

# NADZOR PACIENATA SA EPIDURALNOM ANALGEZIJOM

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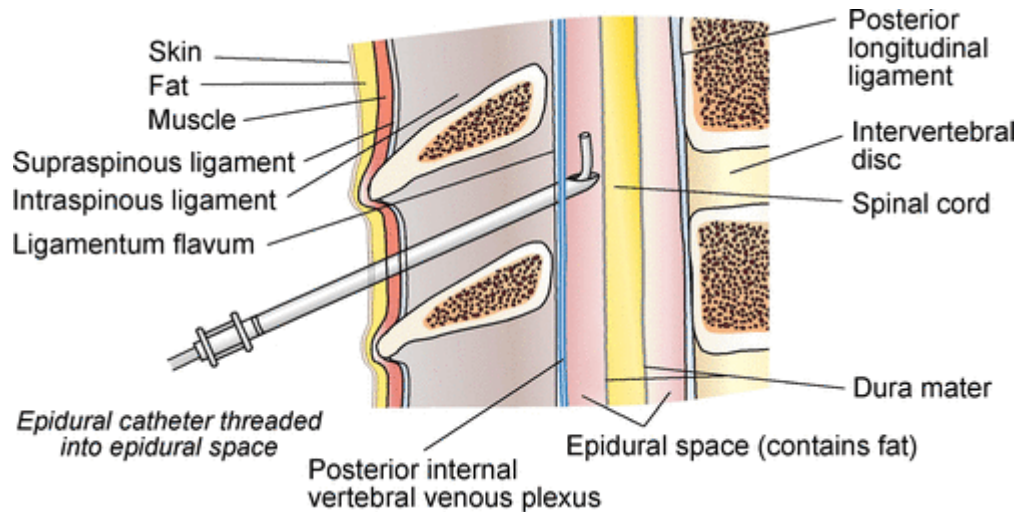


BANJA LUKA & TUZLA 28. / 29.novembar 2019

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## EPIDURALNA ANALGEZIJA



Optimalna dužina katetera u epiduralnom prostoru: 4 – 6 cm

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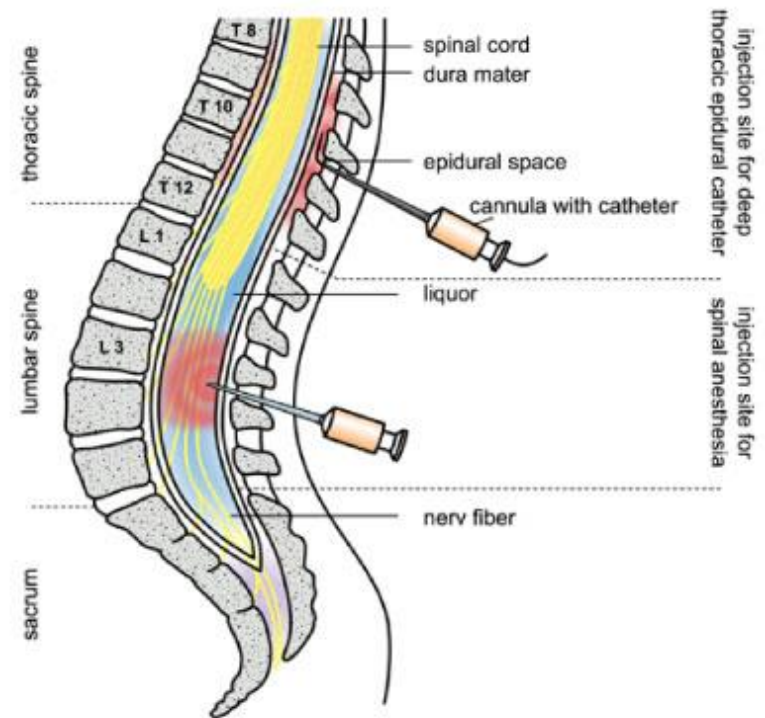
## LUMBALNA I TORAKALNA EPIDURALNA ANALGEZIJA

TORAKALNA EPIDURALNA ANALGEZIJA  
abdominalne operacije  
torakalne operacije

LUMBALNA EPIDURALNA ANALGEZIJA  
ortopedske /traumatološke operacije

ginekološki / urološki zahvati u donjem  
abdomenu

Figure 1 - Method of CSTEА.



