

Supplement 1. Definition of postoperative complications according to the POSSUM scoring system.[1, 2]

Infection.

- Chest infection: Production of purulent sputum with positive bacteriological culture with or without chest radiography changes or pyrexia, or consolidation seen on chest radiography.
- Wound infection. Wound cellulitis or the discharge of purulent exudate.
- Urinary infection. Culture of urinary tract pathogen ($>10^5$ CFU/ml), with the presence of white cells in the urine, in previously clear urine.
- Septicaemia. Positive blood culture.
- Pyrexia. Body temperature above 38°C for more than 24 hrs after the possible temperature rise after surgery has normalised.

Respiratory failure. Respiratory distress causing need for non-invasive or invasive ventilatory support.

Cardiac.

- Cardiac failure. Symptoms or signs of left ventricular or congestive cardiac failure which required an alteration from preoperative therapeutic measures.
- Arrhythmias.
- Hypotension. Systolic blood pressure <90 mm Hg for more than 2 hours.
- Myocardial infarct. According to American Heart Association and European Society of Cardiology[3]. One value of plasma troponin >15 ng/L with repeated measurements showing a change of at least 50% between the highest and lowest value.

In addition either:

- a) Typical symptoms. Chest pain of ischemic character for more than 5 minutes or lung oedema with no other explanation.

- b) ECG changes. Progress of pathological Q waves in at least 2 leads with duration >0.03 s and 25% of R Wave or ischemic ST-changes.

Thrombotic.

- Deep venous thrombosis. Diagnosis confirmed with ultrasound or phlebography.
- Lung emboli. Diagnosis confirmed with computed tomography or ventilation/perfusion scanning, or diagnosed post mortem.
- Cerebrovascular injury. New neurological symptoms secondary to hemorrhage or infarction in the central nervous system.
- Vascular complications

Impaired Renal Function. Kidney failure or urinary retention. Increase in blood urea of > 5 mmol/l from preoperative levels.

Wound problems.

- Wound dehiscence. Superficial or deep wound breakdown.
- Wound haemorrhage, deep haemorrhage. Local hematoma, requiring evacuation
- Anastomotic leak. Not applicable
- Prosthesis problems. Unanticipated displacement of an implant.

References:

1. Copeland GP, Jones D, Walters M. POSSUM: a scoring system for surgical audit. Br J Surg. 1991 Mar;78(3):355-60. PubMed PMID: 2021856.
2. Mohamed K, Copeland GP, Boot DA, et al. An assessment of the POSSUM system in orthopaedic surgery. J Bone Joint Surg Br. 2002 Jul;84(5):735-9. PubMed PMID: 12188495.
3. Thygesen K, Alpert JS, White HD, et al. Universal definition of myocardial infarction. Eur Heart J. 2007 Oct;28(20):2525-38. doi: 10.1093/eurheartj/ehm355. PubMed PMID: 17951287.