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حالة سريرية :

امرأة ٥٦ سنة ، تبديل مفصل ورك

خناق صدر مستقر ،احتشاء عضلة قلبية منذ

منذ ٤ سنوات

تستطيع صعود ٣ طوابق

تراجع العيادة القلبية لاجراء استشارة قلبية قبل

العمل الجراحي !

ESC
European Society
of Cardiology

2014 ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management

European Society of Cardiology
(ESC) and the European Society of Anaesthesiology
(ESA)

التغيرات القلبية أثناء الجراحة

Table 8-1 • Physiologic Alterations That Contribute to Postoperative Adverse Events

Contributing Factors to Perioperative Events	Physiologic Basis/Effect
Postoperative procoagulable state	Platelet activation Increased fibrinogen Reduced intrinsic fibrinolytic activity
Supply and/or demand mismatch	Tachycardia Hypertension Hypoxemia Fluid shifts Blood loss
Elevated catecholamines	Vasospasm Tachycardia Hypertension
Activation of the renin-angiotensin System	Hypertension Water and sodium retention
Anesthetic effects	Vasodilation Negatively inotropic
Withdrawal of positive pressure Ventilation	Increased venous return Increased afterload

اهمية الاستشارة

around 20 million people
undergo noncardiac surgery annually.[1]
One-third of surgeries
are performed in geriatric population

The overall mortality is
1–5%, in individual less than 65 years the average mortality
is 1% whereas in individuals above 65 years the morality is
higher about 5%.

Cardiovascular (CV) complications are
the most common cause of death
.[2,3] All deaths in the first 48 hours are due to cardiac causes like heart failure (HF), acute
coronary syndrome (ACS).

Preoperative evaluation is of paramount importance as appropriate preventive and therapeutic strategies may
decrease CV morbidity and mortality and shorten the hospital stay

The cardiac complications after noncardiac surgery depend on three things:

1. Procedure-related risk
2. Patient-related risk
3. Functional capacity (FC).

Procedure-related risk

Low-risk: < 1%	Intermediate-risk: 1–5%	High-risk: > 5%
• 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)	• 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	• 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

Patient-related risk

Major	Intermediate	Minor
ACS	Prior Myocardial	Advanced age
Deco		CG
Signi		er
Sever lesion		
Poor		d on

A multidisciplinary expert team should be considered for pre-operative evaluation of patients with known or high risk of cardiac disease undergoing high-risk non-cardiac surgery.

