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Formación online en actualizaciones en Cardiología

***Principales Enseñanzas para el
Cardiólogo Clínico de las Guías de
Evaluación y Manejo Cardiovascular
de Pacientes sometidos a Cirugía No
Cardiaca***

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ESC

European Society
of Cardiology

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ESC GUIDELINES

2022 ESC Guidelines on cardiovascular assessment and management of patients undergoing non-cardiac surgery

**Developed by the task force for cardiovascular assessment and
management of patients undergoing non-cardiac surgery of the
European Society of Cardiology (ESC)**

**Endorsed by the European Society of Anaesthesiology and
Intensive Care (ESAIC)**

Halvorsen S et al. Eur Heart J 2022;00:1-99. <https://doi.org/10.1093/eurheartj/ehac270>

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Magnitud del Problema

- 22.000.000 cirugías mayores/año en Europa (población 448.000.000)¹
- 85% cirugía no cardiaca
- ≥ 45 años sometidos a cirugía no cardiaca en EEUU¹
 - 50%: FRCV
 - 18%: cardiopatía isquémica
 - 4,7%: ictus

*LMWH, low molecular weight heparin; NCS, non-cardiac surgery; NOAC, non-vitamin K oral anticoagulant.
a Class of recommendation.
b Level of evidence.*

¿Qué hay de nuevo?

2.1. What is new

Table 3 New concepts and sections in the current guidelines

A new flowchart for general assessment of patients before NCS.

A new section on pre-operative assessment of patients with newly detected murmurs, dyspnoea, oedema, or angina.

A new section on the patient perspective.

A new section on assessment of frailty.

A revised and expanded focus on use of biomarkers in NCS

A revised and expanded section on peri-operative management of antiplatelet therapy.

A revised and expanded section on peri-operative management of oral anticoagulants.

A new section on peri-operative thromboprophylaxis.

A dedicated section on patient blood management.

A new section on management of cardiovascular risk in patients with cancer undergoing NCS.

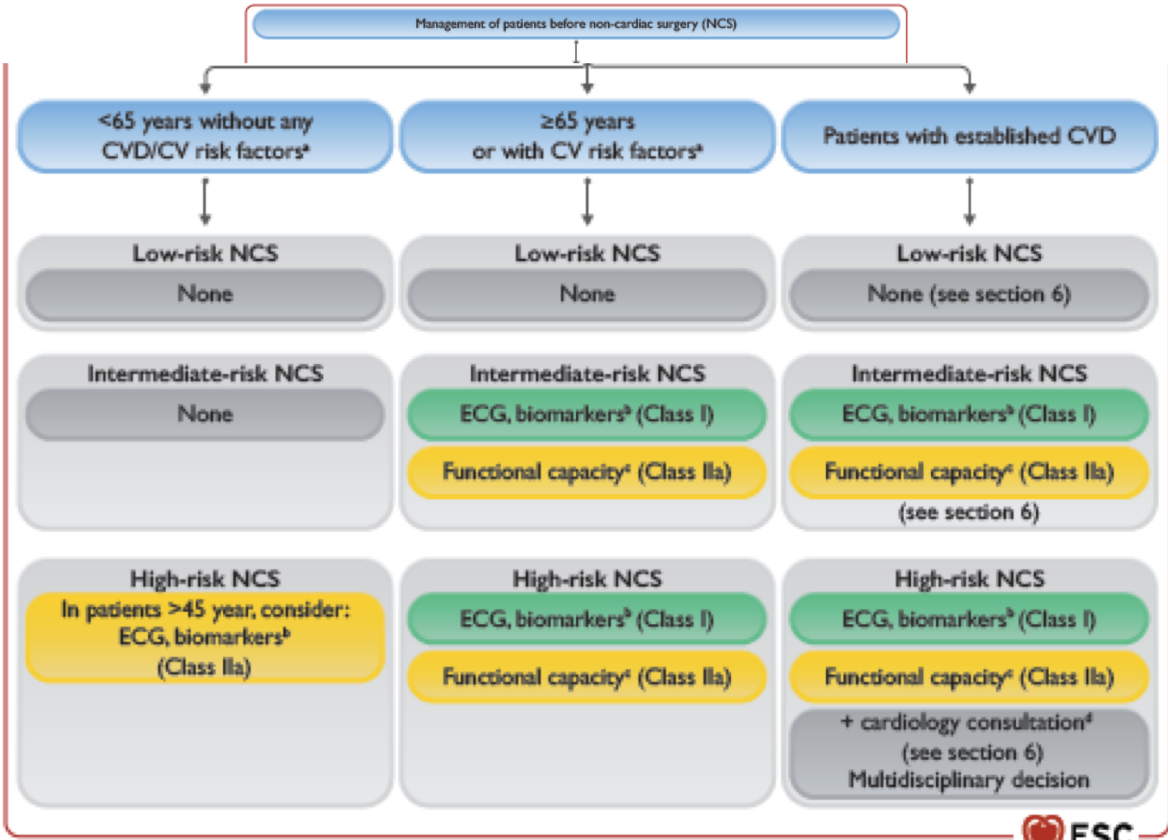
A small section on NCS in patients with recent COVID-19.

