

## MEDICATION TABLE

The medication table that follows should serve as a reference tool which you may wish to modify and add to as additional information becomes available. Within the table:

- the **dosage forms** may not be limited to the ones listed and will change over time
- only the common **side effects (SE)**, and **(drug) interactions** are listed
- the listed **trade names** either represent the only product available, or one that is commonly known

For a complete, up to date list of the products available, side-effects and drug interactions, refer to the current CPS<sup>1</sup> and other appropriate literature. For information about other medications used in the treatment of HIV disease, refer to other modules in the series.

## SIDE-EFFECTS

Side-effects may be allergic, idiosyncratic or dose-related extensions of known effects. They may increase with the number of different medications and the dosage being taken or in the presence of liver or renal failure if dosage/frequency is not adjusted downwards. If side-effects occur, reduce or stop offending medications and provide appropriate antidotes.

As medications may have many effects, they may also produce many different side-effects. In some instances they occur frequently enough to be grouped as below:

Side-effect group	Side-effects that may occur
anti-cholinergic	dry mouth, mydriasis (= pupil dilatation), cycloplegia (= paralysis of ciliary muscle, of accommodation), decreased GI motility, constipation, tachycardia, urinary retention, memory impairment and in high doses may lead to delirium. May precipitate acute glaucoma.
CNS excitation	euphoria, restlessness, agitation, vivid dreams, nightmares, hallucinations, myoclonus (jerks/twitches), focal motor or grand mal seizures
extra pyramidal (EPS)	early effects (usually dose related): <ul style="list-style-type: none"> <li>• acute dystonic reactions: torticollis (= cervical muscle spasm ⇒ unnatural twisting of head), opisthotonos (=a tetanic spasm with head and heels bent backward, body bowed forward), tics, grimacing, dysarthria, oculogyric crisis. Rx diphenhydramine 25–50 mg po, im, iv q4h prn</li> <li>• parkinsonian reactions: tremor, bradykinesia, rigidity, abnormalities of gait and posture. Rx benztropine (Cogentin<sup>®</sup>) 1–2 mg iv, im acutely then 1–2 mg po od–bid</li> <li>• akathisia: sense of constant motor restlessness. Rx benztropine 1–2 mg po od-bid.</li> </ul> late effects (due to prolonged usage): <ul style="list-style-type: none"> <li>• tardive dyskinesia: involuntary movements of lips, tongue, jaws, extremities. May persist indefinitely after medication is stopped. Anti-dopaminergic drugs may suppress these movements</li> </ul>
upper gastro-intestinal	nausea, vomiting, dyspepsia. May include erosions, ulceration, bleeding. Rx misoprostol 200 µg po q6h or histamine H <sub>2</sub> receptor antagonists (see Anti-acids)
signs of electrolyte imbalance, dehydration	dry mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pain/cramps, muscle fatigue, hypotension (may be orthostatic), oliguria, tachycardia, nausea/vomiting
hypersensitivity	rash, urticaria, bronchospasm, laryngeal or angioneurotic edema, anaphylactic shock.

## LEGEND

CPS	Compendium of Pharmaceuticals and Specialties <sup>1</sup>
IR	immediate release (tabs are IR unless noted)
Ped	pediatric dosing information
SR	sustained release (sustained release tablets must be taken intact, never broken or crushed)
*	opioid equivalents listed are for chronic dosing only. Equivalents for acute dosing may vary considerably
★	Patient information sheet available in CPS <sup>1</sup>
↑	upper dose limited only by need and side-effects
☺	insufficient experience in pediatrics. Adolescent dosing ≈ adults. If these drugs are needed, consultation is appropriate
☺☺	insufficient experience in pediatrics for this indication. If these drugs are needed, consultation is appropriate
†	fixed-dose combinations not recommended in young children
††	dose varies depending on condition being treated

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>ANAESTHETICS, membrane stabilizing anti-arrhythmics (to relieve neuropathic pain by stabilizing nerve function and producing some anaesthesia)</b>				
<b>Flecainide</b> class 1C arrhythmic	<b>Tambocor</b> ®: tabs: 50, 100 mg	start with 50 mg po q12h, increase 50 mg q12h every 4 or more days (max 300 mg/24 hrs, adjust for hepatic or renal failure) <b>Ped:</b> ☹	ventricular/other arrhythmias, CHF, dizziness, visual disturbances (blurred vision, diplopia, photophobia), headache, nausea, dyspnea	other anti-arrhythmics, cimetidine, digoxin, propranolol, phenytoin, phenobarbital, rifampin, carbamazepine
<b>Mexiletine</b> class 1B arrhythmic	<b>Mexitil</b> ® caps: 100, 200 mg	start with 100 mg po q8h, increase 100 mg q8h every 3 or more days (max 1,200 mg/24 hrs, adjust for hepatic failure) <b>Ped:</b> ☹	may cause ventricular or other arrhythmias, upper GI distress, light headedness, tremor	other anti-arrhythmics, phenytoin, phenobarbital, rifampin, carbamazepine, cimetidine, theophylline, metoclopramide, avoid diets/medications that acidify urine, tobacco, smoking
<b>ANAESTHETICS, mucosal (to relieve pain due to oral, pharyngeal, esophageal sores/ulcers)</b>				
<b>Oxethazine, aluminum hydroxide, magnesium hydroxide</b> mouthwash topical anaesthetic, antacid	<b>Mucaine</b> ®: liquid: 10 mg oxethazine/5 mls	15 mls or more tid-qid prn, gargle 15 sec, then swallow <b>Ped:</b> ☹	caution if taking fluids or food within 60 min of oral ingestion (may interfere with swallowing)	none significant
<b>ANAESTHETICS, topical (see individual medications)</b>				
<b>Capsaicin</b> to relieve pain due to peripheral neuropathy	<b>Zostrix</b> ® cream: 0.025% <b>Zostrix H.P.</b> ® cream: 0.075%	apply lightly to affected areas at least 3-4 times/24 hrs (wash hands immediately, optimal response within 14-28 days of continued use) <b>Ped:</b> ≥2 yrs: same as adults	• transient burning on application • avoid contact with eyes. Do not apply to wounds or damaged skin. Do not bandage	none significant
<b>Dibucaine</b> to relieve peri-anal and skin pain, and pruritis	<b>Nupercainal</b> ®: cream: 0.5% oint: 1% supp: 2.5 mg/supp	apply cream or ointment tid-qid to affected areas (max 2 tubes cream, 1 tube ointment/24 hrs) or 1 supp pr bid, post bowel movement <b>Ped:</b> same as adults	• increased irritation (rare), hypersensitivity (rare)	none significant
<b>Lidocaine</b> to relieve pain due to open mucositis, oro-pharyngeal, peri-anal and skin lesions/ulcers, especially during painful dressing changes	various, <b>Xylocaine</b> ® is an example: topical liquid: 4% viscous: 2% oral & endotracheal spray: 10% jelly: 2% ointment: 5%	viscous: 15 mls po q3h prn, gargle, spit or swallow (mix 50/50 with Magnolax® to make more palatable, max 200 mg/24 hrs) liquid/spray: apply to affected areas prn jelly: apply to urethra pre-catheterization <b>Ped:</b> 5-15 mls swish and spit q4h prn (max 3 mg/kg/24 hrs)	• no fluids or food within 60 min of oral ingestion (interfere with second stage of swallowing) • systemic administration may cause CNS excitation or depression, ventricular or other arrhythmias • hypersensitivity	• bupivacaine • if given systemically: other anti-arrhythmics, amiodarone, β-blockers, cimetidine, MAOIs, phenytoin, TMP-SMX
<b>Lidocaine + Prilocaine</b> combination to relieve pain associated with local procedures	<b>EMLA</b> ® ☹: cream: 25 mg lidocaine and 25 mg prilocaine/gm patch: 1 gm cream	apply patch, or a thick layer cream covered with an occlusive dressing, at least 1 hr prior to a painful procedure (may remain up to 5 hrs, not recommended for infants <6 months, or children 6-12 months receiving Rx for methemoglobin) <b>Ped:</b> same as adults	mild local reactions, i.e. edema, itching, transient paleness, erythema, initial burning	
<b>ANALGESICS</b>				
<b>Acetaminophen</b> mechanism of action not clearly understood	various, <b>Tylenol</b> ® is an example: tabs: 325, 500 mg elixir: 80 mg/mls supp: 325, 650 mg	325-650 mg po, pr q4h routinely or prn (max 4,000 mg/24 hrs) <b>Ped:</b> 10-15 mg/kg q4h routinely or prn (max 65 mg/kg/24 hrs)	• SE rare • overdose may produce hepatic and renal toxicity (see CPS) • hypersensitivity (rare)	anticoagulants, alcohol, AZT, barbiturates, β-blockers, contraceptives (oral), isoniazid, sulfipyrazone, tobacco, smoking
<b>Benzydamine</b> to relieve pain due to oro-pharyngeal mucositis, ulcers, open lesions	<b>Tantum</b> ®: liquid: 0.15%/mls	15 mls or more tid-qid prn, gargle 15 sec, then spit out (may dilute 1:1 with water. If severe pain, may use every 1.5-3 hrs) <b>Ped:</b> same as adults	• local numbness, burning, stinging, nausea/vomiting	none significant

