

Guidelines for Ordering Basic Pre-Operative Investigations

Procedure code: OG-CC3	Current version: November 2021
Previous version: May 2016	Next review date: November 2024
Section: Connecting Care	Sub-section: Investigation

1. Overview

Preoperative basic investigations are important to establish baseline function, allow for optimisation of abnormal results, and assist clinicians with perioperative management.

2. Applicability

These guidelines include blood tests, ECG and some tests for particular procedures, but **not** radiological or less common investigations that should be ordered following consultation with senior medical staff.

3. Responsibility

The Director of Anaesthesia, Pain and Perioperative Medicine is responsible for implementation of this guideline and ensuring compliance with its use. There are no exclusions to this.

4. Authority

Exceptions are allowed based on clinical judgement and after consultation with senior medical staff.

5. Associated Documentation

In support of this procedure, the following manuals, policies, instructions, guidelines, and/or forms apply:

Code	Name
OP-GC6	Peri-operative Management of Diabetes in Non-pregnant Adults
OP-GC8	Blood Group Testing and Pre-transfusion Tests
OP-GC8	Requesting Blood and Blood Products
Surgery DP-CM5	Ordering Basic Non-Surgical Pre-operative Investigations for Adult Elective Surgery Within the Electronic Medical Record

6. Definitions and Abbreviations

For purposes of this procedure, unless otherwise stated, the following definitions/abbreviations shall apply:

Abbreviation	Investigation Name
AAA	Abdominal Aortic Aneurysm
ACDF	Anterior Cervical Discectomy and Fusion
AVF	Arterial-Venous Fistula
CMP	Calcium, Magnesium, Phosphate
D&C	Dilatation and Curettage
DHEA	DeHydroEpiAndrosterone
ECG	ElectroCardioGram
ERCP	Endoscopic Retrograde CholangioPancreatography
EVAR	EndoVascular Aneurysm Repair
FBE	Full Blood Examination
FESS	Functional Endoscopic Sinus Surgery
G&H	Group and Hold (also known as group and screen)
HbA _{1c}	Haemoglobin A1C
IV	IntraVenous
LFT	Liver Function Tests
LLETZ	Large Loop Excision of the Transformation Zone of cervix
ORIF	Open Reduction and Internal Fixation
PCNL	PerCutaneous NephroLithotomy
PTH	Parathyroid Hormone
TBSA	Total Body Surface Area
TFT	Thyroid Function Test
TRUS	TransRectal UltraSound
TURBT	Transurethral Resection of Bladder Tumour
TURP/HoLEP	Transurethral Resection of Prostate/Holmium Laser Prostatectomy
U&E	Urea and Electrolytes
Urine MCS	Urine Micro, Culture and Sensitivities
VAC	Vacuum Assisted Closure device
VATS	Video-Assisted Thoracoscopic Surgery

Commented [JS1]: Summary of major changes:

1. Table outlining most surgical procedures done at WH
2. NICE 2016 guideline changes added – multiple changes including age > 65 instead of age > 50
3. Addition of iron studies & CRP for all major surgery (previously only joint arthroplasty, colectomy, major gynae)
4. Removed footnote for U&E minor surgery saying only applicable if patient has GA – may not be known preoperatively, and renal function may be required e.g. for antibiotic choice
5. Title of guideline changed
6. C/Section added to 'specific additional tests' in section 7.2

