BOL U ORDINACIJI LJEKARA PORODIČNE MEDICINE

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Definicija boli

- Bol je subjektivan, neugodan osjećaj kojeg svaka osoba doživljava na svoj način.
- Bol je **simptom** koji se ne smije zanemariti.
- Bol je često prvi simtom koji upućuje pacijenta da zatraži ljekarsku pomoć.

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Definicija boli

- Bol je normalan,fiziološki,odbrambeni odgovor na mehanički, hemijski ili temperaturni podražaj
- Osim senzorne na bol utiče i emocionalna i kognitivna komponenta

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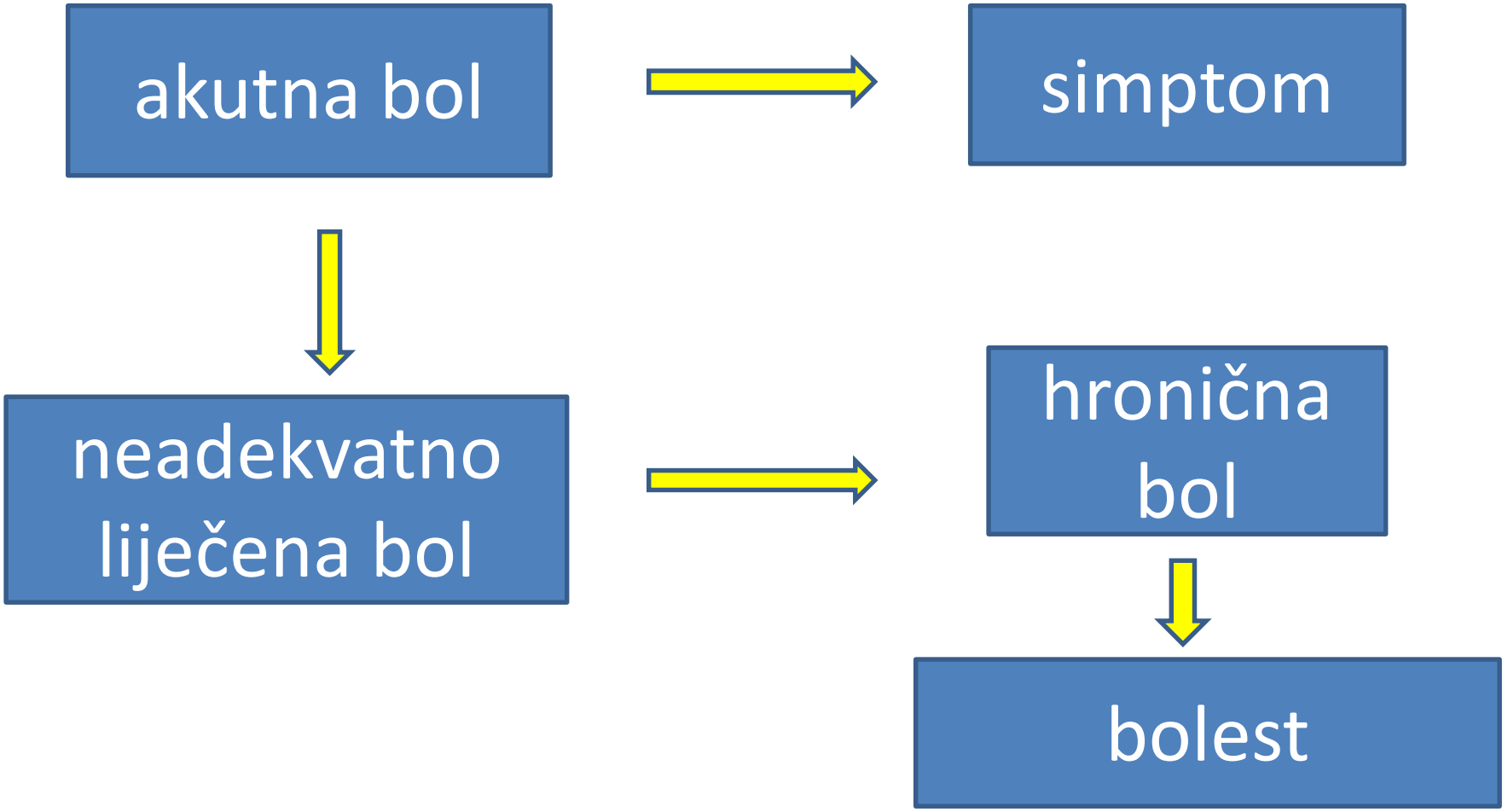

