

Kako ocenjujemo akutni bol

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Strengthening Capacities for Higher Education of Pain Medicine in Western Balkan countries – HEPMP



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Šta je bol?

- Bol je neprijatan osećaj povezan s stvarnim ili potencijalnim oštećenjem i povredom tkiva.

International Association for the Study of Pain, 1979

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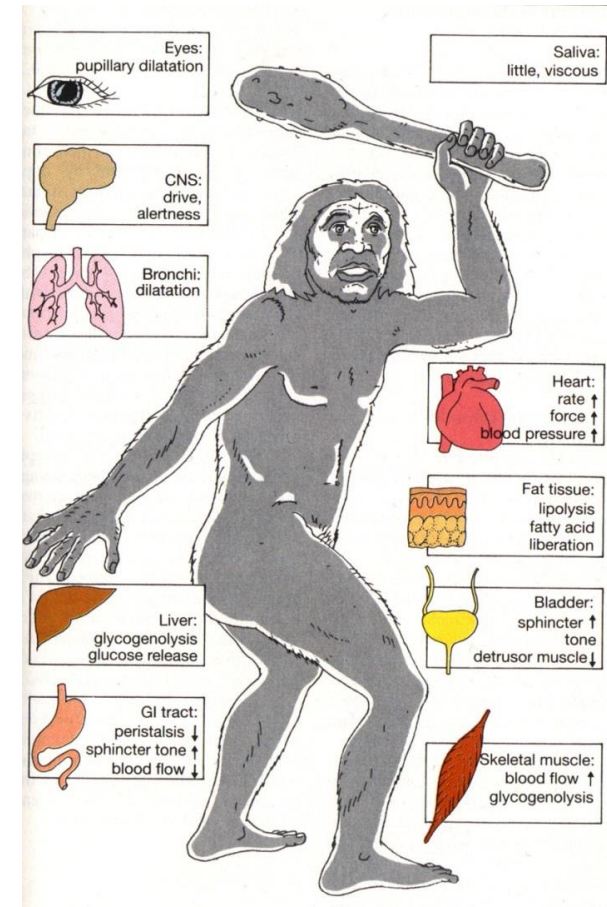
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Akutni bol

- Najčešći oblici
- Postraumatski bol
- Postoperativni bol
- Porođajni bol
- Bol uzrokovan s akutnim internističnim obolenjem

Akutni pooperativni bol

- Predstavlja najveći strah bolesnika kod operacije
- Kod 50% bolesnika po operaciji bol nije zadovoljivo ublažen
 - 71% bolesnika oseća srednje do jaku bol
 - 75% bolesnika misli da je bol po operaciji nužna pojava



Aplebaum JL. Anaest Analg 2013

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Bol 5. vitalni znak

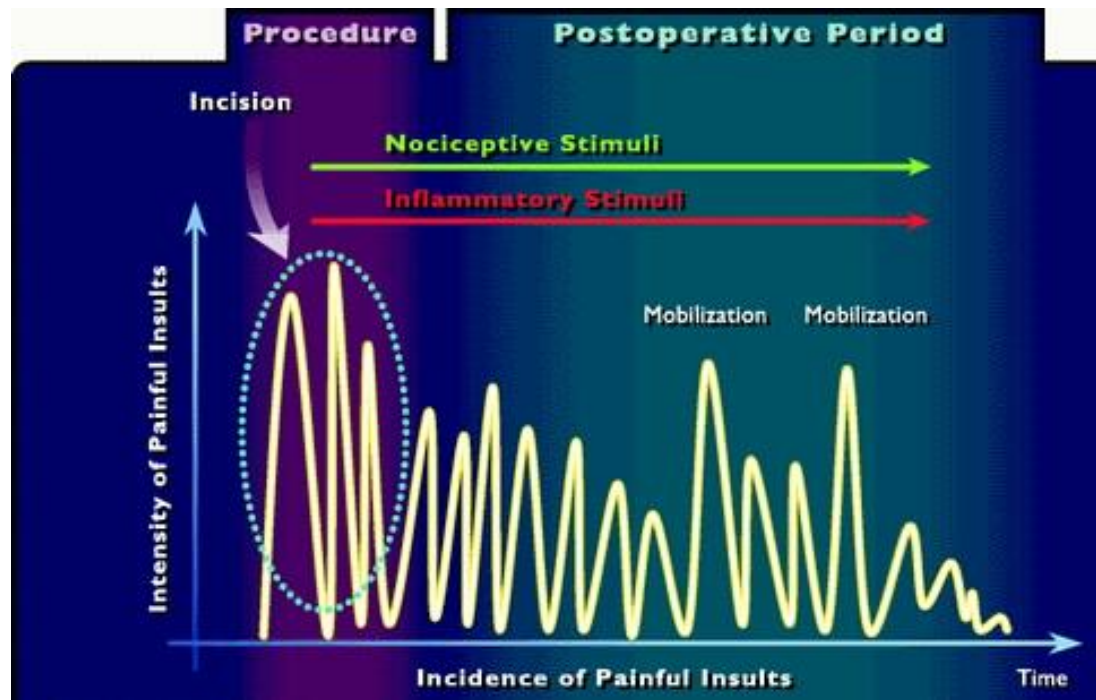
1. Temperatura
2. Krvni pritisak
3. Puls
4. Frekvencija disanja
5. Bol

