

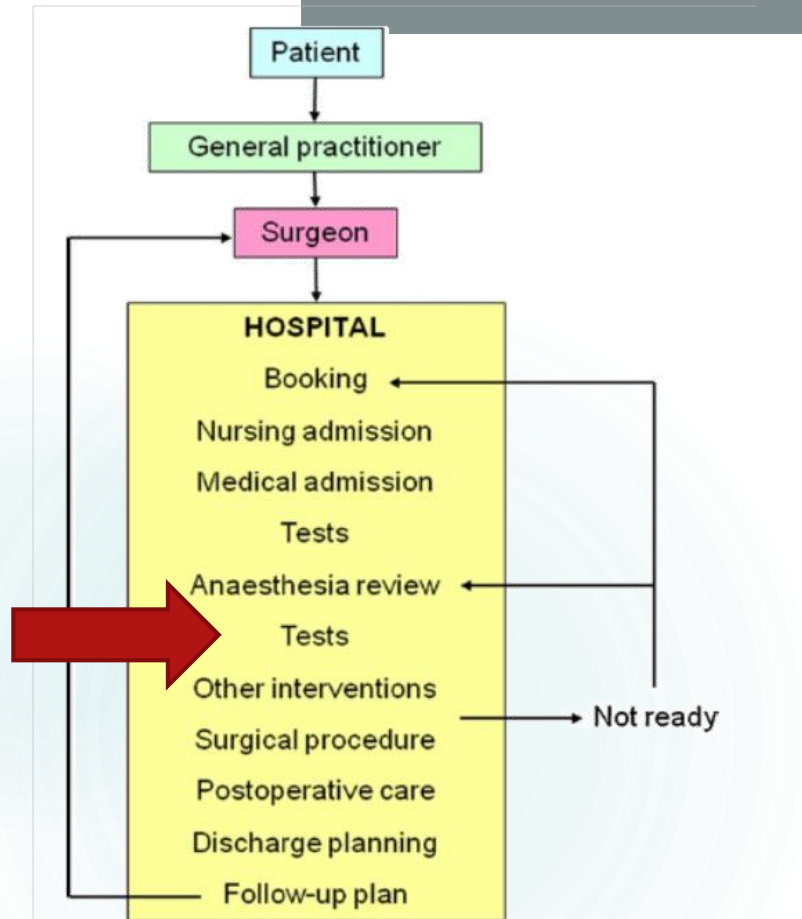
Het pre-operatief ambulante onderzoek in het kader van
de nieuwe richtlijnen van het Federaal Kenniscentrum
voor de Gezondheidszorg (KCE)

Improving Quality in Anaesthesia: Preoperative Consultation

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31 januari 2018

Traditional system of surgical care



Lee A, Kerridge RK, Chui PT, Chiu CH, Gin T.
Perioperative Systems as a quality model of perioperative medicine and surgical care.
Health Policy 2011; **102**: 214-22

- ▶ Vlayen Joan BN, Robays Jo. Welke testen routinematig uitvoeren vóór geplande, niet-cardiothoracale chirurgie? *Federaal Kenniscentrum voor de Gezondheidszorg (KCE) 2016 KCE Reports 280As D/2016/10273/101*
- ▶ De Hert S, Imberger G, Carlisle J, et al. Preoperative evaluation of the adult patient undergoing non-cardiac surgery: guidelines from the European Society of Anaesthesiology. *Eur J Anaesthesiol* 2011; 28: 684-722
- ▶ Kristensen SD, Knuuti J, Saraste A, et al. 2014 ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management: The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA). *Eur J Anaesthesiol* 2014; 31: 517-73

Preoperative anaesthesia clinic

- ▶ Identifying patients at increased risk for perioperative complications
- ▶ Risk reduction to improve patient outcome
 - ▶ Pharmacologic interventions preoperatively (?)
 - ▶ Choice of anesthetic technique
 - ▶ Neuraxial vs general
 - ▶ Total intravenous vs inhalational anaesthesia
 - ▶ Monitoring depth of anaesthesia
- ▶ Accepting for surgery or referring for more conventional treatment if patient's risk does not match the benefit of the procedure

ASA
NSQIP Surgical Risk

Coordinate preoperative evaluation

The majority of patients with stable heart disease can undergo low and intermediate risk surgery without additional evaluation

Low-risk: <1%	Intermediate-risk: 1–5%	High-risk: >5%
<ul style="list-style-type: none">• Superficial surgery• Breast• Dental• Endocrine: thyroid• Eye• Reconstructive• Carotid asymptomatic (CEA or CAS)• Gynaecology: minor• Orthopaedic: minor (meniscectomy)• Urological: minor (transurethral resection of the prostate)	<ul style="list-style-type: none">• Intraperitoneal: splenectomy, hiatal hernia repair, cholecystectomy• Carotid symptomatic (CEA or CAS)• Peripheral arterial angioplasty• Endovascular aneurysm repair• Head and neck surgery• Neurological or orthopaedic: major (hip and spine surgery)• Urological or gynaecological: major• Renal transplant• Intra-thoracic: non-major	<ul style="list-style-type: none">• Aortic and major vascular surgery• Open lower limb revascularization or amputation or thromboembolectomy• Duodeno-pancreatic surgery• Liver resection, bile duct surgery• Oesophagectomy• Repair of perforated bowel• Adrenal resection• Total cystectomy• Pneumonectomy• Pulmonary or liver transplant

CAS, carotid artery stenting; CEA, carotid endarterectomy. ^aSurgical risk estimate is a broad approximation of 30-day risk of cardiovascular death and myocardial infarction that takes into account only the specific surgical intervention without considering the patient's comorbidities. ^bAdapted from Glance *et al.*¹¹

Informed consent / Patiëntenparticipatie

- ▶ Het team hanteert een beleid met betrekking tot informed consent dat voldoet aan vigerende wet- en regelgeving.
- ▶ De teamleden informeren cliënten en familieleden tijdig, volledig en nauwkeurig om hen te helpen keuzes te maken ten aanzien van de behandeling.
- ▶ Het team controleert of de cliënt en zijn familie de verstrekte informatie over de behandeling begrijpen en legt de uitkomst van die controle vast in het dossier van de cliënt.

