

PAIN MANAGEMENT			
	Preferred	Alternatives	Non-Formulary
Corticosteroids	dexamethasone (Decadron) prednisone (Deltasone)	methylprednisolone (Medrol) prednisolone (Prelone)	betamethasone (Celestone) budesonide ER (Entocort EC) cortisone (Cortisone) hydrocortisone (Cortef)
Muscle Relaxants	baclofen (Lioresal)	cyclobenzaprine IR (Flexeril) <i>5mg, 10mg only</i> tizanidine (Zanaflex)	carisoprodol (Soma) cyclobenzaprine ER (Amrix) cyclobenzaprine IR (Fexmid) <i>7.5mg</i> dantrolene (Dantrium) metaxalone (Skelaxin) methocarbamol (Robaxin) orphenadrine (Norflex)
Non-Opioids	acetaminophen (Tylenol)		butalbital/APAP/caffeine (Fioricet) butalbital/ASA/caffeine (Fiorinal) clonidine injectable solution (Duraclon) ziconotide (Prialt)
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)	choline magnesium trisalicylate (Trilisate) ibuprofen (Motrin) naproxen (Naprosyn)	aspirin (Ecotrin) indomethacin (Indocin) meloxicam (Mobic)	aspirin/APAP/caffeine (Excedrin) celecoxib (Celebrex) diclofenac patch, tablets, topical (Flector, Voltaren, Pennsaid) diflunisal (Dolobid) etodolac (Lodine) ketoprofen (Orudis) ketorolac (Toradol) nabumetone (Relafen) naproxen ER 24hr (Naprelan) oxaprozin (Daypro) salsalate (Disalcid) sulindac (Clinoril)
Opioids	hydrocodone/APAP (Norco) hydromorphone IR (Dilaudid) methadone (Dolophine) morphine (MS Contin, Roxanol) oxycodone/APAP IR (Percocet, Tylox)	fentanyl transdermal (Duragesic) oxycodone (Oxy IR, OxyContin, OxyFast) tramadol IR (Ultram) tramadol/APAP (Ultracet)	acetaminophen/codeine (Tylenol with Codeine) buprenorphine transdermal (Butrans) codeine (Codeine) fentanyl lozenge, spray, sublingual, tablets (Actiq, Subsys, Abstral, Fentora) hydrocodone ER (Zohydro ER) hydromorphone ER (Exalgo) meperidine (Demerol) morphine ER capsules (Avinza, Kadian) oxycodone IR abuse-deterrent (Oxecta) oxycodone/APAP ER (Xartemis XR) oxymorphone (Opana) tapentadol (Nucynta) tramadol ER (Ultram ER)

PAIN MANAGEMENT, *continued*

Opioid Antagonists	Preferred	Alternatives	Non-Formulary
	Naloxone (Narcan)		All others excluded
Clinical Pearls	<ul style="list-style-type: none"> • Corticosteroids may also stimulate appetite and help with breathing. Recommend taking the last dose prior to 2pm to lessen risk of insomnia. • Due to GI bleeding risk and risk of renal toxicity, use NSAIDs with caution in elderly or debilitated patients. • Patients with scheduled opioids should also be on scheduled laxatives. • Dexamethasone causes less fluid retention than prednisone. • Dexamethasone is preferred for patients with brain cancer, brain metastases, or increased intracranial pressure from inflammation. • Choline magnesium trisalicylate has less bleeding risk than traditional NSAIDs, especially in combination with warfarin. • Methadone may be considered a drug of choice for moderate to severe pain with a neuropathic component. • Methadone is the only long-acting opioid that can be crushed and given sublingually. Never crush other extended-release opioid preparations. • Codeine is a weak analgesic and tends to cause more nausea and constipation than other opioids. • Oxycodone oral concentrate (20mg/mL) is expensive, immediate-release oxycodone tablets may be crushed for easier administration. 		