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Hronična bol

- je definisana kao bol koja je prisutna svakog dana duže od 3 mjeseca
- ili 50% ili više dana tokom 6 mjeseci
- ili duže od očekivanog perioda oporavka

- **nema upozoravajuću funkciju koju ima akutna bol**

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WHO i EFIC

- 2001. godine usvojili su Deklaraciju kojom se

otklanjanje bola promoviše kao osnovno ljudsko pravo

EFIC (Europen Pain Federation)

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Klasifikacija boli

Na osnovu:

- **trajanja** (akutna i hronična)
- **patofiziološkog mehanizma** (nociceptivna, neuropatska i kombinovana)
- **lokalizacije** (regionalna i generalizovana)
- **prema uzroku** (upalne bolesti, infarkt miokarda, renalna bol, bol u abdomenu, perioperativna bol...)

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Dijagnoza boli

Podrazumijeva:

- Identifikaciju uzroka boli (detaljna anamneza)
- Prepoznavanje komorbiditeta (fizioloških i psiholoških)
- Početak nastanka boli
- Karakteristike boli
- Fizikalni pregled

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Fizikalni pregled

Kompletan fizikalni pregled kod bolesnika koji imaju faktor rizika

- infekcija
- imunosupresija
- ranija maligna bolest
- neobjašnjeni gubitak tjelesne težine
- pogoršanje boli uprkos započetoj terapiji

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Dijagnostičke pretrage

- Laboratorijske analize krvi (za prisustvo inflamacije)
- RTG
- UZ
- CT
- MRI
- EMNG

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Procjena intenziteta boli

Koristimo:

- Vizuelno-analognu skalu
- Verbalnu skalu
- Numeričku skalu
- Skalu izraza lica (najčešće kod djece i osoba sa kognitivnim oštećenjima)

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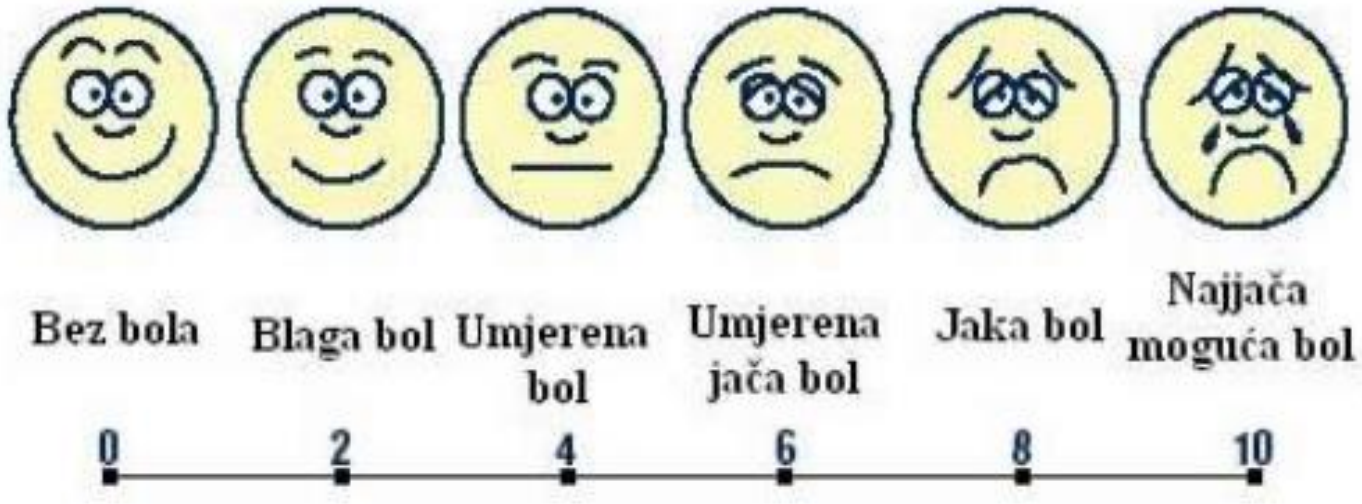