Surgical Risk Calculator



Procedure **Clear**

Begin by entering the procedure name or CPT code. One or more procedures will appear below the procedure box. You will need to click on the desired procedure to properly select it. You may also search using two words (or two partial words) by placing a '+' in between, for example: "cholecystectomy+cholangiography"

Reset All Selections

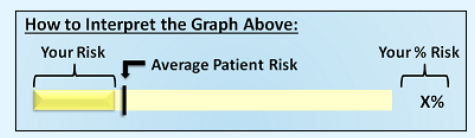
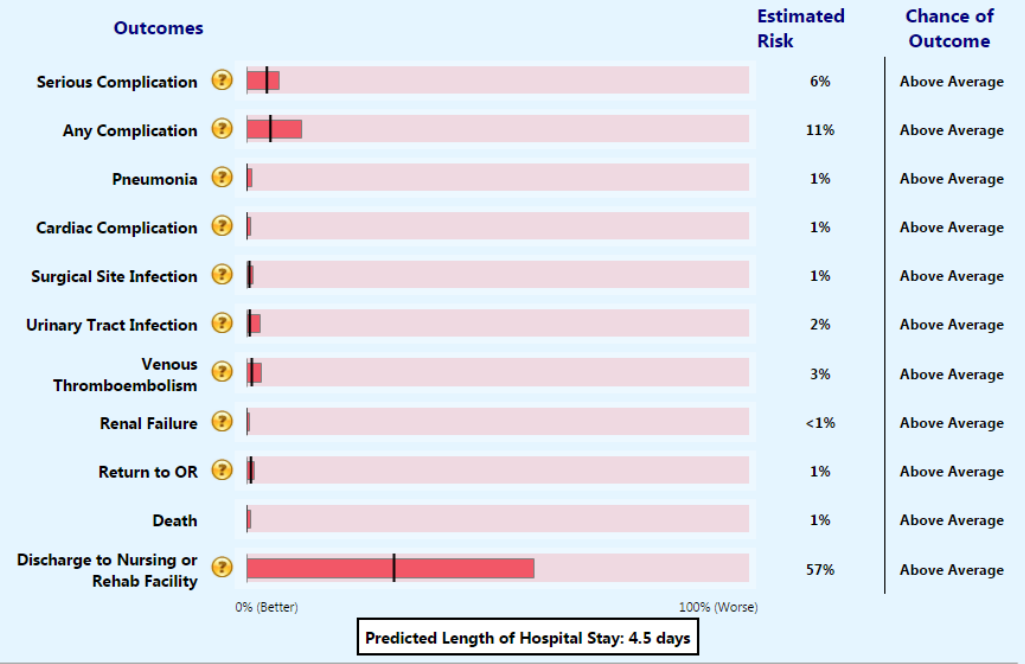
Are there other potential appropriate treatment options? Other Surgical Options Other Non-operative options None

Please enter as much of the following information as you can to receive the best risk estimates. A rough estimate will still be generated if you cannot provide all of the information below.

Age Group: 75-84 years | Diabetes: Oral
 Sex: Female | Hypertension requiring medication: Yes
 Functional status: Independent | Previous cardiac event: No
 Emergency case: No | Congestive heart failure in 30 days prior to surgery: No
 ASA class: III - Severe systemic disease
 Wound class: Clean | Dyspnea: With Moderate exertion
 Steroid use for chronic condition: Yes | Current smoker within 1 year: No
 Ascites within 30 days prior to surgery: No | History of severe COPD: Yes
 Systemic sepsis within 48 hours prior to surgery: None | Dialysis: No
 Ventilator dependent: No | Acute Renal Failure: No
 Disseminated cancer: No | BMI Calculation: Height (in): 67 | Weight (lbs): 209

Procedure 27447 - Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty) **Change Patient Risk Factors**

Risk Factors Age: 75-84, Female, ASA III, Chronic steroids, Diabetes (oral), HTN, Dyspnea with exertion, COPD, Obese (Class1)



Surgeon Adjustment of Risks

This will need to be used infrequently, but surgeons may adjust the estimated risks if they feel the calculated risks are underestimated. This should only be done if the reason for the increased risks was NOT already entered into the risk calculator.