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## LJEKOVI ZA EPIDURALNU ANALGEZIJU

- LOKALNI ANESTETICI: ropivakain, levobupivakain, bupivakain
- OPIOIDI: morfij, fentanil
- DODATNI LJEKOVI: katapresan

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## DJELOVANJE EPIDURALNIH LJEKOVA

### LOKALNI ANESTETICI      blokiraju

- simpatičke živce:                      bradikardija, vazodilatacija i hipotenzija
- senzoričke živce:                      blokada osjećaja dodira i temperature
- motoričke živce:                      mišićna slabost, pareza ili paraliza

OPIOIDI se vežu na opioidne receptore:      smanjivaju bol (analgezija),  
a potencijalno uzrokuju i nuspojave opioida ( svrab.....depresija disanja)

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## MOGUĆE KOMPLIKACIJE EPIDURALNE ANALGEZIJE:

### tehničke zbog epiduralne punkcije i uvođenja katetera:

- GLAVOBOLJA
- BOLOVI U KIČMI
- EPIDURALNI HEMATOM
- EPIDURALNI ABSCES
- OŠTEĆENJE ŽIVACA

### zbog lijekova (LA, OPIOIDI):

- SEDACIJA
- DEPRESIJA DISANJA
- HIPOTENZIJA
- MUČNINA, POVRAĆANJE
- SVRAB
- RETENCIJA URINA
- SENZORIČKA / MOTORIČKA BLOKADA

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## NADZOR PACIJENATA SA EPIDURALNOM ANALGEZIJOM

- Stanje svijesti 1 x na 3h
- Frekvencija, dubina i ritam disanja 1 x 3h
- Krvni tlak stalno na monitoru
- Senzorika / motorika 1 x na turnus
- Diureze: obično imaju SUK
- Nadzor katetera i konekta: mjesto uboda, fiksacija, flasteri, konekt sa bakterijskim filterom i sa pumpom
- Nadzor nad pumpom za davanje lijekova

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# PROTOKOL ZA TRETMAN NEŽELJENIH EFEKATA I KOMPLIKACIJA TEHNIKA POSTOPERATIVNE ANALGEZIJE

## MUČNINA I POVRAĆANJE

1. antiemetik iv
2. ako nakon 30 min nema poboljšanja, smanji protok analgetika (preko PCA) ili zaustavi 2 časa

## HIPOTENZIJA

Pad TA preko 25% od polaznog

1. iv infuzija kristaloidea 200 mL/5 min
2. simpatikomimetik efedrin hlorid 10 mg iv
3. pri padu TA preko 50% od polaznog pozovi reanimaciju

## SVRAB

1. antihistaminik iv
2. epiduralnu analgeziju ne prekidamo, nastavljamo sa analgetskom smešom bez morfina

## SEDACIJA

1. stepen 2 – izrazita: pacijent pospan, zenice sužene do 2-3 mm – smanji analgeziju za 50%; ponovna ocena nakon 15 min
2. stepen 3 – pacijent spava, teško ga probudimo, zenice maksimalno sužene – mere kao kod depresije disanja

## DEPRESIJA DISANJA

Frekvencija disanja < 8/min, plitko disanje/apnoične pauze, SpO<sub>2</sub><90%

1. zaustavi analgeziju – kontinuiran monitoring
2. aplikacija O<sub>2</sub> 6 L/min preko maske
3. oslobađanje disajnog puta odnosno ventilacija pomoću maske i reanimacionog samoširećeg balona (Ambu)
4. nalokson 1 amp (0,4 mg) razredi do 10 mL, zatim davati po 1 mL do efekta
5. pozovi reanimaciju

2. izdanje klasif. br. ispunjenog formulara: 0162 ND KRG KOAIT 134

## POSTUPCI U LEČENJU NEŽELJENIH EFEKATA I KOMPLIKACIJA POSTOPERATIVNE ANALGEZIJE

### NEUROLOŠKE KOMPLIKACIJE

SENZORNI POREMEĆAJI/MOTORNA BLOKADA/NEOSETLJIVOST OD TH4 NAGORE

1. zaustavi epiduralnu analgeziju
2. ponovna ocena motorike nakon 2 časa
3. pozovi SLAPB odnosno nadzornog anesteziologa
4. smanji dozu/protok preko PCEA

Slabost donjih ekstremiteta koja se pogoršava  
Jak bol u leđima koji se pogoršava

