

## WakeMed Perioperative Services:

### Outpatient Preoperative Medication Guidelines – 2025

ANTIHYPERTENSIVES/ANTIARRHYTHMICS			
Drug Class	Drugs in Class	When to Hold	Reason
Angiotensin Converting Enzyme (ACE) Inhibitors	Benazepril / amlodipine (Lotrel®) Benazepril (Lotensin®) Benazepril / HCTZ (Lotensin HCT®) Captopril (Capoten®) Captopril / HCTZ (Capozide®) Enalapril (Vasotec®) Enalapril / HCTZ (Vaseretic®) Fosinopril (Monopril®) Fosinopril / HCTZ (Monopril HCT®) Lisinopril (Prinivil®, Zestril®) Lisinopril / HCTZ (Prinzide® or Zestoretic®) Moexipril (Univasc®) Moexipril / HCTZ (Uniretic®) Perindopril (Aceon®) Quinapril (Accupril®) Quinapril / HCTZ (Accuretic®) Ramipril (Altace®) Trandolapril (Mavik®) Trandolapril/verapamil (Tarka®)	<b>HOLD Day of Surgery *</b>  <b>*EXCEPTION- DO NOT HOLD FOR CATARACT SURGERY</b>	Potential Hypotension intra-op risk
Angiotensin Receptor Blockers (ARB)	Azilsartan (Edarbi®) Candesartan (Atacand®) Candesartan/HCTZ (Atacand HCT®) Azilsartan medoxomil and chlorthalidone (Edarbyclor) Eprosartan (Teveten®) Eprosartan/HCTZ (Teveten HCT®) Irbesartan (Avapro®) Irbesartan / HCTZ (Avalide®) Losartan (Cozaar®) Losartan / HCTZ (Hyzaar®) Olmesartan (Benicar®) Olmesartan / HCTZ (Benicar HCT®) Telmisartan (Micardis®) Telmisartan/HCTZ (Micardis HCT®) Valsartan (Diovan®) Valsartan / HCTZ (Diovan HCT®) <b>Sacubitril / Valsartan (Entresto)</b>	<b>HOLD Day of Surgery</b>	Potential Hypotension intra-op risk
Beta Blockers	Acebutolol (Sectral) Atenolol (Tenormin)	Do <b>NOT</b> hold prior to surgery	Withdrawal/rebound effects if held

	Betaxolol (Kerlone) Bisoprolol (Zebeta) Carvedilol (Coreg) Metoprolol (Lopressor, Toprol XL) Nadolol (Corgard) Nebivolol (Bystolic) Penbutolol (Levatol) Pindolol (Visken) Propranolol (Inderal) Sotalol (Betapace)		
<b>Calcium Channel Blockers</b>	Amlodipine (Norvasc®) Clevipidine (Cleviprex®) Diltiazem (Cardizem®) Felodipine (Plendil®) Isradipine (Dynacirc®) Nicardipine (Cardene®) Nifedipine (Procardia®, Adalat®) Nimodipine (Nimotop®) Verapamil (Calan®, Covera-HS®, Verelan®)	Do <b>NOT</b> hold prior to surgery	
<b>Digoxin</b>	Digoxin (Lanoxin®)	Do <b>NOT</b> hold prior to surgery	
<b>Tikosyn</b>	Dofetilide (Tikosyn)	Do <b>NOT</b> hold prior to surgery	
<b>Non-selective MAO Hydralazine</b>	Hydralazine (Apresoline)	Do <b>NOT</b> hold prior to surgery	
<b>Anti-anginal</b>	Isosorbide (IMDUR)	Do <b>NOT</b> hold prior to surgery	
<b>Alpha 1 Blocker</b>	Prazosin (Minipress) Tamsulosin (Flomax)	Do <b>NOT</b> hold prior to surgery	
<b>Dronedarone</b>	Dronedarone (Multaq)-	Do <b>NOT</b> hold prior to surgery	
<b>Flecainide</b>	Flecainide (Tambocor)	Do <b>NOT</b> hold prior to surgery	
<b>Diuretics</b>	Acetazolamide (Diamox®) Amiloride Amiloride/Hydrochlorothiazide (Moduretic®) Bendroflumethiazide Bumetanide (Bumex®) Chlorothiazide (Diuril®) Chlorthalidone (Thalitone®/Hygroten )	<b>HOLD</b> day of surgery	Increases the risk of hypokalemia / hypovolemia

