Advice on Preoperative Medications for Elective Surgery

Purpose

Surgery and anaesthesia present risks for all patients but particularly for those on medications for acute or chronic health conditions. Clearly documented medication advice allows both patients and medical staff to minimise risk of medication errors that can significantly impact a patient's care.

Considerations

- Medications can directly influence the risks of surgery and anaesthesia. Equally the stress of surgery and anaesthesia results in physiological changes which may affect drug pharmacokinetics and consequently patients' pre-existing disease states.
- The unnecessary omission of regular drugs due to pre-operative fasting needs to be minimised. NBM means "nothing but medicines"
- Different routes of drug administration may need to be considered in view of patients' surgery and disease states.
- This document is not exhaustive and uses the generic names for drugs. If you cannot find the drug you are looking for consider what class of drug it is and use that information in the first instance. For combination medications be careful to check all components before giving advice. If you are still unsure seek expert advice. During normal working hours advice can be obtained from the Anaesthetic Parkside Coordinator on 021 356 527 or the Anaesthetic Assessment Clinic (AAC) on extension 81195.
- This document is designed to be most functional when it is searched electronically.

Scope

- Clinicians prescribing for patients presenting for ELECTIVE surgery.
- Nursing, midwifery and medical staff preparing adult patients for elective surgery.
- This document is NOT A PROTOCOL but a **guideline** and individualised medication advice should be provided by the medical /surgical teams caring for patients.
- For acute surgical patients individualised medication advice should be provided by the surgical teams caring for that patient. Where there is doubt about a medication, specialist advice should be sought from an anaesthetist in a related clinic or the Anaesthetic Parkside Coordinator.
- The management of diabetic and anticoagulant / antiplatelet medication **falls outside** the scope of this document. Please refer to: Anticoagulation Peri-operative Management guideline (https://canterbury.communityhealthpathways.org/40619.htm).

Management of elective surgical patients

- It is essential that a comprehensive medication history is performed, including details of adverse drug reactions (such as allergies) and herbal/complementary medicines.
- Instructions given to patients concerning the continuation or withholding of medicines prior to surgery should be clearly documented on the bottom of the anaesthetic assessment form (C117002B) and the electronic anaesthetic assessment and triage form.
- Patients who attend outpatient preoperative assessment at Burwood and Christchurch Public Hospitals will be provided with written instructions also.

- Patients should be instructed to bring all their medications / medical devices (e.g. CPAP) with them when arriving for surgery. This allows for prompt administration of any medications /therapy that the patient has been instructed to withhold, but the medical team deems necessary medicines and preoperative fasting.

'It is preferable that oral medications are given more than 2 hours pre-op with a glass of water. If medications are given less than 2 hours pre op, they should be given with up to 50ml of water.'

Guidance on specific drugs and drug classes

These guidelines concerning the management of specific medicines listed below are offered in the hope that they cover the majority of cases found in practice. Nonetheless, it is still the responsibility of the clinician to determine the applicability of these guidelines for any given case. If a drug is not listed here seek specialist advice from list Anaesthetist / Parkside Duty Anaesthetist or the prescriber of that drug.

- The management of **diabetic and anticoagulant / antiplatelet drugs falls outside the scope** of this document. Please refer to the relevant guidelines (links in relevant section).
- Anticoagulant /antiplatelet drugs should always be discussed with a doctor pre-operatively
- In the case of specialist or unusual medications (for example; immune modulators, chemotherapy drugs etc), please initiate discussions with the anaesthetic team early to allow time for multi-speciality discussion to take place if necessary.

Withhold or Continue table

Cardiovascular medicines

Drug/Class	Withhold or Continue	Comments
Alpha-blockers (e.g. doxazosin, prazosin, tamsulosin, terazosin)	Continue	Unless having cataract surgery. Risk intraoperative floppy iris syndrome.
Anti-arrhythmics (e.g. Amiodarone/ Flecainide)	Continue	Unless having an electrophysiological procedure where arrhythmia induction maybe required. Discuss with cardiology. Patients taking anti-arrhythmics must have an ECG pre op to check rhythm and QTc.
Angiotensin II antagonists/blockers (e.g. candesartan, losartan)	Withhold	Continuing may increase peri-op hypotension. Withhold but discuss with list anaesthetist on day of surgery. If combined with sacubitril please look under neprilysin below.
ACE inhibitors – ACEIs (e.g. captopril, cilazapril, celiproloenalapril, lisinopril, quinapril)	Withhold	Continuing may increase peri-op hypotension. Withhold but discuss with list anaesthetist on day of surgery ACE-I and ARBs may both be prescribed for LV dysfunction but the protective effect should last for greater than 24 hours thus withholding on day of surgery is acceptable.
Beta-blockers (e.g. atenolol, bisoprolol, carvedilol, metoprolol, nadalol, pindolol, sotalol)	Continue	Withdrawal may increase risk of myocardial ischaemia if used for IHD Seek specialist advice if patient bradycardic/ hypotensive or if IV beta-blocker use is required Do not start immediately prior to elective surgery.

