

H.A.P.P.Y Pathway

*Haemodynamic optimisation And
Perioperative Protocols at York hospital*

Patient Sticker

Protocol ID	
CPET Date	
Surgical Consultant	
Planned Operation	
Date of Surgery	

Preoperative comorbidities

Myocardial infarction Angina CABG Hypertension
Renal insufficiency COPD Asthma Valvular disease

Any other relevant conditions:

Cardiac risk factors

High Risk Surgery Ischaemic heart disease
CVA Heart Failure
Diabetes Renal insufficiency (>170)

Score:

0 = 0.4-0.5%

1 = 0.9-1.3%

2 = 4-7%

>3 = 9-11%



Preoperative medications

Beta blockers Calcium channel antagonists Other anti-arrhythmic Digoxin
ACE inhibitors Statin Clopidogrel Diuretics
ATII blocker Aspirin OralHypoglycaemics Insulin

Blood results

Haemoglobin	(g/L)	/	/	For preoperative iron infusion (Hb<130g/l):Y/N
Ferritin	ug/L	/	/	
Creatinine	umol/L	/	/	Stable/worsening/unknown Renal Referral Required (eGFR<60)
eGFR	mL/min/1.72m ²	/	/	
HbA1C	mmol/L	/	/	

Clinical Frailty Scale*



1 Very Fit – People who are robust, active, energetic, and motivated. These people commonly exercise regularly. They are among the fittest for their age.



2 Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.



3 Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.



4 Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed up”, and/or being tired during the day.



5 Mildly Frail – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.



6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.



7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).



8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.



9 Terminally Ill – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In moderate dementia, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In severe dementia, they cannot do personal care without help.

*1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

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Score _____

Cognitive impairment

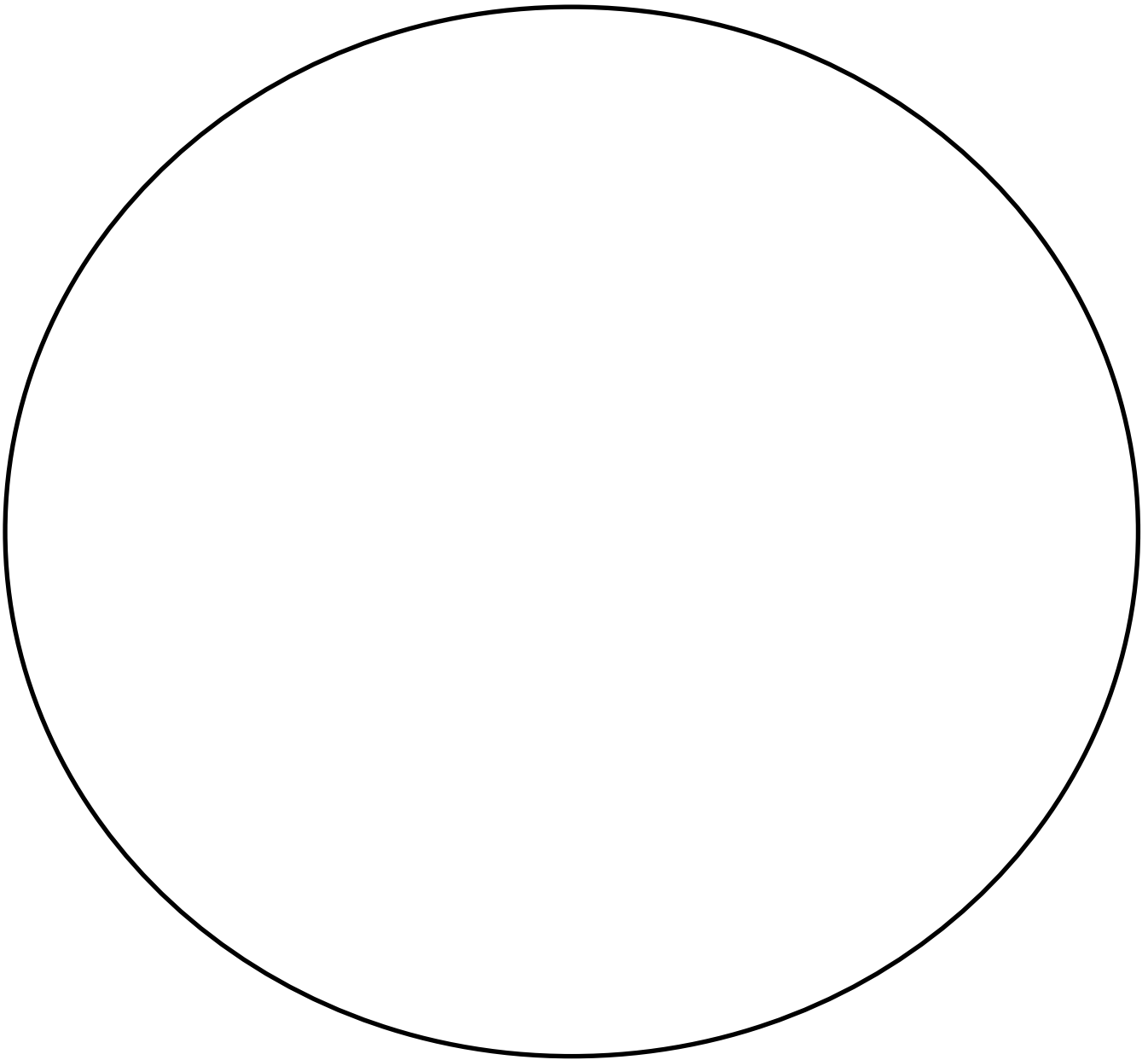
Administration	Special Instructions
1. Get patient’s attention and ask him or her to remember three unrelated words. Ask patient to repeat the words to ensure the learning was correct.	Allow patient three tries, then go to next item. Version 1: Banana, Sunrise, Chair Version 2: Daughter, Heaven, Mountain
2. Ask patient to draw the face of a clock. After numbers are on the face, ask patient to draw hands to read 10 minutes after 11:00 (or 20 minutes after 8:00).	<ul style="list-style-type: none"> • A correct response is all numbers placed in approximately the correct positions AND the hands pointing to the 11 and 2. • A clock should not be visible to the patient during this task. • Refusal to draw a clock is scored abnormal. • Move to next step if clock not complete within three minutes
3. Ask the patient to recall the three words	Ask the patient to recall the three words you stated in Step 1.