	Eplerenone (Inspra®) Ethacrynic acid (Edecrin®) Furosemide (Lasix®) Hydrochlorothiazide (Microzide®, Esidrix®) Indapamide (Lozol®)  Metolazone (Zaroxolyn®) Methazolamide Methyclothiazide Metolazone (Zaroxoxlyn®) Spironolactone (Aldactone®) Spironolactone/Hydrochlorothiazide (Aldactazide®) Toremide (Demadex®) Triamterene (Dyrenium®) Triamterene / HCTZ (Dyazide®, Maxzide®)		
<b>Statins</b>	Atorvastatin (Lipitor) Fluvastatin (Lescol) Lovastatin (Mevacor) Pitavastatin (Livalo) Pravastatin (Pravachol) Rosuvastatin (Crestor) Simvastatin (Zocor)	Do <b>NOT</b> hold prior to surgery	
<b>RESPIRATORY MEDICATIONS</b>			
<b>Drug Class</b>	<b>Drugs in Class</b>	<b>When to hold</b>	<b>Reason</b>
<b>Bronchodilators</b>	Albuterol (ProAir®, Proventil®, Ventolin®) Albuterol/Ipratropium (Duoneb®, Combivent®) Formoterol/Budesonide (Symbicort®) Formoterol/Mometasone (Dulera®) Ipratropium (Atrovent®) Levalbuterol (Xopenex®) Salmeterol (Serevent®) Salmeterol/Fluticasone (Advair®)	Use on day of surgery	
<b>Inhaled Steroids</b>	Beclomethasone (QVAR®) Flunisolide (AeroBid®) Fluticasone (Flovent®) Mometasone (Asmanex®) Triamcinolone (Asmacort®)	Use on day of surgery	
<b>ANTICOAGULANTS</b>			
<b>Drug Class</b>	<b>Drugs in Class</b>	<b>When to hold</b>	<b>Reason</b>
<b>Direct Thrombin Inhibitors</b>	Dabigatran (Pradaxa®)	<b>Do not discontinue without consulting prescribing physician</b>	Increased risk of bleeding complications.

			No spinal or epidural within seven days of last dose.
<b>Factor XA Inhibitor</b>	Fondaparinux (Arixtra®) Apixaban (Eliquis®) Rivaroxaban (Xarelto®)	<b>Do not discontinue without consulting prescribing physician</b>	Increased risk of bleeding complications.
<b>Heparin SQ</b>	Heparin SQ	At least 4 hours prior to surgery	Increased risk of bleeding complications
<b>Low molecular weight heparin</b>	Dalteparin (Fragmin®) Enoxaparin (Lovenox®)	24 hrs prior to surgery if on full anticoagulant dose (1 mg/kg), 12 hrs prior to surgery if on DVT prophylaxis dose (0.5 mg/kg)	Increased risk of bleeding; No spinal or epidural within 12 hrs of prophylaxis dose (0.5 mg/kg) and 24 hrs of therapeutic dose (1 mg/kg)
<b>Warfarin</b>	Warfarin (Coumadin®)	<b>Do not discontinue without consulting prescribing physician</b>	Increased bleeding risk.
<b>Aspirin (and Aspirin-containing drugs)</b>	Aspirin Aspirin/acetaminophen/caffeine (Excedrin®) Aspirin/butalbital/caffeine (Fiorinal®) Aspirin/carisoprodol (Soma Compound®) Aspirin/carisoprodol/codeine (Soma compound w/ codeine®) Aspirin/dipyridamole (Aggrenox®) Aspirin/orphenadrine/caffeine (Norgesic®) Aspirin/oxycodone (Percodan®)	<b>If no history of CAD or stroke:</b> Discontinue 5-10 days prior to surgery, especially for ophthalmologic and neurosurgical procedures.  <b>Patients with hx of CAD or stroke:</b> <b>Continue Aspirin, including day of surgery if at all possible. Need to consult with surgeon if neuro/ spine/ ophthalmologic surgery.</b>	Increased risk of bleeding complications
<b>Anti-Platelet Drugs</b>	Clopidogrel (Plavix®) Prasugrel (Effient®) Ticagrelor (Brilinta®) Ticlopidine (Ticlid®)	<b>Do NOT discontinue without explicit instructions from prescribing physician! Must be documented by prescribing physician on form N-372 (Request for Preoperative Cardiac Evaluation)</b>	Increased risk of bleeding complications

