

Pre-Operative Assessment Guidelines

V4.1

14 Nov 14

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1. Introduction

1.1. Good pre-assessment prior to elective surgery has many benefits, which include:

- Accurate patient assessment, documentation and dissemination of information
- Improved patient safety
- Increase the quality of patients hospital experience
- Decreased cancellation rates on the day of surgery
- The facilitation of Day Of Surgery admissions
- Decreased bed days
- Facilitation of the MRSA screening process

1.2. These guidelines have been created to ensure pre-assessment practice for elective surgery is underpinned by evidence-based guidance and provides the framework for the scope of practice.

1.3. This version supersedes any previous versions of this document.

2. Purpose of this Policy/Procedure

2.1. The purpose of this document is to provide staff with clear guidelines for pre-assessment practice for patients attending the pre-assessment clinics in the Royal Cornwall Hospitals NHS Trust (RCHT).

2.2. The development of pre-assessment practice is intended to provide patients with a quick and efficient assessment process, respond to patient needs and to make best use of the non- medical health care practitioner skills.

3. Scope

This document applies to all staff regardless of grade or profession who conduct patient pre-assessment for elective surgery. The document provides non-medical health care practitioners with a clear framework for safe and effective practice relating to pre-assessment and sets out the standards and competencies expected when performing this role. The aim is for all elective patients to be pre-assessed either face to face, or by telephone. Difficult cases will be reviewed and/or seen by a consultant anaesthetist each day in the anaesthetic clinic.

4. Definitions / Glossary

Terms stated in full in document.

5. Ownership and Responsibilities

5.1. The Trust, as an employer, will assume ownership of the trust-wide policy with vicarious liability for the actions of non-medical practitioners authorised to work in the pre-assessment clinics providing that:

- They have undergone the preparation
- They are deemed competent to undertake the role, by their line manager
- The practice for pre-assessment has been followed as set in this document has been followed at all times and that, the member of staff has been fully authorised by the Trust to undertake the role.

5.2. Role of the Managers

5.3. The process for pre-assessment for elective surgery must be written into clinical area operational policies and local records maintained of staff authorised to practice. Managers are responsible for ensuring that operational procedures are in place and up to date. These documents must have gone through the consultation process before going through the divisional governance arrangements and ratified by the individual who has been given formal authorisation by an executive.

5.4. The Senior Matron and Matron are responsible for ensuring all appropriate training is readily available for staff undertaking this role.

5.5. Role of Individual Staff

5.6. Registered Practitioners have a professional obligation to provide a “duty of care” to their patients (NMC, 2008, HPC, 2008). Each practitioner must work within the scope of this and local operational policies and remain responsible for his or her individual practice. Registered practitioners undertaking this role must ensure they have received sufficient training and are competent. This includes undertaking regular reviews of their practice in accordance with clinical governance activities. Practitioners must be able to recognise when a situation remains outside their level of competence and defer practice to a senior clinician.

5.7. Duty of care cannot be delegated at any time and registered practitioners, who choose to delegate any part of the task of caring for the patient within the pre-operative assessment environment, to non-registered staff, retain professional accountability for the appropriateness of the delegation of that task. Registered practitioners will not be accountable for the decisions and actions taken by the delegated person, however, will be responsible for the overall management of the person in their care. The registered practitioner will also be accountable for the decision to delegate.

5.8. The registered practitioner delegating any task must ensure that the person who receives the delegation has the knowledge and skills to carry out this task, and that they are properly supervised.

5.9. Registered practitioners have a duty to ensure that records completed by non-registered staff or pre-registered students under supervision are clearly written, accurate and appropriate.

6. Standards and Practice

6.1. Inclusion Criteria

6.2. All patients attending RCHT pre-assessment clinic will be assessed by the pre-operative practitioner who is authorised and competent in undertaking the assessment. Alternatively some patients will be suitable for a telephone consultation. There is also a group of patients, who are fit, well and booked for a minor procedure, who do not require formal assessment. Patients for local anaesthetic procedures only, do not require formal assessment but advice may be sought if there are specific concerns (anticoagulation for example). Patients for regional blockade only may also be considered for a modified assessment).

6.3. If the registered practitioner has **any** doubt about the patient’s suitability for non-medical pre-assessment then further medical review must be arranged.

6.4. Pre-assessment clinics are available at Royal Cornwall Hospital, St Michaels Hospital and West Cornwall Hospital. This service will run weekdays where a consultant anaesthetist will be available for face to face consultations, note review and advice each afternoon at RCHT. Staff must make clear the nature of the referral and the question/s that need answers when referring patients.

6.5. The anaesthetic rota co-ordinator can provide advice on which anaesthetist will be covering a particular list.

6.6. Criteria for Anaesthetic Consultant review

6.7. The range of patients for whom referral for an anaesthetic opinion would be appropriate is provided in **Appendix 1**. This is not exhaustive list and some patients who do not meet these specific criteria may still merit a specialist assessment. Additionally, not all patients require a formal clinic appointment and many will be suitable for discussion or review of the notes and Staff should use their discretion. Referral may come direct from surgical consultants or pre-operative assessment nursing staff.

6.8. Pre-Operative Investigations

6.9. Full guidance for Pre-operative investigations are provided in the attached appendices. Staff must ensure all appropriate investigations are requested and completed. Staff must record any abnormal result and document appropriate follow-up arrangements.

6.10. Investigations include:

- Guidance for pre-operative investigations (Appendix 2)
- Pre-operative haemoglobin optimisation (Appendix 3)
- Pre-operative echocardiogram (Appendix 4)

6.11. Specific Patient Management

6.12. Patients attending pre-assessment clinic may present with underlying medical conditions and staff must adhere to appropriate assessment guidelines, investigations, management and referral processes as outlined in the following appendices:

- Management of patients with hypertension (Appendix 5)
- Assessment of Ischaemic heart disease (Appendix 6)
- Guidance for perioperative management of clopidogrel in elective surgical patients (Appendix 7)
- Guidelines on the perioperative management of patients on antiplatelet drugs for non- cardiac elective surgery (Appendix 8)
- Guidelines for the perioperative management of patients on antiplatelets drugs for emergency surgery (Appendix 9)
- Management of patients who have undergone Percutaneous Coronary Intervention who present for surgery (Appendix 10)

6.13. Drug Therapy

6.14. Staff working in pre-operative assessment areas must provide patients attending with accurate and appropriate information regarding their drug therapy. Staff must seek advice from the relevant anaesthetist if concerns or doubts arise during a patient assessment. Essential guidance is outlined in:

- Drug Therapy (Appendix 11)
- Guidance on medicines to discontinue / omit prior to surgery
- Herbal Medicines with potential peri-operative complications

6.15. All staffs are responsible for ensuring that information provided to patients conforms to above guidance and should be used in conjunction with the RCHT policy on pre-operative fasting.

7. Dissemination and Implementation

7.1. This document will be implemented and disseminated through the organisation immediately following ratification and will be published on the organisation's intranet site (document library). Access to this document is open to all.