Skala za određivanje jačine bola

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Bol kroz postotke u ordinaciji porodičnog ljekara

35 % hronična bol

40 % pacijenata nezadovoljno liječenjem boli

65 % muskuloskeletna bol

45 % traži nove načine liječenja

15% glavobolje

50 % nedovoljno i neadekvatno tretiran

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Osnovni principi liječenja boli 4A

optimalna Analgezija

optimalna dnevna Aktivnost

smanjenje nuspojava (*minimize Adverse effects*)

izbjegavanje nepravilnog uzimanja lijekova (*Avoid Aberrant drug takinig*)

Terapija boli

- Farmakološka terapija
- Nefarmakološke mjere (kratkotrajno mirovanje, fizikalna terapija, vježbe, životne aktivnosti...)

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Farmakološka terapija

- Neopijatni analgetici (Paracetamol i NSAR)
- Opijatni analgetici (morfin, tramadol, kodein, fentanil...)
- Adjuvantna terapija (antiepileptici, antidepresivi, kortikosteroidi, miorelaksansi, spazmolitici)

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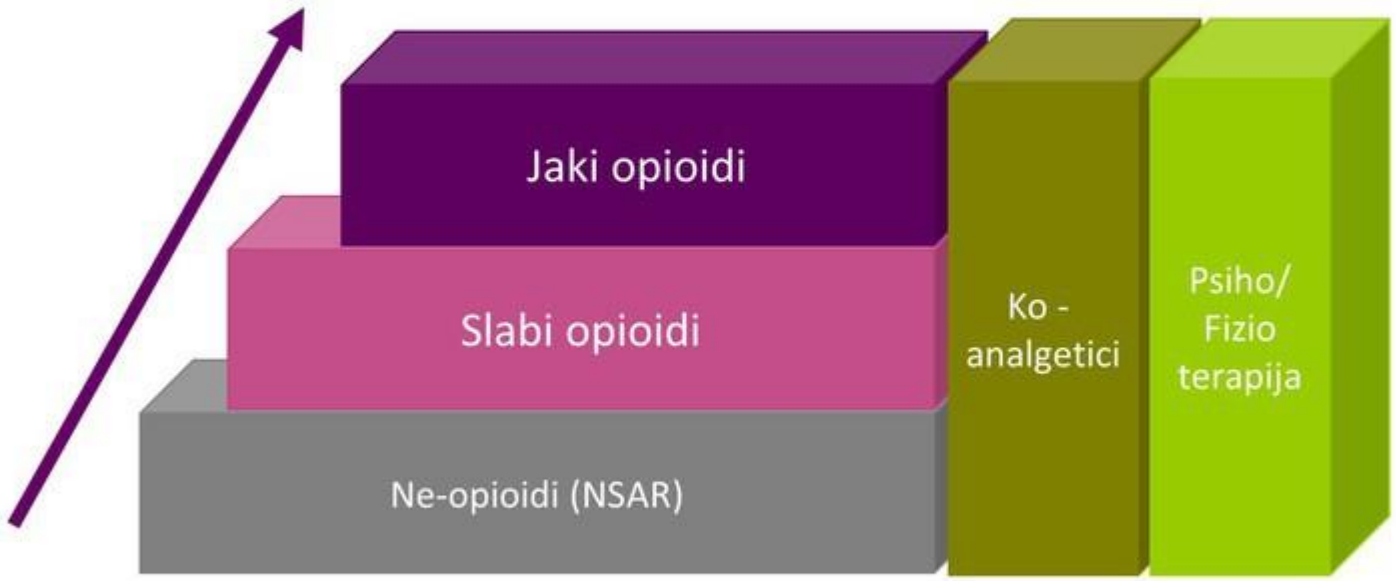
SZO – trostupanjska ljestvica



Scoping Document for WHO Guidelines for the pharmacological treatment of persisting pain in adults with medical illnesses, 2008., dostupno na: http://www.who.int/medicines/areas/quality_safety/Scoping_WHO_GLs_PersistPainAdults_webversion.pdf?ua=1

