به نام خدا

دانشگاه علوم پزشکی و خدمات بهداشتی درمانی گیلان
دانشکده دندانپزشکی

تجویز دارو و نسخه نویسی در دندانپزشکی کودکان

دکتر آتوسا جانشین
متخصص دندانپزشکی کودکان
هیات علمی دانشکده دندانپزشکی گیلان

Classifications

- **Local anesthetic**
- **Analgesics**
- **Anti-inflammatory**
- **Antibiotic agents**
- **Sedative agent**

Local anesthetic

- Topical anesthetics

✓ available in gel, liquid, ointment, and pressurized spray forms

✓ Benzocaine gel is probably best suited for topical anesthesia in dentistry.

Local anesthetic

Dose	Proprietary Name	Percent of Local Anesthetic	Vasoconstrictor	Duration of Anesthetic	Maximum Recommended Dose
Lidocaine	Xylocaine	2	Epinephrine 1:100,000	Pulpal: 60 min Soft tissue: 3-5 h	4.4 mg/kg
Mepivacaine	Carbocaine	3		Pulpal: 20-40 min Soft tissue: 2-3 h	4.4 mg/kg
Prilocaine	Citanest Forte	4	Epinephrine 1:200,000	Pulpal: 60-90 min Soft tissue: 3-8 h	6.0 mg/kg
Articaine	Septocaine	4	Epinephrine 1:100,000	Pulpal: 60-75 min Soft tissue: 180-360 min	7 mg/kg

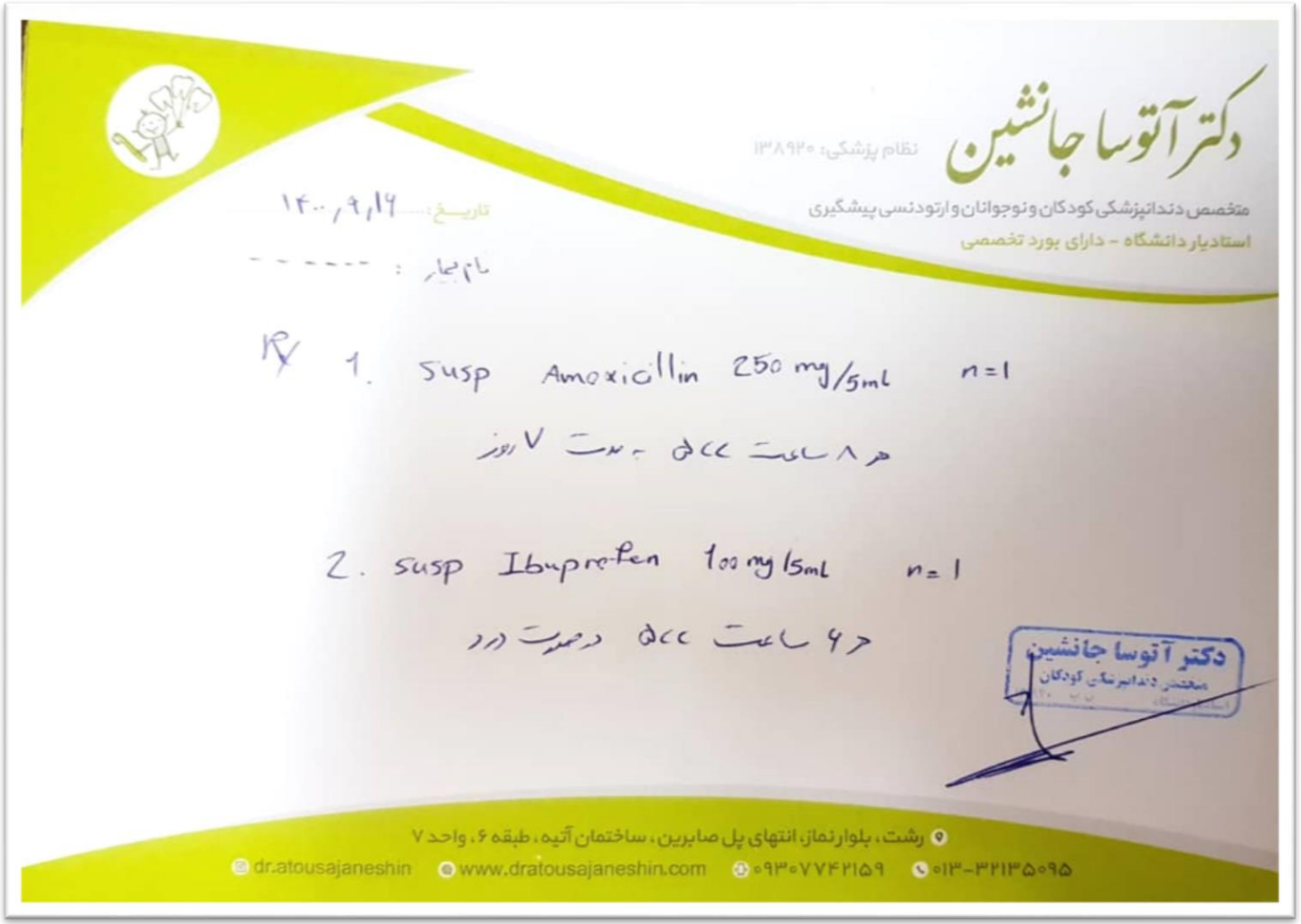
محاسبه ی حداکثرتعداد کارپول مجاز برای کودکان