8. Monitoring compliance and effectiveness

Review of compliance to practice remains the responsibility of Theatres and Anaesthetics Department

| | |
|---|--|
| Element to be monitored | Clinical and process outcomes |
| Lead | Dr Andrew Lee and Lead nurse for pre-operative assessment |
| Tool | The most important tool used will be "Day of surgery cancellation rates". |
| Frequency | Cancellation rates are recorded daily by our division. A report is written weekly And shared weekly amongst the divisional management team. |
| Reporting arrangements | The report will be reviewed at Divisional business meeting. The reasons for cancellations are scrutinised and individuals involved contacted, in order to identify areas that can be improved. This process is already in place. Leading on this is Simon Pellow. |
| Acting on recommendations and Lead(s) | Dr. Andrew Lee and Lead Nurse for pre-operative assessment. Required actions will be taken as soon as is practicably possible. |
| Change in practice and lessons to be shared | Required changes to practice will be identified and actioned through Divisional Governance. A lead member of the team will be identified to take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders through monthly pre-operative assessment meetings and teaching sessions. |

9. Updating and Review

9.1. The document review process is managed via the document library. Document review will be every three years unless best practice dictates otherwise. The author remains responsible for policy document review. Should they no longer work in the organisation or in the relevant practice area then an appropriate practitioner will be nominated to undertake the document review.

9.2. Where the revisions to the document are significant the author will ensure revision activity is recorded in the Version Control Table as part of the document control process and the revised document taken through the standard consultation, approval and dissemination processes.

10. Equality and Diversity

10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the ['Equality, Diversity & Human Rights Policy'](#) or the [Equality and Diversity website](#).

10.2. Equality Impact Assessment

10.3. The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1 – Criteria for Consideration for Anaesthetic Consultant Review (face to face or note review)

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for ‘Pre- Operative Assessment’ or [click here](#).

Appendix 2 – Guidance for Pre-Operative Investigations

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 3 – Pre-operative haemoglobin optimization for elective surgery

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 4 – Guidelines for Pre-operative Echocardiogram

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for ‘Pre- Operative Assessment’ or [click here](#).

Appendix 5 – Management of Patients with Hypertension Attending Pre-Operative Assessment Clinic

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 6 – Assessment of Ischaemic Heart Disease

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 7 – Guidelines on the Perioperative Management of Clopidogrel and Aspirin in Elective Surgical Patients in the Pre-Assessment Clinic

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 8 – Guidelines on the Perioperative Management of Patients on Anti Platelet Drugs For Non-Cardiac Elective Surgery

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 9 – Guidelines on the Perioperative Management of Patients on Anti Platelet Drugs Emergency Surgery

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 10 – Management of Patients who have undergone Percutaneous Coronary Intervention (PCI) who present for Surgery

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 11 – Drug Therapy

This section of the Pre-Operative Assessment Guidelines has been published separately as Appendix 1 and can be accessed via the Document Library by searching for “Pre- Operative Assessment” or [click here](#).

Appendix 12 - Guidance on which medicines should be continued or omitted prior to surgery. An alphabetical list

Disclaimer:

This guideline is believed to be an accurate reflection of the most current evidenced based literature available at time of composition. This is not an exhaustive list; it is intended to be used as a guide only. Users are advised to always consult medical literature and take into account any new developments. Always relate the information provided to the individual clinical situation.

Introduction:

It is important that a patient continues all their regular medication for as long as feasibly possible to ensure a patient is as stable as possible on admission to theatre. This is particularly important for immunosuppressants, B-blockers, and other drugs used to treat angina, heart failure, bronchospasm and epilepsy.

Medication can still be taken by a Nil By Mouth (NBM) patient: Plain water will be emptied from the stomach within two hours; therefore medication can be swallowed with a glass of water up to two hours prior to surgery.

Certain medications do need to be withheld prior to surgery. Examples include to reduce a patient's thrombus risk, avoid an interaction with anaesthetics or improving glycaemic control during the NBM period. Below is a list of commonly prescribed medications and whether they can be continued prior to surgery or from when they should be omitted.

Important points:

- This list should be used as a guide only.
- When in doubt, consult the anaesthetist and /or surgeon conducting the procedure.
- If necessary, discuss individual cases with associated speciality teams.
- *Drugs in italics* require action (e.g. omit, alert anaesthetist etc)
- Herbal medication and their potential peri-op complications are listed in a separate guide.

| A | |
|----------------------|--|
| Abiraterone | Continue |
| Acamprosate | Continue |
| <i>Acarbose</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Acenocoumarol</i> | <i>Treat as for Warfarin. See Anticoagulation policy</i> |
| Acetubolol | Continue |
| <i>Adalimumab</i> | <i>Omit if due week prior to surgery. Do not re-start until wound clean</i> |
| Alendronate | Continue, <i>but may be safely omitted if due day of procedure</i> |
| <i>Alfuzosin</i> | <i>Continue, but could be withheld if catheterised</i> |
| Alimemazine | Continue |
| Aliskerin | Continue |
| <i>Allopurinol</i> | <i>Continue – Take with plenty of water so tablet does not lodge in oesophagus</i> |
| Alverine | Continue |
| Amantadine | Continue |

| | |
|--------------------------------|---|
| Ambrisentan | Continue |
| Amifampridine | Continue – <i>Alert anaesthetist (for myasthenic syndromes)</i> |
| Amiloride | Continue |
| Amiodarone | Continue |
| Amisulpride | Continue |
| <i>Amitriptyline</i> | Continue – <i>but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> |
| Amlodipine | Continue |
| <i>Anagrelide</i> | Seek haematologist advice |
| Anastrozole | Continue |
| <i>Apixaban</i> | Omit 48 hours pre op |
| Apomorphine | Continue |
| Aripiprazole | Continue |
| Asenapine | Continue |
| <i>Aspirin</i> | Continue (75mg dose) unless otherwise specified. Reduce higher doses to 75mg. |
| Atenolol | Continue |
| Atorvastatin | Continue |
| Auranofin | Continue |
| Azathioprine | Continue |
| Azilsartan | Continue |
| B | |
| Baclofen | Continue |
| <i>Balsalazide</i> | Continue – <i>but may not be indicated post-op if procedure is to remove diseased bowel.</i> |
| Barbiturates | Continue |
| Bendroflumethiazide | Continue |
| Benzhexol | Continue |
| Benperidol | Continue |
| Betahistine | Continue |
| <i>Betamethasone (steroid)</i> | Continue <i>But consider dose increase if long duration or high dose; see Trust Guideline</i> |
| Bezafibrate | Continue |
| Bicalutamide | Continue |
| Bilastine | Continue |
| <i>Bisacodyl</i> | Continue – <i>May omit if laxative action undesirable</i> |
| Bisoprolol | Continue |
| Bosentan | Continue |
| Bromocriptine | Continue |
| <i>Budesonide MR capsules</i> | Continue – <i>but may not be indicated post-op if procedure is to remove diseased bowel.</i> |
| Bumetanide | Continue |
| <i>Buprenorphine</i> | Continue – <i>but alert anaesthetist</i> |
| <i>Buprenorphine patch</i> | Continue – <i>but alert anaesthetist it's in situ</i> |
| <i>Bupropion</i> | Continue – <i>but avoid pethidine and alert anaesthetist (increases seizure risk)</i> |
| Burinex A | Continue |
| Buspiron | Continue |
| C | |
| Cabergoline | Continue |
| Calcitonin | Continue |