A new section on diagnosis and management of post-operative complications during NCS.

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COVID-19, coronavirus 2019; NCS, non-cardiac surgery

Evaluación Clínica del Riesgo y Prequirúrgica



Evaluación Clínica del Riesgo y Prequirúrgica

Table 4B Revised recommendations

Recommendations in 2014 version	Class	Recommendations in 2022 version	Class
Preoperative assessment tools—Section 4			
Electrocardiography and biomarkers			
Pre-operative ECG is recommended for patients who have risk factor(s) and are scheduled for intermediate- or high-risk surgery.	I	In patients who have known CVD or CV risk factors (including age ≥ 65 years), or symptoms or signs suggestive of CVD it is recommended to obtain a pre-operative 12-lead ECG before intermediate- or high-risk NCS.	I
Assessment of cardiac troponins in high-risk patients, both before and 48–72 h after major surgery, may be considered.	IIb	In patients who have known CVD, CV risk factors (including age ≥ 65 years), or symptoms suggestive of CVD, it is recommended to measure <u>hs-cTn T or hs-cTn I before intermediate- and high-risk NCS, and at 24 h and 48 h afterwards.</u>	I
NT-proBNP and BNP measurements may be considered for obtaining independent prognostic information for peri- operative and late cardiac events in high-risk patients.	IIb	In patients who have known CVD, CV risk factors (including age ≥ 65 years), or symptoms suggestive of CVD, it should be considered to measure BNP or NT-proBNP before intermediate- and high-risk NCS.	IIa
Universal pre-operative routine biomarker sampling for risk stratification and to prevent cardiac events is not recommended.	III	In low-risk patients undergoing low- and intermediate-risk NCS, it is not recommended to routinely obtain pre-operative ECG, hs-cTn T/I, or BNP/NT-proBNP concentrations.	III

Evaluación Clínica del Riesgo y Prequirúrgica

Adjusting risk assessments according to self-reported ability to climb two flights of stairs should be considered in patients referred for intermediate- or high-risk NCS.

Ila

Patients aged <65 years without signs, symptoms, or history of CVD

In patients with a family history of genetic cardiomyopathy, it is recommended to perform an ECG and TTE before NCS, regardless of age and symptoms.