Calcium Channel Blockers (e.g. amlodipine, diltiazem, felodipine, nifedipine, verapamil)	Continue	Seek specialist advice if patient bradycardic or hypotensive
Centrally acting anti-hypertensives (e.g. clonidine, methyldopa)	Continue	Seek specialist advice if patient bradycardic or hypotensive. It is not recommended to start these medicines in the perioperative period. Consider use of clonidine transdermal patches if oral/enteral route is unavailable (withdrawal HTN may occur). Discuss with the list anaesthetist before starting.
Digoxin (anti-arrhythmic and positive inotrope)	Continue	Monitor digoxin levels if there is a change in renal function or hyperkalaemia
Diuretics(e.g. bendroflumethiazide, chlorthalidone, furosemide, hydrochlorothiazide, metolazone, spironolactone, bumetanide, eplerenone, amiloride, acetazolamide, indapamide)	Continue / withhold for some local (awake) procedures	Check renal function and electrolytes. Correct as required. Generally withhold to avoid urinary urgency**. Warning: If the patient is on a significant dose (which varies from person to person) and this is used to treat heart failure then this may need to be continued. Seek medical advice if you are unsure.**
Neprilysin Inhibitor	Withhold for 2 doses prior	Sacubitiril+Valsartan (Entresto®)
Nitrates (e.g. glyceryl trinitrate, isosorbide mononitrate)	Continue	GTN transdermal patches can be used if the oral/enteral route is unavailable. Discuss with list anesthetist before changing route of administration.
Phosphodiesterase inhibitors (e.g. sildenafil, tadalafil, vardenafil)	Continue / withhold	Continue if prescribed for pulmonary HTN Withhold two weeks pre-op if prescribed for erectile dysfunction (possible link to Anterior Ischaemic Optic Neuropathy)
Statins (e.g. atorvastatin, simvastatin, pravastatin, rosuvastatin)	Continue	Hepatic or renal impairment may increase risk of myopathy
Other Cholesterol lowering agents (e.g. ezetimibe, bezafibrate, nicotinic acid)	Continue	

Gastrointestinal Medicines

Drug/Class	Withhold or Continue	Comments
H2-receptor antagonists (e.g. cimetidine, famotidine, ranitidine)	Continue	Prevents stress related ulceration May reduce risk of aspiration pneumonia
Proton pump inhibitors (e.g. omeprazole, pantoprazole)	Continue	Prevents stress related ulceration May reduce risk of aspiration pneumonia
Pro-kinetic agents (e.g. domperidone, metoclopramide)	Continue	
5-HT3 antagonists (e.g. granisetron, ondansetron)	Continue	
Diet pills and dietary supplements	Withhold	Phentermine / Orlistat – stop two weeks pre-op Orlistat – check coagulation screen as reduces vitamin ADEK absorption Pancreatin e.g. Pancrex/Creon & Ursodeoxycholic acid – omit day of surgery (DOS)
Medicines for Inflammatory Bowel Disease (e.g. Mesalazine preparations (Rowasa/Pentasa/Asacol) and Sulfasalazine)	Continue	
Medicine for Bowel Spasm (e.g. hyoscine butylbromide)	Continue	Trade name Buscopan® – anticholinergic activity.

CNS medication

Drug/Class	Withhold or Continue	Comments
Acetylcholinesterase inhibitors <u>Peripheral acting:</u> used in myasthenia gravis (e.g. pyridostigmine)	Continue	Consider IV preparations if the oral/enteral route is unavailable post op. Rivastigmine is available as a patch May prolong response to suxamethonium