7. Procedure Detail

7.1 Classify surgery type

	Minor	Intermediate	Major
Physiological disturbance	Nil	Minor and lasting a short duration	Significant and lasting days
Hospital recovery period	Day case	Day or overnight	2 or more days
Require transfusion	No	Unlikely	Potential
Multiple	<ul style="list-style-type: none"> Excision of skin lesions Carpal tunnel release 		
Breast	<ul style="list-style-type: none"> Abscess Lumpectomy 	<ul style="list-style-type: none"> Partial mastectomy 	<ul style="list-style-type: none"> Total mastectomy Breast reconstruction / flap
Endoscopy	<ul style="list-style-type: none"> Gastroscopy Colonoscopy ERCP 	<ul style="list-style-type: none"> Colonic stent 	
General Surgery	<ul style="list-style-type: none"> Minor anorectal procedures: abscess, haemorrhoid surgery, fissure, fistula-in-ano Femoral hernia repair Minor testicular surgery Vasectomy 	<ul style="list-style-type: none"> Laparoscopic hernia repair Laparoscopic cholecystectomy Tenckhoff catheter insertion Parathyroid and thyroid surgery Appendicectomy Pilonidal excision / karydarkis / flap repair Trans-anal resection / minimally invasive surgery Delormes procedure Ventral rectopexy 	<ul style="list-style-type: none"> Laparotomy Open hernia repair Gastro-oesophageal surgery: gastrectomy, fundoplication, oesophagectomy Kidney or adrenal surgery Whipple's / pancreatic / liver surgery Splenectomy Bowel resection including resection rectopexy Reversal of ileostomy / colostomy Strictureplasty
Gynaecology	<ul style="list-style-type: none"> LLETZ / cone biopsy D & C / Mirena insertion Endometrial ablation 	<ul style="list-style-type: none"> Laparoscopic adnexal surgery e.g. ovarian cystectomy 	<ul style="list-style-type: none"> Vaginal vault & pelvic floor surgery Hysterectomy (vaginal, laparoscopic or abdominal)
Head & Neck Surgery	<ul style="list-style-type: none"> Dental day cases Microlaryngoscopy Submandibular gland resection and lymph node biopsy 	<ul style="list-style-type: none"> Vocal cord surgery Tonsil / adenoidectomy Nasal surgery: FESS, septo-rhinoplasty, polypectomy Mastoidectomy Myringoplasty, tympanoplasty 	<ul style="list-style-type: none"> Neck dissection Laryngectomy Major floor of mouth, lip or tongue surgery Maxillary / mandibular osteotomy
Neurosurgery			<ul style="list-style-type: none"> Spinal fusion incl. ACDF Laminectomy / discectomy
Orthopaedics	<ul style="list-style-type: none"> Arthroscopy Wrist surgery 	<ul style="list-style-type: none"> Minor ORIF Removal of metalware 	<ul style="list-style-type: none"> Major ORIF Joint replacement Major ankle / foot surgery Limb deformity correction
Plastics	<ul style="list-style-type: none"> Minor skin graft (<5% TBSA) Minor procedures e.g. wound repair, VAC Hand surgery 	<ul style="list-style-type: none"> Moderate skin graft (5-10% TBSA) Breast reduction or enhancement 	<ul style="list-style-type: none"> Major skin graft (>10% TBSA) Reconstruction / flap Apronectomy / lipectomy
Thoracics	<ul style="list-style-type: none"> Flexible Bronchoscopy 	<ul style="list-style-type: none"> Rigid Bronchoscopy VATS 	<ul style="list-style-type: none"> Lobectomy Thoracotomy Sympathectomy Thymectomy
Urology	<ul style="list-style-type: none"> Videodynamics Flexible cystoscopy TRUS biopsy of prostate 	<ul style="list-style-type: none"> Rigid cystoscopy 	<ul style="list-style-type: none"> Cystectomy or radical prostatectomy Nephrectomy Pyeloplasty / PCNL TURP / HoLEP TURBT Urolift
Vascular	<ul style="list-style-type: none"> Toe/forefoot amputation 	<ul style="list-style-type: none"> Angiogram / plasty / stent Fistulogram / plasty Radiofrequency ablation Varicose vein surgery 	<ul style="list-style-type: none"> Aortic surgery Open AAA, EVAR / stent Aorto-femoral or peripheral bypass Endarterectomy AVF formation

7.2 Determine Investigations To Order

Investigations performed in the prior 3 months do not need to be repeated, unless there has been a significant clinical change.

	Minor	Intermediate	Major
Pregnancy test	Determine if the patient could be pregnant and if so seek consent and arrange a pregnancy test		
FBE	No	<ul style="list-style-type: none"> Known cardiovascular, renal or haematological disease History of recent bleeding 	Yes
Iron Studies & CRP	No	No	Yes
U&E	<ul style="list-style-type: none"> Known renal disease At high risk of renal disease (e.g. long-standing diabetes, poorly controlled hypertension, heart failure) Procedures involving IV contrast Procedures requiring mechanical bowel preparation 	As for minor surgery, or Age \geq 65	Yes
LFT	No	No	Known liver disease, or at high risk (e.g. heavy alcohol intake, jaundice)
TFT	No	<ul style="list-style-type: none"> On thyroid replacement therapy with poor compliance, or has not had thyroid function checked for 6 months Symptoms of thyroid dysfunction 	
HbA_{1c}	Yes, for all patients with known diabetes mellitus wherever possible		
Coagulation studies	No	Known bleeding disorder, severe liver disease DO NOT order for patients on oral anticoagulants For patients on warfarin order INR only	
G&H	No	No	Yes
Cross-match	No	No	<ul style="list-style-type: none"> If G&H shows antibodies Consider for cases done at a campus without a blood bank
ECG	No	Known cardiovascular or renal disease, or diabetes	As for intermediate surgery, or age \geq 65
Urine MCS	All urology procedures except transperineal prostate biopsy		

Specific additional tests:

Procedure	Additional tests to order
Endometrial resection	FBE
Cholecystectomy	LFT
PCNL	Coagulation studies
Any aortic procedure (bypass, stenting, endarterectomy)	Cross match 2 units of red blood cells
Cystectomy, nephro-uretectomy	Albumin
Parathyroidectomy	PTH, CMP, Vit D
Thyroidectomy	TFT, Calcium
Adrenalectomy	TFT, CMP, plasma metanephrines, dexamethasone suppression test, cortisol +/- renin aldosterone ratio, DHEA (discuss with the surgeon in PAC)
Bowel resection	For patients with inflammatory bowel disease, add B12 and albumin
Caesarean section	FBE, G&H For pre-eclampsia, add U&E, LFT, Coagulation studies

8. Document History

Number of previous revisions: 1
Previous issue dates: May 2016

9. References

- Routine preoperative tests for elective surgery. NICE guideline Published: 5 April 2016
<https://www.nice.org.uk/guidance/ng45>
- Cardiac Risk Stratification for Noncardiac Surgery, Grasso AW, Cleveland Clinic Centre for Continuing Education
Published date: June 2014 <http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/cardiology/cardiac-risk-stratification-for-noncardiac-surgery/>
- 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery. Journal of the American College of Cardiology. Vol 64, No 22, 2014

10. Sponsor

Director of Anaesthesia, Pain and Perioperative Medicine

11. Authorisation Authority

Clinical Services Director of Perioperative and Critical Care Services