

PEDS Pharm Cards

#1

NYSTATIN

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| Drug Class | Antifungal – Polyene |
| Mechanism of Action | Binds to ergosterol in the cell membranes of fungal cells → Increasing membrane permeability → K ⁺ and Mg ⁺⁺ leakage / Acidification → Fungicidal |
| Indications | Candidiasis, Other fungal infections |
| Contraindications | <ul style="list-style-type: none"> • Hypersensitivity |
| Adverse Reactions-list | <ul style="list-style-type: none"> • Hypersensitivity rxn • N/V/D • Abdominal Pain |
| Monitoring | No specific laboratory monitoring parameters suggested |
| Starting and Maximal Dose | Pediatric Dosing <ul style="list-style-type: none"> • Neonates: 1mL PO • Infants: 2 mL PO • Children: 4-6mL PO |
| Source: https://online.epocrates.com/drugs/26410/nystatin/Monograph | |

#2

ACETAMINOPHEN (TYLENOL)

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| Drug Class | Non-Opioid Analgesic – NOT ANTI-INFLAMATORY |
| Mechanism of Action | Inhibits prostaglandin synthesis in the CNS → analgesic and antipyretic |
| Indications | Fever, Pain relief |
| Contraindications | <ul style="list-style-type: none">• Hypersensitivity rxn• Concomitant use with Benzocaine topical and Lidocaine topical• LIVER FAILURE - common OD in Peds (antidote- NAC) |
| Adverse Reactions-list | <ul style="list-style-type: none">• Hepatotoxic• Hypersensitivity rxn• Anemia• Headache |
| Monitoring | <ul style="list-style-type: none">• Creatinine at baseline• LFTs if high-dose or long-term tx |
| Starting and Maximal Dose | <ul style="list-style-type: none">• 6-11 yo<ul style="list-style-type: none">○ Start: 10-15 mg/kg PO○ Max: 75 mg/kg/day PO• 12 yo and older<ul style="list-style-type: none">○ Start: 325-650 mg PO○ Max: 4 g/day PO |
| Source: https://online.epocrates.com/drugs/306/acetaminophen | |

ONDANSETRON (ZOFRAN)

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| Drug Class | Antiemetic – 5-HT ₃ Receptor Antagonist |
| Mechanism of Action | Selectively antagonizes serotonin 5-HT ₃ receptors via vagus nerve → Deactivates vomiting center in medulla oblongata |
| Indications | Nausea, Vomiting (related to cancer chemotherapy related, post-op, gastroenteritis) |
| Contraindications | <ul style="list-style-type: none"> • Hypersensitive rxn • Congenital long QT syndrome • Contaminant use with drugs causing QT prolongation (ex. apomorphine) |
| Adverse Reactions-list | <ul style="list-style-type: none"> • Hypersensitivity rxns • QT Prolongation • Serotonin syndrome • SJS / TEN • Headache • Constipation |
| Monitoring | Electrolyte abnormalities, Cardiac issues (MI, CHF, bradycardia) |
| Starting and Maximal Dose | <p>Pediatric Dosing</p> <ul style="list-style-type: none"> • Chemo-related 4-11 yo <ul style="list-style-type: none"> ○ Start: 4 mg PO ○ Max: 4 mg PO • Chemo-related 12 yo and older <ul style="list-style-type: none"> ○ Start: 8 mg PO ○ Max: 8 mg PO • Post-op < 40kg <ul style="list-style-type: none"> ○ Start: 0.1 mg / kg / day IV ○ Max: 4mg IV • Post-op > 40kg <ul style="list-style-type: none"> ○ Start: 4 g IV ○ Max: 4 g IV • Gastroenteritis < 30kg <ul style="list-style-type: none"> ○ Start: 4 mg PO ○ Max: 4 mg PO • Gastroenteritis > 30kg <ul style="list-style-type: none"> ○ Start: 8 mg PO ○ Max: 8 mg PO |