	<p>Cilostazol (Pletal®)</p> <p>Dipyridamole (Persantine®)</p> <p>Dipyridamole/Aspirin (Aggrenox®)</p>	<p><b>HOLD</b> 4 days preop</p> <p><b>HOLD</b> 2 days preop</p> <p><b>HOLD</b> 7 days preop</p>	
<b>Short-acting NSAIDs</b>	<p>Diclofenac (Cataflam®, Voltaren®)</p> <p>Etodolac (Lodine®)</p> <p>Fenoprofen (Nalfon®)</p> <p>Flurbiprofen (Ansaid®)</p> <p>Ibuprofen (Advil®, Motrin®)</p> <p>Ibuprofen/Hydrocodone (Vicoprofen®)</p> <p>Ibuprofen/Oxycodone (Combunox®)</p> <p>Indomethacin (Indocin®)</p> <p>ketoprofen (Orudis KT®, Oruvail®)</p> <p>Ketorolac (Toradol®)</p> <p>Meclofenamate (Meclomen®)</p> <p>Mefenamic Acid (Ponstel®)</p> <p>Tolmetin (Tolectin®)</p>	<b>HOLD</b> day prior to surgery	Increased risk for bleeding and renal complications
<b>Long-acting NSAIDs</b>	<p>Diflunisal (Dolobid®)</p> <p>Etodolac (Lodine XL®)</p> <p>Meloxicam (Mobic®)</p> <p>Nabumetone (Relafen®)</p> <p>Naproxen (Aleve®, Anaprox®, Naprosyn®)</p> <p>Oxaprozin (Daypro®)</p> <p>Piroxicam (Feldene®)</p> <p>Sulindac (Clinoril®)</p>	At least 3 days prior to surgery	Increased risk for bleeding and renal complications
<b>Cox-2 Inhibitors</b>	<p>Celecoxib (Celebrex®)</p> <p>Nabumetone (Relafen)</p>	At least 3 days prior to surgery	Increased risk for renal, thrombo-embolic complications

**OPIOID PAIN MEDICATIONS**

<b>Drug Class</b>	<b>Drugs in Class</b>	<b>When to hold</b>	<b>Reason</b>
<b>Long-Acting Opioids</b>	<p>Fentanyl Patch (Duragesic®)</p> <p>Hydromorphone SR (Exalgo®)</p> <p>Methadone (Dolophine®)</p> <p>Morphine SR (MS Contin®, Kadian®, Avinza®)</p> <p>Morphine SR/Naltrexone (Embeda®)</p> <p>Oxycodone SR (Oxycontin®)</p> <p>Oxymorphone (Opana ER®)</p>	Do <b>NOT</b> hold prior to surgery	Discontinuation may result in opioid withdrawal and difficulty with postoperative pain control.
<b>Short-Acting Opioids</b>	Hydrocodone	Do <b>NOT</b> hold prior to surgery	Discontinuation may result in opioid withdrawal and