| | |
|----------------------------|--|
| Calcium salts | Continue |
| Candesartan | Continue |
| Captopril | Continue |
| Carbamazepine | Continue |
| Carbimazole | Continue |
| Carbocisteine | Continue |
| Carvedilol | Continue |
| Celecoxib | Continue |
| Celiprolol | Continue |
| Cetirizine | Continue |
| Chloroquine | Continue |
| Chlorpheniramine | Continue |
| Chlorpromazine | Continue |
| <i>Chlorpropamide</i> | <i>Follow Diabetes and surgery guideline.</i> |
| Ciclosporin | Continue |
| Cilazapril | Continue |
| Cilostazol | Continue |
| Cimetidine | Continue |
| Cinacalcet | Continue |
| Cinnarizine | Continue |
| Ciprofibrate | Continue |
| <i>Citalopram</i> | <i>Continue – but caution with pethidine use</i> |
| <i>Clodronate</i> | <i>Continue - but may be safely omitted if due day of procedure</i> |
| Clomethiazole | Continue |
| Clomifene | Continue |
| <i>Clomipramine</i> | <i>Continue – but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> |
| Clonazepam | Continue |
| Clonidine | Continue |
| <i>Clopidogrel</i> | <i>See Algorithm. Discuss with surgical/cardiology teams (If single agent for stroke, usually omit 7 days pre-op. Start 75mg aspirin in its place where possible).</i> |
| <i>Clozapine</i> | <i>Withhold 12 hours pre-op. Alert anaesthetist. Alert Pharmacy that pt is in hospital. Dose will need re-titrating if withheld for more than 48hrs.</i> |
| Co-amilofruse | Continue |
| Co-amilozide | Continue |
| Co-beneldopa | Continue |
| Co-careldopa | Continue |
| <i>Co-danthramer</i> | <i>Continue – May omit if laxative action undesirable</i> |
| Codeine phosphate | Continue |
| <i>Colchicine</i> | <i>Continue – but alert anaesthetist as pt may have gout</i> |
| Colesevelam | Continue |
| Colestyramine | Continue |
| <i>Contraceptives</i> | <i>See oral contraceptives</i> |
| Co-phenotrope (Iomitol) | Continue |
| <i>Cortisone (steroid)</i> | <i>Continue. But consider dose increase if long duration or high dose; see Trust Guideline</i> |
| Cyanocobalamin | Continue |
| Cyproterone | Continue |

| D | | | |
|--|---|--------------------------|--|
| <i>Dabigatran (see simplified recommendations appendix 11)</i> | <i>Renal function and bleeding risk dependant as below:</i> | | |
| | <i>Creatinine Clearance</i> | <i>Standard surgery</i> | <i>Major surgery or high bleeding risk</i> |
| | <i>>80mls/min</i> | <i>Omit 24hrs pre-op</i> | <i>Omit 48hrs pre-op</i> |
| | <i>50 -80mls/min</i> | <i>Omit 36hrs pre-op</i> | <i>Omit 72hrs pre-op</i> |
| | <i>30-50mls/min</i> | <i>Omit 48hrs pre-op</i> | <i>Omit 96hrs pre-op</i> |
| <i>Dapaglifozin</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> | | |
| <i>Deflazacort (steroid)</i> | <i>Continue. But consider dose increase if long duration or high dose; see Trust Guideline</i> | | |
| <i>Desferrioxamine</i> | <i>Seek haematologist advice</i> | | |
| <i>Desloratidine</i> | <i>Continue</i> | | |
| <i>Dexamethasone (steroid)</i> | <i>Continue. But consider dose increase if long duration or high dose; see Trust Guideline</i> | | |
| <i>Dexamfetamine</i> | <i>Continue – but alert anaesthetist</i> | | |
| <i>Diazepam</i> | <i>Continue</i> | | |
| <i>Diclofenac</i> | <i>Continue</i> | | |
| <i>Dicycloverine</i> | <i>Continue</i> | | |
| <i>Digoxin</i> | <i>Continue</i> | | |
| <i>Diltiazem</i> | <i>Continue</i> | | |
| <i>Dipyridamole</i> | <i>Withhold 48 hrs prior to procedure or switch to aspirin 75mg</i> | | |
| <i>Disopyramide</i> | <i>Continue</i> | | |
| <i>Disulfiram</i> | <i>Continue – but alert anaesthetist</i> | | |
| <i>Docusate sodium</i> | <i>Continue – May omit if laxative action undesirable</i> | | |
| <i>Domperidone</i> | <i>Continue</i> | | |
| <i>Donepezil</i> | <i>Continue. But alert anaesthetist – may potentiate muscle relaxation during anaesthesia</i> | | |
| <i>Dosulepin</i> | <i>Continue – but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> | | |
| <i>Doxazosin</i> | <i>Continue if for BP control If for urinary symptoms, could be withheld if pt catheterised</i> | | |
| <i>Doxepin</i> | <i>Continue – but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> | | |
| <i>Dronedarone</i> | <i>Continue</i> | | |
| <i>Dutasteride</i> | <i>Continue</i> | | |
| <i>Duloxetine</i> | <i>Continue – but caution with pethidine use</i> | | |
| E | | | |
| <i>Enalapril</i> | <i>Continue</i> | | |
| <i>Entacapone</i> | <i>Continue</i> | | |
| <i>Ephedrine</i> | <i>Seek anaesthetist advice</i> | | |
| <i>Eplerenone</i> | <i>Continue</i> | | |
| <i>Eprosartan</i> | <i>Continue</i> | | |
| <i>Escitalopram</i> | <i>Continue – but caution with pethidine use</i> | | |
| <i>Eslicarbazepine</i> | <i>Continue</i> | | |
| <i>Esomeprazole</i> | <i>Continue</i> | | |
| <i>Etanercept</i> | <i>Omit if due week prior to surgery. Do not re-start until wound clean</i> | | |
| <i>Ethinylestradiol</i> | <i>Discuss with endocrine team. High doses may need to be stopped or continued at a lower dose.</i> | | |
| <i>Ethosuximide</i> | <i>Continue</i> | | |

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|----------------------------------|---|
| <i>Etidronate</i> | <i>Omit on day of procedure</i> |
| Etodolac | Continue |
| Etoricoxib | Continue |
| Exemestane | Continue |
| <i>Exenatide</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Ezetimibe | Continue |
| F | |
| Famotidine | Continue |
| Fampridine | Continue – <i>but alert anaesthetist (use for MS)</i> |
| Feboxustat | Continue |
| Felodipine | Continue |
| Fenofibrate | Continue |
| <i>Fentanyl patch</i> | <i>Continue – but alert anaesthetist it's in situ</i> |
| Ferrous fumarate | Continue |
| Ferrous gluconate | Continue |
| Ferrous sulphate | Continue |
| Fexofenadine | Continue |
| Finasteride | Continue |
| <i>Flavoxate</i> | <i>Continue. May be omitted if pt catheterised</i> |
| Flecainide | Continue |
| Fluazepam | Continue |
| <i>Fludrocortisone (steroid)</i> | <i>Continue. But consider dose increase if long duration or high dose; see Trust Guideline.</i> |
| <i>Fluoxetine</i> | <i>Continue – but caution with pethidine use</i> |
| <i>Flupentixol</i> | <i>Continue – but caution with pethidine use</i> |
| Flutamide | Continue |
| Fluvastatin | Continue |
| <i>Fluvoxamine</i> | <i>Continue – but caution with pethidine use</i> |
| Folic acid | Continue |
| Fosinopril | Continue |
| Furosemide | Continue |
| G | |
| Gabapentin | Continue |
| <i>Galantamine</i> | <i>Continue. But alert anaesthetist – may potentate muscle relaxation during anaesthesia</i> |
| Gaviscon | Continue |
| Gemfibrozil | Continue |
| <i>Glibenclamide</i> | <i>Follow Diabetes and surgery guideline.</i> |
| <i>Gliclazide</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Glimepiride</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Glipizide</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Glucosamine</i> | <i>Stop 2 weeks pre-op if mixed with chondroitin</i> |
| H | |
| Haloperidol | Continue |