CARDIOVASCULAR

Anti-Hypertensives			
	Preferred	Alternatives	Non-Formulary
Alpha-1 Blockers	doxazosin (Cardura) prazosin (Minipress) terazosin (Hytrin)		All others excluded
Alpha-2 Agonists	clonidine IR tablets (Catapres)	clonidine patches (Catapres-TTS)	guanfacine (Tenex) methyldopa (Aldomet)
Angiotensin Converting Enzyme (ACE) Inhibitors	benazepril (Lotensin) captopril (Capoten) enalapril (Vasotec) lisinopril (Prinivil, Zestril) quinapril (Accupril) ramipril (Altace)	benazepril/HCTZ (Lotensin HCT) captopril/HCTZ (Capozide) enalapril/HCTZ (Vaseretic) lisinopril/HCTZ (Prinzide, Zestoretic) quinapril/HCTZ (Accuretic)	enalapril oral solution (Epaned) fosinopril (Monopril) fosinopril/HCTZ (Monopril HCT) moexipril (Univasc) moexipril/HCTZ (Uniretic) perindopril (Aceon) trandolapril (Mavik)
Angiotensin Receptor Blockers (ARBs)	candesartan (Atacand) irbesartan (Avapro) losartan (Cozaar) olmesartan (Benicar) valsartan (Diovan)	candesartan/HCTZ (Atacand HCT) irbesartan/HCTZ (Avalide) losartan/HCTZ (Hyzaar) olmesartan/HCTZ (Benicar HCT) valsartan/HCTZ (Diovan HCT)	azilsartan (Edarbi) azilsartan/chlorthalidone (Edarbyclor) eprosartan (Teveten) eprosartan/HCTZ (Teveten HCT) telmisartan (Micardis) telmisartan/amlodipine (Twynsta) telmisartan/HCTZ (Micardis HCT)
Anti-Anginal Agents	isosorbide dinitrate (Isordil) isosorbide mononitrate (Imdur, Ismo, Monoket) nitroglycerin (Nitro-Bid, Nitro-Dur, Nitrostat)	isosorbide dinitrate-hydralazine (BiDil) nitroglycerin SL spray (NitroMist Translingual)	ranolazine (Ranexa)
Anti-Hypotensives	midodrine (ProAmatine)	fludrocortisone (Florinef)	All others excluded

CARDIOVASCULAR, *continued*

Anti-Hypertensives

	Preferred	Alternatives	Non-Formulary
Beta Blockers	atenolol (Tenormin) bisoprolol (Zebeta) carvedilol IR (Coreg) labetalol (Trandate) metoprolol (Lopressor, Toprol XL) nadolol (Corgard) propranolol (Inderal, Inderal LA)	atenolol/chlorthalidone (Tenoretic) bisoprolol/HCTZ (Ziac) metoprolol/HCTZ (Lopressor HCT) pindolol (Visken) propranolol/HCTZ (Inderide) sotalol (Betapace)	acebutolol (Sectral) betaxolol (Kerlone) carvedilol ER (Coreg CR) nadolol/bendroflumethiazide (Corzide) nebivolol (Bystolic) penbutolol (LevatoI) propranolol SR 24-hour (InnoPran XL) timolol (Blocadren)
Calcium Channel Blockers	amlodipine (Norvasc) diltiazem (Cardizem) felodipine (Plendil) nifedipine (Procardia) nisoldipine (Sular) verapamil (Calan, Verelan)	amlodipine/benazepril (Lotrel) amlodipine/olmesartan (Azor) amlodipine/olmesartan/HCTZ (Tribenzor) amlodipine/valsartan (Exforge) amlodipine/valsartan/HCTZ (Exforge HCT)	isradipine (DynaCirc) nicardipine (Cardene) nimodipine (Nimotop) trandolapril/verapamil (Tarka)
Vasodilators	hydralazine (Apresoline)		minoxidil (Loniten)
Anti-Arrhythmics			
Cardiac Glycosides	digoxin tablets (Lanoxin) 125mcg, 250mcg only	digoxin oral solution (Lanoxin)	digoxin tablets (Lanoxin) 62.5mcg, 187.5mcg
Other Anti-Arrhythmics	amiodarone (Cordarone, Pacerone)	disopyramide (Norpace) flecainide (Tambocor) mexiletine (Mexitil) propafenone (Rythmol) quinidine sulfate (Quinidine Sulfate ER) sotalol (Betapace)	dofetilide (Tikosyn) dronedarone (Multaq) quinidine gluconate (Quinidine Gluconate ER)
Blood Thinning Agents			
Anticoagulants	warfarin (Coumadin)	heparin (Heparin)	apixaban (Eliquis) dabigatran (Pradaxa) dalteparin (Fragmin) enoxaparin (Lovenox) fondaparinux (Arixtra) rivaroxaban (Xarelto)
Antidote	phytonadione (Mephyton, vitamin K)		All others excluded
Antiplatelet Agents	aspirin (Ecotrin)	aspirin/dipyridamole (Aggrenox) clopidogrel (Plavix)	cilostazol (Pletal) dipyridamole (Persantine) pentoxifylline (Trental) prasugrel (Effient) ticagrelor (Brilinta)