	Hydrocodone/Acetaminophen (Hycet®, Lorcet®, Lortab®, Norco®, Vicodin®, Zydone®) Hydrocodone/Ibuprofen (Vicoprofen®) Hydromorphone (Dilaudid®) Hydromorphone ER (Exalgo®) Morphine Oxycodone (Roxicodone®) Oxycodone/Acetaminophen (Percocet®, Endocet®, Roxicet®) Oxycodone/Aspirin (Percodan®, Endodan®) Propoxyphene/Acetaminophen (Darvocet®) Propoxyphene/Aspirin (Darvon®) Tapentadol (Nucynta)	Switch patient from Aspirin and Ibuprofen containing drugs one week preop.	difficulty with postoperative pain control.
Opioid / Antagonists	Buprenorphine/Naloxone (Suboxone®) Buprenorphine patch (Butrans®) Naltrexone (Vivitrol, ReVia, Depade)	Have Pt discuss with prescribing/contracted provider. Advise pt pain control will be difficult post-op	
Topical local Anesthetic	Lidocaine patch	Continue	
Skeletal Muscle Relaxant	Carisoprodol Soma Metaxalone (Skelaxin) Tizanidine (Zanaflex)	Continue	
<b>STEROID AND IMMUNE MEDICATIONS</b>			
Drug Class	Drugs in Class	When to hold	Reason
Steroids	Prednisone Methylprednisolone (Medrol®)	Do NOT hold prior to surgery	Adrenal insufficiency
<b>THYROID MEDICATIONS</b>			
Drug Class	Drugs in Class	When to hold	Reason
Thyroid hormone	Levothyroxine (Synthroid®, Levoxyl®) Dessicated thyroid (Armour Thyroid®)	Do NOT hold prior to surgery	
<b>DIABETES MEDICATIONS</b>			
Drug Class	Drugs in Class		
Oral Diabetic Drugs	Acarbose Alogliptin (Nesina®) Alogliptin/Pioglitazone (Oseni®) Metformin Glimepiride (Amaryl) Glipizide (Glucotrol) Glyburide (Micronase, DiaBeta) Linagliptin(Trajenta) Nateglinide (Starlix) Pioglitazone (Actos®) Repaglinide (Prandin)	See diabetes instructions	

	Rosiglitazone (Avandia®) Saxagliptin (Onglyza®) Saxagliptin/Metformin ER (Kombiglyze XR®) Sitagliptin (Januvia®) Sitagliptin/Metformin ER (Janumet®)		
<b>Rapid-Acting Insulins</b>	Afrezza (inhaled insulin) Regular Insulin (Humulin, Novolin) Insulin Aspart (Novolog) Insulin Glulisine (Apidra) Insulin Lispro (Humalog)	See Diabetes Instructions	
<b>Intermediate and Insulin Combinations</b>	Insulin NPH (Humulin N, Novolin N) Humulin 70/30 Humalog 50/50 Humalog 75/25 Novolin 70/30 Novolog 70/30	See diabetes instructions	
<b>Long-Acting Insulin</b>	Insulin Glargine (Lantus, Toujeo) Insulin Detemir (Levemir) Insulin Degludec (Tresiba) Basaglar	See diabetes instructions	
<b>Combined Insulin &amp; GLP-1 Products</b>	Insulin degludec & liraglutide (Xultophy) Insulin glargine & lixisenatide (Soliqua)	See diabetes instructions	
<b>Combined GLP-1 and GIP Agonist</b>	Tirzepatide (Mounjaro, Zepbound TM)	<b>Follow diabetes instructions</b>  <b>Follow weight loss instructions</b>	These medications slow gastric emptying thus increasing the likelihood of pulmonary aspiration.
<b>Long Acting GLP-1</b>	Semaglutide (Ozempic, Wegovy) Semaglutide (Rybelsus: oral) Dulaglutide (Trulicity) Exenatide ER (Bydureon)	<b>Follow diabetes instructions</b>  <b>Follow weight loss instructions</b>	These medications slow gastric emptying thus increasing the likelihood of pulmonary aspiration.
<b>Short Acting GLP-1</b>	Exenatide (Byetta®, Bydureon) Lixisenatide (Adlyxin) Liraglutide (Victoza®, Saxenda) Pramlintide (Symlin®)	<b>Follow diabetes instructions</b>  <b>Follow weight loss instructions</b>	

<b>SGLT2 Inhibitors</b>	<p>Canagliflozin (Invakana)</p> <p>Dapagliflozin (Farxgia)</p> <p>Empagliflozin (Jardiance)</p> <p>Ertugliflozin (Steglatro)</p> <p>Empagliflozin and metformin (Synjardy and Synjardy XR)</p> <p>There are multiple combination drugs on the market. Consider the main ingredient if it involves combination drugs follow directions for the SGLT-2 ingredient.</p> <p><b>Instructions for monitoring glucose once SGLT-2 medication held:</b></p> <p>Stopping these medications for such a short time should not cause a dramatic change in glucose (blood sugar).</p> <ul style="list-style-type: none"> <li>• Please check your glucose (blood sugar) a minimum of 2 times daily</li> <li>• If you see an increase of 50 points or greater contact your primary care provider (PCP) for treatment advice</li> <li>• If glucose is greater than 200 more than once, contact PCP.</li> </ul>	<p><b>Hold 3 days prior to surgery</b></p> <p>Canagliflozin (Invakana)</p> <p>Dapagliflozin (Farxgia)</p> <p>Empagliflozin (Jardiance)</p> <p><b>Hold 4 days prior to surgery</b></p> <p>Ertugliflozin (Steglatro)</p> <p>Have patient monitor glucose closely once medications are discontinued</p>	<p><b>Discontinuing lowers risk of ketoacidosis intra/postoperatively</b></p>