| | |
|---|--|
| <i>HRT: Oestrogens only</i> | <i>Advise to omit 4 weeks prior to any elective surgery but warn of possible menopausal like side effects of withdrawal, which may be considerable. Offer leaflet. Ensure adequate thromboprophylaxis if continued. If concerns, discuss with gynaecology.</i> |
| <i>HRT: combined oestrogens and progestones</i> | <i>Advise to omit 4 weeks prior to any elective surgery but warn of possible menopausal like side effects of withdrawal, which may be considerable. Offer leaflet. Ensure adequate thromboprophylaxis if continued. If concerns discuss with gynaecology.</i> |
| Hydromorphone | Continue |
| Hydralazine | Continue |
| <i>Hydrocortisone (steroid)</i> | <i>Continue. But consider dose increase if long duration or high dose; see Trust Guideline</i> |
| Hydroxychloroquine | Continue |
| Hydroxyzine | Continue |
| Hyoscine butylbromide (Buscopan) | Continue |
| I | |
| Ibandronate | Continue, but may be safely omitted if due day of procedure |
| Ibuprofen | Continue |
| Imidapril | Continue |
| <i>Imipramine</i> | <i>Continue – but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> |
| Indapamide | Continue |
| Indometacin | Continue |
| <i>Indoramin</i> | <i>Continue if for BP control. If for urinary symptoms, could be withheld if pt catheterised</i> |
| <i>Infliximab</i> | <i>Omit if due week prior to surgery. Do not re-start until wound clean</i> |
| <i>Insulins</i> | <i>Follow Diabetes and surgery guideline. Guidance is procedure and product dependant.</i> |
| Irbesartan | Continue |
| <i>Isocarboxazid (MAOI)</i> | <i>Seek both anaesthetic and psychiatric input! If withdrawal necessary; do so slowly, well in advance to allow a 2 week drug free period.</i> |
| Isosorbide dinitrate | Continue |
| Isosorbide mononitrate | Continue |
| <i>Ispaghula husk</i> | <i>Continue – May omit if laxative action undesirable</i> |
| Isradipine | Continue |
| Ivabradine | Continue |
| Ivacaftor | Continue |
| K | |
| Ketoprofen | Continue |
| L | |
| Labetalol | Continue |
| Lacidipine | Continue |
| Lacosamide | Continue |
| <i>Lactulose</i> | <i>Continue – May omit if laxative action undesirable</i> |
| Lamotrigine | Continue |

| | |
|------------------------|---|
| Lansoprazole | Continue |
| Leflunomide | Continue |
| Lenolidomide | Continue – <i>Increase DVT risk but usually benefits outweigh risks</i> |
| Lercanidipine | Continue |
| Letrozole | Continue |
| Levetiracetam | Continue |
| Levocetirizine | Continue |
| Levomepromazine | Continue |
| Levothyroxine | Continue |
| Liothyronine | Continue |
| <i>Linaclotide</i> | Continue – <i>May omit if laxative action undesirable</i> |
| <i>Linagliptin</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Liraglutide</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Lisdexamfetamine | Continue – <i>but alert anaesthetist</i> |
| Lisinopril | Continue |
| <i>Lithium</i> | Continue – <i>but alert anaesthetist and monitor electrolytes and fluid balance closely</i> |
| <i>Lixisenatide</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Lofepamine</i> | Continue – <i>but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> |
| Loperamide | Continue |
| Loprazolam | Continue |
| Loratidine | Continue |
| Lorazepam | Continue |
| Lormetazepam | Continue |
| Losartan | Continue |
| M | |
| Magnesium triscilicate | Continue |
| Maxepa | Continue |
| Mebeverine | Continue |
| Mefenamic acid | Continue |
| Meloxicam | Continue |
| <i>Memantine</i> | <i>Discuss with anaesthetist – structurally related to ketamine so may be hallucinogenic</i> |
| Meprobamate | Continue |
| Meptazinol | Continue |
| Mercaptopurine | Continue |
| <i>Mesalazine</i> | Continue – <i>but may not be indicated post-op if procedure is to remove diseased bowel.</i> |
| <i>Metformin</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Methadone</i> | Continue. <i>Alert anaesthetist. Avoid buprenorphine.</i> |
| Methotrexate | Continue |
| <i>Methylcellulose</i> | Continue – <i>May omit if laxative action undesirable</i> |
| Methyldopa | Continue |
| Methylphenidate | Continue |

| | |
|--|--|
| Methylprednisolone (steroid) | Continue. But consider dose increase if long duration or high dose; see Trust Guideline |
| Metoclopramide | Continue |
| Metolazone | Continue |
| Metoprolol | Continue |
| Metyrapone | Discuss with anaesthetist |
| Minoxidil | Continue |
| Mirabegron | Continue. May be omitted if pt catheterised |
| Mirtazepine | Continue – but caution with pethidine use |
| Misoprostol | Continue |
| Moclobemide | Omit 12 hours pre-op |
| Modafinil | Continue |
| Montelukast | Continue |
| Morphine | Continue |
| Movicol | Continue – May omit if laxative action undesirable |
| Moxonidine | Continue |
| Mycophenolate | Continue |
| N | |
| Nabumetone | Continue |
| Nadolol | Continue |
| Naftidrofuryl oxalate | Continue |
| Nalmefene | Continue – but alert anaesthetist |
| Naproxen | Continue |
| Nateglinide | Follow Diabetes and surgery guideline. Usually omitted morning of surgery. |
| Nebivolol | Continue |
| Neostigmine | Discuss with anaesthetist |
| Nicardipine | Continue |
| Nicorandil | Continue |
| Nicotinic acid | Continue |
| Nifedipine | Continue |
| Nimodipine | Continue |
| Nitrazepam | Continue |
| Nizatidine | Continue |
| Nortriptyline | Continue – but caution with pethidine use. Also increased risk of arrhythmia's and hypotension |
| O | |
| Olanzapine | Continue |
| Olmesartan | Continue |
| Olsalazine | Continue – but may not be indicated post-op if procedure is to remove diseased bowel. |
| Omacor | Continue |
| Omeprazole | Continue |
| Oral contraceptive: combined oestrogen and progesterones | Advise to omit 4 weeks prior to any elective surgery & offer advice re alternative methods & issue leaflet. If continuing, document decision & ensure adequate thromboprophylaxis. |
| Oral contraceptive: progesterone only | Continue |
| Orlistat | Omit once nil by mouth |
| Oxazepam | Continue |

