

# **Pre-Operative Assessment Guidelines**

**V4.1**

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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
Amitriptyline	Continue – <i>but caution with pethidine use. Also increased risk of arrhythmia's and hypotension</i>
Amlodipine	Continue
Anagrelide	Seek haematologist advice
Anastrozole	Continue
Apixaban	Omit 48 hours pre op
Apomorphine	Continue
Aripiprazole	Continue
Asenapine	Continue
Aspirin	Continue (75mg dose) unless otherwise specified. Reduce higher doses to 75mg.
Atenolol	Continue
Atorvastatin	Continue
Auranofin	Continue
Azathioprine	Continue
Azilsartan	Continue
<b>B</b>	
Baclofen	Continue
Balsalazide	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
Betamethasone (steroid)	Continue <i>But consider dose increase if long duration or high dose; see Trust Guideline</i>
Bezafibrate	Continue
Bicalutamide	Continue
Bilastine	Continue
Bisacodyl	Continue – <i>May omit if laxative action undesirable</i>
Bisoprolol	Continue
Bosentan	Continue
Bromocriptine	Continue
Budesonide MR capsules	Continue – <i>but may not be indicated post-op if procedure is to remove diseased bowel.</i>
Bumetanide	Continue
Buprenorphine	Continue – <i>but alert anaesthetist</i>
Buprenorphine patch	Continue – <i>but alert anaesthetist it's in situ</i>
Bupropion	Continue – <i>but avoid pethidine and alert anaesthetist (increases seizure risk)</i>
Burinex A	Continue
Buspiron	Continue
<b>C</b>	
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
Chlorpropamide	<i>Follow Diabetes and surgery guideline.</i>
Ciclosporin	Continue
Cilazapril	Continue
Cilostazol	Continue
Cimetidine	Continue
Cinacalcet	Continue
Cinnarizine	Continue
Ciprofibrate	Continue
Citalopram	Continue – but caution with pethidine use
Clodronate	Continue - but may be safely omitted if due day of procedure
Clomethiazole	Continue
Clomifene	Continue
Clomipramine	Continue – but caution with pethidine use. Also increased risk of arrhythmia's and hypotension
Clonazepam	Continue
Clonidine	Continue
Clopidogrel	<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>
Clozapine	<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
Co-danthramer	Continue – May omit if laxative action undesirable
Codeine phosphate	Continue
Colchicine	Continue – but alert anaesthetist as pt may have gout
Colesevelam	Continue
Colestyramine	Continue
Contraceptives	See oral contraceptives
Co-phenotrope (Iomitol)	Continue
Cortisone (steroid)	Continue. But consider dose increase if long duration or high dose; see Trust Guideline
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>&gt;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 <b>or</b> 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>		

<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
<b>F</b>	
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
<b>G</b>	
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>
<b>H</b>	
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
<b>I</b>	
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
<b>K</b>	
Ketoprofen	Continue
<b>L</b>	
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>Linacotide</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
<b>M</b>	
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

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

Oxcarbazepine	Continue
Oxprenolol	Continue
Oxybutynin	Continue. <i>May be omitted if pt catheterised</i>
Oxycodone	Continue
<b>P</b>	
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
Rasagiline	Continue – <i>but avoid pethidine</i>
Reboxetine	Continue – <i>but caution with pethidine use</i>
Repaglinide	<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
Rivaroxaban	<i>Omit 48 hours pre-op</i>
Rivastigmine	Continue. <i>But alert anaesthetist – may potentate muscle relaxation during anaesthesia</i>
Ropinirole	Continue
Rosiglitazone	<i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i>
Rosuvastatin	Continue
Rotigotine	Continue
Rufinamide	Continue
Rupatadine	Continue
S	
Saxagliptin	<i>Follow Diabetes and surgery guideline. Usually omitted morning of surgery.</i>
Selegiline	Continue – <i>but avoid pethidine</i>
Senna	Continue – <i>May omit if laxative action undesirable</i>
Sertindole	Continue
Sertraline	Continue – <i>but caution with pethidine use</i>
Sevelamer	<i>Omit once patient NBM</i>
Sibutramine	Continue
Simvastatin	Continue
Sirolimus	Continue
Sitagliptin	<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>
Sulfasalazine	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	Seek haematologist advice
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>
<b>W</b>	
Warfarin	<i>See Anticoagulation policy</i>
<b>Z</b>	
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 constituents<sup>1</sup>.