CARDIOVASCULAR, *continued*

Diuretics			
	Preferred	Alternatives	Non-Formulary
Loop	bumetanide (Bumex) furosemide (Lasix)	torsemide (Demadex)	ethacrynic acid (Edecrin)
Potassium Sparing	spironolactone (Aldactone)	triamterene/HCTZ (Dyazide, Maxzide) spironolactone/HCTZ (Aldactazide)	amiloride (Midamor) amiloride/HCTZ (Moduretic) eplerenone (Inspra) indapamide (Lozol) triamterene (Dyrenium)
Thiazide	chlorthalidone (Hygroton) hydrochlorothiazide (Hydrodiuril)	chlorothiazide (Diuril)	methyclothiazide (Enduron)
Other	metolazone (Zaroxolyn)	acetazolamide (Diamox)	methazolamide (Neptazane)
Other			
Minerals & Electrolytes	potassium (K-Dur, Klor-Con, Micro-K)		All others excluded
Clinical Pearls	<ul style="list-style-type: none"> • Use clonidine IR tablets first line as they are more cost-effective than transdermal clonidine. • Use nitroglycerin sublingual tablets first line; SL tablets are more cost-effective than nitroglycerin sublingual spray. • Warfarin requires PT/INR monitoring at least every 2-4 weeks and more frequently with medication changes or changes in diet. • Use vitamin K (phytonadione) for elevated INRs with warfarin use only. Hold warfarin doses, and depending on bleeding severity/risk, administer phytonadione. • Ethacrynic acid is costly in comparison to other diuretics and should be reserved for patients with a sulfa allergy who cannot take other loop diuretics (furosemide 20mg = ethacrynic acid 25mg). • Medications that increase risk of edema include: calcium channel blockers (amlodipine, verapamil), gabapentin, megestrol, NSAIDs, prednisone, thiazolidinediones and pregabalin. • Approximate equivalent dosages of loop diuretics: furosemide 40mg = bumetanide 1mg = torsemide 10-20mg. • For first line therapy for ascites, titrate to a ratio of spironolactone 100mg and furosemide 40mg. • Metolazone works synergistically with loop diuretics and is useful in patients with renal impairment. 		

CENTRAL NERVOUS SYSTEM (CNS) & PSYCHOTHERAPEUTICS

Anticonvulsants			
	Preferred	Alternatives	Non-Formulary
Anticonvulsants	carbamazepine (Tegretol) divalproex sodium (Depakote) gabapentin (Neurontin) levetiracetam (Keppra, Keppra XR) phenobarbital (Phenobarbital) phenytoin (Dilantin) primidone (Mysoline) valproic acid (Depakene)	lamotrigine (Lamictal, Lamictal XR) oxcarbazepine IR (Trileptal) pregabalin (Lyrica)	diazepam rectal gel (Diatat) ethosuximide (Zarontin) lacosamide (Vimpat) oxcarbazepine ER (Oxtellar XR) tiagabine (Gabitril) topiramate (Topamax, Trokendi XR) valproic acid delayed release capsule (Stavzor) zonisamide (Zonegran)

CENTRAL NERVOUS SYSTEM (CNS) & PSYCHOTHERAPEUTICS, *continued*

Antidepressants

	Preferred	Alternatives	Non-Formulary
Serotonin Norepinephrine Reuptake Inhibitor (SNRI)	duloxetine (Cymbalta)	venlafaxine (Effexor, Effexor XR)	desvenlafaxine (Khedezla, Pristiq) levomilnacipran (Fetzima) milnacipran (Savella)
Selective Serotonin Reuptake Inhibitor (SSRI)	citalopram (Celexa) escitalopram (Lexapro) fluoxetine (Prozac) sertraline (Zoloft)	paroxetine IR (Paxil)	fluoxetine delayed release capsule (Prozac Weekly) fluvoxamine (Luvox) paroxetine ER (Paxil CR) paroxetine mesylate (Brisdelle, Pexeva) vilazodone (Viibryd)
Tricyclic	desipramine (Norpramin) nortriptyline (Pamelor)	amitriptyline (Elavil) doxepin (Sinequan) <i>not 3mg, 6mg tablets</i>	doxepin tablets (Silenor) <i>3mg, 6mg</i> imipramine (Tofranil)
Other	mirtazapine (Remeron)	bupropion (Wellbutrin) <i>not 450mg tablets</i>	bupropion XL (Forfivo XL) <i>450mg tablets</i> bupropion hydrobromide 24-hour tablet (Aplenzin) nefazodone (Serzone) selegiline patch (Emsam)

Antipsychotics

Atypical	quetiapine IR (Seroquel) risperidone (Risperdal)		aripiprazole (Abilify) olanzapine (Zyprexa) quetiapine ER (Seroquel XR) risperidone IM suspension (Risperdal Consta) ziprasidone (Geodon)
Conventional	chlorpromazine (Thorazine) haloperidol (Haldol)		fluphenazine (Prolixin) thioridazine (Mellaril)