I

Estrategias de Reducción del Riesgo FRCV y Fármacos

Recommendation Table 11 — Recommendations for lifestyle and cardiovascular risk factors

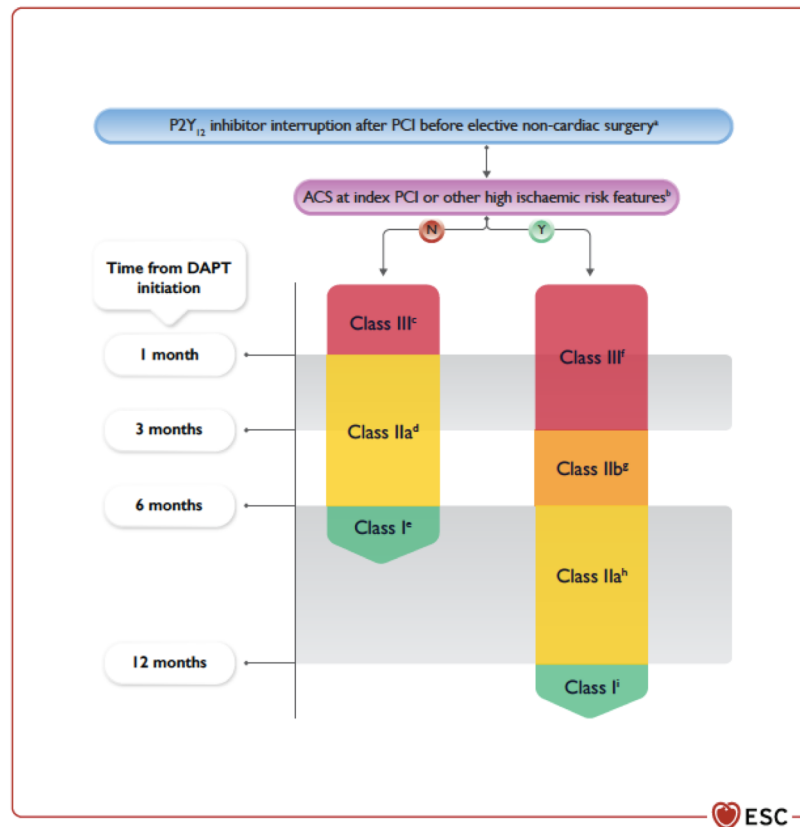
Recommendations	Class ^a	Level ^b
Smoking cessation >4 weeks before NCS is recommended to reduce post-operative complications and mortality. ^{181,182}	I	B
Control of CV risk factors—including blood pressure, dyslipidaemia, and diabetes—is recommended before NCS. ^{173,176–178,183}	I	B