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Phenazopyridine</b> to relieve dysuria, urinary frequency and urgency	<b>Pyridium</b> ® tabs: 100, 200 mg	200 mg po tid <b>Ped:</b> ☺	<ul style="list-style-type: none"> <li>orange or red urine, mild upper GI upset</li> <li>other SE are rare: headache, transient acute renal failure, methemoglobinemia, hypersensitivity</li> </ul>	none significant
<b>ANALGESICS, ASA, NSAID's</b> (to relieve pain, fever, inflammation; through irreversible (ASA) or reversible (other NSAID's) acetylation of cyclooxygenase, inhibits prostaglandin production and ↓'s inflammation, ↓'s sensitization of peripheral nerve endings (↓'s pain), and ↓'s response to pyrogens in the thermoregulatory centres (↓'s fever))				
<b>Acetylsalicylic acid (ASA)</b>	various, <b>Aspirin</b> ® is an example: caplets, tabs: 325, 500 mg children's tab: 80 mg coated tabs: 325, 500 mg elixir: 80 mg/mls supp: 325, 650 mg	325-650 mg po, pr q4h routinely or prn (max 5,000 mg/24 hrs) <b>Ped:</b> 10-15 mg/kg q4h routinely or prn (max. 65 mg/kg/24 hrs)	<b>ASA and all NSAID's:</b> <ul style="list-style-type: none"> <li>upper GI SE due to increased acid secretion and diminished mucous production (misoprostol 200 µg po q6h should be used if there is a history of gastritis/bleeding, current nausea/vomiting, cachexia or use of glucocorticoids)</li> </ul>	<b>ASA:</b> <ul style="list-style-type: none"> <li>antacids can ↓ absorption, anticoagulants, thrombolytic agents can ↑ risk of hemorrhage, protein bound drugs, anti-convulsants, phenytoin, uricosuric agents, anti-diabetic agents, corticosteroids, methotrexate, acidifying &amp; alkalinizing agents, thiopental, alcohol</li> </ul>
<b>Diclofenac</b>	various, <b>Voltaren</b> ® ☼ is an example: IR tabs: 25, 50 mg SR tabs: 75, 100 mg supps: 50, 100 mg	IR: 75-150 mg po, pr tid or SR: 75-100 mg po od-q12h (max 200 mg/24 hrs) <b>Ped:</b> ☺	<ul style="list-style-type: none"> <li>acute renal failure, interstitial nephritis, renal papillary necrosis, especially if dehydrated</li> <li>diminished platelet aggregation (irreversible with ASA, reversible with other NSAID's)</li> <li>tinnitus, dizziness; hearing loss (ASA only)</li> <li>hypersensitivity (increased frequency in persons with asthma or nasal polyps)</li> <li>somnolence, insomnia</li> </ul>	<b>All NSAID's:</b> <ul style="list-style-type: none"> <li>anticoagulants, thrombolytic agents, corticosteroids, methotrexate, ASA, anti-hypertensives, Li, cyclosporin, glucocorticoids, diuretics, probenecid</li> </ul>
<b>Flurbiprofen</b>	various, <b>Ansaid</b> ® ☼ is an example: tab: 50, 100 mg	200 mg po/24 hrs in divided doses (may increase to 300 mg/24 hrs for short periods) <b>Ped:</b> ☺	<ul style="list-style-type: none"> <li>ASA toxicity can lead to respiratory failure</li> <li>nervousness, headache, dizziness, diarrhea, constipation (NSAID's)</li> </ul>	
<b>Ibuprofen</b>	various, <b>Motrin</b> ® ☼ is an example: tab: 300, 400, 600 mg	200-800 mg po q6-8h (max 2.4 gm/24 hrs) <b>Ped:</b> 4-10 mg/kg po q4h		
<b>Indomethacin</b> may also reduce night sweats	various, <b>Indocid</b> ® ☼ is an example: IR tab: 25, 50 mg SR tab: 75 mg supp: 50, 100 mg	25-75 mg po q8-12h or 75 mg SR po od-bid (max 200 mg/24 hrs) <b>Ped:</b> ☺		
<b>Ketoprofen</b>	various, <b>Orudis</b> ® ☼ is an example: cap: 50 mg IR tabs: 50, 100 mg SR tabs: 200 mg supp: 50, 100 mg	150-200 mg po/24 hrs + IR: tid-qtd or SR/ supp: od-bid (max 300 mg/24 hrs for short periods) <b>Ped:</b> ☺		
<b>Ketorolac</b>	<b>Toradol</b> ® ☼ tab: 10 mg inj: 10, 15 or 30 mg/ml	10 mg po qid or 30 mg im loading dose then 10-30 mg im q6h (max po =40 mg/24 hrs, max im = 120 mg/24 hrs, not more than 5 days; adjust for renal failure) <b>Ped:</b> ☺		
<b>Naproxen</b>	various, <b>Naprosyn</b> ® ☼ is an example: IR tabs: 250, 375, 500 mg SR tab: 750 mg supp: 500 mg suspension: 125 mg/5 ml	500-1,000 mg po/24 hrs + bid-td <b>Ped:</b> 5-10 mg/kg po q12h		
<b>Piroxicam</b>	various, <b>Feldene</b> ® ☼ is an example: caps: 10, 20 mg supp: 10, 20 mg	20-40 mg po od or may be divided bid <b>Ped:</b> ☺		

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>ANALGESICS, weak opioid agonists (to relieve nociceptive and neuropathic pain)</b>				
<b>Anileridine</b> synthetic opioid related to meperidine * Equivalence: 75–100 mg po ≈ 20–30 mg po morphine, 25 mg sc, im ≈ 10 mg sc, im morphine	<b>Leritine</b> ®: tab: 25 mg inj: 25 mg/mls <b>Not recommended for chronic dosing</b>	25–50 mg po, sc, im q4–6h (max. 200 mg/24 hrs) <b>Ped:</b> ☹	• see meperidine, below	• see meperidine, below
<b>Codeine</b> (methymorphine) naturally occurring opioid, metabolized into morphine, may have more anti-tussive properties than morphine * Equivalence: 60 mg ≈ 6–8 mg morphine, for a given route of administration	various: tabs: 15, 30, 60 mg elixir: 5 mg/mls inj: 30, 60 mg/mls	15–60 mg po, sc, im q4h routinely or q1h prn (ceiling effect at 200–300 mg/24 hrs) <b>Ped:</b> 3–6 mg/kg/24 hrs + q4–6h	• see strong opioids, i.e. morphine, as below	• see strong opioids, i.e. morphine, as below
<b>Codeine + Acetaminophen</b> combinations see codeine	various, <b>Tylenol #1, 2, 3 and 4</b> ® is an example: tabs: 8, 15, 30, 60 mg codeine + 325 mg acetaminophen (may include caffeine)	1–2 tabs po q4h routinely or q4h prn <b>Ped:</b> †	• see strong opioids, i.e. morphine, as below and acetaminophen, above	• see strong opioids, i.e. morphine, as below and acetaminophen, above
<b>Codeine + ASA</b> combinations see codeine	various, <b>222's</b> ®, <b>252's</b> , <b>292's</b> ™ is an example: tabs: 8, 15, 30, 60 mg codeine + 325 mg ASA (may include caffeine)	1–2 tabs po q4h routinely or q4h prn <b>Ped:</b> †	• see strong opioids, i.e. morphine, as below and ASA, above	• see strong opioids, i.e. morphine, as below and ASA, above
<b>Meperidine</b> (pethidine) synthetic opioid not related to morphine. Active metabolite normeperidine (t½ ≈ 6 hrs) may accumulate and produce high rate of CNS excitation, if dosing for analgesia (t½ ≈ 3 hrs) * Equivalence: 75 mg im ≈ 10 mg im morphine, 100 mg po ≈ 10 mg po morphine	<b>Demerol</b> ®: tab: 50 mg inj: 50, 75, 100 mg/mls syrup: 50 mg/ml <b>Not recommended for chronic dosing</b>	50–150 mg po, im, sc q4h prn <b>Ped:</b> 1–1.5 mg/kg po, iv, sc q4h prn (use im preferentially, sc only occasionally, po is less effective than im)	• accumulation of metabolites may cause high rate of CNS excitation • other SE similar to strong opioids, i.e. morphine, as below	• as for other strong opioids, i.e. morphine, as below • in addition, acyclovir, amiodarone, β-blockers, cholestyramine, entitane, erythromycins, guanfacine, halothane, nifedipine, phenytoin
<b>Oxycodone + Acetaminophen</b> combinations see oxycodone under strong opioids	various, <b>Percocet</b> ® is an example; usually: tab: 5 mg oxycodone + 325 mg acetaminophen (may include caffeine)	1–2 tabs po q4h routinely or q4h prn (dosing limited by acetaminophen) <b>Ped:</b> †	• as for oxycodone, see strong opioids, i.e. morphine, as below and acetaminophen above	• as for oxycodone, see strong opioids, i.e. morphine, as below and acetaminophen above
<b>Oxycodone + ASA</b> combinations see oxycodone under strong opioids	various, <b>Percodan</b> ® is an example; tab: 5 mg oxycodone + 325 mg ASA (may include caffeine)	1–2 tabs po q4h routinely or q4h prn (dosing limited by ASA) <b>Ped:</b> †	• as for oxycodone, see strong opioids, i.e. morphine, as below and ASA above	• as for oxycodone, see strong opioids, i.e. morphine, as below and ASA above