Anxiolytics

Benzodiazepines	alprazolam IR (Xanax) diazepam (Valium) lorazepam (Ativan)	clonazepam (Klonopin) oxazepam (Serax)	alprazolam ER (Xanax XR) alprazolam ODT (Niravam) chlordiazepoxide (Librium) clorazepate (Tranxene)
Other	buspirone (BuSpar)		meprobamate (Miltown)

CNS Stimulants

CNS Stimulants	methylphenidate IR (Ritalin)		dextroamphetamine (Dexedrine, Zenzedi) dextroamphetamine/amphetamine (Adderall) methylphenidate ER (Concerta, Ritalin LA) methylphenidate patch (Daytrana) modafinil (Provigil)
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CENTRAL NERVOUS SYSTEM (CNS) & PSYCHOTHERAPEUTICS, *continued*

Hypnotics

	Preferred	Alternatives	Non-Formulary
Benzodiazepines	temazepam (Restoril) 15mg, 30mg only		estazolam (ProSom) temazepam (Restoril) 7.5mg, 22.5mg triazolam (Halcion)
Other	melatonin trazodone (Desyrel)	zolpidem IR (Ambien)	doxepin tablets (Silenor) 3mg, 6mg zaleplon (Sonata) zolpidem ER (Ambien CR)
Clinical Pearls	<ul style="list-style-type: none"> • Gabapentin and pregabalin are more commonly used for neuropathic pain than for seizures. • Lorazepam tablets can be given PO, SL, or PR and are more cost-effective than the oral solution. Oral solution should be stored in the refrigerator. • Diazepam rectal gel (Diastat) is expensive. Diazepam and lorazepam tablets can be crushed and given buccally, SL or PR for acute seizure management. • SSRI antidepressants (citalopram, sertraline, fluoxetine etc.) are preferred if expected survival exceeds a few weeks. • Fluoxetine has the longest half-life of the SSRIs and is least likely to cause withdrawal symptoms if discontinued abruptly. • Nortriptyline is one of the best tolerated tricyclics and less likely to cause orthostatic hypotension or anticholinergic side effects. • Mirtazapine at lower doses (7.5-15mg) may help with sleep and appetite, although higher doses are often required for depression. • Chlorpromazine is more sedating than haloperidol and may cause orthostatic hypotension. • Haloperidol has less risk of sedation and can be used to manage nausea & vomiting and terminal agitation. • Avoid conventional antipsychotics, such as haloperidol, in patients with Lewy Body Dementia. • Quetiapine is the preferred antipsychotic for patients with Parkinson's disease due to its low incidence of extrapyramidal symptoms. • Methylphenidate has a faster onset of therapeutic benefit for depression than SSRIs. Methylphenidate may also help fatigue; dose in morning to prevent insomnia. 		

GASTRO-INTESTINAL (GI)

	Preferred	Alternatives	Non-Formulary
Antacids	aluminum/magnesium hydroxide (Maalox TC) aluminum/magnesium hydroxide/simethicone (Mylanta) calcium carbonate (Tums) calcium carbonate/magnesium hydroxide (Mylanta Supreme) calcium carbonate/simethicone (Maalox Advanced)	aluminum hydroxide (Amphojel) sodium bicarbonate (Sodium Bicarbonate) sodium & potassium bicarbonate (Alka Seltzer)	magnesium oxide (Mag Oxide)
Antidiarrheals	diphenoxylate/atropine (Lomotil) loperamide (Imodium)	bismuth subsalicylate (Pepto-Bismol) cholestyramine (Questran) psyllium (Metamucil)	acidophulis (Align) crofelemer (Fulyzaq) lactobacillus (Culturelle) octreotide (Sandostatin) opium tincture (Opium Tincture) paregoric (Paregoric) probiotics (Culturelle, Florastor)