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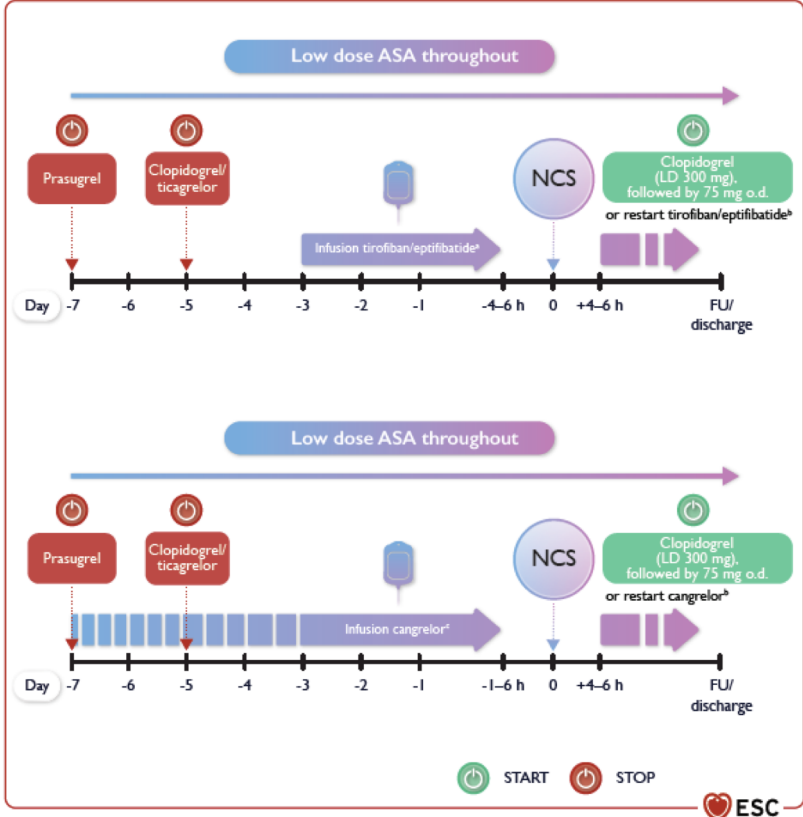
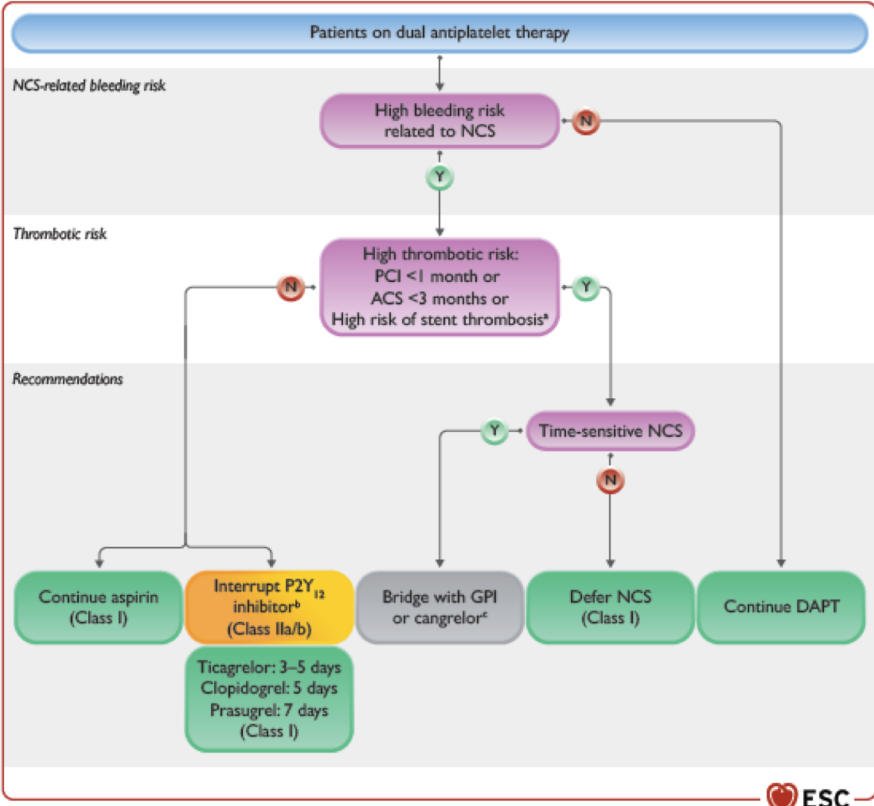
Recommendation Table 12 — Recommendations for pharmacological treatment

Recommendations	Class ^a	Level ^b
Initiation		
Routine initiation of beta-blocker peri-operatively is not recommended. ^{185,187,189,233,234}	III	A
It should be considered to interrupt SGLT-2 inhibitor therapy for at least 3 days before intermediate- and high-risk NCS.	Ila	C