**ANALGESICS, strong opioid agonists (to relieve nociceptive and neuropathic pain)**

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<p><b>Fentanyl</b> synthetic opioid related to meperidine</p> <p>* <b>Equivalence:</b> fentanyl : morphine ≈ 1:80 for equivalent routes of administration. For conversion of chronic morphine dosing to fentanyl patches:</p>	<p><b>Duragesic</b>® Patch: 25, 50, 75, 100 µg/hr</p> <p>morphine fentanyl mg po q24h µg/hr patch 45-134 25 135-224 50 225-314 75 315-404 100 (may change with newer data)</p>	<p>25-300 µg q48-72h (for breakthrough pain use IR morphine or hydromorphone. Do not use for titration or rapidly changing pain)</p> <p><b>Ped:</b> not recommended</p>	<ul style="list-style-type: none"> <li>similar to other strong opioids, i.e. morphine, as below, plus</li> <li>muscular rigidity at high doses</li> </ul>	<ul style="list-style-type: none"> <li>see meperidine; as above</li> <li>use caution when combining with breakthrough doses of morphine or hydromorphone</li> </ul>
<p><b>Heroin</b> diacetylmorphine synthetic opioid, rapidly metabolised into morphine. Highly soluble (500 mg/ml), otherwise no advantage over other strong opioids. May produce euphoria in the first few minutes</p> <p>* <b>Equivalence:</b> 1 mg iv ≈ 1.6-1.7 mg sc, im, iv morphine</p>	<p>available only through emergency drug release, special order (see <i>Resources</i>)</p>	<p>1-1 mg, sc, im q3h routinely/q30min prn, or sc, iv q1h via infusion + breakthrough q30min prn (no oral efficacy)</p> <p><b>Ped:</b> ☹</p>	<p><b>All strong opioids:</b></p> <ul style="list-style-type: none"> <li>CNS excitation</li> <li>drowsiness/sedation with higher doses</li> <li>pupillary constriction</li> <li>anti-cholinergic SE</li> <li>nausea/vomiting</li> <li>peripheral venous vasodilation, possible hypotension</li> <li>urinary retention (due to increased bladder, ureter and sphincter tone)</li> <li>respiratory depression (dose related).</li> </ul> <p>Of concern with acute dosing, uncommon with chronic dosing unless doses are increased excessively</p> <ul style="list-style-type: none"> <li>CO<sub>2</sub> retention, if present, may lead to increased intra-cranial pressure, especially in head injuries</li> <li>urticaria, rash (rare) may occur due to local or systemic histamine release, without bronchospasm or other edema. Use anti-histamines to settle, i.e. astemizole (Hismanal®) 30 mg po od for 3 days, then 10 mg po od, and continue opioid</li> <li>if bronchospasm occurs (rare), discontinue the opioid and look for allergens, unrelated opioid or other analgesics</li> <li>tolerance may develop as the nervous system adapts to the presence of the opioid. Adjust doses to compensate dependence will develop. If opioid dosage is to be reduced, do it carefully and slowly, reducing the dose by 50% of the current dose q3-5 days. Withdrawal symptoms (see naloxone below) suggest that reduction is too rapid. Near the end, benzodiazepines may be required to settle residual symptoms</li> </ul>	<p><b>All strong opioids:</b></p> <ul style="list-style-type: none"> <li>never combine opioids (exception is fentanyl patches)</li> <li>additive effects with CNS stimulants, TCA's, depressants, barbiturates, benzodiazepines, hypnotics, phenothiazines, neuroleptics, alcohol</li> <li>MAOI's must be avoided</li> <li>phenytoin, phenobarbital, rifampin, carbamazepine may increase metabolism</li> <li>metoclopramide, histamine H<sub>2</sub> receptor antagonists, hydroxyzine</li> </ul>
<p><b>Hydromorphone</b> synthetic opioid closely related to morphine, potency and solubility advantages (300 mg/ml), different metabolites</p> <p>* <b>Equivalence:</b> 1 mg ≈ 5 mg morphine, for a given route of administration</p>	<p><b>Dilaudid</b>® tabs: 1, 2, 4, 8 mg elixir: 1 mg/mls supp: 3 mg inj: 2, 10, 20, 50 mg/mls</p>	<p>1-1 mg, po, pr q4h routinely/q1h prn, or sc, im q3h routinely/q30min prn, or sc, iv q1h via infusion + breakthrough q30min prn <b>Ped:</b> ☹</p>		
<p><b>Methadone</b> synthetic opioid related to morphine, less euphoria, longer duration of action</p> <p>* <b>Equivalence:</b> methadone : morphine ≈ 1:1</p>	<p>requires special prescribing license tabs: 5, 10 mg liquid: 5 mg/5 ml, 10 mg/5 ml, 10 mg/1 ml inj: 10 mg/ml</p>	<p>individualized, see morphine IR <b>Ped:</b> ☹</p>		
<p><b>Morphine, IR</b> naturally occurring opioid, limited solubility (65 mg/ml)</p> <p>* <b>Equivalence:</b> potency comparison standard for a given route of administration</p>	<p>various: IR tabs: 1, 5, 10, 20, 25, 50 mg elixir: 1, 2, 5, 20, 50 mg/mls supps: 10, 20, 30 mg inj: 1, 2, 10, 15, 25, 50 mg/mls</p>	<p>1-1 mg, po, pr q4h routinely/q1h prn, or sc, im q3h routinely/q30min prn, or sc, iv q1h via infusion + breakthrough q30min prn <b>Ped:</b> initial dose: 0.15-0.3 mg/kg po, pr q4h or 0.05-0.1 mg/kg iv, sc q3h infusion: initial dose 10-40 µg/kg/hr (reduce initial dose in young infants, increase dose gradually as required)</p>		
<p><b>Morphine, SR</b> ☹ several sustained release formulations-tablets and granules</p> <p>* <b>Equivalence:</b> 1 mg po SR = 1.0 mg po IR morphine</p>	<p>various: SR tabs: 15, 30, 60, 100, 200 mg caps: 10, 30, 60, 100 mg (never break or crush tablets. Capsules may be opened and granules mixed with fluids or food)</p>	<p>SR: 15-1 mg po q8-12h routinely only (divide total 24 hr dose of morphine by 2 to dose q12h or by 3 to dose q8h. Never dose more frequently than q8h. Provide breakthrough doses using IR morphine q1h prn) <b>Ped:</b> same as adults</p>		

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Oxycodone</b> synthetic opioid, related to morphine * Equivalence: 1 mg po $\approx$ 1.0–1.5 mg po morphine	<b>Supeudol</b> ® tabs: 5, 10 mg supps: 10, 20 mg	5–1 mg po, pr q4h routinely or prn <b>Ped:</b> ☹	• see strong opioids, i.e. morphine, as above	• see strong opioids, i.e. morphine, as above
<b>ANALGESICS, strong opioid antagonists (to rapidly counteract the effect of excess opioid agonists)</b>				
<b>Naloxone</b> synthetic opioid, related to morphine, but a potent antagonist	<b>Narcan</b> ® inj: 0.02, 0.4, 1.0 mg/mls	if <b>immediately life-threatening</b> : start with 0.4–2.0 mg iv q2–3min until desired effect achieved if <b>not immediately life-threatening</b> : start with 0.1 mg iv q1min, if no effect within 5 min, increase to 0.2–0.4 mg iv q1min prn until desired effect achieved. (reversal may occur with a very small dose. Rapidly redistributed into adipose tissues within 10–15 min. Repeat dosing or an infusion may be necessary to maintain opioid reversal until the opioid has been excreted) <b>Ped:</b> 0.1 mg/kg iv, repeat prn	too much may produce severe withdrawal symptoms, including: • increased pain, hypertension, tachycardia, diaphoresis, hallucinations, paranoia, severe abdominal cramps®	• clonidine, ACE inhibitors
<b>ANTI-ACIDS (to reduce stomach acid production and action)</b>				
<b>Alginic acid</b> to reduce the frequency and intensity of gastro-esophageal reflux	<b>Gaviscon</b> ® tabs: 200, 400 mg liquid: 250 mg/5 mls	10–20 mls po or 2–4 tabs po od–qid pc + hs prn (chew tabs, do not swallow whole) <b>Ped:</b> 5–15 mls po od–qid pc + hs	• nausea/vomiting, eructation (= belching), flatulence	• may decrease absorption of other drugs (see antacids below)
<b>Al or Mg hydroxide antacids</b> to neutralize stomach acid	various; many tabs and liquids available over the counter	15–30 mls or 1–2 tabs po q2h prn <b>Ped:</b> infant: 2.5–5 mls po q1–2h child: 5–15 mls po pc and qhs (avoid Mg if renal failure present, use Al)	• alkalosis, Mg can $\Rightarrow$ diarrhea, Al can $\Rightarrow$ constipation, hypophosphatemia	• direct binding or elevated gastric pH may alter drug absorption, i.e. ACE inhibitors, benzodiazepines, cephalosporins, chlorpromazine, histamine H <sub>2</sub> receptor antagonists, corticosteroids, digoxin, hypoglycemics, oral iron, isoniazid, ketoconazole, metronidazole, nitrofurantoin, NSAID's, quinidine, salicylates, phenytoin, tetracyclines, theophyllines, valproic acid, vitamin C, D
<b>Cimetidine</b> histamine H <sub>2</sub> receptor antagonist to reduce stomach acid production	various, <b>Tagamet</b> ® is an example: tabs: 300, 400, 600 mg liquid: 300 mg/5 mls inj: 300 mg/2 mls	300 mg po qid ac + hs, or 400–600 mg po q12h, or 800 mg po qhs, or 300 mg iv q6h (max 2,400 mg/24 hrs, reduced dose for renal failure) <b>Ped:</b> <1 yrs: 20 mg/kg/24 hrs po, iv+ q4–6h 1–12 yrs: 20–25 mg/kg/24 hrs po, iv + q4–6h	cognitive abnormalities, especially if hepatic or renal function is impaired, leukopenia, thrombocytopenia, see famotidine and ranitidine below	<b>For all histamine H<sub>2</sub> receptor antagonists:</b> ketoconazole, hypoglycemics, theophylline, food, antacids, sucralate, propanthelone, warfarin anticoagulants, benzodiazepines, $\beta$ -blockers, TCA's, cephalosporins, phenytoin, probenecid, procainamide, quinidine, acetaminophen
<b>Famotidine</b> histamine H <sub>2</sub> receptor antagonist to reduce stomach acid production	various, <b>Pepcid</b> ® is an example: tabs: 20, 40 mg inj: 10 mg/mls	20–40 mg po od, or 10–20 mg iv q12h <b>Ped:</b> ☹	headache, malaise, dizziness, vertigo, somnolence, insomnia, nausea/vomiting, constipation, diarrhea, abdominal discomfort, drug induced hepatitis, impotence, gynecomastia, hypersensitivity	
<b>Ranitidine</b> histamine H <sub>2</sub> receptor antagonist to reduce stomach acid production	various, <b>Zantac</b> ® is an example: tabs: 150, 300 mg caps: 150, 300 mg inj: 25 mg/mls	150 mg po bid or 300 mg po od, or 50 mg iv, im q6–8h (300 mg po bid may be used for up to 4 wks to promote healing) <b>Ped:</b> 2.5–3.8 mg/kg/24 hrs po + bid		