Source: <https://online.epocrates.com/drugs/144110/Zofran/Monograph>

#4

| POLYETHYLENE GLYCOL (<i>MIRALAX</i>) | |
|---|--|
| Drug Class | Osmotic Laxatives |
| Mechanism of Action | Increase osmolality in lumen of GI tract → Water attracted due to increased osmotic pressure → Draws water into stool → Bowel distention → Increased peristalsis → Bowel evacuation |
| Indications | Chronic Constipation, Diagnostic/Surgical Preps |
| Contraindications | <ul style="list-style-type: none">• GI obstruction• Hypersensitivity |
| Adverse Reactions-list | <ul style="list-style-type: none">• Abdominal bloating• Rectal irritation• GI irritation (cramping, flatulence, diarrhea)• Hypersensitivity |
| Monitoring | Electrolyte imbalances |
| Starting and Maximal Dose | <p>Pediatric Dosing</p> <ul style="list-style-type: none">• Bowel Prep < 50kg<ul style="list-style-type: none">○ Start: 4 g / kg / day PO○ Max: 255 g/day PO• Bowel Prep > 50kg:<ul style="list-style-type: none">○ Start: 238 g/day PO○ Max: 255 g/day PO• Constipation < 20kg<ul style="list-style-type: none">○ Start: 0.2-0.8 g/kg/dose PO○ Max: 17 g/day PO• Constipation < 20kg<ul style="list-style-type: none">○ Start: 17 g/day PO○ Max: 17 g/day PO |
| Source: https://online.epocrates.com/drugs/199810/polyethylene-glycol-3350/Monograph | |

AMOXICILLIN (AMOXIL)

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| Drug Class | Antibiotics – Penicillin |
| Mechanism of Action | Binds to penicillin-binding proteins → Inhibits cell wall synthesis → Bacterial cell lysis / bactericidal |
| Indications | Bacterial Infections <ul style="list-style-type: none"> ○ Otitis media, sinusitis, pharyngitis, respiratory tract infections, <i>H.Pylori</i>, UTI |
| Contraindications | <ul style="list-style-type: none"> ● Hypersensitivity ● Anaphylaxis rxn ● Mononucleosis ● Liver / Renal Impairment |
| Adverse Reactions-list | <ul style="list-style-type: none"> ● N/V/D ● Epigastric distress - COLITIS ● Hypersensitivity reactions |
| Monitoring | No specific laboratory monitoring parameters suggested |
| Starting and Maximal Dose | <p>Pediatric Dosing</p> <ul style="list-style-type: none"> ● Bacterial infection unspecified > 3 months age <ul style="list-style-type: none"> ○ Start: 20-30 mg/kg/day PO ○ Max: 30 mg /kg/day PO ● Bacterial infection unspecified > 3 months age <ul style="list-style-type: none"> ○ Start: 25-45 mg/kg/day PO ○ Max: 875 mg/dose PO ● Acute otitis media & Pneumonia (double dose for AOM) <ul style="list-style-type: none"> ○ Start: 80-90 mg/kg/day PO ○ Max: 80-90 mg/kg/day PO |
| Sources: https://www.ncbi.nlm.nih.gov/books/NBK482250/ , https://online.epocrates.com/drugs/13902/amoxicillin/Peds-Dosing | |

GENTAMICIN (GARAMYCIN)