Pozovi anesteziologa na dect 7200 tokom dežurstva 8842 ili multiton 511

### SLUŽBA ZA LEČENJE AKUTNOG

POSTOPERATIVNOG BOLA (SLAPB)

anesteziolog dect 7200  
medicinske sestre dect 8623, 7243, multiton 775  
popodne/dežurstvo:  
nadzorni anesteziolog dect 8842  
nadzorni anestezičar 8202

Oblikovanje: Ivan Mori - 2015

### SISTEMSKA TOKSIČNOST LOKALNIH ANESTETIKA

#### Neurotoksičnost:

metalni ukus, utrnuo jezik, tinitus, poremećaji vida, toničko-kloničke konvulzije, gubitak svesti

#### Kardiotoksičnost:

hipertenzija, hipotenzija, tahikardija, bradikardija, poremećaji ritma, akutni zastoj srca

1. prekini aplikaciju lokalnog anestetika
2. pozovi reanimaciju
3. dodatak 100% O<sub>2</sub>, oslobađanje disajnog puta odnosno ventilacija pomoću maske i samoširećeg reanimacionog balona (Ambu)
4. tretiraj konvulzije: midazolam, propofol
5. tretiraj poremećaje ritma srca, akutni zastoj srca
6. Intralipid 20% 1,5 mL/kg iv bolus, ponovi bolus nakon 5 min, zatim iv infuzija 0,25-0,5 mL/kg/min u slučaju hipotenzije

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Kliničko odeljenje za anesteziologiju i hiruršku intenzivnu terapiju

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## HIPOTENZIJA

Pacijentov pritisak za  $\geq 20\%$  niži od njegovog običnog tlaka,  
ili  $\leq 90$  mmHg

- ISKLJUČITI KRVARENJE!!
- NE ISKLJUČITI EPIDURALNE ANALGEZIJE
- POZOVI LEKARA!
- IV Infuzija kristaloida 500 ml

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## SENZORIČNO / MOTORIČNA BLOKADA

- TORAKALNA EPIDURALNA ANALGEZIJA:

Pacient ne oseća dodira na prsnom košu

Malo teže diše: to mu smeta

Pritisak normalan

- LUMBALNA EPIDURALNA BLOKADA:

Hipotenzija

Parestezije u jednoj nozi / u obe noge

Ne može da miče noge

Ne oseti analni sfinkter

- MEDICINSKA SESTRA NA ODELENJU :

**ISKLUČI EPIDURALNU INFUZIJU ZA 2H I POZOVE**

SESTRU APS, KOJA PROVERI DUBINU EPIDURALNIG KATETERA I

KONCENTRACIJU / DOZU LOKALNOG ANESTETIKA

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## SENZORIČNO / MOTORIČNA BLOKADA

- **U SLUČAJU SNAŽNIH BOLOVA U KIČMI ODMAH ZVATI LJEČNIKA**
- **AKO BOLOVA NEMA ALI SE BLOKADA NAKON 1H – 2H BEZ EPIDURALNE ANALGEZIJE NE OPORAVLJA: ZVATI LJEČNIKA**

### URGENTNA MR KIČME:

U SLUČAJU EPIDURALNOG HEMATOMA:

**URGENTNA OPERACIJA I EVAKUACIJA HEMATOMA**

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## EPIDURALNI HEMATOM I APSCES NAJOPASNIJA KOMPLIKACIJA EPIDURALNE ANALGEZIJE

### EPIDURALNI HEMATOM

- senzorična / motorična blokada se pogoršava
- obično uz veoma jak bol u predelu kičme gde ulazi epiduralni kateter
- na dan ustavljanja epiduralnog katetera

### EPIDURALNI APSCES

- senzorična / motorična blokada se pogoršava
- uz porast telesne temperature
- obično bez bola u kičmi
- 3. do 5. dan nakon uvođenja epiduralnog katetera

## **URGENTNA MR KIČME, U SLUČAJU EPIDURALNOG HEMATOMA/ ABSCESA URGENTNA OPERACIJA I EVAKUACIJA HEMATOMA / APSCESA**

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## LOKALNI APSCES NA KOŽI PORED EPIDURALNOG KATETERA

- Pacijent nema povišenu temperaturu
- Pacijent nema bolova
- Pacijent nema neuroloških poremećaja

KATETER ODMAH IZVADIMO.

Liječenje spontano.

Ne treba sistemski antibiotik.