| | |
|-------------------------------|--|
| Oxcarbazepine | Continue |
| Oxprenolol | Continue |
| Oxybutynin | Continue. <i>May be omitted if pt catheterised</i> |
| Oxycodone | Continue |
| P | |
| Pancreatin enzymes (Creon) | Continue |
| Pantoprazole | Continue |
| <i>Paroxetine</i> | Continue – <i>but caution with pethidine use</i> |
| Penicillamine | Continue |
| Pentoxifyline | Continue |
| Peppermint oil | Continue |
| Peptac | Continue |
| Pergolide | Continue |
| Perampanel | Continue |
| Perindopril | Continue |
| <i>Pethidine</i> | <i>Omit day of procedure (increases seizure risk)</i> |
| <i>Phenelzine (MAOI)</i> | <i>Seek both anaesthetic and psychiatric input! If withdrawal necessary; do so slowly, well in advance to allow a 2 week drug free period.</i> |
| <i>Phenindione</i> | <i>Treat as for Warfarin See Anticoagulation policy and Appendix 4</i> |
| Phenobarbital | Continue |
| <i>Phentolamine</i> | <i>Seek anaesthetist advice</i> |
| Phenytoin | Continue |
| Pindolol | Continue |
| <i>Pioglitazone</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Piracetam | Continue – <i>but alert anaesthetist</i> |
| Pirfenidone | Continue |
| Piroxicam | Continue |
| Pizotifen | Continue |
| Pramipexole | Continue |
| <i>Prasugrel</i> | <i>See Algorithm. Discuss with surgical/cardiology teams</i> |
| Pravastatin | Continue |
| <i>Prazosin</i> | Continue if for BP control <i>If for urinary symptoms, could be withheld if pt catheterised</i> |
| <i>Prednisolone (steroid)</i> | <i>Continue. But consider dose increase if long duration or high dose; see Trust Guideline</i> |
| Pregabalin | Continue |
| Prestylon | Continue |
| Primidone | Continue |
| Propafenone | Continue |
| Propantheline | Continue. <i>May be omitted if pt catheterised</i> |
| Propiverine | Continue. <i>May be omitted if pt catheterised</i> |
| Propranolol | Continue |
| Propylthiouracil | Continue |
| <i>Prucalopride</i> | <i>Continue – May omit if laxative action undesirable</i> |
| <i>Pyridostigmine</i> | <i>Discuss with anaesthetist</i> |

| Q | |
|----------------------|--|
| Quetiapine | Continue |
| Quinapril | Continue |
| Quinine | Continue |
| R | |
| Rabeprazole | Continue |
| Raloxifene | Continue |
| Ramipril | Continue |
| Ranitidine | Continue |
| <i>Rasagiline</i> | Continue – <i>but avoid pethidine</i> |
| <i>Reboxetine</i> | Continue – <i>but caution with pethidine use</i> |
| <i>Repaglinide</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Retigabine | Continue |
| Rifaximin | Continue |
| Riluzole | Continue – <i>but alert anaesthetist</i> |
| Risedronate | Continue, <i>but may be safely omitted if due day of procedure</i> |
| Risperidone | Continue |
| <i>Rivaroxaban</i> | <i>Omit 48 hours pre-op</i> |
| <i>Rivastigmine</i> | Continue. <i>But alert anaesthetist – may potentate muscle relaxation during anaesthesia</i> |
| Ropinirole | Continue |
| <i>Rosiglitazone</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Rosuvastatin | Continue |
| Rotigotine | Continue |
| Rufinamide | Continue |
| Rupatadine | Continue |
| S | |
| <i>Saxagliptin</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| <i>Selegiline</i> | Continue – <i>but avoid pethidine</i> |
| <i>Senna</i> | Continue – <i>May omit if laxative action undesirable</i> |
| Sertindole | Continue |
| <i>Sertraline</i> | Continue – <i>but caution with pethidine use</i> |
| <i>Sevelamer</i> | <i>Omit once patient NBM</i> |
| Sibutramine | Continue |
| Simvastatin | Continue |
| Sirolimus | Continue |
| <i>Sitagliptin</i> | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Sodium Valproate | Continue |
| Solifenacin | Continue. <i>May be omitted if pt catheterised</i> |
| Sotalol | Continue |
| Spironolactone | Continue |
| Strontium | Continue, <i>but may be safely omitted if due day of procedure</i> |
| <i>Sulfasalazine</i> | Continue – <i>but may not be indicated post-op if procedure is to remove diseased bowel.</i> |
| Sulindac | Continue |
| Sulpiride | Continue |

| T | |
|----------------------|--|
| Tacrolimus | Continue |
| Tafamidis | Continue – <i>but alert anaesthetist</i> |
| Tamoxifen | Continue |
| Tamsulosin | Continue |
| Tapentadol | <i>Omit day of procedure (increases seizure risk)</i> |
| Telaprevir | Continue |
| Telmisartan | Continue |
| Temazepam | Continue |
| Tenoxicam | Continue |
| Terazosin | Continue if for BP control. <i>If for urinary symptoms, could be withheld if pt catheterised</i> |
| Tetrabenazine | Continue – <i>but alert anaesthetist</i> |
| Thalidomide | <i>Seek haematologist advice</i> |
| Theophylline | Continue – <i>consider checking level pre-op if pt risk of arrhythmias</i> |
| Tibolone | Continue |
| Ticagrelor | <i>See Algorithm. Discuss with surgical/cardiology teams</i> |
| Tigabine | Continue |
| Timolol | Continue |
| Tolbutamide | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| Tolcapone | Continue |
| Tolterodine | Continue. <i>May be omitted if pt catheterised</i> |
| Tolvaptan | Continue |
| Topiramate | Continue |
| Toremifene | Continue |
| Tramadol | <i>Continue where appropriate</i> |
| Trancypromine (MAOI) | <i>Seek both anaesthetic and psychiatric input! If withdrawal necessary; do so slowly, well in advance to allow a 2 week drug free period.</i> |
| Trandolapril | Continue |
| Tranexamic acid | Continue |
| Trazodone | Continue – <i>but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> |
| Triamterene | Continue |
| Trifluoperazine | Continue |
| Trihexyphenidyl | Continue |
| Trilostane | <i>Discuss with anaesthetist</i> |
| Trimipramine | Continue – <i>but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i> |
| Trospium | Continue. <i>May be omitted if pt catheterised</i> |
| U | |
| Ulipristal | Continue – <i>may not be needed post op if removing uterine fibroids</i> |
| Ursodeoxycholic acid | Continue |
| V | |
| Valproic acid | Continue |
| Valsartan | Continue |
| Varenicline | Continue |
| Venlafaxine | Continue – <i>but avoid pethidine use</i> |

| | |
|----------------|---|
| Verapamil | Continue |
| Vigabatrin | Continue |
| Vildagliptin | <i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i> |
| W | |
| Warfarin | <i>See Anticoagulation policy</i> |
| Z | |
| Zafirlukast | Continue |
| Zolendronate | <i>Continue, but may be safely omitted if due day of procedure</i> |
| Zolpidem | Continue |
| Zopiclone | Continue |
| Zotepine | Continue |
| Zuclopenthixol | Continue |

Appendix 13 – Herbal Medicines with potential peri-operative complications

Disclaimer:

This guideline is believed to be an accurate reflection of the most current evidenced based literature available at time of composition. This is not an exhaustive list; it is intended to be used as a guide only. Users are advised to always consult medical literature and take into account any new developments. Always relate the information provided to the individual clinical situation.

Background:

The use of natural medicines in the UK is extensive. Many patients do not consider these products to be drugs or medication and often do not disclose their use to health providers. As a result there is a risk that patients may take these products in the perioperative period without healthcare provider's knowledge.

Purpose:

Many natural medicines have pharmacological effects that have the potential to interfere with surgical procedures. Therefore, assessment of natural medicine use is an important aspect of perioperative assessment. Patients should be asked specifically about their use of herbs, vitamins, minerals, or other natural or alternative products.

Advise patients to *discontinue taking all non-essential natural medicines two weeks before an elective surgery procedure*. Some products may not need to be discontinued this far in advance; however, there often is not enough information about which constituents cause a particular pharmacological effect or the half-life of those constituents¹.