American Pain Society, 1998

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Uzroci pooperativng bola



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Štetne posledice bola

- Tahikardija
- Hipertenzija
- Neodgovarajuća ravnoteža između dostave i potrošnje kiseonika u srčanom mišiću
- Hiperkoagulacija
- Smetnje ventilacije
- Usporena rehabilitacija

Zašto ocenjujemo bol?

- Ocenjujemo intenzitet, mesto i trajanje bola
- Da obezbedimo da se bolesnik dobro oseća
- Ocenjujemo efikasnost analgetične terapije
- Smanjujemo strah
- Sprečavamo komplikacije

Kad ocenjujemo bol?

- Poslije operacije u recovery room
- Za veme prijema na odelenje
- Redovno
- 15-30 min posle parenteralne, 60 min posle oralne aplikacije analgetika
- U mirovanju
- Za vreme izvođenja respiratorne in lokomotorne fizioterapije

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Kako ocenjujemo bol?

- U razgovoru s bolesnikom
- Posmatranjem promena fizioloških znakova
- Upotreba ljestvica za ocenu bola

Uloga MS kod ocenjivanja bola

- Prepoznavanje APB
- Merenje jačine APB
- Objektivna ocena
- Pravilna in sigurna aplikacija lekova za ublažavanje bola
- Prepoznavanje i sprečavanje nuspojava
- Dokumentiranje
- Nefarmakološki načini ublažavanja bola
- Komunikacija

Ocenjivanje bola po koracima

- A – ask: redovno pitaj za bol, ocenjuj bol sistematično
- B – believe: veruj bolesniku
- C - choose: izaberi odgovarajuću metodu ublažavanja bola u pogledu posebnosti bolesnika in okolnosti
- D – deliver: mere trebaju biti pravovremene, logične i koordinirane
- E - empower: potstičite bolesnika da sam nadzire promene bola

Faktori koji utiču na doživljavanje bola

- Starost
- Spol
- Kulturna okolica
- Razumevanje bola
- Pažnja, osredotočenost na bol
- Zabrinutost
- Umor
- Prošla iskustva
- Unutrašnja kontrola

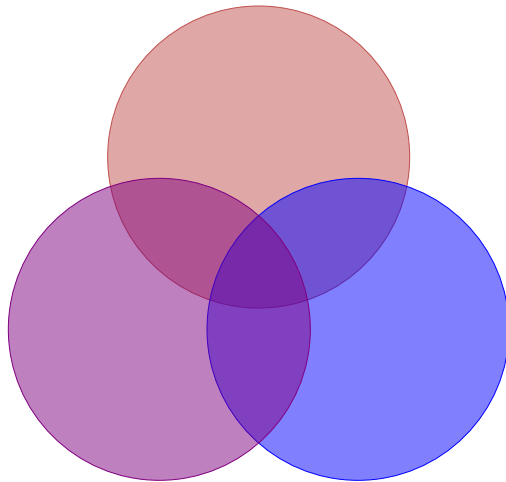
Osećaj bola

- Vanjski izgled, držanje
- Načini pokreta, govora
- Reči koje bolesnik upotrebljava, izražavanje
- Mimika, stenjanje
- Držanje za deo tela koji boli
- Otklanjanje saradnje
- Zatvaranje u sebe