Revised Cardiac Risk Index

1. History of ischemic heart disease
 2. History of congestive heart failure
 3. History of cerebrovascular disease (stroke or transient ischemic attack)
 4. History of diabetes requiring preoperative insulin use
 5. Chronic kidney disease (creatinine > 2 mg/dL)
 6. Undergoing suprainguinal vascular, intraperitoneal, or intrathoracic surgery
- Risk for cardiac death, nonfatal myocardial infarction, and nonfatal cardiac arrest:
0 predictors = 0.4%, 1 predictor = 0.9%, 2 predictors = 6.6%, ≥3 predictors = >11%

Q of the consultation



- ▶ The actual anaesthesia provider has to trust the anaesthesia consultant
- ▶ The PAC-file has to reflect sufficient and adequate information
- ▶ Consensus based guidelines

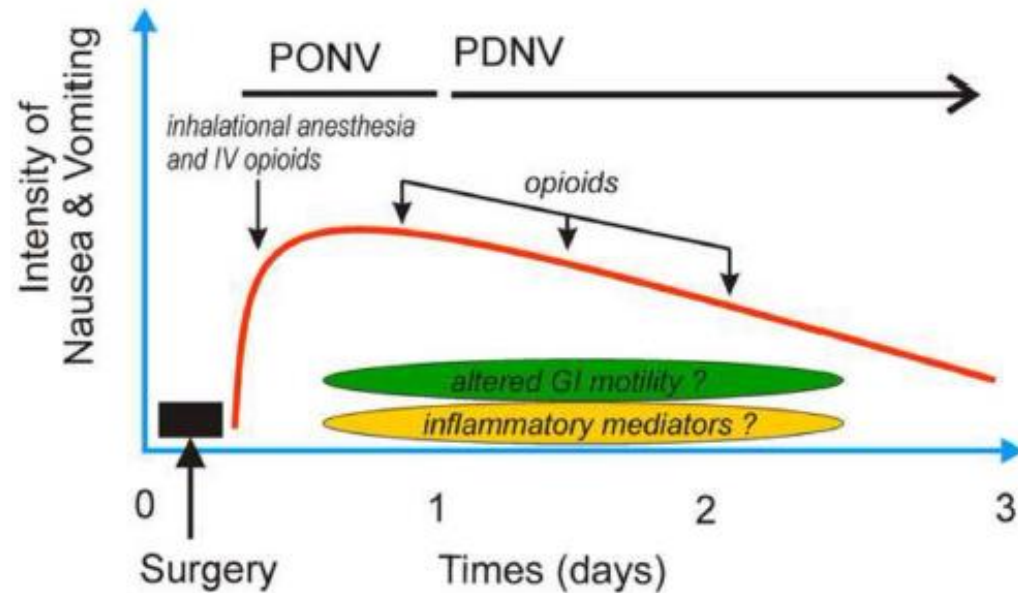
Kristensen SD, Knutti J, Saraste A, et al. 2014

ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management: The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA).
Eur J Anaesthesiol 2014

De Hert S, Imberger G, Carlisle J, et al.

Preoperative evaluation of the adult patient undergoing non-cardiac surgery: guidelines from the European Society of Anaesthesiology.
Eur J Anaesthesiol 2011; **28**: 684-722