Estrategias de Reducción del Riesgo DAP



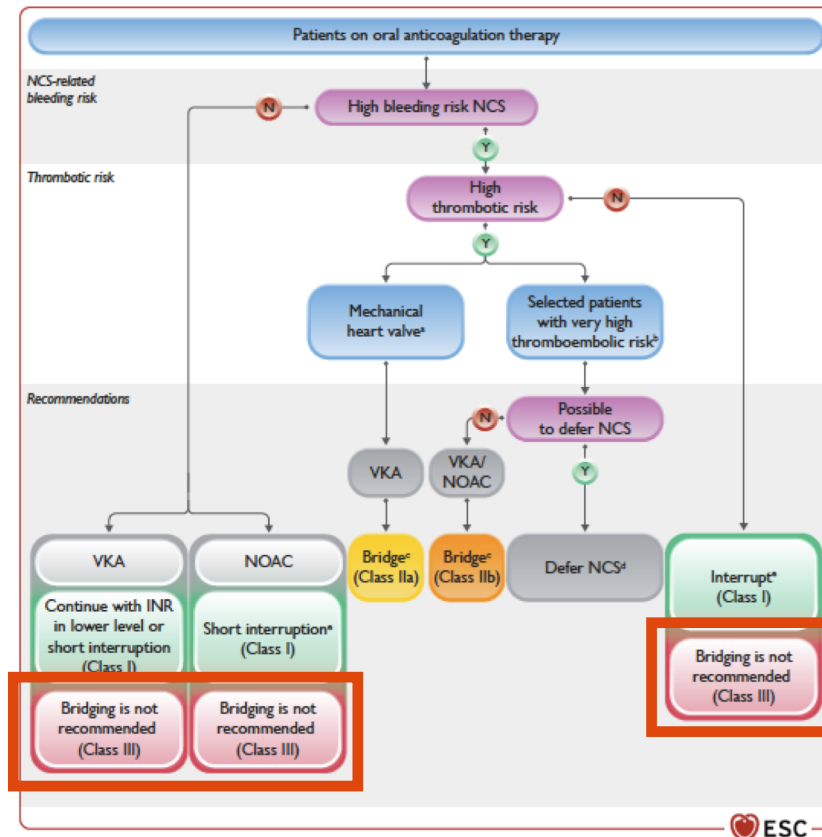
Estrategias de Reducción del Riesgo DAP



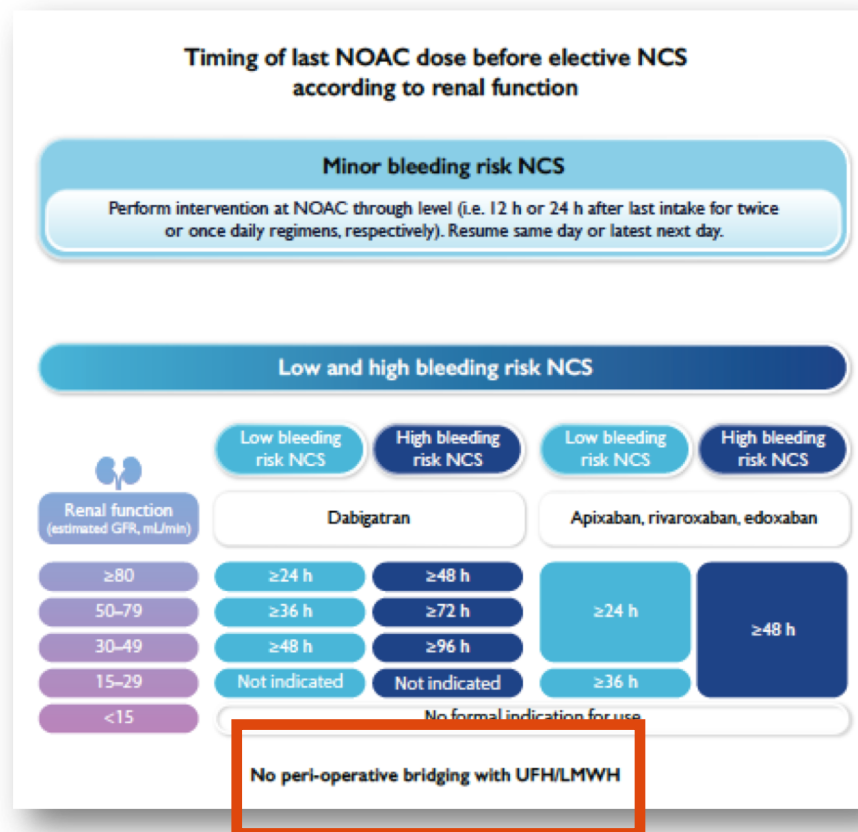
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Estrategias de Reducción del Riesgo Anticoagulación