Below is a list of herbal medicines known to have pharmacological effects which could adversely affect surgery. Advise patients to stop taking any preparation with these ingredients two weeks prior to surgery¹⁻⁴. If a patient discloses a medication not on this list but wishes to continue taking it, please seek further advice from pharmacy.

| Constituent | Reason why it should be stopped |
|-----------------------------------|--|
| 5-HTP | Has serotonergic properties; treat as an SSRI. Caution with pethidine use. |
| Agnus Castus | Pro-oestrogenic; could increase thrombus risk Dopamine agonist; Treat as haloperidol clozapine or sulpiride. |
| Agrimony | Clinical evidence of hypotensive effects Clinical research suggests hypoglycaemic effects |
| Alfalfa | Immunomodulating properties; Possible increased risk of infection and poor wound healing Pro-oestrogenic; could increase thrombus risk Clinical research suggests hypoglycaemic effects |
| Aloes/Aloe vera | Clinical research suggests hypoglycaemic effects |
| Alpha-lipoic acid | Clinical research suggests hypoglycaemic effects |
| Andrographis | Preliminary evidence of hypotensive effects |
| Aniseed | Pro-oestrogenic; could increase thrombus risk Sympathomimetic; can cause hypertension, tachycardia and arrhythmias |

| | |
|---|--|
| Arnica | Anticholinesterase action; bradycardia, hypotension, bronchoconstriction. |
| Asafoetida | Clinical evidence of hypotensive effects |
| Avens | Clinical evidence of hypotensive effects |
| Banaba | Clinical research suggests hypoglycaemic effects |
| Bayberry | Mineralocorticoid effect; could increase blood pressure |
| Bilberry | Antiplatelet effect; increases bleeding risk |
| Bitter melon | Clinical research suggests hypoglycaemic effects |
| Bitter orange | Stimulant. Structurally related to phenylephrine, it can predispose the patient to stroke, myocardial infarction, arrhythmia from tachycardia and hypertension. May interact with MAOIs. Omit a minimum of 24hours pre-op. |
| <i>Black Cohosh</i> | Pro-oestrogenic; could increase thrombus risk |
| Black tea (concentrated tablets) | Large quantities of caffeine in black tea can have antiplatelet effects; increased bleeding risk |
| <i>Blue Cohosh</i> | Theoretical hypertensive effects |
| Boldo | Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin. |
| Boneset | Immunomodulating properties; Possible increased risk of infection and poor wound healing |
| Broom | Hypertensive; potential to raise blood pressure Potential cardiac depressant activity |
| Burdock | Clinical research suggests hypoglycaemic effects |
| Butterbur | Clinical evidence of hypotensive effects |
| Calamus | Clinical evidence of hypotensive effects Theoretical catecholamine activity Potentiates barbiturate sleeping time |
| Calendula | Immunomodulating properties; Possible increased risk of infection and poor wound healing |
| Capsicum | Sympathomimetic; can cause hypertension, tachycardia and arrhythmias |
| Cat's Claw | Antiplatelet effect; increases bleeding risk Clinical evidence of hypotensive effects Immunomodulating properties; Possible increased risk of infection and poor wound healing |
| Celery | Clinical research suggests hypoglycaemic effects Sedatives effect |
| Centauray | Sedative effect |
| Chamomile | Immunomodulating properties; Possible increased risk of infection and poor wound healing Mild sedative effects; could potentiate anaesthetics |
| Chondroitin | Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin. Chondroitin also affects blood sugar control |
| Clove | Antiplatelet effect; increases bleeding risk |
| Coenzyme Q10 | Clinical research suggesting modest hypotensive effects |
| Cola nut | Stimulant. Increased risk of tachycardia and hypertension. |

| | |
|---------------------------|---|
| Coltsfoot | Vasopressor activity causes hypertension |
| Corn Silk | Clinical evidence of hypotensive effects Clinical research suggests hypoglycaemic effects |
| Couchgrass | Sedative effect |
| Cowslip | Initially causes hypotension, then later hypertension |
| Damiana | Clinical research suggests hypoglycaemic effects |
| Dandelion | Clinical research suggests hypoglycaemic effects |
| Danshen | Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin |
| Devil's Claw | Clinical research suggests hypoglycaemic effects Clinical evidence of hypotensive effects |
| Dong quai | Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin |
| Drosera | Immunomodulating properties; Possible increased risk of infection and poor wound healing |
| Echinacea | Possible increased risk of infection and poor wound healing |
| Elecampane | Clinical research suggests hypoglycaemic effects Sedative effect Clinical evidence of hypotensive effects |
| Ephedra | Stimulant: Is a source of ephedrine, pseudoephedrine, and phenylpropanolamine. Can cause tachycardia and hypertension with spontaneous adverse events including stroke, myocardial infarction, QT interval prolongation and arrhythmia. Also known to inhibit complement pathway |
| Epimedium | Preliminary evidence of hypotensive effects |
| Eucalyptus | Clinical research suggests hypoglycaemic effects |
| Fenugreek | Anticholinesterase action; bradycardia, hypotension, bronchoconstriction. Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin Clinical research suggests hypoglycaemic effects |
| Feverfew | Antiplatelet effect; increases bleeding risk |
| Fucus | Anticoagulation effect; increased risk of bleeding. Potential hypotensive effects Both hyper- and hypo thyroidism reported with continued use |
| Fumitory | Clinical evidence of hypotensive effects |
| Garlic | Antiplatelet effect; increases bleeding risk Also has hypotensive properties Clinical research suggests hypoglycaemic effects |
| Ginger | Antiplatelet effect; increases bleeding risk Clinical research suggests hypoglycaemic effects Also has hypotensive properties |
| Ginkgo | Pro-oestrogenic; could increase thrombus risk MAOI activity Antiplatelet effect; increases bleeding risk |

| | |
|--|---|
| Ginseng (American, Eleutherococcus and Panax) | Immunomodulating properties; Possible increased risk of infection and poor wound healing Has erratic blood glucose control in patients reporting both hyper- and hypo-glycaemic control CNS depressant and stimulant Pro-oestrogenic; could increase thrombus risk Antiplatelet effects; increases bleeding risk Also has erratic blood pressure altering properties, causing both hyper- and hypo-tension in patients. MAOI potentiation, suspected phenelzine interaction |
| Glucosamine | Clinical research suggesting hypoglycaemic effects |
| Glucosamine | Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin. Glucosamine can also affect blood sugar control. |
| Golden Seal | Potential hypotensive effects Heparin antagonist Sedative effect |
| Greater Celandine | Immunomodulating properties; Possible increased risk of infection and poor wound healing |
| Green tea (concentrated) | Large quantities of caffeine in green tea can have antiplatelet effects; increased bleeding risk. It can also be a stimulant in large quantities. |
| Guarana | Antiplatelet effects; increases bleeding risk Also a known stimulant; increases risk of tachycardia, hypertension and arrhythmias. |
| Gymnema | Clinical research suggests hypoglycaemic effects |
| Hawthorn | Clinical evidence of hypotensive effects CNS depressant; potentiates barbiturate sleeping time |
| Hops | Mild sedative effects(usually used in combination with other sedative products). Could potentiate anaesthetics. |
| Horehound, White | Vasodilator properties; lowers blood pressure |
| Horse chestnut | Active constituents thought to have antiplatelet activity; increases bleeding risk. Clinical evidence of hypotensive effects |
| Horseradish | Clinical evidence of hypotensive effects Peroxidase stimulates synthesis of arachidonic acid metabolites Both hyper- and hypo thyroidism reported with continued use |
| Hydrocotyl | Hyperglycaemic effect Sedative effect |
| Jamaica Dogwood | Sedative effect |
| Java Tea | Clinical evidence of hypotensive effects Clinical research suggests hypoglycaemic effects |
| Juniper | Clinical evidence of hypotensive effects Clinical research suggests hypoglycaemic effects |
| Kava | Additive effects with benzodiazepines increasing sedation; also linked to numerous reports of hepatotoxicity Possible dopamine antagonist effects. Treat as haloperidol clozapine or sulpiride. |