PONV-PDNV

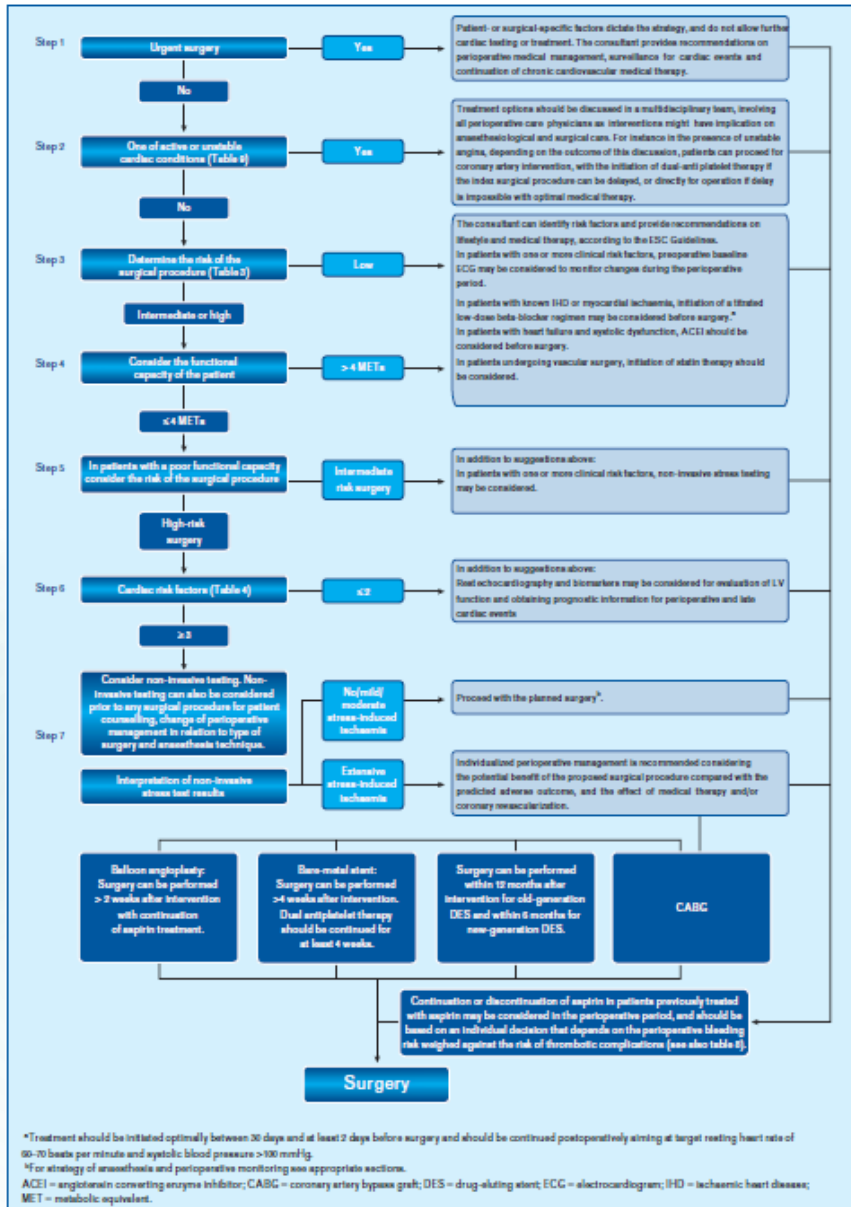


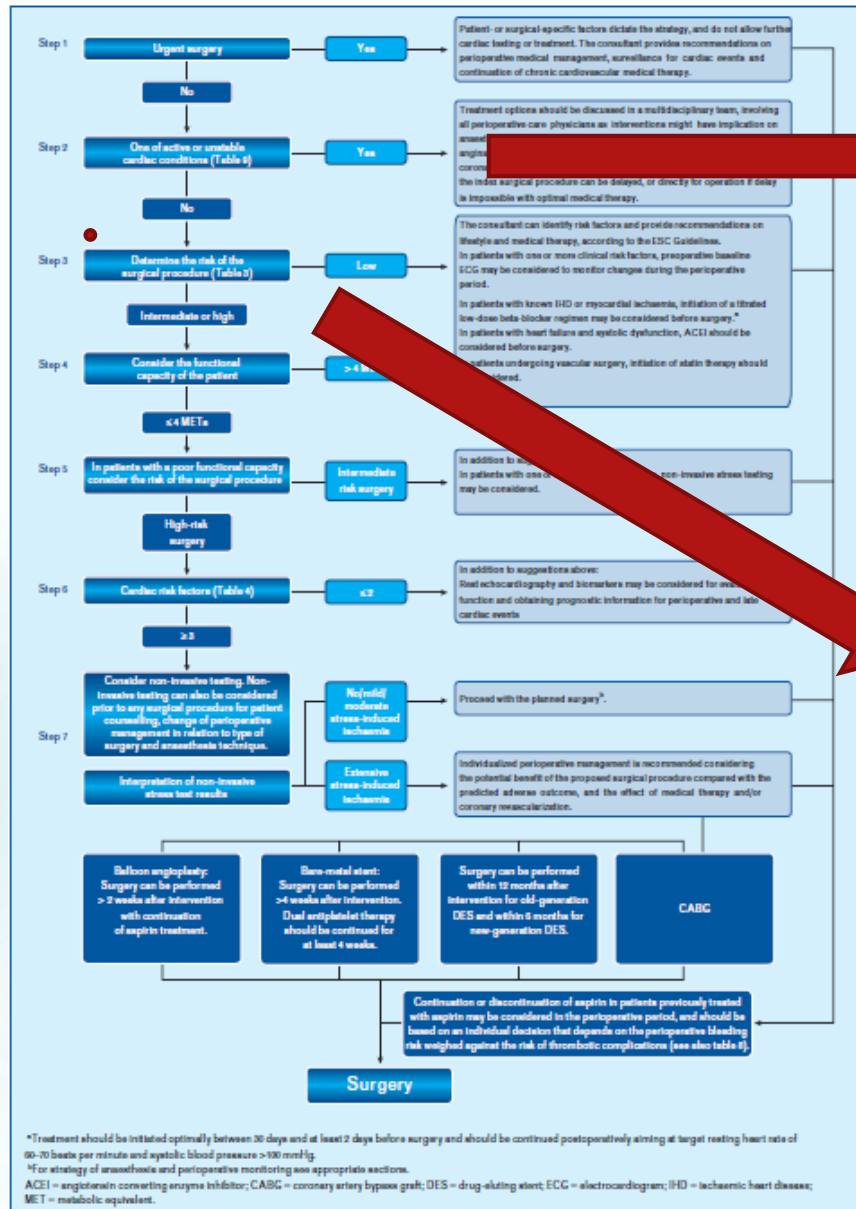
General anaesthesia is the clinical use of potent and *potentially lethal* drugs, to produce a state of controlled, reversible *poisoning* to achieve narcosis, analgesia and reflex suppression administered with professional skill,...

Vragenlijsten voor anamnese medicatie anamnese (accreditering)