**CNS AGENTS**

Drug Class	Drugs in Class	When to hold	Reason
<b>Benzodiazepines</b>	<p>Alprazolam (Xanax®)</p> <p>Chlordiazepoxide (Librium®)</p> <p>Diazepam (Valium®)</p>	<p>Do <b>NOT</b> hold prior to surgery</p>	<p>Risk of withdrawal if stopped abruptly; potential for additive effects</p>
<b>Antidepressants - Monoamine Oxidase (MAO) Inhibitors</b>	<p>Isocarboxazid (Marplan®)</p> <p>Phenelzine (Nardil®)</p> <p>Tranylcypromine (Parnate®)</p> <p>Rasagiline (Azilect®)</p> <p>Selegiline patch (Emsam®)</p>	<p>Taper off 2 weeks prior to surgery if possible</p> <p>OK to continue</p>	<p>Drug interactions (e.g., ephedrine, meperidine, methadone, tramadol), which could cause a hypertensive crisis.</p>



		Discontinue at least 10 days prior to surgery if possible	
<b>Antidepressants – SSRIs and SNRIs</b>	Citalopram (Celexa®) Duloxetine (Cymbalta®) Escitalopram (Lexapro®) Fluoxetine (Prozac®) Fluvoxamine (Luvox®) Paroxetine (Paxil®) Sertraline (Zoloft®) Strattera (Atomoxetine®) Desvenlafaxine (Pristiq, Khedezla)	Do <b>NOT</b> hold prior to surgery	Risk of withdrawal if stopped abruptly
<b>Antidepressants - Other</b>	Amitriptyline (Elavil ®) Bupropion (Wellbutrin®) Desipramine (Norpramin®) Doxepin (Sinequan®) Imipramine (Tofranil®) Mirtazapine (Remeron®) Nefazodone (Serzone®) Nortriptyline (Pamelor®) Trazodone (Desyrel®)	Do <b>NOT</b> hold prior to surgery	Risk of withdrawal if stopped abruptly
<b>Lithium</b>	Lithium (Eskalith®, Lithonate®)	Do <b>NOT</b> hold prior to surgery	
<b>Acetylcholinesterase Inhibitors (for Alzheimer’s)</b>	Donazepil (Aricept®) Galantamine (Razadyne®) Rivastigmine (Exelon®) Tacrine (Cognex®)	Do <b>NOT</b> hold prior to surgery	No documented interaction with anesthesia medications
<b>Anticonvulsants</b>	Carbamazepine (Tegretol®) Clonazepam (Klonopin®) Felbamate (Felbatol®) Gabapentin (Neurontin®) Levetiracetam (Keppra®) Lamotrigine (Lamictal®) Oxcarbazepine (Trileptal®) Phenytoin (Dilantin®) Pregabalin (Lyrica®) Primidone (Mysoline®) Tiagabine (Gabitril®) Topiramate (Topamax®) Valproic Acid (Depakote®) Zonisamide (Zonegran®)	Do <b>NOT</b> hold prior to surgery	

<b>ADHD Drugs (Stimulants)</b>	Dextroamphetamine (Adderall®) Lisdexamfetamine (Vyvanse®) Dexmethylphenidate (Focalin®) Methylphenidate (Ritalin®, Metadate®, Concerta®, Daytrana patch®)	Do <b>NOT</b> hold prior to surgery	No documented interaction with anesthesia medications
<b>ADHD Drugs (non-stimulant)</b>	Guanfacine (Intuniv®)	Do <b>NOT</b> hold prior to surgery	Risk of rebound hypertension if withheld.
<b>Sleep Aids</b>	Zolpidem (Ambien®) Eszopiclone (Lunesta®)	<b>May</b> take night before surgery	
<b>Restless legs</b>	Ropinirole (Requip) Pramipexole (Mirapex)	Continue	

