**Peri-interventional Outcome Study in the Elderly (POSE)**

### I. Baseline assessment (Visit 1)

**Age** | [80-120] years
---|---
**Sex** | M, F
**ASA** | I, II, III, IV, V
**Height** | [120-230] cm
**Weight** | [30-250] kg

**Referring facility** [single best answer]
- [ ] Home/ Lives independent
- [ ] Other hospital
- [ ] Rehabilitation
- [ ] Nursing home
- [ ] Other, if other please specify: ______________________________________

**Planned kind of procedure** [single best answer]
- [ ] Inpatient intervention [patient remains in hospital for at least one night after intervention]
- [ ] Outpatient intervention [patient is discharged the day of intervention]

**Medical history** [single best answer]

**Functional status** [within 30 days before assessment]:
- [ ] Independent [patient does not require assistance from another person for activities of daily living]
- [ ] Partially dependent [The patient requires some assistance from another person]
- [ ] Totally dependent [The patient requires total assistance for all activities of daily living]

- [ ] Emergency case
- [ ] Current steroid use for chronic condition
- [ ] Ascites within 30 days prior to intervention

**Systemic Sepsis** within 48 hours before intervention:
- [ ] No
- [ ] SIRS
- [ ] Sepsis
- [ ] Septic shock

**Ventilator depended within 48h before intervention:** [excludes CPAP for sleep apnoea]

**Disseminated cancer:** [includes ALL, AML, Lymphoma “IV”; excludes CLL, CML, Lymphoma I-III”]

**Diabetes** [N, Y]
- [ ] Oral
- [ ] Insulin [only dietary treatment, should not be classified as ‘diabetic’ here]

**Hypertension requiring medication:** [<30d prior surgery]

**Congestive Heart Failure:** [<30d prior intervention, acute or chronic + symptoms]

**Dyspnoea:** [Y, N]
- [ ] with moderate exertion
- [ ] at rest [<30d prior surgery]

**Current smoker:** [<1yrs prior intervention; excluding: pipes, cigars, chewing tobacco]

**Alcohol:** number of units per week ______ [1 unit = 0.25l beer, 0.1l wine, 0.02l shot]

**History of severe COPD:** [functional disability or chronic bronchodilator therapy or past hospitalization or FEV1 of <75%]

**Dialysis** [within 2 weeks prior to surgery]

**Acute renal failure:** [1. Increased BUN on two measurements AND two creatinine results > 3mg/dl OR 2. Surgeon or physician has documented Acute Renal Failure AND one of the following: Increased BUN on two measurements OR two Cr results > 3mg/dl]
Patient name: _____________________ Date of birth: dd/mm/yyyy

**Risk assessment** [tick all that apply]

- [ ] None
- [ ] Ischemic heart disease
- [ ] Chronic heart failure or cardiomyopathy
- [ ] Hemiplegia
- [ ] Chronic respiratory failure
- [ ] Cancer
- [ ] Dementia
- [ ] Mild cognitive impairment
- [ ] Chronic renal failure
- [ ] Cardiac arrhythmia or heart blocks
- [ ] Peripheral vascular disease
- [ ] Chronic alcohol abuse
- [ ] Transplanted organ(s)
- [ ] Chronic heart failure or cardiomyopathy
- [ ] COPD
- [ ] Chronic respiratory failure
- [ ] Chronic alcohol abuse
- [ ] Transplanted organ(s)
- [ ] Dementia
- [ ] Cerebrovascular disease
- [ ] Mild cognitive impairment
- [ ] Other cognitive complaints ___________

**Most recent (within 1 month) pre-interventional blood results** [optional, only if done in the clinical routine]:

- Haemoglobin: [ ] Y [ ] N [ ] [ ] [ ] [ ] [ ] [ ] [ ] Unit: [ ] [g/dL] [5-20.0] [ ] [mmol/L] [3-14]
- Haematocrit: [ ] Y [ ] N [ ] [ ] [ ] [ ] [ ] [ ] [ ] Unit: [ ] [none] [0.2-0.65] [ ] [%] [20.0-65.00]
- Creatinine: [ ] Y [ ] N [ ] [ ] [ ] [ ] [ ] [ ] [ ] Unit: [ ] [mg/dL] [0.3-10.0] [ ] [µmol/L] [26-900]
- Albumin: [ ] Y [ ] N [ ] [ ] [ ] [ ] [ ] [ ] [ ] Unit: [ ] [g/dL] [0.5-8.0] [ ] [g/L] [5-80]

**Chronic medication** [until at least 7 days before intervention]: [tick all that apply]

- Anticoagulants: [ ] Y [ ] N [e.g. Heparin, Warfarin, NOACs]
- Antiplatelet therapy: [ ] Y [ ] N [e.g. Acetylsalicylic acid, Clopidogrel]
- Beta blockers: [ ] Y [ ] N
- ACE inhibitor or AT II-Receptor blocker: [ ] Y [ ] N [e.g. Ramipril/ Candesartan]
- Antidepressants: [ ] Y [ ] N
- Neuroleptics: [ ] Y [ ] N [e.g. Haloperidol, Pipamperon, Clozapin, Risperidon, Chlorpromazin]
- Benzodiazepines: [ ] Y [ ] N
- Z-drugs: [ ] Y [ ] N [e.g. Zolpidem, Zopiclone, Zaleplon]