Acetylcholinesterase inhibitors Centrally acting: used in Alzheimer's (e.g. galantamine/ donepezil/rivastigmine)	Continue	Consider IV preparations if the oral/enteral route is unavailable post op. Rivastigmine is available as a patch May prolong response to suxamethonium May antagonize non depolarizing muscle relaxants
Anticonvulsants (e.g. carbamazepine, clobazam, gabapentin, lamotrigine, levetiracetam, phenobarbital, phenytoin, primidone, sodium valproate, topiramate)	Continue	Consider using IV preparations when oral/enteral route in unavailable
Antipsychotics and Lithium (e.g. aripiprazole, chlorpromazine, clozapine, haloperidol, lithium carbonate, olanzapine, quetiapine, zuclopenthixol, risperidone)	Continue	Renal function, fluid status and serum drug levels should be closely monitored for patients taking lithium
Anxiolytics/Hypnotics (e.g. diazepam, lorazepam, temazepam, clobazam, clonazepam, triazolam, zopiclone)	Continue	Patients who take significant amounts of benzodiazepines may require less medication for anaesthesia induction and maintenance Abrupt cessation of benzodiazepines after chronic use can cause withdrawal syndrome in <24 hours and so should be continued in a modest dose peri-operatively Chronic benzodiazepine use may lead to higher requirements for postoperative opiates
Baclofen	Continue	Sudden withdrawal may result in hallucinations, spasticity and rarely rhabdomyolysis
Drugs used in Parkinson's disease (e.g. entacapone, tolcapone, levodopa, Madopar®, selegiline, Sinemet®,ropinirole, pramipexole)	Continue	LFTs should be monitored closely in patients taking entacapone or tolcapone Avoid pethidine with selegiline Avoid antidopaminergic anti-emetics (but domperidone is ok)
Anticholinergic drugs (Oral e.g. benztropine, procyclidine)	Continue	Abrupt discontinuation may result in rebound parkinsonian symptoms Anticholinergic drugs may increase the risk of post-operative delirium Consider advice from Older Persons' Health
CNS Stimulants (e.g. Methylphenidate: Ritalin® or Rubifen®)	Withhold	Abrupt withdrawal is usually well tolerated May precipitate tachycardia, hypertension and arrhythmias during surgery Most patients should cope with missing 12-24 hours. Restart as soon as feasible. Patient's taking high doses merit discussion with psychiatry.

Noradrenergic and specific serotonergic antidepressant (e. g. Mirtazapine)	Continue	Continuation may alleviate postoperative insomnia, anxiety, nausea and vomiting Abrupt withdrawal generally well tolerated
Irreversible Monoamine Oxidase Inhibitors (e.g. phenelzine, isocarboxazid, tranylcypromine)	Continue	At Risk of hypertensive crises Options include: **1.** Ensure MAOI-safe anaesthetic techniques are employed including avoidance of ketamine, indirect acting vasopressors and vasopressors in local anaesthetics. **2.** Irreversible MAOIs can be withheld 2 weeks prior to surgery to resume normal catecholamine metabolism. 3. Consider switching to a reversible MAOI (e.g. moclobemide) Any benefits of withholding /switching need to be weighed against the worsening of depression with potential suicidality and self-harm. Always discuss with GP and consultant psychiatrist if you intend to alter these medications. **3.** At Risk of serotonin syndrome ("type 1 reaction") Avoid pethidine, tramadol and dextromethorphan. Use fentanyl with caution C. Other risks CNS depression with opioids ("type 2 reaction") Seizures with tramadol Suxamethonium prolongation with phenelzine via inhibition plasma cholinesterase
Reversible monoamine oxidase inhibitors (e.g. moclobemide)	Withhold	Withhold day of surgery Avoid pethidine
Selective Serotonin Reuptake Inhibitors (SSRIs) and **Serotonin and Noradrenaline Reuptake Inhibitors** (SNRIs) (e.g. fluoxetine, paroxetine, sertraline, venlafaxine, (es)citalopram)	Continue	Abrupt discontinuation of SSRIs/SNRIs risk development of withdrawal syndrome Discontinuation should be considered if patient has a known problem with haemostasis or is bleeding. Consult haematologist and psychiatrist for advice. Risk serotoninergic syndrome in combination with tramadol and pethidine. There are also multiple case reports of this occurring with fentanyl. Risk SIADH in elderly
Tricyclic antidepressants (e.g. amitriptyline, clomipramine, imipramine, nortriptyline)	Continue	Abrupt discontinuation may lead to transient dizziness, nausea, headache, sweating, insomnia and malaise
Eye drops	Continue	

Anti-Migraine Medications (e.g. sumatriptan, rizatriptan, pizotifen)	Continue	Diverse group displaying SSRI and anti-cholinergic activity. Used for prevention and rescue. Note that the antiemetic ondansetron may worsen headache.
Fingolimod (Gilenya®)	Continue	Increased risk of infection and liver injury. Patient should have had Liver Function Tests within last 6 months.