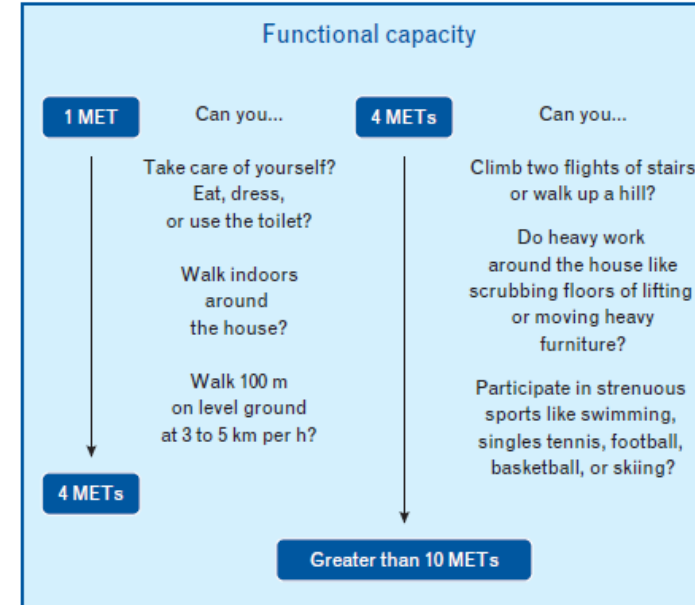
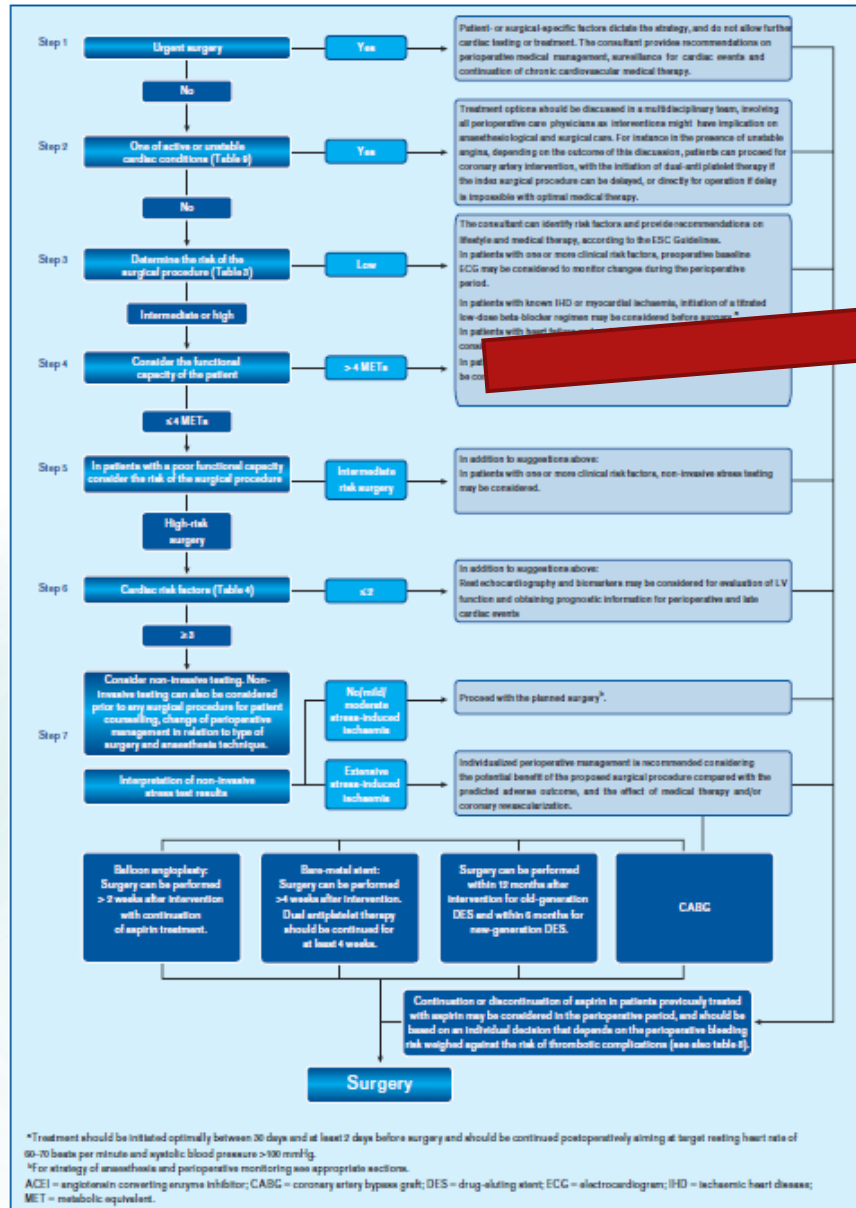
- ▶ Het team verifieert samen met de cliënt de medicatie bij opname in de instelling (inclusief de spoedeisende hulp of intramurale afdeling).
- ▶ Het protocol omvat een lijst van de meest actuele medicatie die de cliënt gebruikt (de best mogelijke medicatiegeschiedenis).
- ▶ Het protocol omvat een vergelijking van deze medicatielijst vóór opname met de nieuwe door de instelling voorgeschreven medicatie.
- ▶ Het protocol stelt duidelijk dat medicatieafstemming een gedeelde verantwoordelijkheid is van de cliënt en de zorgverlener.

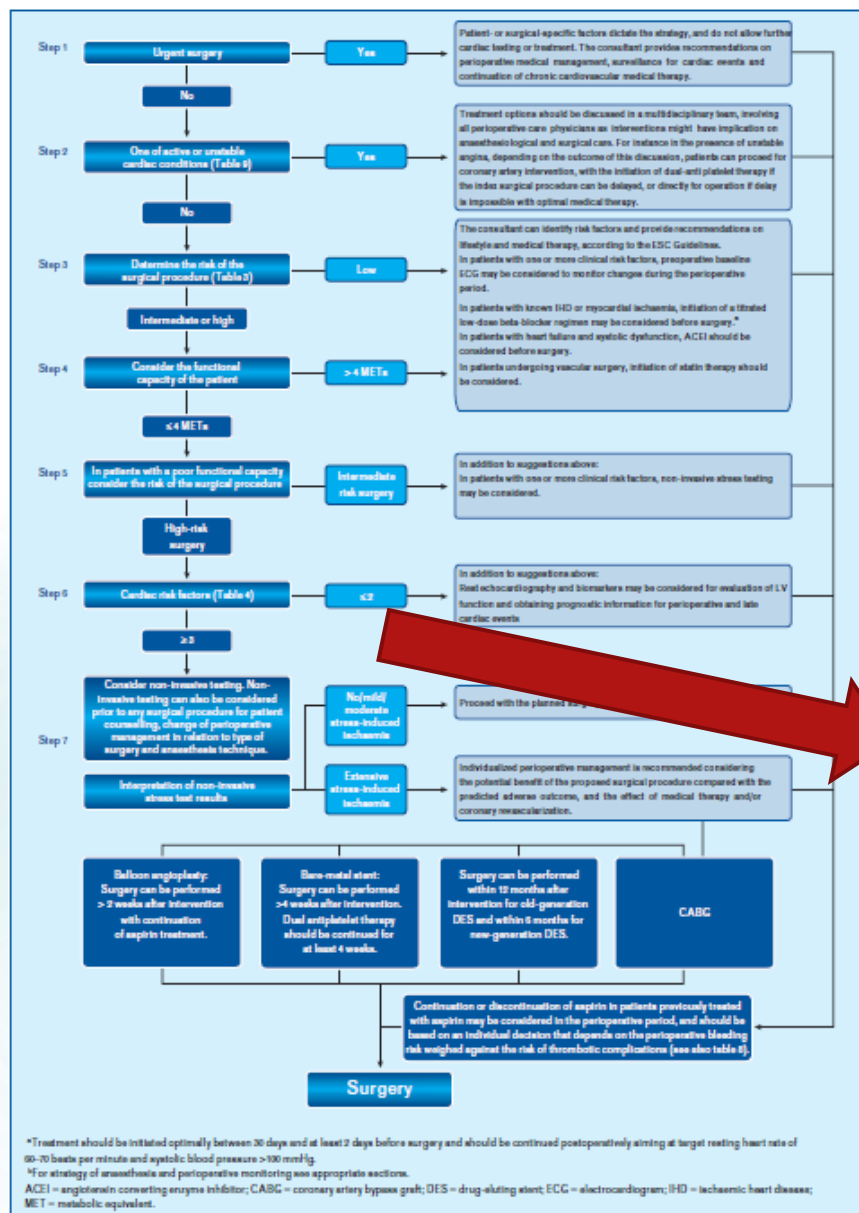
Practical stepwise evaluation integrating clinical risk factors and test results with the estimated stress of the planned procedure