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Omeprazole</b> H <sup>+</sup> , K <sup>+</sup> -ATPase inhibitor to reduce stomach acid production	<b>Losec</b> ®: tab: 20 mg	20-40 mg po od (do not exceed 20 mg/24 hrs with liver failure) <b>Ped:</b> ☺	• see histamine H <sub>2</sub> receptor antagonists	phenytoin, warfarin anticoagulants, benzodiazepines, corticosteroids, digoxin, disulfiram, phenytoin
<b>ANTI-CONVULSANTS (to control abnormal electrical and seizure activity; to relieve neuropathic pain)</b>				
<b>Carbamazepine</b>	various, <b>Tegretol</b> ® is an example: tab: 100, 200 mg sustained release: 200, 400 mg	seizures: 100 mg po bid-400 mg po tid hiccups: 100-200 mg po bid-tid (start low & increase q3-4 days, max 1,800 mg/24 hrs, monitor blood levels) <b>Ped:</b> initial dose 10 mg/kg/24 hrs + bid-tid increase if necessary, max 30 mg/kg/24 hrs	aplastic anemia, cardiovascular effects, ataxia, blurred vision, confusion, drowsiness, vertigo, headache, hepatic effects, nausea/vomiting, hypersensitivity	alcohol, calcium channel blockers, corticosteroids, erythromycin, doxycycline, haloperidol, isoniazid, Li, MAOIs (avoid), metoclopramide, other anticonvulsants, psychoactive agents, theophylline, warfarin anticoagulants
<b>Phenytoin</b>	<b>Dilantin</b> ®: caps: 30, 100 mg infatabs: 50 mg suspension: 30 or 125 mg/5 mls inj: 50 mg/mls	seizures: hiccups: start with 100 mg po, iv tid and adjust to achieve therapeutic blood levels (if the person is unable to swallow and iv access is not possible, parenteral solutions may be administered pr) <b>Ped:</b> 6 mths-3 yrs: 7-9 mg/kg/24 hrs + bid-tid 4-6 yrs: 6.5 mg/kg/24 hrs + bid-tid 7-9 yrs: 6 mg/kg/24 hrs + bid-tid 10-16 yrs: 3-5 mg/kg/24 hrs + bid-tid	ataxia, diplopia, dizziness, nystagmus, confusion, drowsiness, hallucinations, cardiovascular effects, constipation, depression, gingival hyperplasia, hematological effects, hepatic dysfunction, hypotension, megaloblastic anemia, nausea/vomiting, hypersensitivity, avoid in pregnancy	amiodarone, mexiletine, quinidine, anti-histamines, benzodiazepines, carbamazepine, valproic acid, cimetidine, chloramphenicol, corticosteroids, salicylates, cyclosporine, disulfiram, doxycycline, folic acid, isoniazid, rifampin, methadone, phenobarbital, TCA's, trazodone, theophylline
<b>Valproic acid</b>	<b>Depakene</b> ®: tabs: 250, 500 mg syrup: 250 mg/5 mls	seizures: start at 15 mg/kg/24 hrs, increase wkly by 5-10 mg/kg/24 hrs up to max 60 mg/kg/24 hrs (above 250 mg, divide into 3 doses/24 hrs) hiccups: 250 mg po bid-qid <b>Ped:</b> same as adults	ataxia, tremor, sedation, inhibition of platelet aggregation, nausea/vomiting, thrombocytopenia, hypersensitivity	alcohol, antiacids, ASA, barbiturates, clonazepam, phenytoin
<b>ANTI-DEPRESSANTS, tricyclics (TCA's) (to relieve clinical depression; to enhance deep sleep)</b>				
<b>Amitriptyline</b>	various, <b>Elavil</b> ® is an example: tabs: 10, 25, 50, 75 mg susp: 10 mg/5 mls	start with 10-25 mg po od (qhs)-tid and if no SE, increase q3-4 days in 25 mg increments (max 200 mg in 1-3 doses/24 hrs, 100 mg for nortriptyline)	anti-cholinergic SE, orthostatic hypotension, drowsiness, weight gain, tachycardia, arrhythmias, QRS prolongation,	alcohol, anticoagulants, barbiturates, cimetidine, clonidine, CNS depressants, histamine H <sub>2</sub> receptor
<b>Desipramine</b>	various, <b>Norpramin</b> ® is an example: tabs: 10, 25, 50, 75, 100 mg	<b>Ped:</b> ☺, Imipramine ☺☺	nausea/vomiting, confusion, mania, psychosis, seizures, sweating, hypersensitivity	antagonists, MAOIs, methyphenidate, SSRI's, sympathomimetics
<b>Doxepin</b>	various, <b>Sinequan</b> ® is an example: caps: 10, 25, 50, 75, 100, 150 mg			
<b>Imipramine</b>	various, <b>Tofranil</b> ® is an example: tabs: 10, 25, 50, 75 mg			
<b>Nortriptyline</b>	<b>Aventyl</b> ®: caps: 10, 25 mg			
<b>ANTI-DEPRESSANTS, serotonin re-uptake inhibitors (SSRI's) (to relieve clinical depression)</b>				
<b>Fluoxetine</b>	<b>Prozac</b> ®: caps: 10, 20 mg liquid: 20 mg/5 mls	start with 2.5-5 mg po qhs if no side-effects, increase gradually q1wk (max 80 mg/24 hrs, may take 4-5 wks to realize effect, reduce dose for elderly, hepatic and renal failure) <b>Ped:</b> ☺	<b>For all SSRI's:</b> asthenia, constipation, diarrhea, dizziness, dry mouth, headache, insomnia, somnolence, male sexual dysfunction, nausea, nervousness, sweating, tremor,	alcohol, anticoagulants, oral, anti-diabetic agents, antihistamines, benzodiazepines, β-blockers, carbamazepine, chloral hydrate, cimetidine, dex-tromethorphan, group 1C

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Fluvoxamine</b>	<b>Luvox<sup>®</sup></b> tabs: 50, 100 mg	start with 50 mg po qhs, if no side-effects, increase 50 mg q1wk (max 300 mg/24 hrs, 150 mg at hs, reduce dose for elderly, hepatic or renal failure) <b>Ped:</b> ☺	visual disturbances, hypersensitivity	anti-arrhythmics, haloperidol, Li, marijuana, smoking, MAOI's (avoid), neuroleptics, nifedipine, pentazocine, phenothiazines, phenytoin, theophylline, TCA's, trazodone, tryptophan, valproate
<b>Paroxetine</b>	<b>Paxil<sup>®</sup></b> tabs: 20, 30 mg	start 20 mg po qhs, if no side-effects, increase 10 mg po q1-2wks (max 50 mg po od, may take 3-4 wks to realize effect, reduce dose for elderly, hepatic and renal failure) <b>Ped:</b> ☺		
<b>Sertraline</b>	<b>Zoloft<sup>®</sup></b> tabs: 50, 100 mg	start with 50 mg po qhs, if no side-effects, increase gradually q1wk (max 200 mg/24 hrs) <b>Ped:</b> ☺		

**ANTI-DEPRESSANTS, others (to relieve clinical depression)**

<b>Trazodone</b>	various, <b>Desyrel<sup>®</sup></b> is an example: tabs: 50, 150 mg	start with 50 mg po od, if no SE, increase q7 or more days up to 400 mg/24 hrs <b>Ped:</b> ☺	dizziness, drowsiness, dry mouth, headache, nausea, priapism, no risk of withdrawal, hypersensitivity	anti-cholinergics, anti-hypertensives, CNS depressants, digoxin, general anesthetics, MAOI's, phenothiazines, phenytoin, SSRI's
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**ANTI-DIARRHEALS (to control diarrhea; to reduce abdominal cramping)**

<b>Aluminum hydroxide</b> ⇒ insoluble Al(OH) <sub>3</sub> which causes constipation	various, <b>Amphogel<sup>®</sup></b> is an example: liquid: 320 or 500 mg/5 ml tab: 600 mg	15-30 mls po q2-4h prn <b>Ped:</b> ☺	• see anti-acids, Al or Mg hydroxide	• direct binding or altered gastric pH may alter drug absorption, see anti-acids, Al or Mg hydroxide antacids
<b>Attapulgite</b>	<b>Kaopectate<sup>®</sup></b> tabs: 300 mg/chewable tab, 600 mg/regular strength tab, 750 mg/extra strength tab susp: 600 mg/15 mls in children's, 600 mg/15 mls in regular, 750 mg/15 mls in extra strength	30 mls or 2 tabs prn (max 6 doses = 12 tabs, per 24 hrs) <b>Ped:</b> 3-6 yrs: 7.5 mls po prn 6-12 yrs: 15 mls po prn >12 yrs: 30 mls po prn	• none significant	
<b>Bismuth subsalicylate</b>	various, <b>Pepto Bismal<sup>®</sup></b> is an example: liquid: 17.6 mg/ml tab: 262 mg	30 mls or 2 tabs po q½h prn (max 8 doses = 240 mls or 16 tabs/24 hrs) <b>Ped:</b> <2 yrs: ☹ 2-4 yrs: 5 mls po q½h prn 5-9 yrs: 7.5 mls or ½ tab po q½h prn 10-14 yrs: 15 mls or 1 tab po q½h prn	• blackens tongue & faeces, constipation	
<b>Diphenoxylate</b> synthetic opioid, related to meperidine, inhibits excessive gastric motility	<b>Lomotil<sup>®</sup></b> tabs: 2.5 mg with atropine 0.025 mg liquid: 2.5 mg/5 mls	2.5-5 mg po od-qid (max 20 mg/24 hrs, avoid in hepatic failure) <b>Ped:</b> 0.3-0.4 mg/kg/24 hrs po ÷ bid-qid	• uncommon • see weak opioids, meperidine	• may potentiate the effect of phenothiazines, barbiturates, TCA's • see weak opioids, meperidine
<b>Loperamide</b> synthetic opioid, related to meperidine	various, <b>Imodium<sup>®</sup></b> is an example: caplets: 2 mg caps: 2 mg liquid: 1 mg/5 mls	4 mg po first dose then 2-4 mg after each unformed stool (max daily dose 16 mg/24 hrs) <b>Ped:</b> ≥2 yrs: ≈ 0.2 mg/kg/24 hrs po ÷ bid-tid (use with caution in children <12 yrs)	abdominal pain, constipation, dizziness, dry mouth, nausea/vomiting, hypersensitivity	cholestyramine

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Octreotide</b> synthetic octapeptide analogue of somatostatin, inhibits secretion of the gastroenteropancreatic endocrine system, reducing volume of intestinal secretions	<b>Sandostatin</b> ® inji: 50, 100, 500 µg	500 µg sc q8h for 48 hrs (low dose may lead to diarrhea, if higher dose is ineffective after 6 doses then not likely to work at all, (if effective then decrease by 100 µg each dose x 24 hours to minimum effective dose) <b>Ped:</b> 1–10 µg/kg bid–tid	abdominal pain, bloating, flatulence, cholelithiasis, diarrhea, dizziness, edema, hypertension, fatigue, drowsiness, flushing, headache, hyper/hypoglycemia, nausea/vomiting, pain, burning at sc site, hypersensitivity	cimetidine, cyclosporine
<b>Psyllium</b> bulk forming agent	various, <b>Metamucil</b> ® is an example: fibre wafers: 3.4 gm unflavoured powder: 7 gm/1 tsp orange powder: 3.4 gm/2 tpsps	1 packet (10 mls) od–tid, or 1 tsp unflavoured powder (2 flavoured) po od, or 2 wafers po od (must mix with at least 240 mls of water) <b>Ped:</b> 1/4 – 1/2 of adult dose	• ensure good fluid intake, dehydration will worsen constipation, hypersensitivity	none significant