3 recalled words OR 1-2 recalled words + normal Clock Drawing Test = Negative for Cognitive Impairment

0 recalled words OR 1-2 recalled words + abnormal Clock Drawing Test = Positive for Cognitive Impairment

Negative for cognitive impairment

Positive for cognitive impairment



Risk of post operative pulmonary complications (ARISCAT)

Age <51 51-80 >80	0 3 16	Surgical incision Peripheral Upper abdominal Intrathoracic	0 15 24	Respiratory infection in last month Yes No	17 0
Preop Saturation 96% 91-95% 90%	0 8 24	Duration of surgery <2hrs 2-3hrs >3hrs	0 16 23	Total Score: <input type="text"/>	
Preop Hb <10g/dL Yes No	11 0	Emergency Procedure No Yes	0 8	<26 points low risk 26-44 moderate risk ≥45 high risk	1-2% 10-15% 50%

Smoking

Smoker: Yes No

Fagerstrom Score:

Alcohol/Illicit Drugs

Number of units per week: Illicit Drugs?.....

Advice given Yes No

Drinking line number provided Yes No

CARDIOPULMONARY EXERCISE TESTING

CPX Anaesthetist: CPX Date:/...../..... ASA Grade:.....

Weight: Height:..... BMI: Age:

Anaerobic threshold (ml/kg/min)			
Peak V02			
VE/VC02 at AT			
Panel 2	Abnormal	Normal	
Panel 3	Abnormal	Normal	
Ischaemia on exercise ECG	Yes		No
Beta Blocker required	Yes	No	Established
CPET Score	Post-op destination		
Pathway:(please circle)	Enhanced		Standard

CPET Score of 0-1 = Standard Protocol, CPET Score of 2 =Enhanced Protocol to NEU, CPET Score of 3 = Enhanced Protocol to HDU

Medication Changes:.....

.....

Intra-operative data

Length of surgery:..... Open: Laparoscopic: Converted:

APGAR Score:

Post-operative data

Post Op Destination: ICU/HDU: NEU: Ward:

Hours on protocol:..... Time in PACU:

Delayed PACU Discharge details:.....