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Odluka o vrsti analgetika

- Vrsta i jačina boli
- Komorbiditet
- Interakcija lijekova
- Imati na umu da nekritična primjena može dovesti do KV, GI ili respiratornih problema

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Paracetamol

- Inhibira sintezu prostaglandina u mozgu
- Preporučen kao lijek prvog izbora
- Ne oštećuje GIT - oprez pri dugotrajnoj primjeni u maksimalnim dozama i u bolesnika s oštećenjem bubrega i jetre

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Nesteroidni atireumatici NSAR

- Preporučuju se nakon th sa paracetamolom
- Imaju centralno i periferno djelovanje
- Glavni analgetski učinak se postiže na periferiji putem inhibicije enzima COX1 i COX2

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Tablica 3: Prediktori rizika za nastanak nuspojava kod upotreba NSAIL

NUSPOJAVA	PREDIKTOR
Bubrežna	>6o godina, kompromitiran volumni status, intersticijalni nefritis, papilarna nekroza, istovremena primjena drugog nefrotoksičnog lijeka
GI trakt	>6o godina, anamneza ulkusne bolesti, konzumacija alkohola, visoke doze NSAIL kroz duži period
Kardiovaskularna	Anamneza kardiovaskularnog oboljenja

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NSAR

- Za razliku od opioidnih analgetika, pokazuju tzv. „stropni učinak“ (ili efekt „plafona“) što znači da se povišenjem doze iznad određenog nivoa više ne postiže bolji analgetski učinak nego samo veća učestalost nuspojava.

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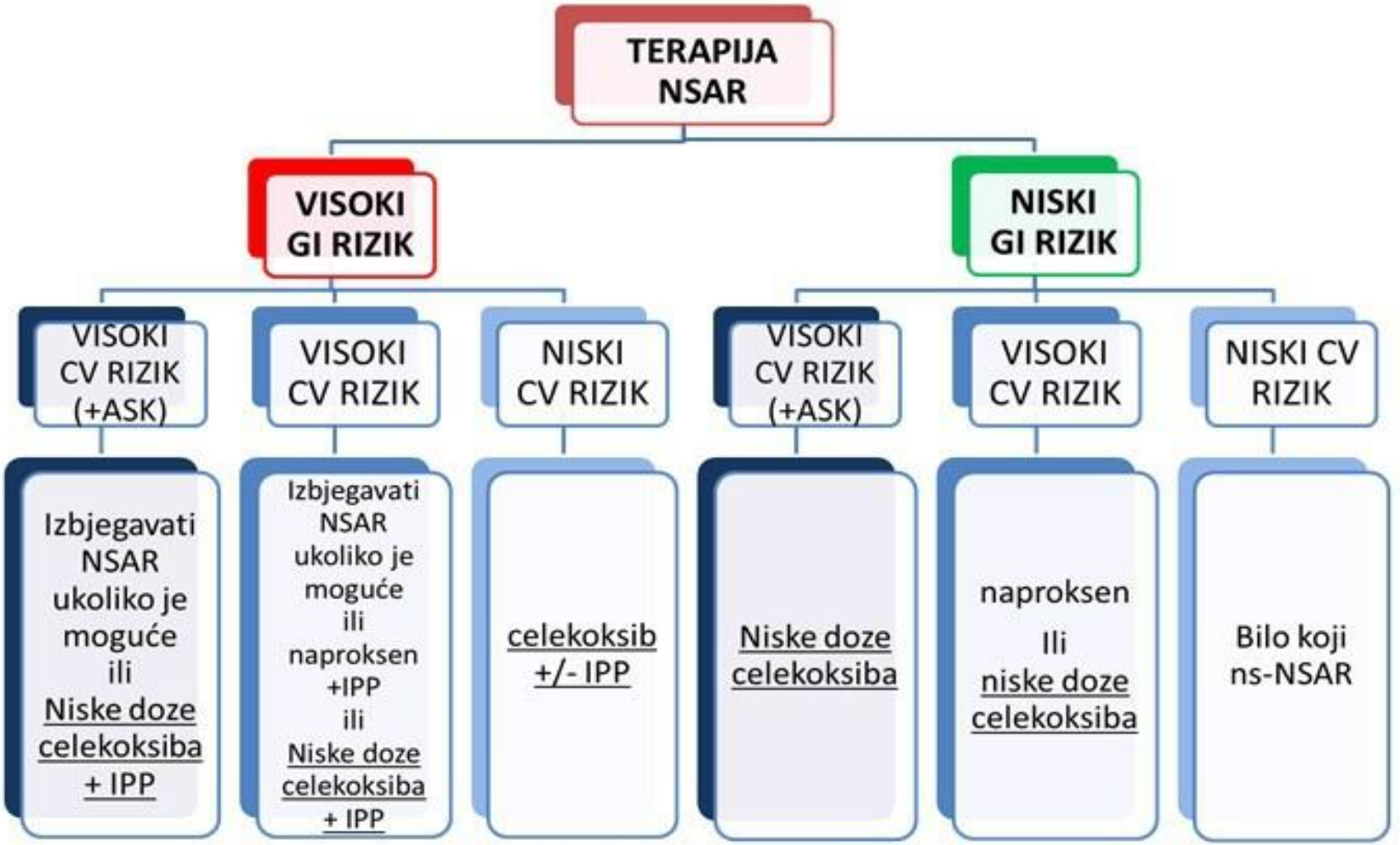
Izbor NSAR