**ANTI-EMETICS (to relieve nausea/vomiting)**

<b>Cyclizine</b> histamine H <sub>1</sub> receptor blocker	<b>Marzine</b> ® inji: 50 mg/ml	50 mg im, iv q8h prn <b>Ped:</b> ☺	anti-cholinergic SE, dizziness, insomnia, hypotension, sedation, urinary frequency, retention	CNS depressants, anti-cholinergics, ototoxic drugs
<b>Dimenhydrinate</b> histamine H <sub>1</sub> receptor blocker	various, <b>Gravol</b> ® is an example: tabs: 15, 25, 50 mg supps: 25, 50, 100 mg inji: 50 mg/5 mls caps: 25 mg IR + 50 mg SR mg/cap chewable tab: 15, 50 mg	25–100 mg po, pr, im, iv q4h prn or routinely (max 400 mg/24 hrs) <b>Ped:</b> 5 mg/kg/24 hrs po/iv ± q6h		
<b>Meclizine</b> histamine H <sub>1</sub> receptor blocker	<b>Bonamine</b> ® tab: 25 mg	25–100 mg po od–qid <b>Ped:</b> use ½ the adult dose		
<b>Dronabinol</b>	<b>Marinol</b> ® caps: 2.5, 5, 10 mg	2.5–10 mg po q2–4h prn <b>Ped:</b> ☺		alcohol, barbiturates, benzodiazepines, opioids
<b>Nabilone</b> synthetic cannabinoid	<b>Cesamet</b> ® tab: 1 mg	1–2 mg po q6–12h (max 6 mg/24 hrs) <b>Ped:</b> ☺		
<b>Ondansetron</b> selective antagonist of the serotonin 5-HT <sub>3</sub> receptor	<b>Zofran</b> ® tab: 4, 8 mg inji: 2 mg/ml	4–16 mg po, iv q8h (efficacy unproven except for chemotherapy) <b>Ped:</b> ☺	headache, constipation, flushing/warmth in the head or epigastrium, hypersensitivity	CNS depressants, anticonvulsants, Li
<b>Prochlorperazine</b> phenothiazine derivative	various, <b>Stemetil</b> ® is an example: tabs: 5, 10 mg liquid: 5 mg/5 mls supp: 10 mg	5–20 mg po, pr, im, iv pr q4h prn or routinely <b>Ped:</b> 0.5 mg/kg/24 hrs po/pr ± bid–tid	drowsiness, dizziness, hypotension, EPS	alcohol, anti-cholinergics, barbiturates, β-blockers, cimetidine, clonidine, disulfiram, l-dopa, Li, metoclopramide, mepiperidene, phenytoin, pyrimethamine, SSRIs, TCA's, trazodone, valproate, Vitamin C

**ANTI-FLATULENTS (to reduce flatulence)**

<b>Simethicone</b>	various combination with antacids	adults and <b>Ped:</b> see directions on bottles	none significant	none significant
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**ANTI-MICROBIALS, anti-bacterials (refer also to Modules 1 and 2)**

<b>Metronidazole</b> effective against anaerobes, trichomonus, giardia lambda, entamoeba histolytica, particularly for necrotic ulcers	various, <b>Flagyl</b> ® is an example: tab: 250 mg caps: 500 mg cream: 10% vag inserts: 500 mg inji: 5 mg/ml	for necrotic ulcers: apply layer of cream over affected area(s) tid to qid and if extensive, add 250–500 mg po, iv q8h (for other indications, refer to CPS) <b>Ped:</b> necrotic ulcers: as for adults	anorexia, diarrhea, dry mouth, furred tongue, nausea/vomiting, neurologic deterioration, peripheral neuropathies, unpleasant, metallic taste, hypersensitivity	alcohol, astemizole (avoid), barbiturates, coumadin, disulfiram, Li, terfenadine (avoid)
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Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Silver sulfadiazine</b> particularly for necrotic ulcers	various, <b>Flamazine</b> ® is an example; cream: 1%	apply layer of cream over affected area(s) bid (use with caution in hepatic or renal failure) <b>Ped:</b> same as adults	<ul style="list-style-type: none"> <li>use with caution in persons sensitive to sulfa</li> <li>leukopenia, hypersensitivity</li> </ul>	oral hypoglycemics, phenytoin, cimetidine
<b>ANTI-MICROBIALS, anti-fungals (refer also to Modules 1 and 2)</b>				
<b>Amphotericin B</b>	<b>Fungizone</b> ® liquid: 0.1 mg/ml inj: 50 mg/vial	10-15 ml po qid swish and spit, or for detailed iv Rx, refer to <i>Module 1</i> <b>Ped:</b> refer to <i>Module 2</i>	<ul style="list-style-type: none"> <li>SE with oral are rare, many problems with iv, see CPS</li> <li>hypersensitivity</li> </ul>	rare with oral as not taken systemically
<b>Clotrimazole</b>	various, <b>Canestine</b> ® is an example; cream: 10 mg/gm vaginal inserts: 100 mg	100 mg po qid (suck vaginal inserts) or apply layer of cream over affected area(s) bid <b>Ped:</b> refer to <i>Module 2</i>	well tolerated, local irritation, erythema, burning, stinging, pruritis, hypersensitivity	none significant
<b>Fluconazole</b>	<b>Diflucan</b> ® tabs: 50, 100 mg powder for oral susp: 10 or 40 mg/ml on reconstitution inj: 2 mg/ml	50-400 mg po, iv + od-bid <b>Ped:</b> 3-6 mg/kg/24 hrs po as a single daily dose	well tolerated, nausea/vomiting, abdominal pain, diarrhea, dizziness, headache, hepatic toxicity, exfoliative skin disorders	↓ absorption with cimetidine, carbamazepine, phenytoin, rifampin, amphotericin-B, coumarin anticoagulants, cyclosporine, astemizole & terfenadine, drugs affecting gastric acid, oral contraceptives, phenytoin, rifampin, anti-diabetic agents, thiazide diuretics
<b>Itraconazole</b>	<b>Sporonox</b> ® caps: 100 mg	200-600 mg po + od-bid <b>Ped:</b> 3-5 mg/kg/24 hrs as a single daily dose with meals	well tolerated, nausea/vomiting, rash, headache, dizziness, hypertension, hypokalemia, hepatitis, impotence, fatigue, malaise	absorbed best in an acidic environment; ↓ absorption with antacids, H <sub>2</sub> blockers, isoniazid, phenytoin, rifampin, carbamazepine, terfenadine, astemizole
<b>Ketoconazole</b>	<b>Nizoral</b> ® tab: 200 mg susp: 20 mg/ml	200-600 mg po + od-bid <b>Ped:</b> 5-10 mg/kg/24 hrs po as a single daily dose	hepatotoxicity, nausea/vomiting, gynecomastia, pruritis, anaphylaxis	↓ absorption with antacids, H <sub>2</sub> blockers, ddI, carbamazepine, phenytoin, ↑ hepatotoxicity with AZT, TMP-SMX, hepatotoxic drugs, anti-viral agents, anti-tuberculosis agents, quinolones, anti-coagulants, cyclosporine, phenytoin, theophylline, terfenadine, astemizole, corticosteroids, alcohol, oral sulfonylureas
<b>Nystatin</b>	various: tab: 100,000 units susp: 100,000 units/ml vaginal supp: 100,000 units	500,000-1,500,000 units (5-15 ml) po qid swish and swallow <b>Ped:</b> 400,000-2,400,000 units/24 hrs po + qid	nausea/vomiting, diarrhea, GI distress, hypersensitivity	none significant
<b>Terbinafine</b>	<b>Lamisil</b> ® tab: 250 mg cream: 10 mg/gm	125 mg po bid or 250 mg po od for 2 wks-3 months (depending on infection and its severity) apply cream od-bid for 1-4 wks (depending on infection and its severity) <b>Ped:</b> ☺	GI symptoms, irritation, pruritis, hypersensitivity	rifampin, cimetidine
<b>ANTI-MICROBIALS, anti-virals (refer to Modules 1 and 2, especially for anti-retrovirals)</b>				
<b>Acyclovir</b> to control herpes zoster	<b>Zovirax</b> ® caps: 200 mg tabs: 200, 400, 800 mg inj: 500, 1,000 mg/vial	200-800 mg po tid-5 times/24 hrs, depending on acuteness and severity of the infection <b>Ped:</b> H, simplex: 250 mg/m <sup>2</sup> iv q8h CMV/Varicella-Zoster: 500 mg/m <sup>2</sup> iv q8h H, simplex prophylaxis: 50 mg/kg/24 hrs + qid CMV prophylaxis: 80 mg/kg/24 hrs + qid	occasional nephrotoxicity, headache, nausea/vomiting, diarrhea, fever, thrombocytosis, thrombocytopenia, transient leukopenia, hypersensitivity	<ul style="list-style-type: none"> <li>↑ nephrotoxicity with foscarnet,</li> <li>↑ blood levels of carbamazepine, phenytoin,</li> <li>zidovudine, probenecid, anti-fungal agents, interferon, methotrexate</li> </ul>

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Foscarnet</b> to control CMV retinitis	<b>Foscavir</b> ® inji: 24 mg/ml	induction: 60 mg/kg iv q8h x 14-21 days (if q8h dosing is not possible then 100 mg/kg q12h x 14-21 days) maintenance: 90-120 mg/kg iv daily or 5 days/wk (refer to <i>Module 1</i> ) <b>Ped:</b> ☺	<ul style="list-style-type: none"> <li>• if renally impaired, use ganciclovir</li> <li>• anemia, ↓ renal function, headache, tremor, fatigue, malaise, nausea/vomiting, mood changes, asthenia, muscle cramps, ↓ seizure threshold, parasthesia, hypertension, diarrhea</li> </ul>	amphotericin B, ganciclovir, pentamidine
<b>Ganciclovir</b> to control CMV retinitis	<b>Cytovene</b> ® inji: 500 mg/vial	induction: 5 mg/kg iv q12h x 14-21 days maintenance: 5 mg/kg iv daily or 6 mg/kg iv daily 5 days/wk (refer to <i>Module 1</i> ) <b>Ped:</b> treatment: 5 mg/kg iv q12h prophylaxis: 5 mg/kg iv daily (refer to <i>Module 2</i> )	<ul style="list-style-type: none"> <li>• ↓ platelets &amp; WBC, dizziness, abnormal thoughts or dreams, headache, confusion, nervousness, tremor, fever, chills, swelling of extremities, nausea/vomiting, diarrhea, loss of appetite, elevated liver enzymes, hypersensitivity</li> </ul>	zidovudine, didanosine, foscarnet, probenacid, nephrotoxic drugs, dapsone, pentamidine, pyrimethamine, flucytosine, amphotericin B, cotrimoxazole, anti-neoplastic agents

**ANTI-PRURITICS, H<sub>1</sub> histamine receptor antagonists (antihistamines) (to relieve itchiness)**

<b>Cyproheptadine</b>	various, <b>Periactin</b> ® is an example: tab: 4 mg syrup: 2 mg/5 ml	4-20 mg po +q4-6h (max 32 mg/24 hrs) <b>Ped:</b> 2-4 mg bid-tid depending on age and weight (max 16 mg/24 hrs)	sedation, dizziness, confusion, nausea/vomiting, arrhythmias, hypersensitivity	CNS depressants, ephedrine, MAOI's
<b>Hydroxyzine</b>	various, <b>Atarax</b> ® is an example: caps: 25, 50 mg	25 mg po tid-qid <b>Ped:</b> 2 mg/kg/24 hrs po + tid-qid	drowsiness, dry mouth, dizziness, headache, nausea/vomiting, bitter taste in mouth	CNS depressants, anti-cholinergics, epinephrine

