgust 65° ≥ 1 tund

Kaaluge füsioterapeudi või

Aktiivsed harjutused iga 8

Eesmärk: Taluda voodi

tegevusterapeudi

konsultatsiooni

tunni iärel

2. ASTE

1. ASTE

Eesmärk: Kliiniline stabiilsus ja ortostaatiline seisund

- Patsiendi asendi muutus iga 2 tunni järel
- Voodi peaosa kõrgus ≥30°
- Passiivsed harjutused iga 8 tunni järel
- Voodiga istuvas asendis 20 minutit kolm korda päevas

Rakendamine

3. ASTE

- Hinnake sobivust 8 tunni jooksul pärast vastuvõtmist ja seejärel jga 8 tunni järel
- · Hinnake elulisi näitajaid, EKG-d, neuroloogilist ja hingamisteede seisundit ning SpO2 taset enne iga tegevust, tegevuse ajal ja pärast seda
- Enne kardiopulmonaalse stabiilsuse hindamist laske patsiendil 5 minutit asendimuutusest taastuda



4. ASTE

Eesmärk: Liikumise taluvuse ja tugevuse parandamine

- Toolil istumine ≥ 1 tunni Kőik söögikorrad toolil vői voodiserval istudes
- Edasiminek iseseisvale liikumisele



Eelmise sammu punktid

Eesmärk: Jõudluse

suurendamine seismiseks

ja siirdumiseks

 Marssimine paigal seistes Toolil istumine ≥ 30 minutit

Kolmanda ja neljanda astme juures peab patsiendil, kes on toolil või voodiga istuvas asendis, iga tunni järel 2 minutiks asendit vahetama, et leevendada survet ristluule (nt püsti tõusta, küljel lamada jne)

Early mobility and exercise are part of optimal patient care practice.

The final goal is independent movement of the patient.

Mobility must be safe for the patient!

F - Family engagement and empowerment

- By involving the family, it is possible to increase the quality of patient care.
- Building relationship starts with greeting the family and caring behavior at the bedside.
- Help the family to understand the situation and their potential role in the patient's care.
- Family can be involved in:
- various activities (oral care, massage)
- training
- preventive activities.

G - Good sleep

| List of Factors That Patients Report as Disruptive to Sleep | | | | |
|---|----------------------------------|--|--|--|
| Environmental | Physiologic and Pathophysiologic | | | |
| Noise | Pain | | | |
| Light | Discomfort | | | |
| Comfort of bed | Feeling too hot or too cold | | | |
| Activities at other bedsides | Breathing difficulty | | | |
| Visitors (clinician or family) | Coughing | | | |
| Room ventilation system | Thirst and hunger | | | |
| Hand washing by clinicians | Nausea | | | |
| Bad odor | Needing to use bedpan/urinal | | | |
| Care Related | Psychologic | | | |
| Nursing care | Anxiety/worry/stress | | | |
| Patient procedures | Fear | | | |
| Vital sign measurement | Unfamiliar environment | | | |
| Diagnostic tests | Disorientation to time | | | |
| Medication administration | Loneliness | | | |
| Restricted mobility from lines/ | Lack of privacy | | | |
| catheters | | | | |
| Monitoring equipment | Hospital attire | | | |
| Oxygen mask | Missing bedtime routine | | | |
| Endotracheal tube | Not knowing nurses' names | | | |
| Urinary catheters | Not understanding medical | | | |
| | terms | | | |

Promoting and improving sleep

- To improve patients' sleep:
- understand their normal sleep
- create an environment conducive to sleep
- allow enough uninterrupted time for sleep
- avoid sleep disruptive medications as much as possible
- assess sleep daily.

Sleep can also be disturbed by immobility, limited mobility, worry, fear and anxiety.

Prevention of Post Intensive Care Syndrome in adult ICU patients

Reta Loodus RN, APN, MSc reta.loodus@gmail.com