- Unstable angina pectoris
- Acute heart failure
- Significant cardiac arrhythmias
- Symptomatic valvular heart disease
- Recent myocardial infarction^a and residual myocardial ischaemia





Revised Cardiac Risk Index

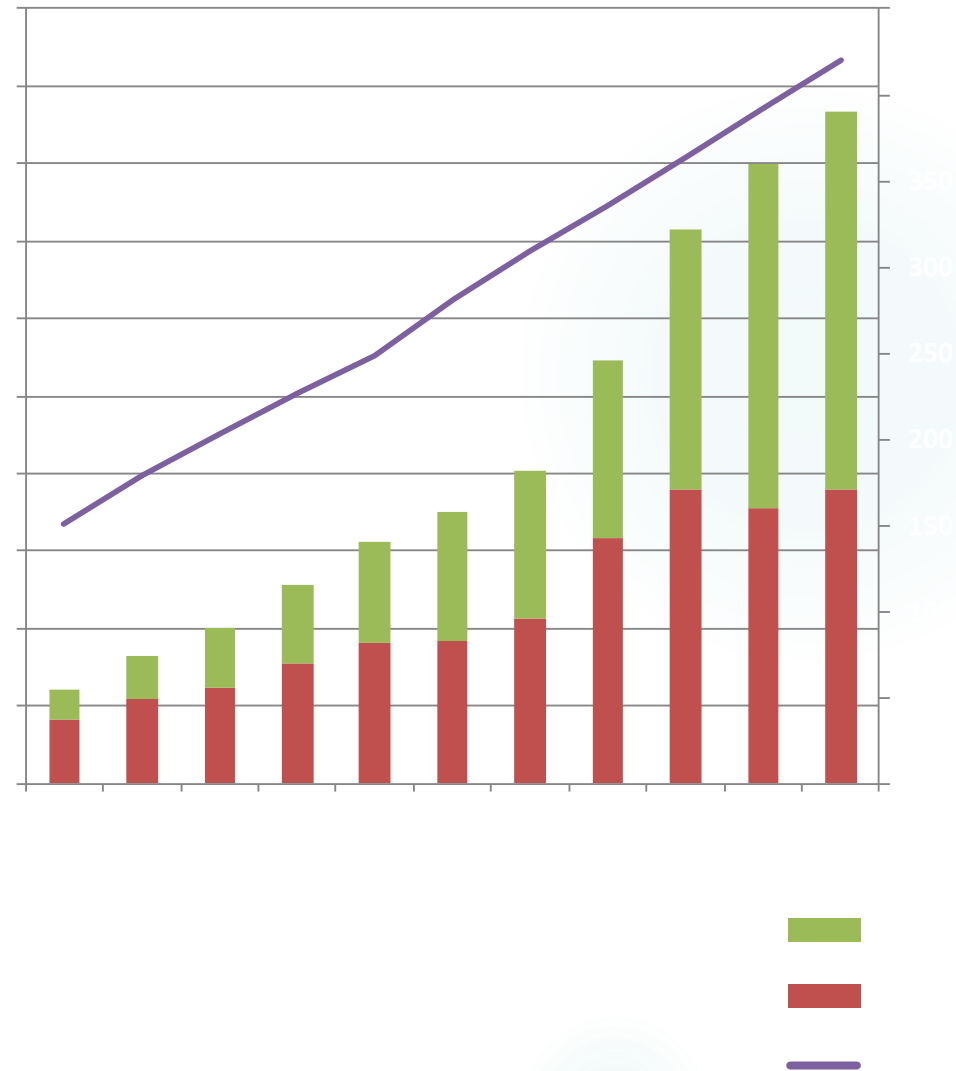
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Risk for cardiac death, nonfatal myocardial infarction, and nonfatal cardiac arrest:

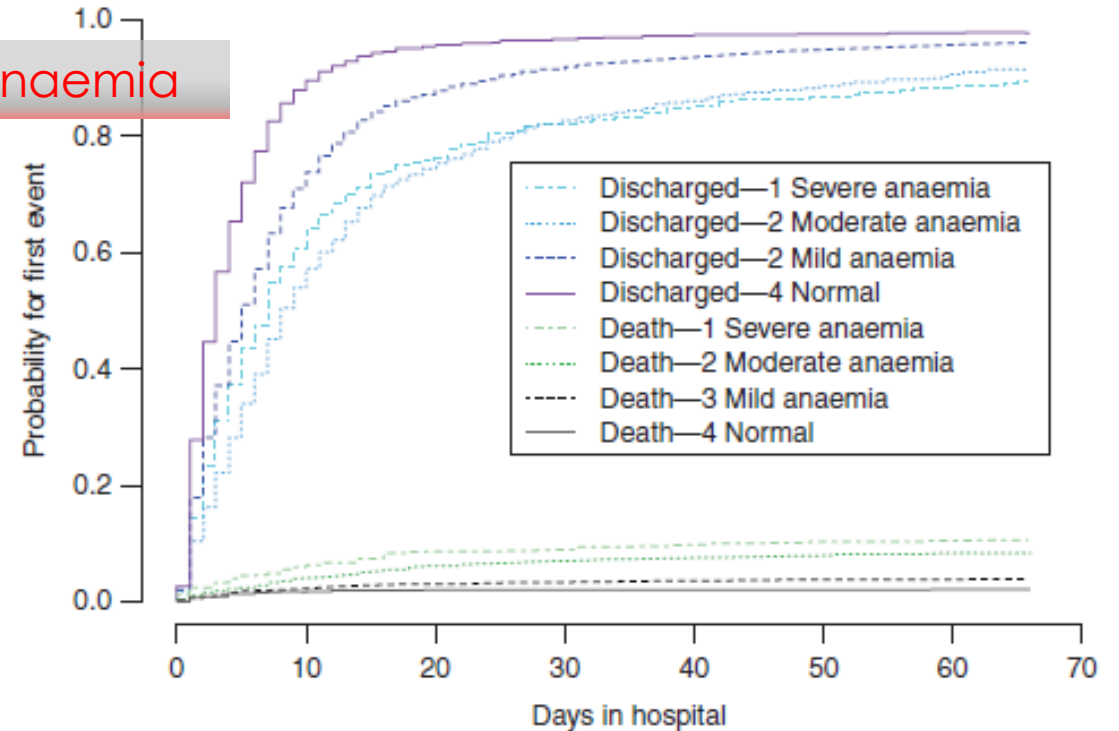
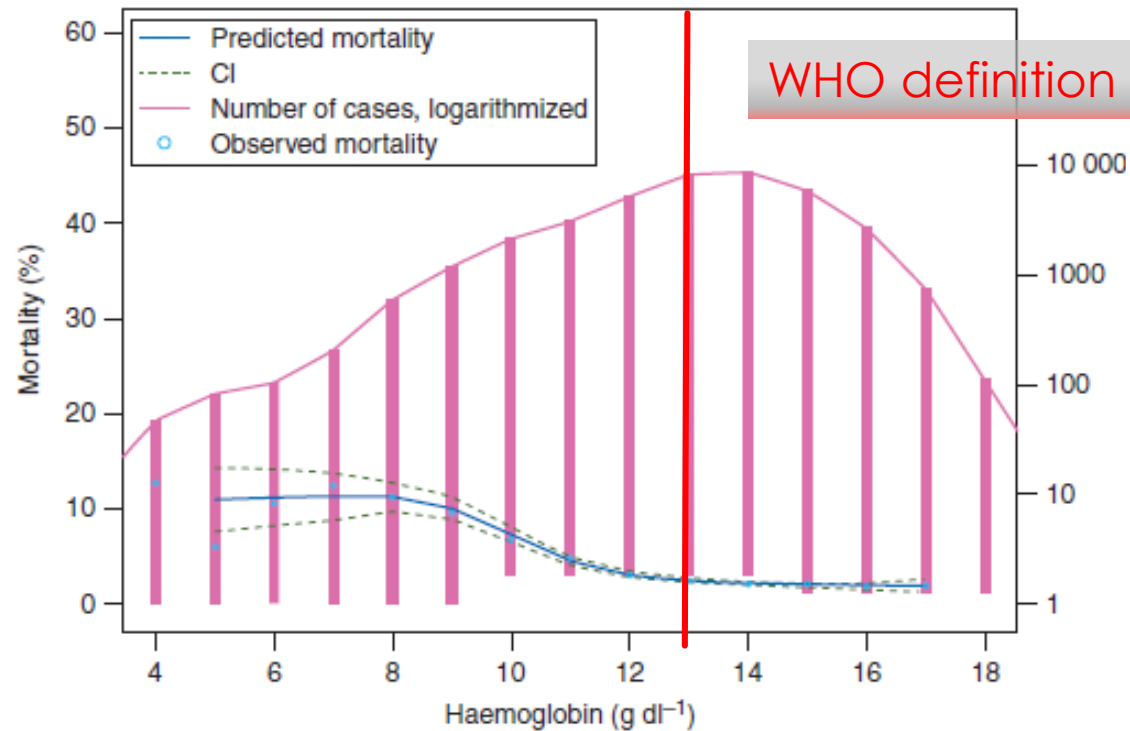
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Reduced mortality and morbidity

- ▶
- ▶
- ▶
- ▶ ...
- ▶ Smoking cessation
- ▶ Alcohol abstinence
- ▶ Incentive spirometry
- ▶ Screening for OSAS
- ▶ Screening for 'frailty'
- ▶ Preoperative correction
- ▶ Reduction of Postoperative



Anaemic patients have poor clinical outcome



Unexpected preoperative anemia should be considered an indication for rescheduling any elective major surgical procedure until evaluation and treatment are completed.