$$n = \frac{maximum\ recommended\ dose(mg/kg)\ \times kg}{percent\ of\ LA\ \times 18}$$

vasoconstrictor:

In pediatric patients , a vasoconstrictor is needed because:

1. the higher cardiac output
   tissue perfusion
   metabolic rate
2. Produce local hemostasis.



دکتر آتوسا جانشین

نظام پزشکی: ۱۳۸۹۲۰

متخصص دندانپزشکی کودکان و نوجوانان و ارتودنسی پیشگیری

استادیار دانشگاه - دارای بورد تخصصی

تاریخ: ۱۴۰۰/۹/۱۶

نام بیمار: ------

Rx 1. Susp Amoxicillin 250 mg/5mL n=1

هر ۸ ساعت ۵cc به مدت ۷ روز

2. Susp Ibuprofen 100 mg/5mL n=1

هر ۶ ساعت ۵cc در صورت درد

دکتر آتوسا جانشین

متخصص دندانپزشکی کودکان

رشت، بلوار نماز، انتهای پل صابرین، ساختمان آتیه، طبقه ۶، واحد ۷

dr.atousajaneshin www.dratousajaneshin.com ۰۹۳۰۷۷۴۲۱۵۹ ۰۱۳-۳۲۱۳۵۰۹۵

prescription writing

- Tablet >>>> Tab
- Capsule >>>> Cap
- Suspension >>>> Susp
- Syrup >>>> Syr
- Elixir >>>> Elix
- Ampule >>>> Amp
- Suppository >>>> Supp

نحوه مصرف دارو در کودکان

NO

YES

Analgesics

Nonnarcotic Analgesics :

aspirin, acetaminophen, and NSAIDs.

Narcotic Analgesics:

Meperidine , Fentanyl , Codeine , Oxycodone

Analgesics

Common Medications and Dosages for Oral Pediatric Postoperative Pain Management

Medication	Availability	Dosage
Acetaminophen	Elixir: 160 mg/5 mL Tablets: 325 mg Chewable: 160 mg	10-15 mg/kg/dose given at 4-to 6-hour intervals
Ibuprofen	Suspension: 100 mg/5 mL Tablets: 200, 300, 400, 600, 800 mg	4-10 mg/kg/dose given at 6- to 8-hour intervals
Tramadol	Tablets: 50, 100 mg	1-2 mg/kg/dose given at 4- to 6-hour intervals – maximum 100 mg
Codeine and acetaminophen	Suspension: 12 mg/5 mL 12 mg codeine/120 mg acetaminophen/5 mL	0.5-1.0 mg/kg/dose given at 4- to 6-hour intervals
Hydrocodone and acetaminophen	Suspension: 7.5 mg hydrocodone/325 mg acetaminophen/15 mL Tablets: 5 mg hydrocodone/325 mg acetaminophen	0.3 mL/kg/dose given at 4- to 6-hour intervals <50 kg 0.135 mg/kg

$$Weight\ [kg] \times minimum\ dose\ range\ \left[\frac{mg}{kg \times dose}\right] = Minimum\ dose\ [mg/dose]$$

$$Weight\ [kg] \times maximum\ dose\ range\ \left[\frac{mg}{kg \times dose}\right] = Maximum\ dose\ [mg/dose]$$

$$\frac{Dose\ [mg]}{} \times {}^{[mL]}\Big/_{Suspension\ strength\ [mg]} = Dose\ [mL/dose]$$