**ANTI-PSORIATICS, topical non-steroidals (to control psoriasis)**

<b>Calcipotriol</b>	<b>Dovonex</b> ® ☺ ointment: 50 µg/gm	apply a thin layer bid (rub in gently, completely) <b>Ped:</b> ☺	burning, pruritis, hypersensitivity	none significant
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**ANTI-SPASMODICS, anti-muscarinics (to reduce GI activity and bladder hypermotility (atropine and hyoscyamine), to reduce salivary gland secretions (scopolamine))**

<b>Atropine</b>	various: inji: 0.3, 0.4, 0.6, 1.0 mg/mls	0.4-0.6 mg sc, im, iv q3-4h routinely or prn <b>Ped:</b> 0.01-0.02 mg/kg sc, im, iv	<ul style="list-style-type: none"> <li>• CNS and cardiac excitation (atropine only),</li> <li>• anti-cholinergic SE, photophobia, palpitation, tachycardia (atropine only)</li> </ul>	antacids, histamine H <sub>2</sub> receptor antagonists may interfere with absorption, amantadine, quinidine, haloperidol, phenothiazines, MAOI's, TCA's, some antihistamines, digoxin, ketoconazole
<b>Hyoscyamine</b>	<b>Levsin</b> ® tab: 0.125 mg drops: 0.125 mg	0.125-0.25 mg po, sl q4h routinely or prn (max 1.5 mg/24 hrs) <b>Ped:</b> 2-10 yrs: 0.25-1.0 mls po q4h routinely or prn	<ul style="list-style-type: none"> <li>• dementita, delirium or glaucoma</li> <li>• treat excess with physostigmine iv, see CPS</li> <li>• hypersensitivity</li> </ul>	
<b>Scopolamine</b>	various, <b>Transderm-V</b> ® ☺ is an example: inji: 0.4, 0.6 mg/mls patch: contains 1.5 mg, releases 1.0 mg in 3 days	0.3-0.6 mg sc, iv, im q4h-8h pm, or 1-2 patches behind alternating ears q72h (takes 12 hrs to maximize blood levels, and 12 hrs to clear scopolamine from the blood, wash hands thoroughly after applying disk) <b>Ped:</b> not indicated for children		

**ANTI-SPASMODICS, other (to relieve smooth muscle spasm)**

<b>Dicyclomine</b>	<b>Bentylol</b> ®: tabs: 10, 20 mg syrup: 10 mg/5 mls inji: 10 mg/mls	10-20 mg po tid-qid or 20 mg im q4-6h prn (im po ≈ 2:1, no iv) <b>Ped:</b> ☺	anti-cholinergic SE	see glycopyrrolate below
<b>Flavoxate</b>	<b>Urispas</b> ®: tab: 200 mg	100-200 mg po tid-qid <b>Ped:</b> ☺	nausea/vomiting, dry mouth, headache, drowsiness, confusion	none significant

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Glycopyrrolate</b>	<b>Robinul</b> ®: tab: 1, 2 mg inj: 0.2 mg/mls	0.1–0.4 mg im, iv q4–6h prn <b>Ped:</b> ☺	anti-cholinergic SE	antacids, slow K, levodopa, digoxin, phenothiazines, amantadine, anti-parkinsonian agents, glutethamide, TCA's, meperidine, isopropramide, quimidine, disopyramide, procainamide
<b>Hyoscine butylbromide</b>	<b>Buscopan</b> ®: tab: 10 mg supp: 10 mg inj: 20 mg/mls	10–20 mg po, sc, im, iv 1–5 times/24 hrs (inject at 1 ml/min max, max 100 mg/24 hrs) <b>Ped:</b> ☺	constipation, dry mouth, nausea/vomiting, epigastric distress	
<b>Opium &amp; Belladonna</b> relief of pain due to ureteral spasm	various: supp: 65 mg opium, 15 mg belladonna	1 pr q6h prn <b>Ped:</b> ☺	may have any of the side-effects common to opioids (see morphine)	may have any of the drug interactions common to opioids (see morphine)
<b>Oxybutynin</b> for relief of urinary urgency, frequency, leakage, incontinence associate with a neuro-genic bladder	<b>Ditropan</b> ®: tab: 5 mg syrup: 5 mg/5 ml	5 mg po bid-tid (max dose 20 mg daily) <b>Ped:</b> <5 yrs: 0.5 mg/kg/24 hrs po ÷ qid >5 yrs: 10–15 mg/24 hrs ÷ bid-tid	anti-cholinergic SE	none significant

**ANTI-TUSSIVES (to relieve cough)**

<b>Dextromethorphan hydrobromide</b>	various combination preparations chewable tab: 15 mg lozenges 5 mg syrup: 5, 7.5, 10, 15 mg/5 ml	15–45 mg po q4–6 h prn (max 120 mg/24 hrs) <b>Ped:</b> 1 mg/kg/24 hrs ÷ q6–8h	nausea/vomiting, dizziness, sedation, GI disturbances	CNS depressants, MAOI's
<b>Hydrocodone</b>	various, <b>Hycodan</b> ® is an example: tab: 5 mg syrup: 5 mg/5 ml	5–10 mg po q4–6h prn <b>Ped:</b> 0.1 mg/kg po q4h prn	may have any of the side-effects common to opioids (see morphine)	may have any of the drug interactions common to opioids (see morphine)
<b>Hydrocodone + phenyltoloxamine complex</b>	<b>Tussionex</b> ®: tab: 5 mg hydrocodone, 10 mg phenyltoloxamine suspension: 5 mg hydrocodone, 10 mg phenyltoloxamine/ 5 ml	5 mlis or 1 tablet q8–12h prn <b>Ped:</b> Children over 5: 5 mlis po q12h Children 1–5: 2.5 mlis po q12h		
<b>Normethadone + hydroxyephedrine compound</b>	<b>Cophylac</b> ™	15 drops po bid prn <b>Ped:</b> ☺		

**ANXIOLYTICS, HYPNOTICS, SEDATIVES, benzodiazepines (to reduce anxiety, insomnia)**

<b>Alprazolam</b>	various, <b>Xanax</b> ® ☺ is an example: tabs: 0.25, 0.5, 1, 2 mg liquid: 0.5, 1.0 mg/ml	0.25–0.5 mg bid-tid (max 3 mg/24 hrs) <b>Ped:</b> ☺	drowsiness, ataxia, fatigue, confusion, weakness, dizziness, vertigo, syncope, amnesiac effects, agitation, headache, vivid dreams, nausea, rash	CNS depressants, disulfiram, cimetidine, levodopa, anticonvulsants, psychotherapeutic agents, erythromycin, antacids, digoxin
<b>Bromazepam</b>	<b>Lectopam</b> ®: tabs: 1.5, 3, 6 mg	3–30 mg po/24 hrs in equally divided doses (max 60 mg/24 hrs) <b>Ped:</b> ☺		
<b>Clonazepam</b>	<b>Rivotril</b> ®: tabs: 0.5, 2 mg drops: 2.5 mg/ml inj: 1.0 mg/ml	0.25–3 mg po q8–12h (max 20 mg/24 hrs) <b>Ped:</b> ☺☺		

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Diazepam</b>	various, <b>Valium</b> ® is an example: tabs: 5, 10 mg inj: 5 mg/mls	general: 2-10 mg po, im, iv q6-8h seizures: 5-10 mg iv q5-10 min prn <b>Ped:</b> 0.1-0.8 mg/kg/24 hrs po + q6h		
<b>Lorazepam</b>	various, <b>Ativan</b> ® is an example: tabs: 0.5, 1, 2 mg sl tabs: 0.5, 1, 2 mg inj: 4 mg/mls	sleep: 1-4 mg po qhs prn anxiolytic: 0.5-1 mg po q6-8h, (max 6 mg/24 hrs) sedation: 1-4 mg po q1-4h prn, (may require 20-50 mg/24 hrs or more) seizures: 3-4 mg iv, sc, sl q5-10 min prn <b>Ped:</b> ☺☺		
<b>Midazolam</b>	<b>Versed</b> ®: inj: 1, 5 mg/mls	1-5 mg sc, iv, im q3h prn or 0.5-5.0 mg/hr sc continuous infusion seizures: 1-5 mg sc, iv, im q1h prn (generally used as an infusion due to short half life) <b>Ped:</b> ☺☺		
<b>Oxazepam</b>	various, <b>Serax</b> ® is an example: tabs: 10, 15, 30 mg	30-120 mg po/24 hrs (in divided doses) <b>Ped:</b> ☺☺		

**ANXIOLYTICS, HYPNOTICS, SEDATIVES, others (to reduce anxiety, insomnia)**

<b>Chloral hydrate</b>	various: cap: 500 mg syrup: 100 mg/mls supp: 324, 500, 648 mg	500-1,000 mg po qhs prn <b>Ped:</b> ☺	hangover drowsiness, nausea	CNS depressants, don't mix with alkaline solutions
<b>Diphenhydramine</b>	various, <b>Benadryl</b> ® is an example: caps: 25, 50 mg elixir: 12.5 mg/5 ml children's liquid: 6.25 mg/5 ml inj: 50 mg/mls cream: 2%	25-50 mg po, iv tid-qid, or 10-50 mg im, iv q4h prn or routinely (max 400 mg/24 hrs) <b>Ped:</b> 5 mg/kg/24 hrs po, im, iv + q4-6h prn or routinely	sedation, dizziness, confusion, nausea/vomiting, arrhythmias, hypersensitivity	CNS depressant, ephedrine, MAOI's
<b>Phenobarbital</b>	various: tabs: 15, 30, 60 mg inj: 30, 120 mg/mls	sedation: 100-130 mg po, im, iv q6h or by continuous infusion 1-5 mg/hr (starting low and titrating upwards until sedation is achieved) seizures: 60-120 mg iv, im, pr q10-20 min prn <b>Ped:</b> seizures: initial dose 20 mg/kg iv, maintenance dose: <3 months 5-6 mg/kg/24 hrs + bid >3 months 3-5 mg/kg/24 hrs + bid	drowsiness, headache, nausea/vomiting, diarrhea, hypersensitivity	CNS depressants, anticoagulants, corticosteroids, antidepressants, griseofulvin, doxycycline, oral contraceptives, anti-convulsants
<b>Zopiclone</b>	<b>Imovane</b> ® tab: 7.5 mg	3.75-7.0 mg po qhs (not to be exceeded) <b>Ped:</b> ☺	taste alteration, drowsiness, lack of coordination (= overdose), hypersensitivity	CNS depressants, alcohol