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|---------------------------|---|
| Drug Class | Antibiotics – Aminoglycoside |
| Mechanism of Action | Passive diffusion across gram-negative membrane → Binds to 30S ribosomal subunit → Inhibits bacterial protein synthesis → Bactericidal |
| Indications | <ul style="list-style-type: none"> • Aerobic gram-negative bacteria <ul style="list-style-type: none"> ○ Start: 20-30 mg/kg/day PO ○ <i>Pseudomonas, Proteus, E.coli, Serratia, Klebsiella</i> • Bacteria septicemia, meningitis, UTIs, GI infections, soft tissue infections • Ineffective against gram-positive anaerobes and streptococci |
| Contraindications | <ul style="list-style-type: none"> • Hypersensitivity • Known anaphylaxis rxn • Renal Impairment |
| Adverse Reactions-list | <ul style="list-style-type: none"> • Ototoxicity (tinnitus, hearing loss) • Nephrotoxicity (proteinuria, elevated serum creatinine, oliguria) • Skeletal muscle paralysis • Skin rash • Superinfection |
| Monitoring | <ul style="list-style-type: none"> • Renal function / Serum Cr • Hearing tests • Neuromuscular function • Desired peak (4-12 mcg/mL) and trough (0.5-2 mcg/mL) |
| Starting and Maximal Dose | <p>Pediatric Dosing (Age based)</p> <ul style="list-style-type: none"> • ≤ 30 weeks gestational age <ul style="list-style-type: none"> ○ Start: 5 mg/kg/dose IV/IM ○ Max: 5 mg /kg/dose IV/IM • 30-34 weeks gestational age <ul style="list-style-type: none"> ○ Start: 4.5-5 mg/kg/dose IV/IM ○ Max: 5 mg /kg/dose IV/IM • ≥ 35 weeks gestational age <ul style="list-style-type: none"> ○ Start: 4-5 mg/kg/dose IV/IM ○ Max: 5 mg/kg/dose IV/IM • Intrathecal or intraventricular <ul style="list-style-type: none"> ○ Newborns: 1mg / day ○ Infants > 3 months and children: 1 – 2 mg/day <p>Adult Dosing</p> <ul style="list-style-type: none"> • 5-7 mg/kg/dose IV q24 |

#7

INDOMETHACIN

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| Drug Class | NSAID |
| Mechanism of Action | Inhibits synthesis of prostaglandins by decreasing COX activity → Decreases cerebral blood flow → Analgesic |
| Indications | <ul style="list-style-type: none"> • Pharmacologic closure for patent ductus arteriosus (PDA) • Prophylaxis for intraventricular hemorrhage (IVH) in low birthweight infants • Pain relief • Arthritis (gout, RA, osteoarthritis) |
| Contraindications | <ul style="list-style-type: none"> • Hypersensitivity to drug/class/component • Known anaphylaxis rxn (NSAID-induced asthma or urticaria) • Renal impairment / CrCl < 30 • CABG periop pain • Pregnancy starting at 30 week gestation • NEONATES: NEC, thrombocytopenia, active bleeding, coagulation disorder, Tetralogy of Fallot, aortic coarctation, anuria |
| Adverse Reactions-list | <ul style="list-style-type: none"> • Thrombotic Events • GI bleeding, Ulceration, Perforation • Transient oliguria / Decreased GFR /Increased serum Cr • Hematologic disorders (thrombocytopenia, DIC, anemia) • Hyponatremia / Hyperkalemia |
| Monitoring | <ul style="list-style-type: none"> • Cr at baseline • CBC • Hypovolemia • Electrolyte imbalances • Urine output and LFTs in peds |
| Starting and Maximal Dose | <p>Pediatric Dosing (Based on Postnatal Age)</p> <ul style="list-style-type: none"> • Start: 0.2 mg/kg IV • Max: follow by 2 doses depending on PNA <ul style="list-style-type: none"> ○ < 48 hours: 0.1 mg/kg IV q12-24 ○ 2-7 days old: 0.2 mg/kg IV q12-24 ○ > 7 days old: 0.25 mg/kg IV q12-24 <p>Adult Dosing</p> <ul style="list-style-type: none"> • Start: 25mg PO • Max: 150-200mg PO5-7 mg/kg/dose IV q24 |
| Sources: https://online.epocrates.com/drugs/23610/indomethacin/Monograph | |