| | |
|-------------------------------------|--|
| L-arginine | Clinical research suggesting modest hypotensive effects |
| Lavender | Mild sedative effects; additive effects with CNS depressants and anaesthetics. |
| Lemon balm | Clinical research suggesting sedative effects. Could potentiate anaesthetics. |
| Liquorice | Mineralocorticoid effect; could increase blood pressure Pro-oestrogenic; could increase thrombus risk Antiplatelet effect; increases bleeding risk Also has a laxative effect similar to senna. Particularly important to withdraw prior to bowel surgery. |
| L-tryptophan | Clinical research showing sedative effects; documented reports of additive effects with CNS depressants and anaesthetics. Also has serotonergic properties; treat as an SSRI. Caution with pethidine. |
| Marshmallow | Clinical research suggests hypoglycaemic effects |
| Maté | Stimulant. Increased risk of tachycardia and hypertension |
| Melatonin | Clinical research suggesting sedative effects; can potentiate anaesthetics. Seek anaesthetic advice if prescribed by a clinician (especially in children). |
| Mistletoe | Clinical evidence of hypotensive effects Promotes coagulation Immunomodulating properties; Possible increased risk of infection and poor wound healing |
| Motherwort | Oxytocic properties |
| Myrrh | Clinical research suggests hypoglycaemic effects |
| Nettle | Clinical evidence of hypotensive effects CNS depression, in vivo Clinical research suggests hypoglycaemic effects Anticholinesterase action; bradycardia, hypotension, bronchoconstriction. |
| Parsley | Sympathomimetic; can cause hypertension, tachycardia and arrhythmias |
| Passionflower | Mild sedative effects; animal models suggest additive effects with CNS depressants |
| Plantain | Clinical evidence of hypotensive effects |
| Pleurisy Root | Sympathomimetic; can cause hypertension, tachycardia and arrhythmias Pro-oestrogenic; could increase thrombus risk |
| Pokeroot | Clinical evidence of hypotensive effects |
| Policosanol | Possible antiplatelet effect (based on anecdotal evidence). May increase bleeding risk |
| Prickly Ash (North and South) | Clinical evidence of hypotensive effects |
| Prickly pear cactus | Clinical research suggesting hypoglycaemic effects |
| Red Clover | Pro-oestrogenic; could increase thrombus risk |
| Resveratrol | Possible antiplatelet effect (based on in vitro data). May increase bleeding risk |
| Rosemary | Hyperglycaemic effect |
| Sage | Potential hypotensive effects Sedative effect Clinical research suggests hypoglycaemic effects |

| | |
|---------------------------------|--|
| SAmE , | Has serotonergic properties; treat as an SSRI. Caution with pethidine use. |
| Saw Palmetto | Immunomodulating properties; Possible increased risk of infection and poor wound healing Both oestrogenic and anti-androgenic properties Possible antiplatelet effect (based on anecdotal evidence). May increase bleeding risk |
| Scullcap | Reputed action |
| Senega | CNS depressant, Clinical research suggests hypoglycaemic effects |
| Shepherd's Purse | Potentiates barbiturate sleeping time Anticholinesterase action; bradycardia, hypotension, bronchoconstriction. |
| Squill | Clinical evidence of hypotensive effects |
| St. John's wort | Has serotonergic properties; treat as an SSRI. Caution with pethidine use. Also reduces warfarin effect. Clinical evidence of hypotensive effects |
| Tansy | Clinical research suggests hypoglycaemic effects |
| Theanine | Hypotensive effects |
| Thyme | Clinical evidence of hypotensive effects |
| Valerian | Sedative effects. Potentiates anaesthetics. Advise patients to withdraw slowly to avoid withdrawal effects. |
| Vanadium | Clinical research suggesting hypoglycaemic effects |
| Vervain | Erratic blood pressure altering properties, causing both hyper- and hypo-tension in patients. Inhibition of gonadotrophic activity; conflicting results Some sympathomimetic activity; causing, tachycardia and arrhythmias |
| Vitamin E | High doses associated with antiplatelet effects; increases bleeding risk |
| Wild Carrot | Clinical evidence of hypotensive effects Sedative effect Pro-oestrogenic; could increase thrombus risk |
| Wild Lettuce | Sedative effect |
| Yarrow | Clinical evidence of hypotensive effects Promotes coagulation |

Appendix 14 – Surgical severity score

| | |
|-----------------|---|
| Grade 1: | Minor procedures e.g diagnostic endoscopy, breast biopsy |
| Grade 2: | Inguinal hernia repair, varicose veins adenotonsillectomy, knee arthroscopy |
| Grade 3: | Total abdominal hysterectomy, TURP, lumbar discectomy, thyroidectomy |
| Grade 4: | Major procedures, e.g. total joint, artery reconstruction, colonic resection, radical neck dissection |

ASA: Perioperative Physical status score (American Society of Anaesthetists)

| | |
|---------------|---|
| ASA 1: | Healthy patient |
| ASA 2: | Mild systemic disease. No functional limitation |
| ASA 3: | Moderate systemic disease. Definite functional limitation |
| ASA 4: | Severe systemic disease that is a constant threat to life |
| ASA 5: | Moribund patient. Unlikely to survive 24 hours, with or without treatment |

Postscript E indicates emergency surgery

Appendix 2 - ASA: Perioperative Physical status score (American Society of Anaesthetists)

Appendix 15 - Guidelines for Pre-Operative Assessment of Elective Surgical Patients with Cardiac Implantable Electronic Devices

PRE OP

Implantable loop recorders (ILRs) and insertable cardiac monitors (ICMs) are used for monitoring cardiac arrhythmias. There is no additional risk to the patient during surgery and no additional actions are required.

Pacemakers (PPM) – Look up device check records on Maxims or paper notes. Contact Cardiac Physiologists if:

- the re-check frequency is less than 6 months, or
- previous problems were noted on the last check, or
- the record is not available, or
- the next check is overdue.

Otherwise pre-operative checks are *not required*.

NB. Pacemaker dependant patients (no underlying rhythm) undergoing breast / clavicle / shoulder or upper limb surgery above the elbow, may require PPM reprogramming if prolonged diathermy close to the device is likely. Clarify with surgeon, then anesthetic consultant.

Implantable Cardiac Defibrillators (ICDs) for treatment of life-threatening ventricular tachycardia, biventricular or resynchronisation pacemakers and ICDs for treatment of heart failure using ventricular resynchronisation (CRT-P and CRT-D respectively) Look up device check records on Maxims or paper notes. Contact Cardiac technicians if:

- the re-check frequency is less than 6 months, or
- previous problems were noted on the last check, or
- the record is not available, or
- the next check is overdue.

Otherwise pre-operative checks are *not required*.

A request for device deactivation before surgery and reactivation after surgery will need to be made for the day of surgery. This should be done using the request form on Maxims for cardiac devices.

NB. Endoscopy or dental procedures – deactivation is only required if argon beam or prolonged diathermy is anticipated; clarify with the surgeon.

POST OP – for all devices:

No post op device checks required unless programming has been altered or an adverse event has occurred.