Medicines used in rheumatoid/autoimmune diseases

Drug/Class	Withhold or Continue	Comments
Acitretin	Continue	
Azathioprine	Continue	Seek specialist advice if sepsis occurs. Maybe discontinued one week prior for non severe SLE to reduce infection risk – obtain specialist advice
Biological DMARD's (e.g. anakinra, etanercept, abatacept infliximab, adalimumab, rituximab, tocilizumab)	Withhold according to dosing schedule	Withhold during the perioperative period (e.g. stop 2 weeks prior) or schedule elective surgery around DMARD dosing e.g. if dosing q4 weeks, schedule surgery for 5 weeks after last dose. Do not restart until minimum 2 weeks post op (assuming wound healing).
Bisphosphonates (e.g. alendronate)	Continue	
Ciclosporin/Cyclosporin	Continue	Consult the prescribing team prior to surgery. Maybe discontinued one week prior for non severe SLE to reduce infection risk – obtain specialist advice
Corticosteroids (e.g. fludrocortisone, hydrocortisone, prednisone)	Continue	Please refer to HealthPathways – Corticosteroid Management in Inpatients (see Perioperative section) Continue at stable dose peri-operatively (consideration should be made to delay surgery if recent dose increase as this may represent inadequately controlled disease) Every patient should have a clear plan documented for the day of surgery Some patients will require a higher-than-normal dose to cover the stresses of surgery Use intravenous corticosteroids if required Do not withhold oral steroids because patient is fasting
Gold (e.g. sodium aurothiomalate, auranofin)	Continue	Seek specialist advice if sepsis occurs
Drugs used for gout (e.g. allopurinol, colchicine)	Continue	Abrupt withdrawal may precipitate acute gout attacks (as does surgery) Risk renal toxicity with allopurinol /colchicine if renal impairment related to surgery

Hydroxycarbamide/Hydroxyurea	Continue	Consider role on wound healing.
Hydroxychloroquine	Continue	Seek specialist advice if sepsis occurs
Leflunomide (Arava®)	Continue	Seek specialist advice if sepsis occurs
Mesalazine/Sulfasalazine	Continue	May need to withhold postoperatively until normal renal and bowel function resumes
Methotrexate	Continue (unless surgeon requests discontinuation)	Seek specialist advice if sepsis occurs
Mycophenolate	Continue	Consult rheumatology team prior to surgery Maybe discontinued one week prior for non-severe SLE to reduce infection risk – obtain specialist advice
Tacrolimus	Continue	Consult the prescribing team prior to surgery Maybe discontinued one week prior for non-severe SLE to reduce infection risk – obtain specialist advice

Analgesics

Drug/Class	Withhold or Continue	Comments
Paracetamol	Continue	
Non-selective Non-steroidal Anti-inflammatory Drugs (e.g. diclofenac, ibuprofen, naproxen, sulindac, tenoxicam)	Withhold	Discontinue for 7 days prior to neurosurgery and the day of surgery. Consider discontinuing 3 days before other types of surgery, especially if concerned with a deterioration of renal function / fracture non union / GI anastamosis In patients with a chronic inflammatory disorder (e.g. rheumatoid arthritis), consider risk of worsening symptoms if NSAIDs are stopped, continue for elective orthopaedic surgery
Selective COX II inhibitors (e.g. celecoxib, etoricoxib)	Withhold	Negligible effect on platelet /GIT function Consider discontinuing 3 days before surgery and the day of surgery, especially if concerned with a deterioration of renal function / fracture non union In patients with a chronic inflammatory disorder (e.g. rheumatoid arthritis), consider risk of worsening symptoms if NSAIDs are stopped, continue for elective orthopaedic surgery . Consider discontinuing for 7 days prior to neurosurgery and the day of surgery.
Opioids (e.g. codeine, methadone, morphine, oxycodone)	Continue	Abrupt discontinuation risks development of withdrawal syndrome. Consider oral to appropriate IV conversion if NBM. Use opioid conversion calculator (ref 17,18) and contact Acute Pain Management Service if you are unsure how to proceed.