## PRAVI NAČIN



## FIKSACIJA EPIDURALNOG KATETERA SPRIJEDA



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## EPIDURALNI KATETER PRAVI NAČIN FIKSACIJE NA LEĐIMA



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## FIKSACIJA EPIDURALNOG KATETERA KAKO NIJE U REDU



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## UKLANJANJE EPIDURALNOG KATETERA kod pacijenata na tromboprolaksi sa NMH

Uklanjanje epiduralnog katetera treba planirati u istom smislu kao uvođenje.

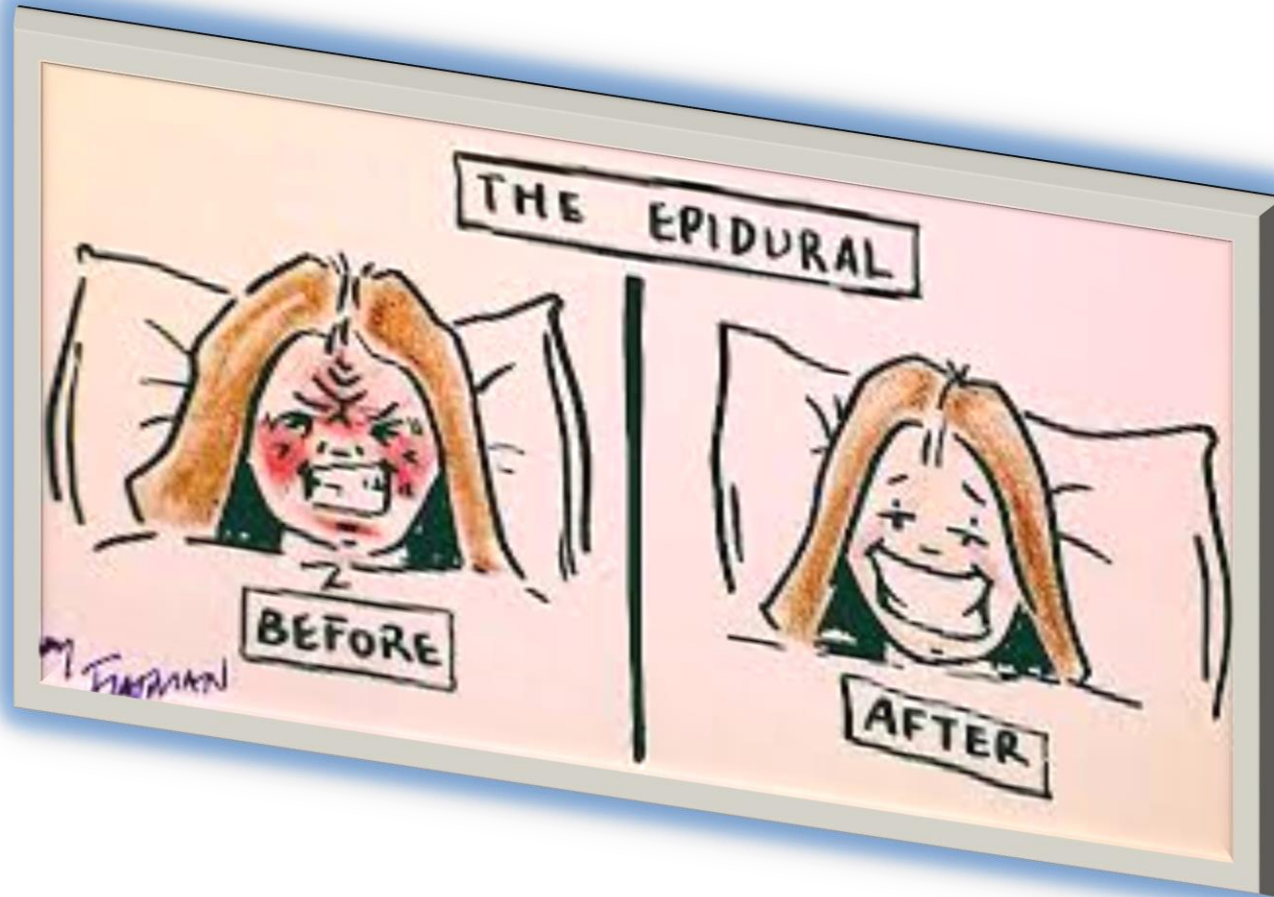
Epiduralni kateter može se izvući 10 – 12 h nakon profilaktičke doze NMH,

a sledeća profilaktička doza NMH daje se 6 – 8 h nakon uklanjanja EK

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## HVALA NA PAŽNJI



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