**BRONCHODILATORS (to relieve bronchospasm, airway obstruction)**

<b>Racemic epinephrine</b>	<b>Vaponefrin</b> ® racemic epinephrine base 2.25%/mls	place 10-15 drops into nebulizer and take 2-3 puffs q4h prn <b>Ped:</b> 0.5 ml in 3 ml normal saline via nebulizer prn for stridor (maximum q1h)	bronchial edema, palpitation, angina, tremor, nervousness, restlessness, insomnia, nausea, sweating	none significant
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Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Salbutamol</b>	various, <b>Ventolin</b> ® is an example: metered dose aerosolizer: 100 µg/puff disk blisters and rotocaps: 200, 400 µg solution: 5 mg/ml nebulules: 1.25, 2.5, 5 mg/2.5 ml	2.5-5.0 mg solution diluted to 4.0 mls with N/S q4h prn, or 2-3 puffs q4h prn <b>Ped:</b> 0.03 mls/kg in 3 mls N/S via nebulizer prn	tremor, nervousness, tachycardia	CNS stimulants, l-dopa, propranolol, MAOI's, TCA's
<b>Theophylline</b>	various, <b>Theo-Dur</b> ® is an example: tabs: 100, 200, 300, 450 mg	start with 200-300 mg po q12h, q3days, increase 50-100 mg q12h until response or toxicity (monitor blood levels) <b>Ped:</b> 6 wks-1 yr: 6-15 mg/kg/24 hrs ÷ q6-8h 1-12 yrs: 20 mg/kg/24 hrs ÷ q8-12h 12-16 yrs: 18 mg/kg/24 hrs ÷ q12h	nervousness, restlessness, dizziness, insomnia, palpitations, nausea/vomiting	adenosine, barbiturates, carbamazepine, phenytoin, rifampin, cimetidine
<b>CALCIUM CHANNEL BLOCKERS (to relieve angina, hiccups)</b>				
<b>Nifedipine</b>	various, <b>Adalat</b> ® is an example: IR tabs: 5, 10, 20 mg SR tabs: 30, 60 mg	hiccups: 10-20 mg po, sl q6h IR or 30-60 mg po od SR <b>Ped:</b> hypertension: 0.5 mg/kg/24 hrs po ÷ q8h, increase as needed up to 1.5 mg/kg/24 hrs	dizziness, light headedness, headache, insomnia, palpitations, nausea/vomiting	cimetidine, ranitidine, propranolol
<b>COLAGENASE (to increase the sc absorption area for hypodermoclysis)</b>				
<b>Hyaluronidase</b>	<b>Wydase</b> ® inj: 150 units/mls	inject 150 units at the sc site before infusing N/S (must refrigerate, keep away from light) <b>Ped:</b> same as adults	rash, urticaria, irritation, hypersensitivity	local anaesthetics
<b>CNS STIMULANTS (to relieve drug-related drowsiness, depression, narcolepsy)</b>				
<b>Methylphenidate</b>	various, <b>Ritalin</b> ® is an example: IR tabs: 10, 20 mg SR tab: 20 mg	5-20 mg po q4h (avoid late afternoon and evening doses as these can interfere with sleep) <b>Ped:</b> ☺☺	nervousness, insomnia, dizziness, nausea/vomiting, cardiac effects, delirium, hypersensitivity	MAOI's, pressor agents, guanethidine, bretylium, coumarin anticoagulants, TCA's, phenylbutazone
<b>DIURETICS (to remove excess intravascular fluid and relieve edema)</b>				
<b>Ethacrynic acid</b>	<b>Edecrin</b> ®: tabs: 25, 50 mg inj: 50 mg/vial	50-200 mg po, iv od (do not use im or sc routes) <b>Ped:</b> ☺	dehydration, electrolyte depletion, UK, ↓Na, ↓glucose, ↑urea, ↑uric acid, bloating, epigastric distress, nausea/vomiting, gynecomastia, tinnitus, hypersensitivity	diuretics, drugs depleting K, Li, anti-diabetic agents, anti-hypertensives, indomethacin, aminoglycosides, alcohol, barbiturates, opioids, salicylates
<b>Furosemide</b>	various, <b>Lasix</b> ® is an example: tabs: 20, 40, 80 mg liquid: 10 mg/ml inj: 10 mg/ml	20-240 mg po, iv ÷ od-bid <b>Ped:</b> initial dose: 1-2 mg/kg/24 hrs po ÷ q6-8h (may increase up to 8 mg/kg/24 hrs)		
<b>Metolazone</b>	<b>Zaroxolyn</b> ® tab: 2.5, 5, 10 mg	2.5-20 mg po od <b>Ped:</b> not recommended		
<b>Spirolactone</b>	various, <b>Aldactone</b> ® is an example: tabs: 25, 100 mg	50-250 mg po od-bid <b>Ped:</b> 1-4 mg/kg/24 hrs in 1-4 divided doses		
<b>GI CYTOPROTECTORS (to prevent and/or promote healing of gastric and duodenal ulceration)</b>				
<b>Misoprostol</b> prostaglandin E1 analogue ⇒ ↑ stomach mucosa production and ↓ parietal cell secretion	<b>Cytotec</b> ®: tabs: 100, 200 µg	100-200 µg po q6h, after food 200 µg po bid may be sufficient for NSAID prophylaxis (reduce in renal failure) <b>Ped:</b> ☺	diarrhea, abdominal pain, flatulence, nausea/vomiting, headache	salicylic acid

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Sucralfate</b> polysaccharide, binds to necrotic ulcer tissue in the duodenum and stomach providing a barrier from acid	various, <b>Sulcrate</b> ® is an example: tab: 1 gm suspension: 1 gm/5 mls	1 gm po qid ac+hs or 2 gm po q12h (may add antacids, but don't use within ½ hr of sucralfate dose as acid is required to activate sucralfate) <b>Ped:</b> ☺	constipation, diarrhea, nausea, gastric discomfort, dry mouth, pruritus, sleepiness, vertigo. A build-up may occur with renal failure	no antacids within ½ hr of dose, no H <sub>2</sub> blockers, tetracycline, phenytoin, digoxin, ketoconazole, theophylline, ciprofloxacin, norfloxacin

**GI MOTILITY REGULATOR** (to relieve symptoms associated with irritable bowel syndrome and post-operative ileus)

<b>Trimebutine</b> spasmolytic agent ⇒ ↓ spontaneous electrical activity within the intestine and ↑ synchronization of normal activity	<b>Modulon</b> ® tabs: 100, 200 mg inj: 50 mg/5 ml	100-200 mg po tid ac (max 600 mg/24 hrs) <b>Ped:</b> ☺	none significant	anti-hypertensives
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**GI MOTILITY STIMULANTS** (to relieve gastro-esophageal reflux, gastroparesis, ileus and pseudo-obstruction by increasing peristalsis in the esophagus, stomach, small intestine, increasing lower esophageal sphincter tone and increasing gastro-duodenal co-ordination)

<b>Cisapride</b> acetylcholine release enhancer	<b>Prepulsid</b> ® tabs: 5, 10, 20 mg suspension: 1 mg/mls	5-10 mg po tid-qid, ½ hr ac + hs or 20 mg po bid (max 80 mg/24 hrs, reduce with hepatic or renal insufficiency) <b>Ped:</b> 0.4-0.8 mg/kg/24 hrs po tid-qid, ½ hr ac + hs	diarrhea, abdominal discomfort, ↑ risk of perforation if bowel obstructed, headache, dizziness, EPS rare	anti-cholinergics, ganglioleptics or neuroleptics, sedatives, hypnotics, narcotics, anxiolytics, MAOIs, antacids, histamine H <sub>2</sub> receptor antagonists, may affect absorption of other medications
<b>Domperidone</b> , peripheral dopamine antagonist	<b>Motilium</b> ® tab: 10 mg	5-20 mg po tid-qid, ½ hr ac + hs (max 80 mg/24 hrs) <b>Ped:</b> 1.2-2.4 mg/kg/24 hrs po tid-qid, ½ hr ac + hs	EPS, drowsiness, fatigue, lassitude, dry mouth, insomnia, headache, dizziness, gynecomaastia, galactorrhea, amenorrhea, abdominal cramps, ↑ risk of perforation if bowel obstructed, hypersensitivity	
<b>Metoclopramide</b> peripheral dopamine antagonist	various, <b>Maxeran</b> ® is an example: tabs: 5, 10 mg liquid: 1 mg/mls inj: 5 mg/mls	5-10 mg po, im, iv tid-qid, ½ hr ac + hs <b>Ped:</b> 0.5 mg/kg/24 hrs po tid-qid, ½ hr ac + hs		

**LAXATIVES** (to relieve constipation)

<b>Bisacodyl</b> contact cathartic that stimulates colonic peristalsis and decreases tone	various, <b>Dulcolax</b> ® is an example: tab: 5 mg supp: 5, 10 mg enema: 10 mg in 5 mls	5-10 mg po, pr od-tid <b>Ped:</b> 5-10 mg pr or 0.3 mg/kg po prn	diarrhea, cramps, dehydration, electrolyte depletion, nausea/vomiting	none significant
<b>Docusate calcium</b> anionic surfactant that emulsifies, wets and disperses faeces	various, <b>Surfak</b> ® is an example: caps 50, 240 mg	1-2 caps po od-tid <b>Ped:</b> ☺	mild abdominal cramping, bitter taste	mineral oil
<b>Docusate sodium</b> anionic surfactant that emulsifies, wets and disperses faeces	various, <b>Colace</b> ® is an example: caps, tabs: 100 mg syrup: 20 mg/5 ml drops: 10 mg/ml	100-200 mg po od-tid <b>Ped:</b> 5 mg/kg/24 hrs po od		
<b>Glycerin</b> contact irritant that promotes evacuation of the bowel when used as suppository	various: supp: 96% glycerin	1 supp pr od-bid <b>Ped:</b> ½-1 suppository pr prn	rectal irritation	none significant