Gabapentinoids (e.g.gabapentin, pregabalin)	Continue	
Naltrexone	Oral Withhold 72 hours pre-op IM withhold 1 month (switch to oral)	Used for alcohol and opiate dependence Competitive antagonist at opioid receptors Liaison with community alcohol and drug services and APS recommended
Buprenorphine	Continue	Sublingual ("Subutex" or "Suboxone" when combined with naloxone) or patch formulation. Partial mu agonist with high receptor affinity and very long half-life (up to 70 hours). In practice it tends to work in synergistic fashion with other opioids. Because of long half -life it needs to be stopped early if sedation risk increasing and consider naloxone infusion. Maximize non-opioid analgesics and consider regional techniques Treat acute pain with IV opioids
Tramadol	Continue	Convert oral dose to intravenous if NBM for sustained period of time.
Cannabinoids	Withold 12 hours prior	All forms (smoked, eaten, or sublingual oil) to be withheld. In the 7 days prior reduce smoked to <1.5 g/day, CBD oil to <300mg/day, and THC oil to <20mg/day. Note: if medically prescribed (e.g. chemotherapy induced nausea or epilepsy) consider continuing.

Medications used for Diabetes

Refer to the perioperative *diabetic protocol*

Endocrine and Hormonal medications		
Drug/Class	**Withhold or Continue**	**Comments**
Aromatase Inhibitors (e.g.anastrozole, exemestane, letrozole)	Continue	Continue peri-operatively alongside antithrombotic measures (e.g. TED stocking, prophylactic heparin/LMWH) where appropriate Considered less thrombogenic than the SERMs
Combined Oral Contraceptive/Progestogen-only contraception ('Mini-pill') (e.g. Premarin®)	Continue/ withhold	Continue peri-operatively alongside antithrombotic measures (e.g. TED stocking, prophylactic heparin/LMWH) where appropriate If patient at high risk of VTE (previous VTE or operation with high thrombotic risk) discuss possible cessation with haematology and patient but consider possibility of unexpected pregnancy. Discuss alternative contraception If sugammadex used to reverse rocuronium or vecuronium the anaesthetist may advise the patient to use alternative contraception for 7 days

Hormone Replacement Therapy	Continue/ withhold	Continue peri-operatively alongside antithrombotic measures (e.g. TED stocking, prophylactic heparin/LMWH) where appropriate If patient at high risk of VTE (previous VTE or operation with high thrombotic risk) discuss possible cessation with haematology and patient but consider return of menopausal symptoms.
Selective Estrogen Receptor Modulators (SERMs) (e.g. clomifene, raloxifene, tamoxifen)	Continue/ withhold	Continue peri-operatively alongside antithrombotic measures (e.g. TED stocking, prophylactic heparin/LMWH) where appropriate Discontinue 4-6 weeks prior to surgery in patients with prior VTE / high risk of VTE. Consult oncologist before discontinuing if being used for cancer treatment
Finasteride	Continue	
Thyroid/Anti-thyroid drugs (e.g. thyroxine /carbimazole / propylthiouracil)	Continue	Consider checking thyroid function preoperatively Ensure beta-blockers are continued if prescribed

Respiratory Medicines

Drug/Class	Withhold or Continue	Comments
Inhaled bronchodilators (e.g. eformoterol, ipratropium, salbutamol, salmeterol, terbutaline, tiotropium)	Continue	Reduces incidence of postoperative respiratory complications
Inhaled corticosteroids (e.g. beclomethasone, budesonide, fluticasone)	Continue	
Montelukast	Continue	
Pirfenidone	Continue	
Theophylline	Continue	If concerned check theophylline levels pre-op

Antibiotics

Drug/Class	Withhold or Continue	Comments
Antibiotics	Continue	Ensure Surgical/Anaesthetic team aware Linezolid (Non-selective, reversible antibacterial used in MRSA treatment) must be omitted on the Day of Surgery.

Antivirals (e.g. Aciclovir)	Continue	
Anti-retrovirals	Continue	Beware protease inhibitors potentiate midazolam and have potential for many drug-drug interactions
Antifungals (e.g. fluconazole, ketoconazole, itraconazole	Continue	CYP2C9 and CYP3A4 inhibitors increase serum concentration of opioids, benzodiazepines and NSAIDs "Azoles" may prolong QT interval

Drugs for Genito-urinary disorders		
Drug/Class	**Withhold or Continue**	**Comments**
Anticholinergic medications to reduce bladder spasm (e.g. solifenacin, oxybutynin)	Continue	
Methenamine	Continue	Drug used to stop growth of bacteria in urine.

References and Acknowledgement

This document has been kindly supplied and adapted for purpose from The Department of Anaesthesia and Peri-operative Medicine at Waitamata District Health Board.