Sva bolna ponašanja su istinita

Bolesnikovi odgovori na bol

Verbalni odgovor



Fiziološki odgovor Odgovor ponašanja

fiziološki odgovor: promene vitalnih znakova, zenice se razšire, koža je bleđa in znojna, poveća se potreba tela za kiseonikom

verbalni odgovor: promena tona in jačine glasa, brzine govora, upotreba poštapalica

Odgovor ponašanja: znači neverbalno izražavanje, bolesnik se povuče, je bez reči, češka i stiska povređeni deo tela, promeni mimiku lica

Metode ocenjivanja bola

- Objektivno ocenjivanje od strane druge osebe koje temelji na patologiji, traumi i karakteristikama povezanih sa bolom
- Subjektivno ocenjivanje bola koje temelji na iskustvima svakog pojedinca

Ocenjivanja jačine APB

- Jednostavne jednodimenzionalne ljestvice:
 - za ocenjivanje jačine bola
 - za ocenjivanje efikasnosti ublaživanja bola
 - Pomoću njih bol načinimo vidnim



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MERENJE BOLA

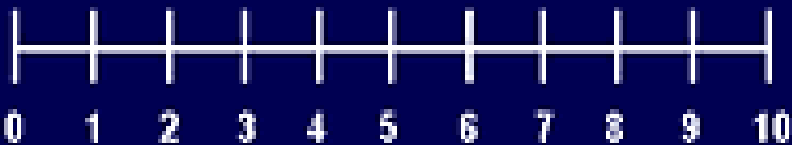
Verbalna (opisna) ljestvica



Vizualno analogna ljestvica



Numerična ljestvica



Ljestvica s licima



1 2 3 4 5

Nema bola

Srednji bol

Najači bol

1. Portenoy RK, Kanner RM, eds. *Pain Management: Theory and Practice*. 1996:8-10.
2. Wong DL. *Wiley and Wong's Essentials of Pediatric Nursing 5th ed*. 1997:1215-1216.
3. McCaffery M, Pasero C. *Pain: Clinical Manual*. Mosby, Inc. 1999:16.

Kritične grupe bolesnika

- Deca
- Stari
- Bolesnici koji ne mogu verbalno komunicirati
- Bolesnici sa kognitivnim smetnjama
- Sedirani bolesnici
- Intubirani bolesnici



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Biheviornalni i fiziološki znaci APB

- Izraz lica (grimase, mrk pogled, stiskanje zuba, stiskanje kapaka in usana, boranje čela, suženje...)
- Vokalizacija (ječanje, stenjanje, uzdahivanje, plač, vrištanje)
- Govor tela (motorički nemir, dodirivanje bolnog predela tela, refleks povlačenja, zadržavanje u određenom položaju tela)
- Česti fiziološki znaci bola su: povišen ili snižen krvni pritisak, povišena ili smanjena frkvenca otkucaja srca, povišena ili smanjena frekvenca disanja, raširene zenice, bledilo ili crvenilo lica, znojenje, slabost

Fiziološke lestvice ponašanja

- Lestvica NIPS (za novorođenčad i dojenčad do jedne godine)
- FLACC lestvica (za decu od 2. meseca do 7. godine)
- Lestvica LICA - Wong-Bakerjeva lestvica (od treće godine nadalje)
- Lestvica neverbalnih znakov bola (CNPI – Checklist of Nonverbal Pain)
- Lestvica PAINAD (Pain Assessment in Advanced Dementia Scale)
- Lestvica CPOT (Critical Care Pain Observation Tool)

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NIPS (Neonatal Infant Pain Score) score

Nonverbal Pain Scales **Neonatal Infant Pain Score (NIPS)**

| Parameter | Finding | Points |
|--------------------|---------------------|--------|
| facial expression | relaxed | 0 |
| | grimace | 1 |
| cry | no cry | 0 |
| | whimper | 1 |
| | vigorous crying | 2 |
| breathing patterns | relaxed | 0 |
| | change in breathing | 1 |
| arms | restrained | 0 |