#8

EPINEPHRINE

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|---------------------------|---|
| Drug Class | Alpha- & Beta-Adrenergic Agonist |
| Mechanism of Action | Acts on Beta receptors → Positive chronotropic and inotropic effects on the heart, relaxes bronchial smooth muscle Acts on Alpha receptors → Increases systolic BP and constricts renal blood vessels (incr. vascular smooth muscle contraction) |
| Indications | <ul style="list-style-type: none">• Bradycardia• Cardiac arrest (pulseless VT, asystole/PEA)• Cardiogenic shock• Anaphylactic reactions• Asthma exacerbation |
| Contraindications | <ul style="list-style-type: none">• Hypersensitivity• Closed angle glaucoma• PVTs |
| Adverse Reactions-list | <ul style="list-style-type: none">• Respiratory difficulty• Pulmonary edema• Nausea• Tremor• Renal: decreased renal and splanchnic blood flow• Cardiac: tachycardia, palpitations, arrhythmia, HTN, stress cardiomyopathy |
| Monitoring | <ul style="list-style-type: none">• Cardiac function: BP / ECG• Renal function (due to renal blood vessel constriction and dec in urine output) |
| Starting and Maximal Dose | <ul style="list-style-type: none">• IV bolus<ul style="list-style-type: none">○ 0.01 – 0.03 mg/kg 3-5 min PRN• IV infusion<ul style="list-style-type: none">○ Start: 0.05 – 0.3 mcg/kg/min○ Max: 1 mcg/kg/min• Endotracheal<ul style="list-style-type: none">○ Start: 0.05 – 0.1 mcg/kg every 3-5 min until IV access is established or ROSC• Nebulizer<ul style="list-style-type: none">○ 0.25 – 0.5 mL diluted in 2-3 mL NS |

Sources: <https://online.epocrates.com/drugs/31410/epinephrine-adrenaline/Monograph>

#9

CIMETIDINE (TAGAMET)

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| Drug Class | Antihistamine – H2 receptor antagonist |
| Mechanism of Action | Inhibits action of histamine on gastric parietal cells → Decreases gastric acid secretion |
| Indications | <ul style="list-style-type: none"> • GERD • Duodenal and gastric ulcers • Esophagitis • Hypersecretory conditions |
| Contraindications | <ul style="list-style-type: none"> • Hypersensitivity • Neonates with NEC |
| Adverse Reactions-list | <ul style="list-style-type: none"> • CNS toxicity • Neutropenia • Agranulocytosis • Thrombocytopenia • Antiandrogenic effects • Decreased LFTs and Cr levels |
| Monitoring | No specific laboratory monitoring parameters suggested |
| Starting and Maximal Dose | <p>Pediatric Dosing</p> <ul style="list-style-type: none"> • Neonates <ul style="list-style-type: none"> ○ Start: 5-10 mg/kg/day PO ○ Max: 60 mg /kg/day PO • Infants <ul style="list-style-type: none"> ○ Start: 20-40 mg/kg/day PO ○ Max: 400 mg /kg/day PO <p>Adult Dosing</p> <ul style="list-style-type: none"> ○ Start: 1 tab/day PO ○ Max: 2 tabs/day PO |
| Sources: https://online.epocrates.com/drugs/otcs/474310/Tagamet-HB-200/Monograph | |

#10

DEXAMETHASONE (DECADRON)

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|---------------------------|---|
| Drug Class | Long acting corticosteroid |
| Mechanism of Action | Inhibits function of inflammatory mediators and leukocyte infiltration at site of inflammation → Suppresses cortisol release → Prevents or suppresses inflammatory and immune responses |
| Indications | <ul style="list-style-type: none">• Airway edema prior to extubation• Adrenal insufficiency• Dexamethasone suppression test• Altitude sickness• Croup• Infants: bronchopulmonary dysplasias / chronic lung disease to facilitate weaning off ventilator |
| Contraindications | <ul style="list-style-type: none">• Hypersensitivity• Breastfeeding during tx• Systemic fungal infection• Cerebral malaria |
| Adverse Reactions-list | <ul style="list-style-type: none">• Anaphylaxis• Adrenal insufficiency• Iatrogenic Cushing syndrome• Infection, osteoporosis, growth retardation, hyperglycemia, GI and electrolyte disturbances, cataracts, myopathy, HTN |
| Monitoring | Electrolytes, BP, 2h postprandial glucose, Height for peds |
| Starting and Maximal Dose | Airway Edema or Extubation <ul style="list-style-type: none">• Start: 0.25 - 5 mg/kg/dose IV q4-8• Max: 1.5 mg/kg/day IV (3 doses) Bronchopulmonary dysplasia / chronic lung disease (ventilator weaning) <ul style="list-style-type: none">• Start: 0.5 – 0.6 mg/kg/day IV/PO for 3-7 days• Max: N/A Croup <ul style="list-style-type: none">• Start: 0.6 mg/kg/day PO• Max: 20 mg/dose |

Sources: <https://online.epocrates.com/drugs/1519/Decadron>