BMC Medicine (Impact Factor: 7.25). 12/2015; 13(1):55. DOI: 10.1186/s12916-015-0285-8 Source: PubMed

TABLICA 1. Usporedba farmakokinetskih svojstava neopioidnih analgetika, preporučene i maksimalne doze (prilagođeno prema Katzung i sur. Basic and Clinical Pharmacology (1)

Lijek	Poluvijek eliminacije (h)	Vrijeme do postizanja vršne koncentracije u plazmi (h)	Preporučena dnevna doza/Maksimalna doza
acetilsalicilna kiselina*	0,25	0,39 ± 0,21	500 – 1000 mg 3 – 4 x na dan; maks. 4000 mg
celekoksib	11	2,8 ± 1,0	200 mg 1 x na dan; maks. 400 mg/dan
diklofenak	1,1	EC 2,5 SR 5,3	ukupno 100 – 150 mg na dan, podijeljeno u 2 – 3 doze; maks. 200 mg
ibuprofen	2	1,6 ± 0,9	200 – 400 mg 3 – 4 x na dan; maks. 3200 mg
indometacin	2,5	1,3	ukupno 50 – 150 mg na dan; maks. 200 mg
ketoprofen	1,8	1,4	ukupno 100 – 150 mg na dan; maks. 200 mg
meloksikam	20	5 – 9	ukupno 7,5 – 15 mg na dan; maks. 15 mg
naproksen	14	IR 2 – 4 CR 5	ukupno 550 – 1100 mg na dan, podijeljeno u 3 – 4 doze; maks. 1650 mg
paracetamol	2	0,33 – 1,4**	500 – 1000 mg 3 – 4 x na dan; maks. 4000 mg
piroksikam	57	3 – 5	ukupno 10 – 20 mg na dan; maks. 20 mg

EC – ŽELUČANOOTPORNE TABLETE (ENGL. ENTERIC-COATED), SR – TABLETE S POSTUPNIM OTPUŠTANJEM (ENGL. SUSTAINED RELEASE), IR – TABLETE S TRENUTAČNIM OTPUŠTANJEM, CR – TABLETE S KONTROLIRANIM OTPUŠTANJEM
* ANALGETSKE I PROTUUPALNE DOZE
** BRZINA APSORPCIJE OVISI O UZIMANJU HRANE ILI LIJEKOVA KOJI USPORAVAJU PRAŽNJENJE ŽELUCA

Opioidni analgetici

Koriste se u liječenju akutne i kronične boli

Njihova primjena je neophodna kod bolesnika koji imaju:

- jaku i umjerenu bol,
- bolesnika s blagom boli kod kojih je potrebna brza kontrola boli i
- kod bolesnika kod kojih se zbog prirode bolesti očekuje brza progresija intenziteta boli

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Podjela opioida

- Prema intenzitetu: slabi, jaki i grupa srednje jakih
- Prema vremenu djelovanja brzodjelujući i kratkodjelujući