GASTRO-INTESTINAL (GI), *continued*

	Preferred	Alternatives	Non-Formulary
Antiemetics	haloperidol (Haldol) metoclopramide (Reglan) prochlorperazine tablets (Compazine)	meclizine (Antivert) ondansetron (Zofran) prochlorperazine suppositories (Compazine) promethazine (Phenergan) scopolamine patch (Transderm Scop) trimethobenzamide (Tigan)	aprepitant (Emedet) dolasetron (Anzemet) dronabinol (Marinol) granisetron (Sancuso) nabilone (Cesamet) palonosetron (Aloxi)
Antispasmodics	glycopyrrolate (Robinul) hyoscyamine (Levsin)	dicyclomine (Bentyl)	belladonna/phenobarbital (Donnatal) clidinium/chlordiazepoxide (Librax)
Appetite Stimulants	dexamethasone (Decadron) mirtazapine (Remeron) prednisone (Deltasone)		dronabinol (Marinol) megestrol (Megace, Megace ES) oxandrolone (Oxandrin)
Digestive Aids	pancrelipase (Creon, <i>all products</i>)		All others excluded
Histamine (H₂) Antagonists	famotidine tablets (Pepcid) ranitidine tablets, capsules (Zantac)		cimetidine (Tagamet) famotidine suspension (Pepcid suspension) nizatidine (Axid) ranitidine syrup (Zantac syrup)
Laxatives	bisacodyl (Dulcolax) docusate (Colace, <i>all products</i>) glycerin (Glycerin) lactulose (Enulose) mineral oil enema (Mineral Oil enema) polyethylene glycol (MiraLax) senna (Senokot) senna/docusate (Senokot-S) sodium phosphates enema (Fleet enema) sorbitol (Sorbitol)	magnesium citrate (Citroma) magnesium hydroxide (Milk of Magnesia) petroleum jelly (Vaseline)	alvimopan (Entereg) calcium polycarbophil (Fiber-Lax) linaclotide (Linzess) lubiprostone (Amitiza) methylalnaltrexone (Relistor)
Proton Pump Inhibitors (PPIs)	lansoprazole OTC (Prevacid OTC) omeprazole OTC (Prilosec OTC)	lansoprazole capsules (Prevacid) omeprazole (Prilosec)	dexlansoprazole (Dexilant) esomeprazole (Nexium) lansoprazole ODT (Prevacid SoluTab) omeprazole/sodium bicarbonate (Zegerid) pantoprazole (Protonix) rabeprazole (Aciphex)
Other GI Agents	simethicone (Gas-X)	sucralfate (Carafate)	misoprostol (Cytotec)

GASTRO-INTESTINAL (GI), *continued*

Clinical Pearls

- Haloperidol is less sedating than other antiemetics; tablets can be given PO, SL, or PR and are more cost-effective than haloperidol 2mg/ml oral concentrate.
- Promethazine and prochlorperazine are sedating; parenteral promethazine has been associated with significant adverse reactions (tissue necrosis).
- Promethazine is the drug of choice for managing nausea in patients with Parkinson's disease and Lewy Body Dementia.
- Megestrol can increase the risk of thrombosis in patients who are debilitated, have limited mobility, or with cancer.
- Pancrelipase products are not interchangeable. Recommend stopping these agents once patient stops eating full meals and large snacks.
- Bismuth subsalicylate should be used with caution with concomitant aspirin use.
- H2 antagonists may increase risk of delirium; use with caution in elderly patients and those with renal impairment.
- Famotidine and ranitidine liquid formulations are more expensive than the tablet formulations.
- Cimetidine is not recommended due to high incidence of drug interactions.
- Metoclopramide may help with nausea & vomiting related to gastric stasis.
- Docusate is a stool softener and usually not sufficient alone in patients on opioids or with inadequate fluid intake.
- Sorbitol is as effective as lactulose and less expensive; some patients find sorbitol more palatable.
- Polyethylene glycol requires 4-8 oz. of fluid; patients with swallowing difficulties may have an increased aspiration risk with thin liquids.
- Magnesium hydroxide should not be used in patients with renal failure due to toxicity from accumulation.
- Oral petroleum jelly (Vaseline) balls may be useful in patients with high fecal impactions. Oral mineral oil is not recommended due to high aspiration risk.
- Sucralfate may reduce the absorption of other medications; administer sucralfate at least 2 hours after other medications.

GENITO-URINARY (GU)

	Preferred	Alternatives	Non-Formulary
Urinary Analgesics	phenazopyridine (Pyridium)		All others excluded
Urinary Anti-Infectives	methenamine (Hiprex)		All others excluded
Urinary Antispasmodics	bethanechol (Urecholine) oxybutynin IR (Ditropan)		belladonna/opium (B&O suppositories) darifenacin (Enablex) fesoterodine (Toviaz) flavoxate (Urispas) oxybutynin ER (Ditropan XL) oxybutynin patch (Oxytrol OTC & Rx) tolterodine (Detrol) trospium (Sanctura)
Clinical Pearls	<ul style="list-style-type: none"> • Use phenazopyridine 2-3 days only, in conjunction with antibiotic UTI treatment. May discolor urine. Contraindicated in renal patients with CrCL <50mL/min. • Bethanechol may be used for urinary retention; administer on an empty stomach, 1 hour before or 2 hours after meals. • Oxybutynin may reduce spasms associated with bladder catheters. 		