#### REFLUX MEDICATIONS

Drug Class	Drugs in Class	When to Hold	Reason
<b>Proton Pump Inhibitors</b>	Esomeprazole (Nexium®) Lansoprazole (Prevacid®) Omeprazole (Prilosec®) Pantoprazole (Protonix®) Rabeprazole (Aciphex®)	Do <b>NOT</b> hold prior to surgery	Reflux prevention
<b>Histamine H2 blockers</b>	Cimetidine (Tagamet®) Famotidine (Pepcid®) Nizatidine (Axid®) Ranitidine (Zantac®)	Do <b>NOT</b> hold prior to surgery	Reflux prevention
<b>Particulate Antacids</b>	Gaviscon® Maalox®	<b>HOLD</b> day of surgery	Risk of particulate aspiration

#### OTHER DRUGS

Drug Class	Drugs in Class	When to Hold	Reason
<b>Appetite Suppressant (Diet Drug)</b>	Phentermine (Adipex®, Suprenza®) Phentermine / Topiramate (Qsymia®)	<b>Discontinue at least 7 days preop!</b>	Risk of hypotension that is unresponsive to treatment.
<b>Immunosuppression</b>	Hydroxychloroquine (Plaquenil) Remicade (Infliximab) Humira (Adalimumab) Methotrexate (Otrexup, Xatmap, Rasuvo, Trexall)	<b>Surgeon discretion</b>	Risk of post op infection
<b>Other Medical patches</b>	Estrogen patch Nicotine patch	Continue	
<b>Herbal Supplements</b>	See list	Discontinue at least one week preop	Risk of bleeding, blood pressure problems, slow awakening from anesthesia, etc.

Anticoagulants as relates to minimum time safe for spinal (some of the more popular not a complete list of all on the market)

Eliquis- 3 days

ASA- No restrictions

Pletal- 2 days

Plavix- 5-7 days no recommended

Pradaxa- 5 days for CrCl 30-49; 4 days CrCl 50-79; 3 days CrCl 80 or better. If needed in a timeframe less than 3 days consider ECT

Lovenox- therapeutic 24 hrs; Qday or BID dose 12 hrs

Effient- 7-10 days

Xarelto- 3 days

Brilinta- 5-7 days

Ticlid- 3 days

Coumadin- 5 days and normal INR

## Herbals and Dietary Supplements with the Potential to Increase Bleeding

Agrimony	Fenugreek	Peony
Andrographis	Feverfew	Policosanol
Angelica	Fish oil	Poplar
Anise	Flaxseed	Prickly Ash (Northern)
Arnica	Forskolin	Quassia
Asafoetida	Forsythia	Red Clover
Aspen	Garlic	Resveratrol
Bilberry	Gamma linolenic acid	Safflower
Black Haw	German Sarsaparilla	Saw palmetto
Bladder Wrack (Fucus)	Ginger	Sea buckthorn
Bogbean	Ginkgo Biloba	Selenium
Boldo	Ginseng (Panax, Siberian)	Senega
Borage	Green tea	Serrapeptase
Bromelain	Guggul	Swallowroot
Buchu	Holy basil	Sweet Clover
Burdock	Honeysuckle	Sweet Vernal grass
Capsicum	Horse Chestnut	Sweet Woodruff
Carrageenan	Horseradish	Tamarind
<b>(NEW)</b>	Inositol Nicotinate	Tiratricol
<b>CBD oil (both THC/non THC)??</b>	Japanese apricot	Tonka Beans
Celery	Jiaogulan	Turmeric
Chamomile (German and Roman)	Krill oil	Vanadium
Chinese prickly ash	Kudzu	Vinpocetine
Cinchona	Licorice	Vitamin E
Clove	Meadowsweet	Wild Carrot
Cod liver oil	Melatonin	Wild Lettuce
Coltsfoot	Methoxylated flavones	Willow Bark
Danshen	Nattokinase	Wintergreen
Deertongue	Onion	Yarrow
DHA (docosahexaenoic acid)	Palm oil	
Dong quai	Pantethine	
EPA (eicosapentaenoic acid)	Passion Flower	
Epimedium	Pau d'Arco	
Evening primrose oil		
Evodia		

**It is recommended that patients discontinue herbal supplements at least one week prior to surgery.**