NB. Patients with PPM who have undergone lithotripsy or ECT should have the device interrogated within 1 month of the procedure.

Site Suitability

The presence of ILR, ICM or PPM is not a contraindication to surgery at peripheral sites.

NOTE:

Pacemaker dependant (*no* underlying rhythm) patients having:

upper limb surgery proximal to the elbow

clavicle/shoulder surgery

breast surgery

are not suitable for peripheral sites.

ICDs – RCH only.

Cardiac Physiologist

Available 0900-1700 Monday to Friday. Ext 2432.

Royal Cornwall Hospital – Treリスケ only

Appendix 16 – Governance Information

| | | | | |
|---|---|-----|---------------|------|
| Document Title | Pre-Operative Assessment Guidelines | | | |
| Date Issued/Approved: | Nov 14 | | | |
| Date Valid From: | Nov 14 | | | |
| Date Valid To: | Nov 17 | | | |
| Directorate / Department responsible (author/owner): | Anaesthetic and Theatre Division - Andy Lee, Consultant Anaesthetist | | | |
| Contact details: | 01872 253133 | | | |
| Brief summary of contents | Outlines the scope of practice for nurse-led Pre-Operative Assessment clinic and provides staff with clinical guidance in elective pre-assessment procedures. | | | |
| Suggested Keywords: | Drugs, Assessment, Pre-Operative, Surgery, | | | |
| Target Audience | RCHT | PCH | CFT | KCCG |
| | ✓ | | | |
| Executive Director responsible for Policy: | Medical Director | | | |
| Date revised: | Nov 13 | | | |
| This document replaces (exact title of previous version): | Pre-Operative Assessment Guidelines | | | |
| Approval route (names of committees)/consultation: | Theatres and Anaesthesia Divisional Governance Committee | | | |
| Divisional Manager confirming approval processes | Terry Skinner – Divisional Director | | | |
| Name and Post Title of additional signatories | Gary Matthews | | | |
| Signature of Executive Director giving approval | {Original Copy Signed} | | | |
| Publication Location (refer to Policy on Policies – Approvals and Ratification): | Internet & Intranet | ✓ | Intranet Only | |
| Document Library Folder/Sub Folder | Clinical/Anaesthetics | | | |
| Links to key external standards | CQC standards: 1; 4; 6; 16 | | | |
| Related Documents: | RCHT Guidelines for the Anaesthetic Management of Patients with Latex Allergy | | | |

| | |
|----------------------------------|--|
| | <p>RCHT Management of Patients who are Symptomatic or at risk of any transmissible Spongiform Encephalopathy Policy inc: Creutzfeldt – Jakob disease</p> <p>RCHT Guidelines for the Management of Adult Patients with Diabetes Mellitus during Surgery.</p> <p>RCHT Thrombosis Prevention and Anticoagulation Policy</p> <p>RCHT Blood Transfusion Policy</p> <p>RCHT Patient Identification Policy</p> <p>RCHT Policy for the pre-operative fasting of patients</p> <p>RCHT Consent to Treatment/Examination RCHT Standards of Record Keeping RCHT Infection Control Policy</p> <p>NMC (2008) The Code: Standards of conduct, performance and ethics for nurses and midwives</p> <p>NICE: Venous thromboembolism: reducing risk (CG92 Jan 2010)</p> <p>SPC-EU June 2013 Xarelto (rivaroxaban)</p> <p>SPC June 2013 Pradaxa (dagibactran)</p> <p>HPC (2008) Standards of Proficiency</p> |
| Training Need Identified? | No. |

Version Control Table

| Date | Version No | Summary of Changes | Changes Made by (Name and Job Title) |
|---------------|-------------------|--|---|
| June 2009 | 01 | Original version | Andy Lee, Consultant Anaesthetist |
| November 2010 | 02 | Amendments to pregnancy testing | Andy Lee, Consultant Anaesthetist |
| November 2013 | 03 | Update to anticoagulation therapy peri-operatively | Andy Lee, Consultant Anaesthetist |
| 14 Nov 14 | 04 | Appendices moved to separate documents for publication via mobile guidelines website | Andy Lee, Consultant Anaesthetist |
| 03 May 16 | 04.1 | Appendix Added relating to Cardiac Implantable Electronic Devices | Barry Phypers, Consultant Anaesthetist |

All or part of this document can be released under the Freedom of Information Act 2000

**This document is to be retained for 10 years from the date of expiry.
This document is only valid on the day of printing**

Controlled Document

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Appendix 17 – Initial Equality Impact Assessment Form

| | |
|---|--|
| Name of Name of the strategy / policy / proposal / service function to be assessed (hereafter referred to as <i>policy</i>) (Provide brief description): Pre-Operative Assessment Guidelines | |
| Directorate and service area: Anaesthetics | Is this a new or existing Policy? Existing |
| Name of individual completing assessment: Andy Lee, Consultant Anaesthetist | Telephone: 01872 253133 |
| 1. Policy Aim* Who is the strategy / policy / proposal / service function aimed at? | Pre-operative assessment clinic staff and members of the anaesthetic and surgical divisions. |
| 2. Policy Objectives* | Clarify and guide management of patients in the pre-operative period, especially with regard to pre-operative optimisation and testing. |
| 3. Policy – intended Outcomes* | Clear guidance and prevention of unnecessary cancellations on day of elective surgery. |
| 4. *How will you measure the outcome? | Cancellation rates due to pre-operative assessment process failure. |
| 5. Who is intended to benefit from the policy? | Patients and all staff preparing patients for anaesthetic and surgery. |
| 6a) Is consultation required with the workforce, equality groups, local interest groups etc. around this policy? | Yes. Pre-operative assessment workforce, surgical consultants and anaesthetic consultants. |
| b) If yes, have these *groups been consulted? | Yes |
| C). Please list any groups who have been consulted about this procedure. | Diabetic specialist nurse teams, DVT specialist nurse team, haematology coagulation lead, blood conservation team, cardiology, anaesthetic consultants and surgical consultants. |

| | | | |
|--|-----|----------|--|
| 7. The Impact | | | |
| Please complete the following table. | | | |
| Are there concerns that the policy could have differential impact on: | | | |
| Equality Strands: | Yes | No | Rationale for Assessment / Existing Evidence |
| Age | | x | |

| | | | |
|--|----------|-----------------------------------|-----------------------|
| Sex (male, female, trans-gender / gender reassignment) | | X | |
| Race / Ethnic communities /groups | | X | |
| Disability - learning disability, physical disability, sensory impairment and mental health problems | | X | |
| Religion / other beliefs | | X | |
| Marriage and civil partnership | | X | |
| Pregnancy and maternity | | X | |
| Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian | | x | |
| <p>You will need to continue to a full Equality Impact Assessment if the following have been highlighted:</p> <p style="padding-left: 40px;">You have ticked “Yes” in any column above and No consultation or evidence of there being consultation- this <u>excludes</u> any <i>policies</i> which have been identified as not requiring consultation. or</p> <ul style="list-style-type: none"> • Major service redesign or development | | | |
| 8. Please indicate if a full equality analysis is recommended. | | Yes | No x |
| 9. If you are not recommending a Full Impact assessment please explain why. | | | |
| Few changes since last document review 3 years ago. | | | |
| Signature of policy developer / lead manager / director | | Date of completion and submission | |
| Names and signatures of members carrying out the Screening Assessment | 1. 2. | | |

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead,
c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa,
Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust's web site.

Signed _____

Date _____