INFECTION MANAGEMENT

Antibiotics

	Preferred	Alternatives	Non-Formulary
Aminoglycosides	gentamicin (Gentamicin) neomycin (Neomycin)		amikacin (Amikacin) tobramycin (Tobi nebulizer solution, Tobi Podhaler, tobramycin injectable)

INFECTION MANAGEMENT, <i>continued</i>			
Antibiotics			
	Preferred	Alternatives	Non-Formulary
Cephalosporins	cefdinir (Omnicef) cefprozil (Cefzil) cephalexin (Keflex) <i>not 250mg, 500mg tablets or 750mg capsules</i>	cefaclor (Ceclor) cefadroxil (Duricef) cefepodoxime (Vantin) ceftriaxone (Rocephin) cefuroxime (Ceftin)	cefditoren (Spectracef) cefixime (Suprax) ceftibuten (Cedax) cephalexin (Keflex) 250mg, 500mg tablets & 750mg capsules
Fluoroquinolones	ciprofloxacin IR tablets (Cipro)	levofloxacin (Levaquin)	ciprofloxacin ER tablets (Cipro XR) ciprofloxacin suspension (Cipro suspension) moxifloxacin (Avelox) norfloxacin (Noroxin) ofloxacin (Floxin)
Macrolides	azithromycin (Zithromax)	clarithromycin IR (Biaxin) erythromycin (Ery-tab)	azithromycin (Zmax) 2 gram suspension clarithromycin ER (Biaxin XL) fidaxomicin (Difcid)
Ophthalmic Antibiotics	erythromycin ophthalmic ointment (Ilotycin) gentamicin ophthalmic ointment (Gentak) gentamicin ophthalmic soln (Garamycin) polymixin B/trimethoprim ophthalmic soln (Polytrim)	ofloxacin ophthalmic soln (Ocuflox) sodium sulfacetamide ophthalmic soln (Bleph-10) tobramycin ophthalmic soln (Tobrex)	ciprofloxacin ophthalmic soln (Ciloxan) tobramycin/dexamethasone ophthalmic ointment, susp (TobraDex)
Penicillins	amoxicillin IR (Amoxil) ampicillin (Principen) penicillin (Penicillin)	amoxicillin/potassium clavulanate IR (Augmentin) dicloxacillin (Dynapen)	amoxicillin ER (Moxatag) amoxicillin/potassium clavulanate ER (Augmentin XR)
Tetracyclines	doxycycline (Vibramycin)		demeclocycline (Declomycin) minocycline (Minocin, Solodyn) tetracycline (Sumycin)
Other Antibiotics	clindamycin (Cleocin) metronidazole IR (Flagyl) sulfamethoxazole/trimethoprim (Bactrim)	erythromycin/sulfisoxazole (Pediazole) nitrofurantoin capsules (Macrobid, Macrochantin) vancomycin injectable (Vancomycin)	linezolid (Zyvox) nitrofurantoin suspension (Furadantin) rifaximin (Xifaxan) trimethoprim (Primsol) vancomycin capsules (Vancocin)
Antifungals			
Azoles	fluconazole (Diflucan)	clotrimazole (Mycelex)	itraconazole (Sporanox) ketoconazole (Nizoral) voriconazole (Vfend)
Other	nystatin (Nystatin)		terbinafine (Lamisil)
Antivirals			
Herpes/Shingles	acyclovir (Zovirax) <i>oral dosage forms only</i>	valacyclovir (Valtrex)	famciclovir (Famvir)

INFECTION MANAGEMENT, *continued*

Clinical Pearls

- Ciprofloxacin suspension is significantly more expensive than ciprofloxacin IR tablets. Ciprofloxacin IR tablets can be crushed if needed.
- Nitrofurantoin is contraindicated if CrCl < 60mL/min and not recommended in elderly patients. Use capsules only; suspension is not cost effective.
- Reserve rifaximin for patients with renal impairment or with hepatic encephalopathy refractory to lactulose or sorbitol in combination with neomycin.
- Metronidazole tablets can be crushed and sprinkled on wounds to help reduce odor.
- Fluconazole, and other azole antifungals, have multiple drug interactions; consult with a pharmacist to review medication profile.

NEUROLOGICAL DISEASES

Parkinson's Disease

	Preferred	Alternatives	Non-Formulary
Anticholinergics	benztropine (Cogentin) trihexyphenidyl (Artane)		All others excluded
Catechol-O-Methyltransferase (COMT) Inhibitors	entacapone (Comtan)		tolcapone (Tasmar)
Dopaminergics	amantadine (Symmetrel) carbidopa/levodopa (Sinemet) carbidopa/levodopa/entacapone (Stalevo) pramipexole IR (Mirapex) ropinirole IR (Requip)	carbidopa/levodopa ODT (Parcopa) ropinirole ER (Requip XL)	bromocriptine (Parlodel) carbidopa (Lodosyn) pramipexole ER (Mirapex ER) rotigotine (Neupro)
Monoamine Oxidase (MAO) Inhibitors	selegiline capsules, tablets (Eldepryl)		rasagiline (Azilect) selegiline ODT (Zelapar)
Clinical Pearls	<ul style="list-style-type: none"> • Avoid conventional antipsychotics in patients with Lewy Body Dementia and Parkinson's disease; quetiapine is preferred. • Carbidopa/levodopa/entacapone (Stalevo) tablets should not be crushed. 		