مثال: تجویز ایبوپروفن برای کودک 21 کیلویی

$$21\ [kg] \times 4\ \left[\frac{mg}{kg \times dose}\right] = 84\ [mg/dose]$$

$$21\ [kg] \times 10\ \left[\frac{mg}{kg \times dose}\right] = 210\ [mg/dose]$$

$$\frac{200\ [mg]}{} \times {}^{5\ [mL]}\Big/_{100\ [mg]} = 10\ [mL/dose]$$

Acetaminophen

اشکال دارویی

pediatric drops:100 mg/ml

oral solution:120 mg/5ml

pediatric Suppository:125mg

Oral suspension:120 mg/5 ml

suppository : 325 mg

tablet :325 mg , 500mg

film coated tablet : acetaminophen 300 mg + codeine

Acetaminophen

- It is an effective analgesic and antipyretic that is as potent as aspirin for management of mild to moderate pain.
- Unlike aspirin, acetaminophen does not inhibit platelet function.
- more than 3 g for a child under 2 years of age >>> liver damage

Ibuprofen

- This agent possess analgesic and anti-inflammatory properties.
- The NSAIDs produce fewer bleeding problems than aspirin.

Mild to moderate

pain associated with trauma or infectious processes: recommended acetaminophen , nonsteroidal anti-inflammatory drugs

severe pain

in which codeine and acetaminophen are not effective, meperidine may be indicated.

the Federal Drug Administration issued a warning specifically for codeine and tramadol in all patients younger than 12 years, stating that they are no longer considered safe to use in this age group.


Antibiotic agents

Antibiotic agents

Antimicrobial classification

BACTERICIDAL AND BACTERIOSTATIC ANTIBIOTICS	
Bactericidal	**Bacteriostatic**
Penicillins	Macrolides
Cephalosporins	Tetracyclines
Glycopeptides	Chloramphenicol
Carbapenems	Sulfonamides
Monobactams	Lincosamides
Aminoglycosides	Rifampin
Quinolones	Oxazolidinones
	Streptogramins

- ✓ Bactericidal antibiotics actually kill the rnicroorganisms ,

  bacteriostatic antimicrobials inhibit bacterial growth and depend on the normal host defense.

- ✓ The same antibiotic may be bactericidal for some pathogens but bacteriostatic for others, or the activity may be concentration dependent.

- ✓ Bacteriostatic agents should be avoided in immunocompromised patients .

Minimum inhibitory concentration (MIC)

- The MIC value is the lowest concentration of an antibiotic required to produce a therapeutic effect.

what happens if a patient misses a dose of antibiotics

- Bactericidal agents such as penicillins that inhibit bacterial cell wall synthesis, *do not require constant blood levels* to be maintained.
- The patient *does not need* to follow the 'every 6 hours' day and night schedule and get up in the middle of the night.

In contrast to bactericidal antibiotics bacteriostatic antibioticts require constant blood levels which need to be above the MIC for the pathogen be maintained Must follow the prescribed dosing interval strictly.

- Drugs are only effective when they achieve **steady-state** in the blood
- If the patient ***misses a dose*** of an antibiotic it is best not to double the next dose
- Take it *as soon as remembered*
- Do not take if it is *almost time for the next dose.*

Odontogenic infections

acute alveolar abscess:

- Thickened periodontal membrane.
- Sensitive to percussion and movement,
- Can be relieved by using antibiotic therapy and drainage.
- Drainage may be established through the pulp chamber of the tooth and/or the associated gingiva or by extraction of the tooth.

Chronic alveolar abscess:

- Less soreness.
- Better-defined radiographic lesion.
- Some lymphadenopathy.
- Draining fistulas.
- Usually, antibiotic therapy is unnecessary except in patients with an overriding systemic problem.

CELLULITIS

- It often causes considerable swelling of the face or neck, and the tissue appears discolored.
- The child appears acutely ill and may have an alarmingly high temperature with malaise and lethargy.
- Incision of soft tissue to establish drainage is not indicated in the early stages of cellulitis because of the diffuse, nonlocalized nature of the infection.

penicillin

- Against gram+ cocci and the major microbes of mixed anaerobic infections
- Contraindications: hypersensivity to penicillin

The usual daily dose for treating odontogenic infections

- Tab : 500 mg (800000 U)
- Susp: 125 mg/5cc (200000 U/5cc)
  250 mg/5cc (400000 U/5cc)

- Children<12: 25-50mg/kg every 6 hours
- Children>12: 250-500mg every 6 hours for at least 7 days

amoxicillin

- More convenient dosing regiment: 3 doses daily
- has a broader spectrum of coverage than penicillin G or V,
- Contraindications: hypersensivity to amoxicillin, penicillin or any component of the formulation