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Preparati s neposrednim otpuštanjem		
Lijek	**Oralna oblik (mg)**	**Parenteralni oblik (mg)**
morfin-sulfat	10,20	—
morfin-hidroklorid	—	4,20
metadon	5	10
buprenorfin	0.4, 2, 8 (lingvalete)	—
Preparati s kontinuiranim otpuštanjem		
Lijek	**Oralna oblik (mg)**	**Parenteralni oblik (mg)**
morfin-sulfat	10,30,60,100	—
oksikodon	10,20	—
hidromorfon	4,8,16,32	—
Preparati s kontinuiranim otpuštanjem – transdermalni preparti		
Lijek	**Transdermalni oblik (µg/h)**	
fentanil	12, 25, 50, 75, 100	
buprenorfin	35, 52.5, 70	

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Tramadol

- Slabi opioid, centralni analgetik, slabijeg afiniteta za opioidne receptore, dualnog mehanizma djelovanja
- Agonist je μ-opioidnih receptora i inhibitor ponovne pohrane serotonina i noradrenalina (descendentni kontrolni put boli)

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Tramadol

- Najčešća nuspojava su mučnina, vrtoglavica, konstipacija
- Djelotvornost opioida u supresiji boli nije upitna no postoji kontraverza oko njihove učinkovitosti i sigurnosti u dugotrajnoj primjeni

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Multimodalna analgezija

- Koncept kojim se postiže sinergističko i aditivno djelovanje više analgetika

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Multimodalna analgezija

- Paracetamol i tramadol

  Kombinacijom se dobije brz početak djelovanja paracetamola dopunjen s dugotrajnim djelovanjem tramadola.

- Paracetamol i ibuprofen

  statistički superiornija kombinacija u odnosu na pojedinačne doze

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Adjuvantna terapija (koanalgetici)

- antidepresivi
- antiepileptici
- kortikosteroidi
- miorelaksansi
- neuroleptici

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Lijekovi u terapiji neuropatske boli

Karbamazepin (inicijalno 100 mg 1-2 puta dnevno do max 800 mg dnevno) je efikasan u liječenju pacijenata sa neuropatskom boli. Treba razmotriti potencijalne rizike od neželjenih efekata
Gabapentin (inicijalno 300 mg do max 3600 mg dnevno) bi se trebao razmotriti u liječenju pacijenata sa neuropatskom boli
Pregabalin (25 mg dva puta dnevno do max 300 mg dva puta dnevno) se preporučuje za liječenje pacijenata sa neuropatskom boli ako su drugi tretmani prve i druge linije bili neuspješni
Amitriptilin (25 mg početna doza do 75 mg/dan) bi se trebao razmotriti u liječenju pacijenata sa neuropatskom boli (isključujući neuropatsku bol kod pacijenata sa HIV infekcijom
Duloksetin (60 mg/dan) bi se trebao razmotriti u liječenju pacijenata sa dijabetičkom

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Izazov ljekara porodične medicine u liječenju boli

- Odabir terapije
- Zloupotreba analgetika i ovisnost
- Laka dostupnost lijekova bez liječničkog recepta
- Neadekvatna saradnja s pacijentom
- Zahtjevi pacijenta za parenteralnu terapiju

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Neadekvatno liječena bol

Nerijetko uzrokuje:

- Anskioznost
- Depresiju
- Poremećaj spavanja
- Seksualnu disfunkciju
- Kognitivne smetnje
- Zloupotrebu lijekova (ovisnost)

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Ključne preporuke u terapiji bola

Put primjene lijeka u ambulantnom radu:

1. Peroralni (optimalan put primjene)
2. Parenteralni (kod bolesnika koji povraćaju, imaju proljev, mučninu ili su dehidrirani te kod nesuradljivog pacijenta)

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Ključne preporuke u terapiji bola

- Terapiju početi jednim analgetikom u niskoj dozi
- Polako titrirati kako bi se izbjegla neželjena dejstva
- Kombinovana terapija ima sinergističko dejstvo pri čemu se ostvaruje veći analgestki efekat u odnosu na max. doze jednog lijeka
- Insistirati na nefarmakološkim mjerama

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Zaključak

- **Sedare dolorem divinum opus est**

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HVALA NA PAŽNJI!

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