24 hour fluid balance		Time: from.....until.....	
Input		Output	
OT IV		Total Output	
Post op IV		24 Hour Balance	
RBC Volume			
Other blood products			
Post op Oral			
Total input			

Metaraminol Required:

POMS

Morbidity	Criteria	Day 3 Date: .../.../...	Day 5 Date: .../.../...	Day 7 Date: .../.../...
Pulmonary	Has the patient developed a new requirement for oxygen or respiratory support?			
	Incentive spirometry conducted			
Gastrointestinal	Unable to tolerate an enteral diet for any reason including nausea, vomiting and abdominal distension (use of antiemetic).			
Renal	Presence of oliguria <500ml/24hrs; increased serum creatinine (>30% from preoperative level); urinary catheter in situ.			
	Creatine			
Infectious	Currently on antibiotics and/or has a temperature of >38 degrees Celsius in the last 24 hrs.			
	CRP			
Cardiovascular	Diagnostic tests or therapy within the last 24 hr for any of the following: new myocardial infarction or ischemia, hypotension (requiring fluid therapy >200 mL/hr or pharmacological therapy), atrial or ventricular arrhythmias, cardiogenic pulmonary oedema, thrombotic event (requiring anticoagulation).			
Neurological	New focal neurological deficit, confusion, delirium, or coma.			
Haematological	Requirement for any of the following within the last 24hr: packed erythrocytes, platelets, fresh-frozen plasma or cryoprecipitate.			
Pain	New postoperative pain significant enough to require parenteral opioids or regional analgesia.			
Wound	Wound dehiscence requiring surgical exploration or drainage of pus from the operation wound with or without isolation of organisms.			
Total				

Post-operative complications

Major	Requirement for acceptance	Date
Sepsis	Any 2 of the following :HR>90, RR> 20/PaCO ₂ < 4.3kPa, Core temperature < 36 or >38°C, WCC <4000 cells/mm ³ or> 12 000 cells/mm ³ or the presence of greater 10% immature neutrophils AND Infection suspected or proven by culture, stain or PCR or WBC in a normally sterile fluid OR, Evidence of a perforated viscus OR Abnormal CXR consistent with pneumonia.	
Wound dehiscence	Suturing of the fascia.	
Bleeding	Postoperative requiring transfusion or operation.	
Stroke	Focal symptoms and CT scan–verified acute pathology of a stroke.	
Pulmonary Emboli	Evidence from CTPA.	
Pulmonary Oedema	Needing increase in FiO ₂ > 0.6, or assisted ventilation including CPAP/BiPAP, or medical treatment.	
ACS	ECG changes and raised troponin.	
Ventricular arrhythmias	ECG changes, medical treatment and/or cardioversion.	
Bradycardia	HR<50 requiring medical treatment and/or pacing.	
Renal Failure	Requiring CVVH or dialysis.	
Anastomotic Leak		
Intrabdo Sepsis		

Minor Complications	Requirement for acceptance	Date
Superficial wound infection, haematoma, or dehiscence.	Surgical evacuation of pus or haematoma, secondary suture and/or prolonged nursing care.	
Paralytic ileus	> 7 days without flatus or the need for TPN.	
Pneumonia	Elevated temperature and radiographic changes.	
Atelectasis	Clinical or radiological evidence requiring supplemental oxygen therapy and physiotherapy and/or CPAP	
Pneumothorax	Radiological evidence	
Pleural Effusion	Radiological evidence	
Minor cardiac arrhythmias	ECG changes, medical treatment, and/or cardioversion.	
Cystitis	Elevated temperature, dysuria, and/or positive culture.	
Acute urinary retention	Requiring catheterisation	
Confusion	New confusional state.	
Hypotension	Systolic BP<90mmHg requiring fluid bolus/metaraminol requirement	
Transient ischaemic attack	A history and examination consistent with a TIA	
AKI	30% increase of baseline creatinine or/and < 0.5 ml/h diuresis.	

Other post op issues	Comments
NG Required	
TPN Required	

Flow

Date of Discharge		ICU Days	
Total number of hospital days		HDU Days	
Discharge Destination		PACU Days	
Unplanned critical care admission	Y / N Date:/...../.....	NEU Days	
Re-admitted within 30 days	Y / N	Ward Days	
Status at discharge	Alive / Deceased	Date of Death:/...../.....	
30 days	Alive / Deceased		
90 days	Alive / Deceased		