- Children<12: 20-40 mg/kg divided in 3 doses daily for 7-10 days

- Children>12 and adults: 250-500 mg 3times/day
- Maximum:2-3 gr/day for 7-10 days

Faramox BD

- 200 mg/5cc and 400 mg/5cc

- Dosage: 25-45 mg/kg daily
- Every 12 hours

Metronidazole

- 10 mg/KG

clindamycin

- Alternative choice in treating mild or early odontogenic infection
- Broad spectrum of activity

- Side effects: abdominal pain-nausea-vomitting-diarrhea

clindamycin

- Children<12: 10-25mg/kg/day in 3 equally divided doses for 10 days
- Children>12: 600-1800mg/day in 3 divided doses for 10 days.
- the maximum dose is 2-3 grs/day

Macrolides(erythromycin, clarithromycin,azitromycin)

- The macrolides are abs with a spectrum of coverage similar to penicillin,with the addition of some penicillanase-producing staphylococci,chlamydiae,legionella,mycoplasma and others

- Its most common effect is gastrointestinal upset
- Clarithromycin and azithromycin are structural derivates of erythromycin
- Macrolides are bacteriostatic rather than bacteriocidal
- Contraindications:hypersensivity to erythromycin or any component of the formulation

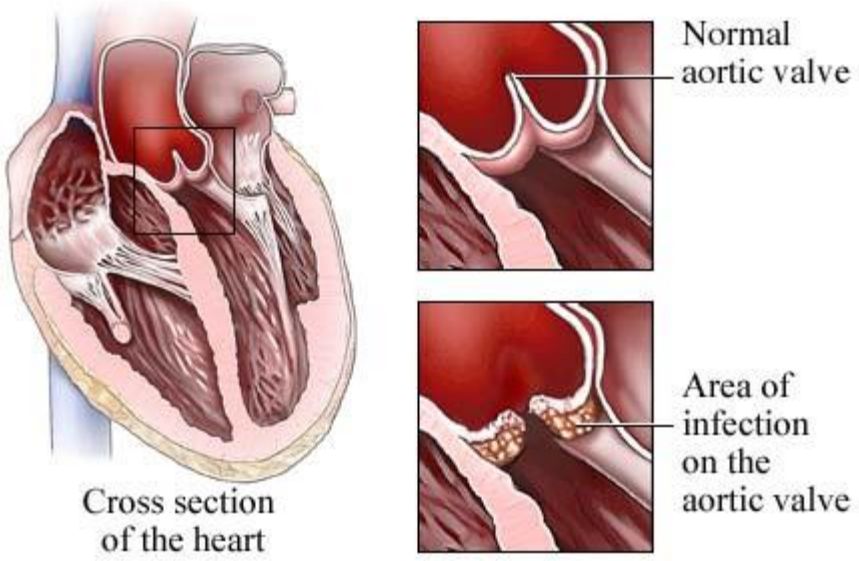
Azitromycine

- Susp : 200 mg/5cc
- Cap: 250-500 mg
- Tab: 250- 500 mg

Infective Endocarditis

- It is characterized by microbial infection of the heart valves or endocardium in proximity to congenital or acquired cardiac defects.

- IE has been classically divided into acute and subacute forms.



Antibiotic prophylaxis

- ..Prosthetic cardiac valves,
- ..Previous bacterial endocarditis
- ..unrepaired cyanotic congenital heart disease
- ..Completely repaired cyanotic congenital heart defect befor 6M
- ..repaired cyanotic congenital heart disease with residual defects.
- ..Cardiac valvulopathy

Antibiotic prophylaxis

Regimens for a Dental Procedure

SITUATION	AGENT	REGIMEN: SINGLE DOSE 30 TO 60 MINUTES BEFORE PROCEDURE	
		ADULTS	CHILDREN
Oral	Amoxicillin	2 g	50 mg/kg
Unable to take oral medication	Ampicillin OR Cefazolin or ceftriaxone	2 g IM or IV 1 g IM or IV	50 mg/kg IM or IV 50 mg/kg IM or IV
Allergic to penicillins or ampicillin—oral	Cephalexin *† OR Clindamycin OR Azithromycin or clarithromycin	2 g 600 mg 500 mg	50 mg/kg 20 mg/kg 15 mg/kg
Allergic to penicillin or ampicillin and unable to take oral medication	Cefazolin or ceftriaxone† OR Clindamycin	1g IM or IV 600 mg IM or IV	50 mg/kg IM or IV 20 mg/kg IM or IV