**Frailty Assessments:**

1. History of falls during the last 6 months: [ ] none [ ] 1 time [ ] >1 time
2. Unintentional weight loss of ≥4.5 kg in the last year [ ] Y [ ] N
3. Mini Cog: Correct number of recalled words [ ] | [ ] [0-3]
   - Clock draw points [ ] | [ ] [0 or 2]
   - Total points [ ] | [ ] [0-5]
3. Timed up and go test [ ] [ ] [ ] [ ] [ ] [ ] seconds
   - Patient cannot perform this test at the moment [ ]
   - Not performed [ ]
II. Intervention day (Visit 2)

Anaesthesia induction date: [ ] _dd__ _mm__ _yyyy__ - [ ] _2__ _0__ _yy__ [>=01-Apr-2017]
Anaesthesia induction time: [ ] _hh__ : [ ] _mm__ hh:mm

Premedication before intervention:  □ none  □ Clonidine  □ Benzodiazepine

Anaesthesia technique [tick all that apply]
□ General  □ Spinal  □ Epidural  □ Other regional  □ Sedation
If general anaesthesia: Main anaesthetic for maintenance: [single best answer]
□ Desflurane  □ Isoflurane  □ Sevoflurane  □ Propofol  □ other
If general anaesthesia: Main opioid for maintenance: [single best answer]
□ Alfentanil  □ Fentanyl  □ Morphine  □ Piritramide  □ Remifentanil  □ Sufentanil  □ other

Advanced intraoperative Monitoring [tick all that apply]

<table>
<thead>
<tr>
<th>anaesthesia depth monitoring device [e.g. Bispectral index or EEG]</th>
<th>NIRS [Near-infrared spectroscopy]</th>
<th>Invasive RR [intra-arterial blood pressure measurement]</th>
<th>CVP [Central venous pressure]</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEE [Transoesophageal echocardiogram]</td>
<td>Pulmonary artery catheter</td>
<td>Cardiac output [via arterial wave form analysis]</td>
<td>other</td>
</tr>
</tbody>
</table>

Intervention/ Surgical procedure exact name:

Surgical category: [single best answer]
□ Arthroplasty and spine  □ Interv. Cardiology [e.g. TAVI]  □ Renal transplant
□ Cardiac  □ Interv. cardiorhythmology  □ Thoracic
□ Ear, nose and throat (ENT)  □ Interv. neuroradiology  □ Thoracic Transplant
□ Endoscopic digestive  □ Multiple trauma related  □ Urologic major
□ Gastrointestinal major  □ Neuro  □ Urologic minor
□ Gastrointestinal minor  □ Ophthalmologic  □ Vascular major
□ Gynaecologic  □ Orthopaedic other  □ Vascular minor
□ Hepatic major  □ Orthopaedic trauma  □ Other surgery
□ Hepatic minor  □ Plastic  □

Severity of surgery/ intervention
□ Minor  □ Intermediate  □ Major

Urgency of surgery/ intervention
□ Elective  □ Urgent  □ Emergency
Patient name: ____________________  Date of birth:  dd/mmm/yyyy

<table>
<thead>
<tr>
<th>Surgical wound classification</th>
<th>☐ Clean</th>
<th>☐ Clean-Contaminated</th>
<th>☐ Contaminated</th>
<th>☐ Dirty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laparoscopic surgery</td>
<td>☐ Y ☐ N</td>
<td>Cancer surgery</td>
<td>☐ Y ☐ N</td>
<td></td>
</tr>
<tr>
<td>On-pump cardiac surgery</td>
<td>☐ Y ☐ N</td>
<td></td>
<td></td>
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**Immediately at the end of intervention:**

- Extubation ☐ Y ☐ N [not applicable [e.g. patient was not intubated]
- Admission to ICU ☐ Y ☐ N [including intermediate care]  If Yes, planned admission? ☐ Y ☐ N
- Admission to a unit with "geriatric support" [e.g. geriatric units, geriatric co-management models, geriatric liaison services] ☐ Y ☐ N

**Transfusion:**

- Intraoperative transfusion of packed red blood cells: ☐ Y ☐ N  if yes amount: [__|__|__] [n]
- Intraoperative transfusion of fresh frozen plasma: ☐ Y ☐ N  if yes amount: [__|__|__] [n]
- Intraoperative transfusion of platelets: ☐ Y ☐ N  if yes amount: [__|__|__] [n]

**WHO-surgical checklist used and completely filled in?** ☐ Y ☐ N

- End of anaesthesia date: [__|__|__|__|__|__|__|__|__|__] >=01-Apr-2017
- End of anaesthesia time: [__|__|__|__|__|__|__|__|__|__] [hh:mm]

**Definitions:**

**Severity of surgery**

- Minor  e.g. skin-lesions or small skin tumours, biopsies, draining breast abscess, brief diagnostic and therapeutic procedures like arthroscopy without intervention
- Intermediate  Primary repair of inguinal hernia, excising varicose veins in the leg, tonsillectomy or adeno-tonsillectomy, knee arthroscopy, cataract surgery, uvuloplasty, minimally invasive repair of vaginal prolapse, vaginal hysterectomy, tendon repair of hand etc.
- Major  Total abdominal hysterectomy, endoscopic resection of prostate, lumbar discectomy, thyroidectomy, total joint replacement, lung operations, colon resection, radical neck dissection etc.