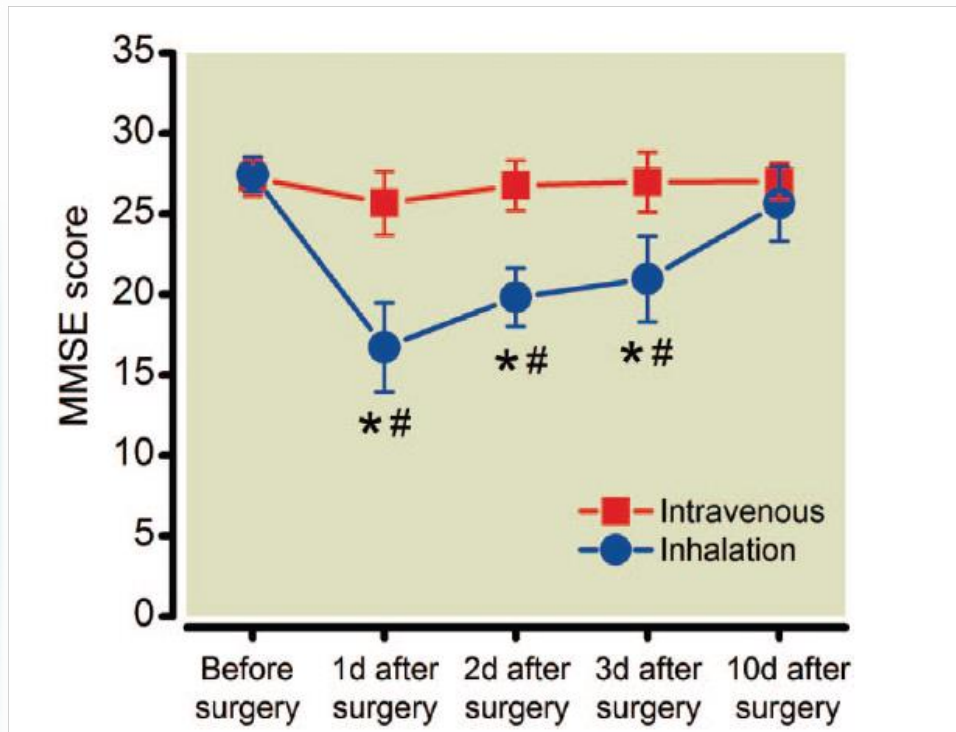
Munoz M, Gomez-Ramirez S, Kozek-Langeneker S, et al.
'Fit to fly': overcoming barriers to preoperative haemoglobin optimization in surgical patients.
British journal of anaesthesia 2015; **115**: 15-24



Frailty as independent risk factor

- ▶ Adverse health outcome
- ▶ Mortality
- ▶ Increased length of stay
- ▶ Inability to be discharged home : institutionalization
- ▶ Many frailty assessment tools: > Edmonton Frailty Scale

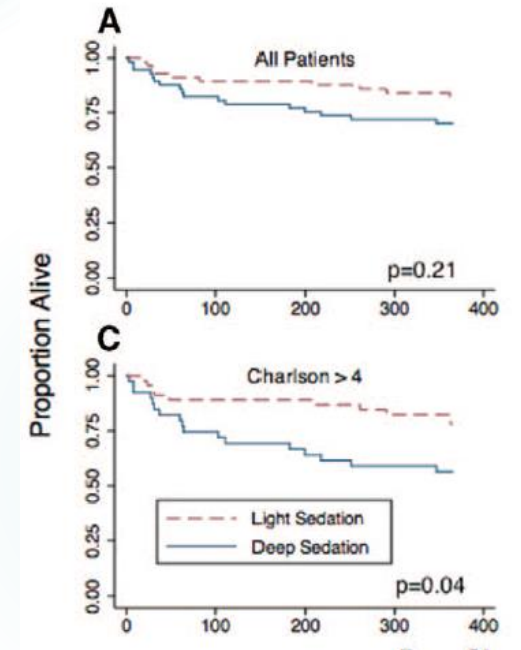
Is there a safer way to anaesthetize the elderly ?



Cai Y, Hu H, Liu P, et al. Postoperative cognitive dysfunction in elderly patients undergoing intravenous anesthesia and inhalation anesthesia. *Anesthesiology* 2012; **116**: 84-93

Postoperative delirium

- ▶ General anaesthesia
- ▶ Spinal anaesthesia
- ▶ Monitoring delirium
 - ▶ Light anaesthesia
 - ▶ Postoperative delirium



1 incident of postop delirium will be prevented for every 4,7 patients treated with light sedation

Sieber FE, Zakriya KJ, Gottschalk A, et al. Sedation depth during spinal anaesthesia and postoperative delirium. *Mayo Clin Proc* 2010; **85**: 18-26

Wong CHT, Azman AS, Gottschalk A, et al. Sedation depth during spinal anaesthesia and postoperative delirium and analgesia. *2014*

- ▶ Severely malnourished patients clearly benefit from preoperative nutrition support even if surgery has to be delayed
- ▶ Pre-operative fasting can exacerbate surgical stress response, aggravates insulin resistance, protein loss and impairs gastrointestinal function
- ▶ 50 g carbohydrates loading dose as clear liquid 2hrs before induction

A standardized, complete preoperative assessment of the vulnerable patient by the anesthesiologist with subsequent preoperative risk reduction:

Saves lives
Improves quality of live