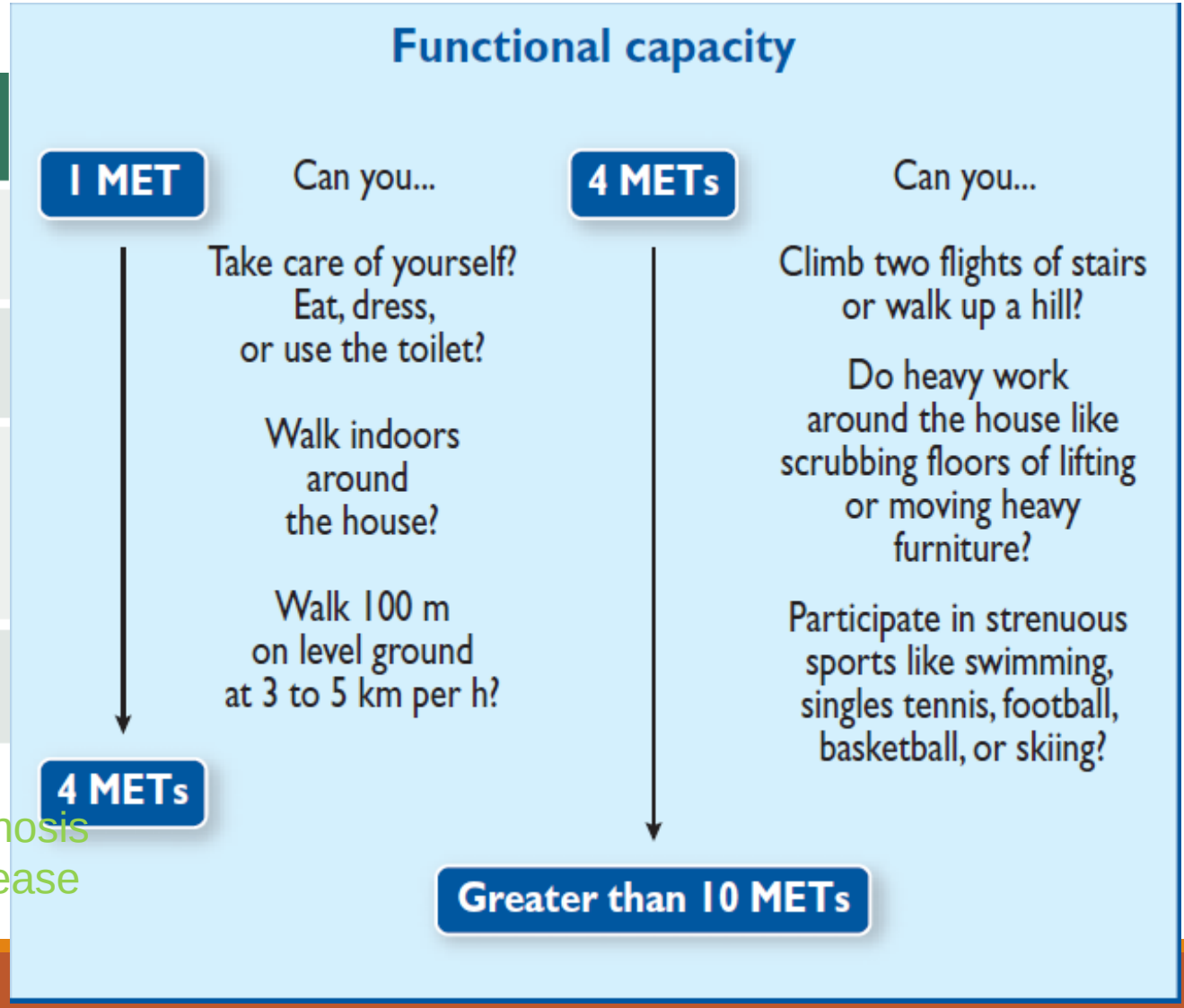
المريضة

IIa IIB C

Functional capacity (FC).

Severity	Assessment
Poor	Unable to climb a flight of stairs (<4 METs)
Moderate	Climbing flight of stairs (4–7 METs)
Good	Participation in moderate recreational activities (>7 METs)
Very good	Participation in strenuous sports swimming (>10 METs)

Poor FC is associated with an increased incidence of postoperative cardiac events. When FC is good, the prognosis is excellent even in presence of stable ischemic heart disease (IHD) or risk factors



Lee score

TABLE 4: Revised cardiac risk index variables

Variables	Pts
Hx of IHD	1
Hx of CHF	1
Hx of CVD	1
Insulin for diabetes	1
Serum creatinine >2.0 mg/dL	1
High-risk surgery	1

Lee score

TABLE 5: Assessment of cardiac events in preoperative period based on RCRI points

Total RCRI points	Risk of MI, cardiac arrest, or death 30 days after surgery
0	0.4% (95% CI: 0.1–0.8)
1	1.0% (95% CI: 0.5–1.4)
2	2.4% (95% CI: 1.3–3.5)
≥3	5.4% (95% CI:2.8–7.9)

شاب ٢٥ سنة لاجراء عملية انحراف وترة أنفية

هل نعمل تخطيط قلب كهربائ

ECG

تخطيط روتيني دون عوامل خطورة مع جراحة منخفضة

دون عوامل خطورة . ٦٥ .جراحة متوسطة

عوامل خطورة مع جراحة منخفضة ...

عوامل خطورة مع جراحة متوسطة او عالية ...

Pre-operative ECG is recommended for patients who have risk factor(s)[d] and are scheduled for intermediate- or high-risk surgery.	I	C

echocardiography

guidelines suggest that preoperative echocardiography may be reasonable for the following patients:

- Individuals with dyspnea of unclear etiology.
- Individuals with current or prior CHF with a recent change in clinical status and no assessment of LVEF in the past year.

imaging stress testing

Imaging stress testing is recommended before high-risk surgery in patients with more than two clinical risk factors and poor functional capacity (<4 METs).[c]	I	C

coronary angiography

Urgent or early invasive strategy is recommended in patients with NSTE-ACS requiring non-urgent, non-cardiac surgery according to risk assessment.	I	B