RESPIRATORY

Chronic Obstructive Pulmonary Disease (COPD) & Asthma

	Preferred	Alternatives	Non-Formulary
Anticholinergics	ipratropium nebulizer solution (Atrovent)	acclidinium inhaler (Tudorza) ipratropium inhaler (Atrovent HFA) tiotropium inhaler (Spiriva)	All others excluded
Beta-2 Agonists	albuterol nebulizer solution (AccuNeb)	albuterol inhaler (ProAir, Ventolin) salmeterol inhaler (Serevent)	arformoterol nebulizer solution (Brovana) formoterol inhaler, nebulizer solution (Foradil, Perforomist) levalbuterol inhaler, nebulizer solution (Xopenex)
Beta-2 Agonist + Anticholinergic	albuterol/ipratropium nebulizer solution (DuoNeb)	albuterol/ipratropium inhaler (Combivent Respimat)	vilanterol/umeclidinium inhaler (Anoro Ellipta)

RESPIRATORY, <i>continued</i>			
Chronic Obstructive Pulmonary Disease (COPD) & Asthma			
	Preferred	Alternatives	Non-Formulary
Beta-2 Agonist + Corticosteroid	No preferred inhaled agent	budesonide/formoterol inhaler (Symbicort) fluticasone/salmeterol inhaler (Advair) fluticasone/vilanterol inhaler (Breo Ellipta) mometasone/formoterol inhaler (Dulera)	All others excluded
Corticosteroids	dexamethasone (Decadron) prednisone (Deltasone) No preferred inhaled agent	beclomethasone inhaler (Qvar) budesonide inhaler, nebulizer solution (Pulmicort) fluticasone inhaler (Flovent) mometasone inhaler (Asmanex)	ciclesonide inhaler (Alvesco) flunisolide inhaler (Aerospan)
Other	sodium chloride nebulizer solution (Sodium chloride)	theophylline (Theo-Dur)	montelukast (Singulair) roflumilast (Daliresp) zafirlukast (Accolate)
Cough, Cold, & Allergy			
Antihistamines	diphenhydramine (Benadryl) <i>oral dosage forms only</i>	hydroxyzine (Atarax, Vistaril) loratadine (Claritin)	cetirizine (Zyrtec) cyproheptadine (Periactin) desloratadine (Clarinex) fexofenadine (Allegra)
Cough Suppressants	dextromethorphan/guaifenesin (Mucinex DM, Robitussin DM) hydrocodone/homatropine (Hydromet)	benzonatate (Tessalon Perles) guaifenesin/codeine (Robitussin AC) lidocaine injectable (Xylocaine) <i>for nebulization</i>	dextromethorphan (Triaminic) dextromethorphan polistirex (Delsym) hydrocodone/chlorpheniramine (Tussionex)
Decongestants	phenylephrine (Sudafed PE) pseudoephedrine (Sudafed)		All others excluded
Expectorants & Mucolytics	guaifenesin (Mucinex, Robitussin)		acetylcysteine (Mucomyst) dornase alfa (Pulmozyme)
Nasal Agents	saline gel (Ayr Saline Gel) saline solution (Ocean Nasal Spray)	oxymetazoline (Afrin)	ipratropium (Atrovent nasal spray) nasal steroids (e.g. Flonase)
Secretions			
Anticholinergics	atropine 1% ophthalmic solution (Isopto Atropine) hyoscyamine (Levsin)	glycopyrrolate (Robinul) scopolamine patch (Transderm Scop)	All others excluded
Clinical Pearls	<ul style="list-style-type: none"> The use of inhalers becomes more difficult in end stage COPD as patients are unable to take deep, controlled breaths. Recommend changing to nebulized medications. Sodium chloride nebulizer solution can help to thin secretions for easier expectoration. Diphenhydramine is sedating and has anticholinergic side effects. Use with caution in the elderly. Consider oral steroids in place of inhaled corticosteroids. Oral steroids may also help with pain, inflammation, appetite, energy, and mood. Recommend taking guaifenesin with 8oz of water for maximum benefit. Monitor theophylline blood levels periodically and with any signs of toxicity including nausea, vomiting, tremor, or irritability. Oxymetazoline can cause rebound congestion if used longer than 3-5 days in a row. Preferred routes for glycopyrrolate are SQ or IV for bowel obstruction or terminal secretions; reserve oral formulations for long-term sialorrhea management. Glycopyrrolate and hyoscyamine can be used for terminal secretions. Glycopyrrolate has a lower risk of CNS side effects. 		