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Lestvica NIPS

- Ocena šest oblika odazova na bol: mimika lica, plač, pokreti ruku i nogu, frekvencija disanja, stanje budnosti
- Unutar svake kategorije postoje 2 ili tri stepena
- Svako stanje je bodovano s 0 ili 1 bodom, samo kod plača su moguća dva boda
- Ukupni rezultat svih kategorija može biti u rasponu od 0 do 7 bodova
- KATEGORIJE OCENE NIPS:
- 0–2: odsutnost bola
- 3–4: blag odnosno umeren bol
- 4–7: jak bol

Strengthening Capaciti

| Category | Scoring | | |
|---------------|--|--|---|
| | 0 | 1 | 2 |
| Face | No particular expression or smile | Occasional grimace or frown, withdrawn, disinterested | Frequent to constant quivering chin, clenched jaw |
| Legs | Normal position or relaxed | Uneasy, restless, tense | Kicking or legs drawn up |
| Activity | Lying quietly, normal position, moves easily | Squirming, shifting back and forth, tense | Arched, rigid or jerking |
| Cry | No cry (awake or asleep) | Moans or whimpers; occasional complaint | Crying steadily, screams or sobs, frequent complaints |
| Consolability | Content, relaxed | Reassured by occasional touching, hugging or being talked to; distractable | Difficult to console |

(F

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Each of the five categories is scored from 0 – 2, resulting in total range of 0 – 10, FLACC = Face, Leg, Activity, Cry, Consolability

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FLACC lestvica

- Za decu od druge do sedme godine starosti
- Posmatranje dečijeg lica, nogu, aktivnosti plača i odgovora na tešenje
- Svako stanje se oceni sa 0-2 boda
- Ukupni rezultat svih kategorija može imati raspon od 0 do 10
- KATEGORIJE OCENE FLACC:
- 0: nema bola
- 1-3: blag bol
- 4-6: srednje jak bol
- 7-10: jak bol

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Lestvica neverbalnih znakova bola (CNPI – Checklist of Nonverbal Pain)

| CHECKLIST OF NONVERBAL PAIN INDICATORS (CNPI) | | |
|--|----------|---------|
| Behavior | Movement | At Rest |
| 1. Vocal complaints: nonverbal Sighs, gasps, moans, groans, cries | | |
| 2. Facial grimaces/winces Furrowed brow, narrowed eyes, clenched teeth, tightened lips, jaw drop, distorted expressions | | |
| 3. Bracing Clutching or holding onto furniture, equipment or affected area during movement | | |
| 4. Restlessness Constant or intermittent shifting of position, rocking, intermittent or constant hand motions, inability to keep still | | |
| 5. Rubbing Massaging affected area | | |
| 6. Vocal complaints: verbal Words expressing discomfort or pain, e.g. "ouch," "that hurts"; cursing during movement; exclamations of protest, e.g. "stop," "that's enough" | | |
| Subtotal Scores | | |
| Total Score | | |

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Strengtl

Pain Assessment IN Advanced Dementia

PAINAD

| | 0 | 1 | 2 | Score |
|---|-----------------------------|--|--|--------------|
| Breathing Independent of vocalization | Normal | Occasional labored breathing. Short period of hyperventilation | Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations | |
| Negative Vocalization | None | Occasional moan or groan. Low level speech with a negative or disapproving quality | Repeated troubled calling out. Loud moaning or groaning. Crying | |
| Facial expression | Smiling, or inexpressive | Sad. Frightened. Frown | Facial grimacing | |
| Body Language | Relaxed | Tense. Distressed pacing. Fidgeting | Rigid. Fists clenched, Knees pulled up. Pulling or pushing away. Striking out | |
| Consolability | No need to console | Distracted or reassured by voice or touch | Unable to console, distract or reassure | |
| | | | | TOTAL |

This material prepared by the Geriatric Research Education Clinical Center, is provided by the Iowa Foundation for Medical Care, the Medicare Quality Improvement Organization for Iowa, was prepared by MetaStar, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. 8SoW-IA-NH-4/06-034