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Withhold table

Unless documented otherwise, nursing staff to withhold the following medicines the day of surgery (or you can refer to quick reference guide in Appendix A.)

Refer to next page

Withhold table **(Unless documented otherwise, nursing staff to withhold the following medicines on the day of surgery/DOS)**			
Cardiovascular medication	**Medication**		
ACE inhibitors *(alone or in combination with diuretics)*	Captopril Cilazapril	Enalapril Lisinopril	Perindopril Quinapril
Angiotensin II antagonists/blockers *(alone or in combination with other drugs)*	Candesartan Losartan Valsartan (see below)		
Anticoagulants *(These medicines should always be discussed with a doctor prior to surgery)* (refer to 'Antithrombotic Drugs and Surgery or Other Procedures')	Apixaban Dabigatran Edoxaban Rivaroxaban	Warfarin LMWH – (Enoxaparin)	
Antiplatelet drugs *(These medicines should always be discussed with a doctor prior to surgery)* (refer to 'Antithrombotic Drugs and Surgery or Other Procedures')	Aspirin Clopidogrel Dipyridamole	Prasugrel Ticagrelor Ticlopidine	
Neprilysin Inhibitor	Sacubitiril+Valsartan (Entresto®) – withhold for 2 doses prior		
PDE inhibitors	Sildenafil (Viagra®) (withhold for 2 weeks pre-op if used for erectile dysfunction)		
Gastro-intestinal medication	**Medication**		
Diet pills	Phentermine (Duromine®)		Orlistat (Xenical®)
Digestive supplements	Pancreatin (Pancrex®, Creon®)		Ursodeoxycholic acid
CNS medication	**Medication**		
Stimulants	Methylphenidate		
Reversible MAOI (MonoAmine Oxidase Inhibitor)	Moclobemide		
Rheumatoid & immune suppressant	**Medication**		
Biological DMARDS (Disease Modifying AntiRheumatic Drugs)	Adalimumab Anakinra Etanercept	Infliximab Rituximab Tocilizumab	

Analgesics and related drugs	**Medication**	
Non-steroidal anti-inflammatory drugs (NSAIDs) including Selective COX2 inhibitors ("Coxibs")	Diclofenac Ibuprofen Indomethacin Ketoprofen Sulindac	Mefenamic acid Naproxen Etoricoxib Celecoxib Meloxicam/ Piroxicam/ Tenoxicam
Oral Naltrexone	Withhold oral naltrexone 72 hrs pre-op	

Diabetic Medication	**Medication**		
Oral hypoglycaemic agents Insulin including Continuous Subcutaneous Insulin (CSI) pumps Diabetic medications should always be discussed with a doctor prior to surgery Refer to current Peri-procedural Management of Diabetes guideline	**Insulins and injectable medications** NovoRapid, Humalog, Apidra, Actrapid, Humulin, Protaphane, Glargine (Lantus), Levemir (Detemir) Exenatide injection Dulaglutide - **Continue**. If scheduled for the day of surgery can be withheld prior to admission and administered later the same day. All patients should bring their next dose with them.	**Oral diabetic medications** Metformin Sulfonylureas Gliclazide Glipizide Glibenclamide Pioglitazone Vildagliptin Sitagliptin Saxagliptin Acarbose Galvumet (Vildagliptin/Metformin)	**NB the Flozins(SGLT2i) and any combination containing them must be stopped for 2 DAYS before surgery PLUS the DOS for any non day case procedure** **(For Day cases stop 1 day before surgery PLUS DOS & minimize fasting)** **Canagliflozin** **Dapagliflozin** **Empagliflozin** **Jardiamet (Empagliflozin/Metformin)**

Non-prescription, Herbal & Complementary medicine	**Medication**	
Should be withheld for 2 weeks pre-op as they may have unpredictable effects, such as clotting abnormalities and interactions with anesthetics. Non-prescription vitamins Dietary and exercise supplements Herbal and complementary medicines Rongoā Māori (link) Chinese traditional medicines erectile dysfunction medicines Please refer to: https://naturalmedicines.therapeuticresearch.com/#	**Examples include, but are not limited to:** Arnica Ayurvedic medicines Colloidal silver Echinacea Ephedra (Ma Huang) Garlic capsules Ginger Gingko biloba Ginseng Glucosamine/chondroitin Grape seed extract	 Kava Magnesium Milk thistle extract Omega-3 oil (fish / krill / linseed) Resveratrol Saw palmetto (dwarf palm) St John's Wort Valerian Viagra - sildenafil