SKIN & WOUND CARE

	Preferred	Alternatives	Non-Formulary
Anesthetics	lidocaine (Lidocaine ointment, Lidocaine Viscous)	benzocaine (Hurricane spray) lidocaine/prilocaine (EMLA)	capsaicin (Zostrix) lidocaine patch (Lidoderm)
Antibiotics	bacitracin (Bacitracin) bacitracin/polymixin (Polysporin) neomycin/bacitracin/polymixin (Neosporin)	gentamicin (Gentamicin) silver sulfadiazine (Silvadene)	mupirocin (Bactroban) retapamulin (Altabax)
Antifungals	miconazole (Baza Antifungal) nystatin (Nystatin, Nystop)	clotrimazole (Lotrimin)	ciclopirox (Penlac) ketoconazole (Nizoral) terbinafine (Lamisil)
Antifungal + Corticosteroid	clotrimazole/betamethasone (Lotrisone)	hydrocortisone/iodoquinol (Vytone) nystatin/triamcinolone (Mycolog)	All others excluded
Antihemorrhoidals	hydrocortisone/pramoxine (Analpram-HC) phenylephrine (Preparation H)		All others excluded
Antipruritics	camphor/menthol (Sarna)		diphenhydramine topical (Benadryl) doxepin cream (Zonalon)
Antiseptics	sodium hypochlorite solution (Dakin's Solution)		All others excluded
Corticosteroids	hydrocortisone (Cortisone) triamcinolone (Kenalog)		betamethasone (Diprolene) clobetasol (Temovate)
Emollients	eucerin (Eucerin) vitamin A & D (Sween)	ammonium lactate (Lac-Hydrin)	All others excluded
Enzymes	collagenase (Santyl)		All others excluded
Protectants	thymol/menthol (Calmoseptine) zinc oxide (Desitin) zinc oxide/dimethicone (Baza Protect)	trypsin/Balsam Peru/castor oil (Granulex, Optase, Xenaderm)	calamine (Calamine)
Clinical Pearls	<ul style="list-style-type: none"> • Viscous lidocaine numbs the mouth and throat. Wait 30 minutes before eating or drinking after use. • Topical lidocaine can help with localized pain. Lidoderm patches are expensive, consider a more cost effective alternative such as lidocaine 5% ointment applied BID and covered with a transparent dressing (Tegaderm). • Metronidazole tablets crushed can be sprinkled on wounds to help odor control. • Sarna lotion can help with itching and provide a soothing effect; avoid applying to areas of excoriation. • Oxymetazoline is a vasoconstrictor and can be used topically for minor bleeding. Recommend 1-2 sprays topically to areas of bleeding as needed. 		

MISCELLANEOUS

	Preferred	Alternatives	Non-Formulary
Central Venous Access Device (CVAD) & Port Maintenance	heparin (Hep Flush) sodium chloride IV flush		alteplase (Cathflo Activase)

MISCELLANEOUS, *continued*

	Preferred	Alternatives	Non-Formulary
Dry Eyes	artificial tear gel (Tears Again Gel) artificial tear ointment (Refresh P.M.) artificial tear solution (Artificial Tears) carboxymethylcellulose (Refresh Tears) hydroxypropyl methylcellulose (GenTeal)		cyclosporine (Restasis)
Infection Control	tuberculin skin test (Aplisol, Tubersol)		influenza virus vaccine (Fluvirin, Fluzone)
Irrigants	acetic acid solution sodium chloride irrigation solution sterile water		All others excluded
Mouth Care	saliva substitute (Biotene, <i>all products</i>)		cevimeline (Evoxac) pilocarpine (Salagen)
Otics	carbamide peroxide (Debrox)		antipyrine/benzocaine (Auralgan) neomycin/polymixin/hydrocortisone otic (Cortisporin)
Pediculocide	permethrin (Elimite, <i>all products</i>)		All others excluded
Thickening Agents	food starch-maltodextrin (Thick-it)		All others excluded
Clinical Pearls	<ul style="list-style-type: none"> • Allow acetic acid foley irrigant to dwell in catheter and bladder for 15 minutes before draining to enhance dissolving of encrustation. • Pilocarpine is only effective if patient has functioning salivary glands. Use of pilocarpine ophthalmic drops may be more convenient and cost effective than tablets; use pilocarpine 2% ophthalmic solution 5 drops SL/PO TID. • Permethrin 5% cream for scabies should remain on affected area for 8-14 hours before washing off. Permethrin 1% lotion for lice may be used on hair and scalp and left on 8-14 hours (overnight) under a shower cap before washing off. 		