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 surgery<sup>1-4</sup>. 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
<a href="#">5-HTP</a>	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
<a href="#">Alpha-lipoic acid</a>	Clinical research suggests hypoglycaemic effects
<a href="#">Andrographis</a>	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
<a href="#">Banaba</a>	Clinical research suggests hypoglycaemic effects
Bayberry	Mineralocorticoid effect; could increase blood pressure
Bilberry	Antiplatelet effect; increases bleeding risk
<a href="#">Bitter melon</a>	Clinical research suggests hypoglycaemic effects
<a href="#">Bitter orange</a>	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
<a href="#">Black tea</a> (concentrated tablets)	Large quantities of caffeine in black tea can have antiplatelet effects; increased bleeding risk
<i>Blue Cohosh</i>	Theoretical hypertensive effects
<a href="#">Boldo</a>	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
Centaury	Sedative effect
Chamomile	Immunomodulating properties; Possible increased risk of infection and poor wound healing Mild sedative effects; could potentiate anaesthetics
<a href="#">Chondroitin</a>	Anticoagulation effect; increased risk of bleeding. Can potentiate the effects of warfarin. Chondroitin also affects blood sugar control
Clove	Antiplatelet effect; increases bleeding risk
<a href="#">Coenzyme Q10</a>	Clinical research suggesting modest hypotensive effects
<a href="#">Cola nut</a>	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
<a href="#">Danshen</a>	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
<a href="#">Dong quai</a>	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
<a href="#">Ephedra</a>	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
<a href="#">Epimedium</a>	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
<a href="#">Garlic</a>	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
<a href="#">Glucomannan</a>	Clinical research suggesting hypoglycaemic effects
<a href="#">Glucosamine</a>	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
<a href="#">Green tea</a> (concentrated)	Large quantities of caffeine in green tea can have antiplatelet effects; increased bleeding risk. It can also be a stimulant in large quantities.
<a href="#">Guarana</a>	Antiplatelet effects; increases bleeding risk Also a known stimulant; increases risk of tachycardia, hypertension and arrhythmias.
<a href="#">Gymnema</a>	Clinical research suggests hypoglycaemic effects
Hawthorn	Clinical evidence of hypotensive effects CNS depressant; potentiates barbiturate sleeping time
<a href="#">Hops</a>	Mild sedative effects( usually used in combination with other sedative products). Could potentiate anaesthetics.
Horehound, White	Vasodilator properties; lowers blood pressure
<a href="#">Horse chestnut</a>	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
<a href="#">Kava</a>	Additive effects with benzodiazepines increasing sedation; also linked to numerous reports of hepatotoxicity Possible dopamine antagonist effects. Treat as haloperidol clozapine or sulpiride.

<a href="#">L-arginine</a>	Clinical research suggesting modest hypotensive effects
<a href="#">Lavender</a>	Mild sedative effects; additive effects with CNS depressants and anaesthetics.
<a href="#">Lemon balm</a>	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.
<a href="#">L-tryptophan</a>	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
<a href="#">Melatonin</a>	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	Oxytotic 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
<a href="#">Passionflower</a>	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
<a href="#">Policosanol</a>	Possible antiplatelet effect (based on anecdotal evidence). May increase bleeding risk
Prickly Ash (North and South)	Clinical evidence of hypotensive effects
<a href="#">Prickly pear cactus</a>	Clinical research suggesting hypoglycaemic effects
Red Clover	Pro-oestrogenic; could increase thrombus risk
<a href="#">Resveratrol</a>	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

<a href="#">SAlMe,</a>	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
Scullycap	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
<a href="#">St. John's wort</a>	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
<a href="#">Theanine</a>	Hypotensive effects
Thyme	Clinical evidence of hypotensive effects
<a href="#">Valerian</a>	Sedative effects. Potentiates anaesthetics. Advise patients to withdraw slowly to avoid withdrawal effects.
<a href="#">Vanadium</a>	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
<a href="#">Vitamin E</a>	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

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

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

<b>ASA 1:</b>	Healthy patient
<b>ASA 2:</b>	Mild systemic disease. No functional limitation
<b>ASA 3:</b>	Moderate systemic disease. Definite functional limitation
<b>ASA 4:</b>	Severe systemic disease that is a constant threat to life
<b>ASA 5:</b>	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 only

## Appendix 16 – Governance Information

<b>Document Title</b>	Pre-Operative Assessment Guidelines			
<b>Date Issued/Approved:</b>	Nov 14			
<b>Date Valid From:</b>	Nov 14			
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<b>Directorate / Department responsible (author/owner):</b>	Anaesthetic and Theatre Division - Andy Lee, Consultant Anaesthetist			
<b>Contact details:</b>	01872 253133			
<b>Brief summary of contents</b>	Outlines the scope of practice for nurse-led Pre-Operative Assessment clinic and provides staff with clinical guidance in elective pre-assessment procedures.			
<b>Suggested Keywords:</b>	Drugs, Assessment, Pre-Operative, Surgery,			
<b>Target Audience</b>	RCHT	PCH	CFT	KCCG
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<b>Name and Post Title of additional signatories</b>	Gary Matthews			
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<b>Document Library Folder/Sub Folder</b>	Clinical/Anaesthetics			
<b>Links to key external standards</b>	CQC standards: 1; 4; 6; 16			
<b>Related Documents:</b>	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>
<b>Training Need Identified?</b>	No.

#### Version Control Table

<b>Date</b>	<b>Version No</b>	<b>Summary of Changes</b>	<b>Changes Made by (Name and Job Title)</b>
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**

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.

## Appendix 17 – Initial Equality Impact Assessment Form

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	

<b>Sex</b> (male, female, trans-gender / gender reassignment)		<b>X</b>	
<b>Race / Ethnic communities /groups</b>		<b>X</b>	
<b>Disability -</b> learning disability, physical disability, sensory impairment and mental health problems		<b>X</b>	
<b>Religion / other beliefs</b>		<b>X</b>	
<b>Marriage and civil partnership</b>		<b>X</b>	
<b>Pregnancy and maternity</b>		<b>X</b>	
<b>Sexual Orientation,</b> Bisexual, Gay, heterosexual, Lesbian		<b>x</b>	
<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. <b>or</b></p> <ul style="list-style-type: none"> <li>• Major service redesign or development</li> </ul>			
8. Please indicate if a full equality analysis is recommended.		<b>Yes</b>	<b>No</b> <b>x</b>
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 \_\_\_\_\_