**Urgency of surgery/ non-surgical intervention**

- Elective  Intervention that is scheduled in advance because it does not involve a medical emergency
- Urgent  Intervention required within < 48 hrs
- Emergency  Non-elective intervention performed when the patient's life or well-being is in direct jeopardy

**Surgical wound classification**

- Clean  Elective, not emergency, non-traumatic, primarily closed; no acute inflammation; no break in technique; respiratory, gastrointestinal, biliary and genitourinary tracts not entered.
- Clean-contaminated  Urgent or emergency case that is otherwise clean; elective opening of respiratory, gastrointestinal, biliary or genitourinary tract with minimal spillage (e.g. appendectomy) not encountering infected urine or bile; minor technique break.
- Contaminated  Non-purulent inflammation; gross spillage from gastrointestinal tract; entry into biliary or genitourinary tract in the presence of infected bile or urine; major break in technique; penetrating trauma <4 hours old; chronic open wounds to be grafted or covered.
- Dirty  Purulent inflammation (e.g. abscess); preoperative perforation of respiratory, gastrointestinal, biliary or genitourinary tract; penetrating trauma >4 hours old.
III. Follow-up on POD 30 (Visit 3)

Date of Follow-up: [dd/mm/yyyy - dd/mm/yyyy] [=intervention day+30 days]

Patient status on postoperative day 30:

☐ Discharged before day 30

If yes:

☐ Date of discharge: [dd/mm/yyyy - dd/mm/yyyy]

☐ Discharge destination: [single best answer]

☐ Other hospital

☐ Rehabilitation

☐ Nursing home

☐ Home

☐ Other, please specify __________

☐ In hospital death

If yes:

☐ Was cardiopulmonary resuscitation performed ☐ Y ☐ N

☐ Date of death: [dd/mm/yyyy - dd/mm/yyyy]

☐ Still in hospital at day 30

Hospital length of stay after intervention until Follow-up: [≤ 31 days] [including day of intervention, excluding discharge day, in case of “still in hospital” please enter 31]

Total ICU length of stay after intervention: [≤ 31 days] [Including day of ICU admission, excluding discharge day from ICU. In case of continuous ICU stay since intervention, please enter 31]

Unplanned ICU admission at any time after intervention until day 30 ☐ Y ☐ N

Admission to a unit with "geriatric support" at any time-point until day 30 ☐ Y ☐ N

[e.g. geriatric units, geriatric co-management models, geriatric liaison services]

In hospital outcome according to the ACS NSQIP® [tick all that apply]

☐ None of the mentioned

☐ Cardiac arrest

☐ DVT [deep vein thrombosis]

☐ Myocardial infarction

☐ Venous thromboembolism/ blood clot [requiring therapy]

☐ Pneumonia

☐ Superficial incisional SSI [surgical site infection]

☐ Pulmonary embolism

☐ Deep incisional SSI

☐ Unplanned intubation

☐ Organ space SSI

☐ Ventilator >48h

☐ Wound disruption

☐ Return to the operating room

☐ Systemic sepsis

☐ Stroke

☐ Urinary tract infection

☐ Acute kidney injury [creatinine increase of >2mg/dl from preoperative value or new dialysis]

☐ Discharge to post-acute care [other hospital, nursing/ rehab facility]
Visit at ward (if the patient is still in hospital) [If patient is already discharged=> perform the telephone Follow up]

Actual functional status:

- [ ] Independent [patient does not require assistance from another person for activities of daily living]
- [ ] Partially dependent [The patient requires some assistance from another person]
- [ ] Totally dependent [The patient requires total assistance for all activities of daily living]

Brief screen for cognitive impairment: Correct number of the recalled words
(Dog, Apple, House) [ ] [0-3]

Additional Telephone follow-up on day 30 (only if the patient was discharged before day 30)

Patient status on day 30
- [ ] Alive
- [ ] Dead, If yes, date of death: [dd/mm/yyyy]
- [ ] Follow-up not performed/ not available

If follow up is NOT available, specify reason: [single best answer]

- [ ] Patient’s will
- [ ] Other, please specify: _______________________________________

Any complications after hospital discharge: [only present if they led to hospital re-admission or death, or additionally in case of kidney injury, if it led to renal replacement therapy]

- Cardiac (Cardiac arrest, myocardial infarction) [Y N]
- Pulmonary (Pneumonia, pulmonary embolism) [Y N]
- Stroke [Y N]
- Acute kidney injury [Y N]

Actual functional status:

- [ ] Independent [patient does not require assistance from another person for activities of daily living]
- [ ] Partially dependent [The patient requires some assistance from another person]
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