

Appendix 1: The original and cardiac Post-operative Morbidity Survey (POMS)

Morbidity type	Criteria
Pulmonary	Presence of one or more of the following: The patient developed a new requirement for oxygen or respiratory support (**including nebulizer therapy or request for chest physiotherapy on or after D5); **Pleural effusion requiring drainage.
Infectious	Presence of one or more of the following: Currently on antibiotics, Has had a temperature of >38°C in the last 24 hr; **Has a white cell count/CRP level requiring in hospital review or treatment
Renal	Presence of one or more of the following: Presence of oliguria <500 mL/24hr (**Presence of decreased urine output requiring intervention (including IV frusemide)); Increased serum creatinine (>30% from preoperative level); Urinary catheter in situ; **New urinary incontinence, **Serum potassium abnormalities requiring treatment.
Gastrointestinal	Presence of one or more of the following: Unable to tolerate an enteral diet for any reason including nausea, vomiting, and abdominal distension (*use of antiemetic); **The presence of a nasogastric tube; **Diagnosis of a gastrointestinal bleed; **Presence of diarrhoea
Cardiovascular	Presence of one or more of the following: **The use of inotropic therapy for any cardiovascular cause; Diagnostic tests of therapy within the last 24hr for any of the following: (1) new MI or ischemia, (2) hypotension (requiring fluid therapy >200mL/hr or pharmacological therapy, ** or omission of pharmacological therapy), (3) arterial or ventricular arrhythmias, (4) cardiogenic pulmonary oedema, thrombotic event (requiring anticoagulation), (5) **hypertension (pharmacological therapy or omission of pharmacological therapy), (6) *** limb ischaemia
Neurological	New focal neurological deficit, confusion/ delirium, coma, **lack of coordination, **drowsy or slow to wake, **poor swallow, **blurred vision, **sedated, **changing loss of consciousness.
Haematology	Presence of one or more of the following: Requirements for any of the following within the last 24 hr: packed erythrocytes, platelets, fresh-frozen plasma, or cryoprecipitate. **Non-therapeutic INR requiring pharmacological therapy or omission of pharmacological therapy.
Wound	Presence of one or more of the following: Wound dehiscence requiring surgical exploration or drainage of pus from the operation wound with or without isolation of organism; ** Presence of chest drains; ** Wound pain significant enough to require continuing or escalating analgesic intervention
Pain	Surgical wound pain significant enough to require parenteral opioids or regional analgesia; **Postoperative pain significant enough to require parenteral opioids and/or continuing or additional analgesia.
**Endocrine	**New or additional requirements for blood sugar management
**Assisted Ambulation	**A new or escalated postoperative requirement for mobility assistance including all walking aids
**Review	**Remaining in hospital for further review, investigations, and or procedure

POMS domain and/ or criteria definition change: *⁷, **¹² C-POMS, cardiac postoperative morbidity survey, ***⁸; Abbreviations: CRP, C-reactive protein, IV, intravenous, INR, international normalized ratio, MI, myocardial infarction, * refer to individual studies.

Appendix 2 HF-POMS defined morbidity per day in number for patients with different (a) NHFS and (b) ASA grade defined morbidity risk categories

(a) NHFS

HF- POMS Day	3 (n = 42)			4 (n = 101)			5(n=82)			6(n=39)			7-9 (n=11)		
	POMS +	Died	Discharged	POMS +	Died	Discharged	POMS +	Died	Discharged	POMS +	Died	Discharged	POMS +	Died	Discharged
1	42	0	0	101	0	0	82	0	0	39	0	0	11	0	0
3	40	0	0	95	0	0	79	0	0	38	0	0	10	0	0
5	27	0	5	77	0	3	71	0	1	35	0	2	10	0	1
8	17	1	4	54	0	10	53	0	10	25	0	1	8	0	0
15	2	0	26	17	1	52	22	1	41	11	0	18	6	1	4

(b) ASA

HF- POMS Day	1-2 (n = 488)			3 (n=148)			4 (n= 50)			5(n= 6)		
	POMS +	Died	Discharged	POMS +	Died	Discharged	POMS +	Died	Discharged	POMS +	Died	Discharged
1	88	0	0	148	0	0	50	0	0	6	0	0
3	78	0	0	141	0	0	49	0	0	6	0	0
5	54	0	6	119	0	6	48	0	0	5	0	0
8	34	0	13	93	0	17	29	1	3	4	0	1
15	6	0	51	34	1	77	11	2	22	4	0	2

^abased on 276 of the total patients with NHFS, missing 65

^bbased on 294 of the total patients with ASA grade, missing 47

Appendix 3: Non-medical reasons patient remain in-hospital after hip-fracture surgery.

Social reasons: safeguarding issues, package of care approval, awaiting social worker assessment/ social service assessment, awaiting equipment delivery at home, rehabilitation or awaiting rehabilitation bed, physiotherapy, awaiting repatriation to another hospital, awaiting for placement (nursing and or residential home) family issues.