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Lactulose</b> semi-synthetic disaccharide osmotic cathartic, draws fluid into the gut, distends the intestine ⇒ increased peristalsis	various, <b>Acilac</b> ® is an example; syrup: 10 gm/15 ml	15-60 mis po od-tid <b>Ped:</b> 5-10 mis po once daily	flatulence, cramps, nausea	antibiotics, oral neomycin, antacids
<b>Magnesium citrate</b> osmotic cathartic, draws fluid into the gut, distends the intestine ⇒ increased peristalsis	various, <b>Citro-Mag</b> ® is an example; oral solution: 168 mEq Mg/240 ml	50-150 mis po od-tid (not recommended) <b>Ped:</b> 4 mis/kg po	large watery stools, cramps, caution in renal patients	see Al or Mg hydroxide antacids above
<b>Magnesium hydroxide</b> reacts with stomach acid to produce Mg salts that are osmotic cathartics	<b>Phillips' Milk of Magnesia</b> ®; liquid: 400 mg/5 mis tab: 311 mg	15-30 mis po od-qid pm <b>Ped:</b> ☺		
<b>Magnesium sulphate</b> osmotic cathartic, draws fluid into the gut, distends the intestine ⇒ increased peristalsis	various liquid: 500 mg/10 ml	15-30 mis po od-tid <b>Ped:</b> ☺		
<b>Mineral Oil</b> hydrocarbon mixture, penetrates and softens faeces, may interfere with water re-absorption	various	15-45 mis po od-bid <b>Ped:</b> 1 ml/kg po qhs	anal leakage, nausea, abdominal cramps, lipid pneumonia	docusate salts, fat soluble vitamins = A, E, D, K
<b>Sodium phosphate</b> osmotic cathartic, draws fluid into the gut, distends the intestine ⇒ increased peristalsis	various, <b>Fleet Enema</b> ® is an example	1 enema pr od-bid <b>Ped:</b> one pediatric or adult enema pm	rectal irritation, abdominal cramps	none significant
<b>Sennosides (senna)</b> contact cathartic that stimulates colonic peristalsis and decreases tone	various, <b>Senokot</b> ® is an example; tab: 8.6 mg supp: 30 mg syrup: 1.7 mg/ml granules: 15 mg/tsp	8.6-17.2 mg po od-tid <b>Ped:</b> 3-10 mis of Senokot syrup po bid	nausea, abdominal cramps	none significant

**MUSCLE RELAXANTS (to relieve muscle spasm)**

<b>Baclofen</b>	various, <b>Lioresal</b> ® is an example; tabs: 10, 20 mg	5-20 mg po bid-tid (max 120 mg/24 hrs) <b>Ped:</b> ☺	nausea/vomiting, sedation, dizziness, weakness, neuropsychiatric disturbances, genitourinary effects	CNS depressants
<b>Cyclobenzaprine</b>	<b>Flexeril</b> ®; tab: 10 mg	20-40 mg daily q8h (max 60 mg/24 hrs) <b>Ped:</b> ☺	drowsiness, dry mouth, dizziness, fatigue, nausea/vomiting, confusion,	TCA's, MAOI's, CNS depressants, anti-cholinergics
<b>Dantrolene</b>	<b>Dantrium</b> ®; caps: 25, 50, 100 mg inj: 20 mg/vial	25-50 mg po od-qid <b>Ped:</b> ☺	muscle weakness, slurred speech, drowsiness, dizziness, diarrhea, nausea/vomiting, malaise, hepatic effects	verapamil, CNS depressants
<b>Methocarbamol</b>	<b>Robaxin</b> ®; tabs: 500, 750 mg inj: 100 mg/ml	500-1,000 mg po tid-qid (may start with 6-8 gm po first 2-3 days, then max 6,000 mg/24 hrs) <b>Ped:</b> ☺	drowsiness, dizziness, headache, blurred vision, nausea/vomiting, hypersensitivity	CNS depressants, anti-cholinergics, pyridostigmine
<b>Orphenadrine</b>	<b>Norflex</b> ®; tab: 100 mg inj: 30 mg/ml	60 mg im, iv q12h or 100 mg po bid <b>Ped:</b> ☺	anti-cholinergic SE, nausea/vomiting, headache, drowsiness	propoxyphene, CNS depressants

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Quinine sulphate</b> for night-time leg cramps	various: tab: 300 mg	200–300 mg po qhs prn <b>Ped:</b> ☺	headache, nausea/vomiting, linnitus, confusion, hypersensitivity	mefloquine, cardiac glycosides., ci-metidine.
<b>NEUROLEPTICS (to relieve agitation, restlessness, psychosis)</b>				
<b>Chlorpromazine</b>	<b>Largactil</b> ®: tabs: 10, 25, 50, 100, 200 mg supp: 100 mg liq: 25, 100 mg/5 mls drops: 40 mg/mls inj: 25 mg/mls	chlorpromazine 10–25 mg po, pr, im, iv q6–12h hiccups: 25–50 mg po, pr, im, q6–12h prn <b>Ped:</b> anti-psychotic: ☺ anti-emetic: 2 mg/kg/24 hrs po/iv ÷ q4–6h	haloperidol (not as sedating), anti-cholinergic SE, EPS, sedation, hypotension, itchiness, diarrhea, sedation, hypersensitivity	CNS depressants, anticonvulsants, barbiturates, Li
<b>Haloperidol</b>	various, <b>Haldol</b> ® is an example: tabs: 0.5, 1, 2, 5, 10, 20 mg liquid: 2 mg/mls inj: 5 mg/mls	0.5–5 mg po, sc, im q4–6h prn or routinely <b>Ped:</b> ☺		
<b>Loxapac</b>	<b>Loxapac</b> ®: tabs: 5, 10, 25, 50 mg liq: 25 mg/mls inj: 50 mg/mls	2.5–25 mg po, im bid–qid, usually 60–100 mg/24 hrs (max 250 mg/24 hrs) <b>Ped:</b> ☺		
<b>Methotrimeprazine</b>	<b>Nozinan</b> ®: tabs: 2, 5, 25, 50 mg liquid: 25 mg/5 ml drops: 40 mg/mls inj: 25 mg/mls	10–25 mg po qhs prn or mild: 6–25 mg/24 hrs po, iv tid at mealtimes severe: 50–200 mg/24 hrs po, iv tid ac <b>Ped:</b> ☺		
<b>Perphenazine</b>	various, <b>Trilafon</b> ® is an example: tabs: 2, 4, 8 mg syrup: 2 mg/5 mls concentrate: 16 mg/5 mls inj: 5 mg/ml	8–16 mg po bid–qid (max 64 mg/24 hrs, 24 mg in persons who are ambulatory) <b>Ped:</b> ☺		
<b>Thioridazine</b>	various, <b>Mellaril</b> ® is an example: tabs: 10, 25, 50, 100, 200 mg liquid: 30 mg/mls susp: 10 mg/5 mls	initially 25–100 mg po tid, then gradually increase as needed (max 800 mg/24 hrs) <b>Ped:</b> ☺		
<b>Trifluoperazine</b>	various, <b>Stelazine</b> ® is an example: tabs: 1, 2, 5, 10 mg	1–2 mg po bid <b>Ped:</b> ☺		
<b>STEROIDS (to relieve anorexia/cachexia)</b>				
<b>Megestrol acetate</b> progestational agent	<b>Megace</b> ®: tabs: 40, 160 mg	40 mg po od – 160 mg po tid (doses up to 800 mg/24 hrs may be useful, may be very expensive) <b>Ped:</b> ☺	gynecomastia, deep vein thrombophlebitis, pulmonary embolism, alopecia, hyperglycemia, dyspnea, vaginal bleeding following withdrawal	none significant
<b>Dexamethasone</b> glucocorticoids also reduce intracranial and peripheral edema/inflammation, and improve sense of well-being	various, <b>Decadron</b> ® is an example: tabs: 0.5, 4.0 mg inj: 4 mg/mls	0.5–8 mg po, iv, im, sc od–q6h (single doses of 40–100 mg iv may be used to effect an acute response. Dosage may need to be tapered slowly to avoid adrenocorticotid insufficiency on withdrawal) <b>Ped:</b> ††	increased risk of infection, particularly OI's, gastritis, gastric ulceration/bleeding, nausea/vomiting, pancreatitis, wasting, particularly proximal muscles, thinning of skin, bowel (possible perforation), impaired wound healing, salt, water retention, hypertension, cushingoid state, hyperglycemia,	hepatic microsomal enzyme inducers, estrogens, NSAID's, K <sup>+</sup> depleting drugs, anticholinesterase agents, oral anticoagulants, cyclosporine

Generic name, action	Trade name(s), dosage forms	Doses	Common side-effects	Common interactions
<b>Prednisone</b> as dexamethasone	various: tabs: 1, 5, 50 mg	5-80 mg po od <b>Ped:</b> (1.2 mg/kg/24 hrs) ††	euphoria, insomnia, mood swings, personality changes—depression to psychosis, withdrawal may lead to adrenocortical insufficiency, flare in joint pain, may suppress reactions to skin tests, not to be used in presence of herpes zoster	
<b>Nandrolone phenpropionate</b> anabolic	<b>Durabolin</b> ®: inj: 50 mg/mls	25-50 mg im q1wk for up to 12 wks (may repeat after 4 wk rest) <b>Ped:</b> ☹	may ↑ sensitivity to anticoagulants, virilization—see CPS (not to be used during pregnancy), diarrhea, nausea/vomiting, peptic ulcer, ↑ or ↓ libido, leukopenia, acne, edema, excitation, insomnia, altered glucose tolerance, urticaria at injection site	oral anticoagulants, oxyphenbutazone, insulin
<b>Nandrolone decanoate</b> anabolic	<b>Deca-Durabolin</b> ®: inj: 50, 100 mg/mls	50-100 mg im q3-4wks up to 12 wks (may repeat after 4 wk rest) <b>Ped:</b> ☹		
<b>Testosterone cypionate</b> anabolic	various, <b>Depo-Testosterone Cypionate</b> ® is an example: inj: 100 mg/mls	200-400 mg im q3-4 wks <b>Ped:</b> ☹☹		

**STERIODS, mineralocorticoids (to relieve asthenia associated with mineralocorticoid deficit)**

<b>Fludrocortisone acetate</b>	<b>Florinef</b> ®: tab: 100 µg	100-200 µg po od (may combine with a glucocorticoid) <b>Ped:</b> 50-200 µg po od	<ul style="list-style-type: none"> <li>↑ risk of infection, especially fungal, TB, other OI's</li> <li>salt, water retention, hypertension, hypokalemia</li> </ul>	
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**STERIODS, topical (to relieve pain/inflammation associated with oral ulcers)**

<b>Triamcinolone</b>	various, <b>Aristocort</b> ® is an example: creams: C 0.5%, R 0.1%, D 0.025% ointment: R 0.1%	apply small quantities to affected areas tid-qid <b>Ped:</b> ☹	<ul style="list-style-type: none"> <li>do not use in eyes or with TB of skin, fungal or viral dermal lesions, especially herpetic lesions</li> </ul>	none significant
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**URINARY PARASYMPATHOMIMETICS (to relieve post operative and neurogenic urinary retention, to reduce gastro-esophageal reflux by increasing detrusor and gastric tone and stimulating gastric peristalsis)**

<b>Bethanechol</b>	various, <b>Urecholine</b> ® is an example: tabs: 10, 25, 50 mg inj: 5 mg/mls	10-50 mg po tid-qid or 2.5-10 mg sc tid-qid (max 400 mg/24 hrs) <b>Ped:</b> ☹	cholinergic stimulation, including sweating, salivation, flushing, decreased BP, nausea, abdominal pain, diarrhea, bronchospasm	anti-cholinergic drugs, atropine, quindine, procainamide, sympathomimetics
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