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PAINAD lestvica (Pain Assessment in Advanced Dementia Scale)

- Za odrasle bolesnike s kognitivnim, bihevioralnim ili komunikacijskim smetnjama, za bolenike sa uznapređovalom demencijom
- Spisak pet znakova ponašanja koje susrećemo kod bolesnika koji osećaju bol (disanje, neverbalni zvuci, izraz lica, govor telesa, utešljivost)
- Bolesnika je potrebno posmatrati najmanje 5 minuta prije nego donesemo ocenu bola
- Sa zbrajanjem broja prisutnih znakova dobijemo numeričku ocenu bola. Ukupna ocena je od 0 do 10.
- KATEGORIJE OCENE PAINAD:
 - 1-3: blag bol
 - 4-6: umeren bol
 - 7-10: jak bol

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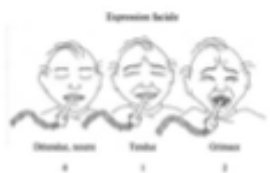
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Strengthening

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| 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 | | |

001 – 001)

Uputstva za upotrebu CPOT

- Pacienta je potrebno posmatrati najmanje 1 minutu prije postavljanja ocene
- Pacijenta ocenjujemo za vreme izvođenja postupaka; ocenjujemo promene u ponašanju u vezi sa bolom
- Pacijenta ocenjujemo pre in posle aplikacije analgetika i tako ustanovimo efikasnost terapije
- Pacijenta ocenimo tri puta: u mirovanju, za vreme bolnog podražaja i 20 minuta po njemu
- Uvažavamo opažanja koja dostižu najvišu ocenu
- Ocenjujemo sve indikatore bola. Na kraju ocenimo napetost mišića jer promene položaja ruku (dok izvodimo pasivnu fleksiju in ekstenziju) mogu uzrokovati i promenu ponašanja bolesnika

Preporuke za klinički pristup oceni i prepoznavanju bola

Standardi za sprečavanje i lečenje bola:

- interdisciplinarni pristup lečenja bola
- individualiziran pristup za svakog bolesnika
- bolesnika ispituj o boli uvek na isti način, bol ocenjuj sistematično
- veruj bolesniku in rodbini kad govore o bolu i kako ga bolesnik ublažava
- izaberi za bolesnika, porodicu i okolicu najodgovarajući način nadzora nad bolom
- postupke izvodi pravovremeno na logičen in koordiniran način
- ohrabruj bolesnika i porodicu i omogući im da u najvećoj mogućoj meri nadziru bol (JCAHO, 2001).
- Predoperativna edukacija

Edukacija

- Bolesnika, porodice
- Mogućnost ublažavanja pooperativnog bola
- Rezultat operativneg lečenja
- Pooperativna rehabilitacija

Egber LD, N Eng J Med 1964.

Watt-Watson J, Can J Nurs Res 2000.

Diby M, J Crit Care 2008

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Uticaj edukacije i optimizma na bol in komplikacije

- Evaluacija psihološkega stanja prije operacije
- Informiranost o operativnim postupcima

| Model | B | SE | β | CI 95% | p |
|--------------------------------|--------|-------|---------|------------------|-------|
| EMOTIVNI BOL | | | | | |
| Prilagođeno na starost in spol | -0,097 | 0,043 | -0,162 | -0,182 do -0,012 | 0,025 |
| Potpuno prilagođeno | -0,064 | 0,047 | -0,106 | -0,156 do -0,029 | 0,178 |
| INTENZITET BOLA | | | | | |
| Prilagođeno na starost in spol | -0,111 | 0,045 | -0,177 | -0,199 do -0,023 | 0,014 |
| Potpuno prilagođeno | -0,100 | 0,049 | -0,150 | -0,196 do -0,004 | 0,042 |
| KLINIČKI SIMPTOMI | | | | | |
| Prilagođeno na starost in spol | -0,368 | 0,117 | -0,222 | -0,598 do -0,138 | 0,002 |
| Potpuno prilagođeno | -0,287 | 0,127 | -0,173 | -0,537 do -0,036 | 0,025 |

Ronaldson A, J Psychosom Res 2014

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