Brighton and Sussex University Hospitals NHS Trust

Adult Perioperative Medicines Management

- This guideline aims to guide healthcare professionals caring for patients undergoing surgery, on which medications to continue and which to stop preoperatively.
- The majority of medication should be continued up to and including the day of surgery.
- Although most patients are 'nil by mouth' pre-operatively, they can still have medications with a sip of water.

NBM DOES NOT MEAN NO MEDICATION!

- NBM means:
    - No food / particulate fluids for 6 hours pre-operatively
    - Clear fluids can freely consumed for up to 2 hours pre-operatively
    - Within 2 hours of surgery, medication can be taken with up to 20ml of water
    - If medication cannot be tolerated with 20ml of fluid, alternative routes of administration may need to be considered – please seek advice from the Pharmacy Department

- Some medications interact with anaesthetic agents and need to be highlighted to the anaesthetist, eg retrovirals.
- Advice on anticoagulants, antiplatelet agents and medications used for control of diabetes are outlined in separate guidelines.
- Further information can be obtained from:

Free to access: https://www.ukcpa-periophandbook.co.uk/

Login required: https://www.uptodate.com
Search: Perioperative medication management

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Analgesia	**Conventional NSAIDS** e.g. ibuprofen, naproxen	Continue treatment. Omit for 48 hours if having neuro or spinal surgery. If in doubt confirm with surgical team.
	COX-2 inhibitors e.g. etoricoxib	Continue treatment.
	Paracetamol/codeine combinations e.g. co-codamol	Continue treatment.
	Opioids e.g. tramadol, buprenorphine, fentanyl, morphine, oxycodone	Buprenorphine patch - continue treatment. Fentanyl patch - continue treatment. Morphine - continue treatment. Oxycodone - continue treatment. **Contact acute pain team preoperatively for advice if patient receiving:** Buprenorphine patch ≥ 35 mcg/h Fentanyl patch ≥ 50mcg/hr Morphine ≥ 100 mg/day Oramorph ≥ 120 mg/day Oxycodone ≥ 60 mg/day
	Neuropathic agents e.g. gabapentin, pregabalin, carbamazepine	Continue treatment.
Methadone		Continue treatment. Advise patient to bring contact details of their GP, alcohol and drug addiction service provider, and chemist.
Statins e.g. simvastatin, atorvastatin, pravastatin		Continue treatment.

<table>
<tr><td rowspan="11">Cardiac medications</td><td colspan="2">ACE inhibitors
e.g. enalapril, lisinopril, ramipril, fosinopril, trandolapril, captopril</td><td>ACE inhibitors can cause profound hypotension perioperatively. Advise the patient to omit dose on the day of surgery and to bring the medication with them to hospital. The anaesthetist can then decide whether to administer/withhold the dose. Continue treatment if having local anaesthetic.</td></tr>
<tr><td colspan="2">Angiotensin II inhibitors
e.g. losartan, candesartan</td><td>As for ACE inhibitors.</td></tr>
<tr><td colspan="2">Anti-anginal therapy
e.g. isosorbide mononitrate, nicorandil</td><td>Continue treatment.</td></tr>
<tr><td colspan="2">Anti-arrhythmics
e.g. amiodarone, digoxin, disopyramide, flecainide, verapamil</td><td>Continue treatment.</td></tr>
<tr><td colspan="2">Anti-hypertensives
e.g. amlodipine, hydralazine, clonidine</td><td>Continue treatment.
See potassium sparing diuretics.
See alpha-blockers.</td></tr>
<tr><td colspan="2">Beta-blockers
e.g. atenolol, bisoprolol, metoprolol, sotalol</td><td>Continue treatment.</td></tr>
<tr><td rowspan="2">Diuretics</td><td>Thiazides
e.g. bendroflumethiazide.
Loop diuretics
e.g. furosemide</td><td>Continue treatment.</td></tr>
<tr><td>Potassium sparing diuretics
e.g. amiloride, spironolactone</td><td>Continue treatment.</td></tr>
<tr><td rowspan="3">Anti-platelet medication</td><td colspan="2">Aspirin</td><td rowspan="4">See MM0021
BSUH - Anticoagulation Bridging Policy</td></tr>
<tr><td colspan="2">Clopidogrel, prasugrel, ticagrelor</td></tr>
<tr><td colspan="2">Dipyridamole</td></tr>
<tr><td colspan="3">Oral anticoagulants
e.g. warfarin, rivaroxaban</td></tr>
</table>

Neurological	**Anti-epileptics** e.g. phenytoin, oxcarbazepine, carbamazepine, sodium valproate, levetiracetam	Continue treatment.
	Anti-parkinsonian drugs e.g. levodopa, carbidopa, cabergoline, cobeneldopa, entacapone, pramipexole, rasagiline	Continue treatment.
	Anti-psychotics & Anxiolytics e.g. diazepam, chlorpromazine, clozapine, sulpiride	Continue treatment. Discontinue clozapine for 12 hours prior to surgery.
	Lithium	Minor surgery - continue treatment. Major surgery – discontinue 24 hours prior to surgery.
	Dementia eg donepezil, galatamine, rivastigmine	Donepezil - continue treatment. Galatamine, rivastigmine – discontinue 24 hours prior to surgery
Sleeping medication e.g. nitrazepam, temazepam, zopiclone		Continue treatment.
Antidepressants	**Tricyclic Antidepressants** e.g. amitriptyline, dosulepin, lofepramine, mianserin	Continue treatment. Highlight on assessment sheet for anaesthetist
	Monoamine-oxidase inhibitors e.g phenelzine, isocarboxacid, moclobemide, tranylcypromine	In general, continue treatment. Although drug manufacturers recommend that these agents are discontinued for 2 weeks, in practice they are continued due to the risks of withdrawal. Highlight on assessment sheet for anaesthetist. Moclobemide should be stopped 24 hours prior to surgery. Avoid concomitant use of tramadol, indirect sympathomimetics and cocaine.
Levothyroxine		Continue treatment.
Anti-thyroid medications e.g. carbimazole, propylthiouracil		Continue treatment.

Immunosuppression medications	**Conventional** e.g. methotrexate, leflunomide, azathioprine, ciclosporin, hydroxychloroquine, mercaptopurine	Continue treatment. If there is a significant of infection, consider stopping, but seek specialist advice.
	Anti-rejection medications e.g. tacrolimus, sirolimus	Continue treatment. Sirolimus – consult with the patient's relevant specialist at the earliest opportunity when planning for surgery.
	Anti TNF-a e.g. infliximab, etanercept, adalimumab	Seek specialist advice.
Corticosteroids e.g. prednisolone		See BSUH Peri-Operative / Peri-Procedural Management of Patients Taking Corticosteroids Guideline
Insulin and oral hypoglycaemics e.g. insulin, gliclazide, glipizide, metformin, exenatide, pioglitazone		See BSUH Perioperative Diabetes Management Guideline
Inhalers e.g. salbutamol, beclomethasone, ipatropium, tiotopium		Continue treatment.
Anti-androgens e.g. bicalutamide, cyproterone		Continue treatment.
Bisphosphonates e.g. alendronate, risedronate		Omit dose on morning of surgery.
Alpha-blockers e.g. alfuzosin, doxazosin, indoramin, tamsulosin, terazosin		Continue treatment.
Herbal medicines		Discontinue 2 weeks before surgery.

Contraceptives (oral)	Combined	All women of childbearing age should be asked if they are on the contraceptive pill as some do not consider it a medication. There is an increased risk of venous thromboembolism if oral contraceptives are continued *Minor Surgery* **Continue** if risk of prolonged immobilisation is low. *Major Surgery* **Preferably discontinue** 4 weeks before major elective surgery, surgery to the legs or surgery that involves prolonged immobilisation of a lower limb. Consider other risk factors that the patient may have that further increase the risk of VTE e.g. age, weight, previous history of VTE. Advise patients to use other methods of contraception if stopping oral combined contraception.
	Progestogen only	Continue treatment.

Hormone Replacement Therapy (HRT)	There is an increased risk of venous thromboembolism if oral HRT is continued *Minor surgery* **Continue** if risk of prolonged immobilisation is low. *Major Surgery* **Preferably discontinue** 4 weeks before major elective surgery, including orthopaedic and vascular leg surgery. Risk of menopausal symptoms, e.g. hot flushes, if discontinued preoperatively. Consider other risk factors that the patient may have that further increase the risk of VTE e.g. age, weight, previous history of VTE **Exception:** Transdermal route – **continue**

Breast Cancer Drugs e.g. tamoxifen, raloxifene	Continue treatment for surgery with a low to moderate risk of VTE. For tamoxifen (taken for breast cancer treatment), continue while providing appropriate VTE prophylaxis. For tamoxifen (taken for breast cancer prevention), discontinue 2 weeks prior to surgery, and resume once elevated risk of VTE has resolved. Surgery should not be postponed if tamoxifen has been taken – teams should ensure adequate VTE prophylaxis is provided.