Estrategias de Reducción del Riesgo Anticoagulación. ACOD



Estrategias de Reducción del Riesgo Tromboprofilaxis

Recommendation Table 15 — Recommendations for thromboprophylaxis

Recommendations	Class ^a	Level ^b
It is recommended that decisions about peri-operative thromboprophylaxis in NCS are based on individual and procedure-specific risk factors. ^{328,332}	I	A
If thromboprophylaxis is deemed necessary, it is recommended to choose the type and duration of thromboprophylaxis (LMWH, NOAC, or fondaparinux) according to type of NCS, duration of immobilization, and patient-related factors. ^{328,332}	I	A
In patients with a low bleeding risk, peri-operative thromboprophylaxis should be considered for a duration of up to 14 or 35 days, for total knee or hip arthroplasty, respectively. ^{334–337}	IIa	A
NOACs in thromboprophylaxis dose may be considered as alternative treatments to LMWH after total knee and hip arthroplasty. ³³³	IIb	A

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LMWH, low molecular weight heparin; NCS, non-cardiac surgery; NOAC, non-vitamin K oral anticoagulant.

^a Class of recommendation. ^b Level of evidence.

Enfermedades Específicas Cardiopatía Isquémica

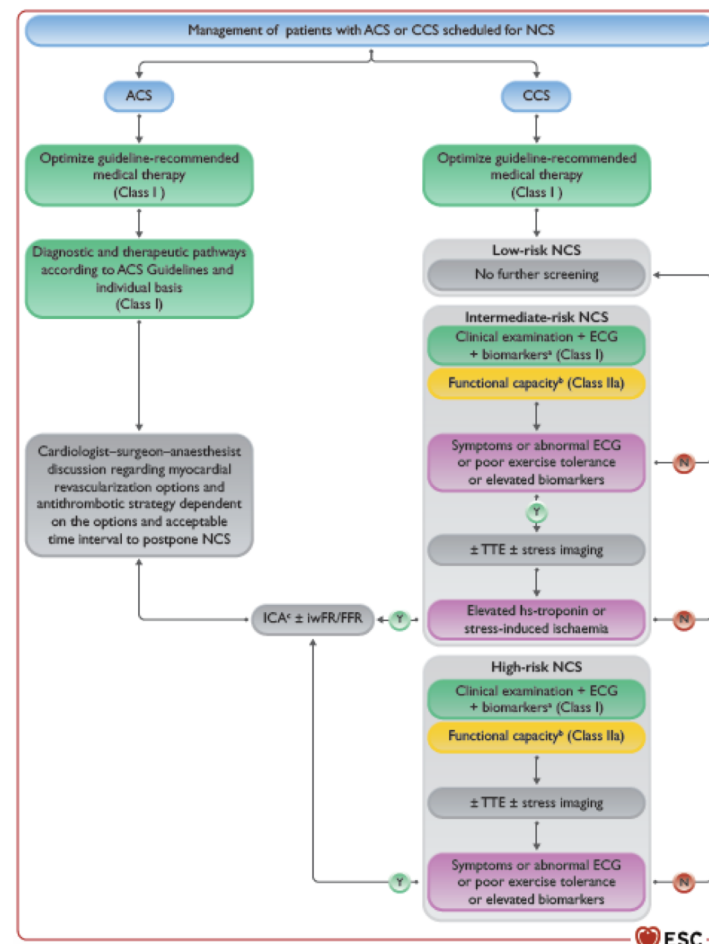
Recommendation Table 9 — Recommendations for stress imaging

Recommendations	Class ^a	Level ^b
Stress imaging is recommended before high-risk elective NCS in patients with poor functional capacity ^c and high likelihood of CAD ^d or high clinical risk. ^{6,146,156–158}	I	B
Stress imaging should be considered before high-risk NCS in asymptomatic patients with poor functional capacity, ^d and previous PCI or CABG. ¹⁴⁷	IIa	C
Stress imaging may be considered before intermediate-risk NCS when ischaemia is of concern in patients with clinical risk factors and poor functional capacity. ^{d,152,157,158}	IIb	B
Stress imaging is not recommended routinely before NCS.	III	C

Recommendation Table 10 — Recommendations for coronary angiography

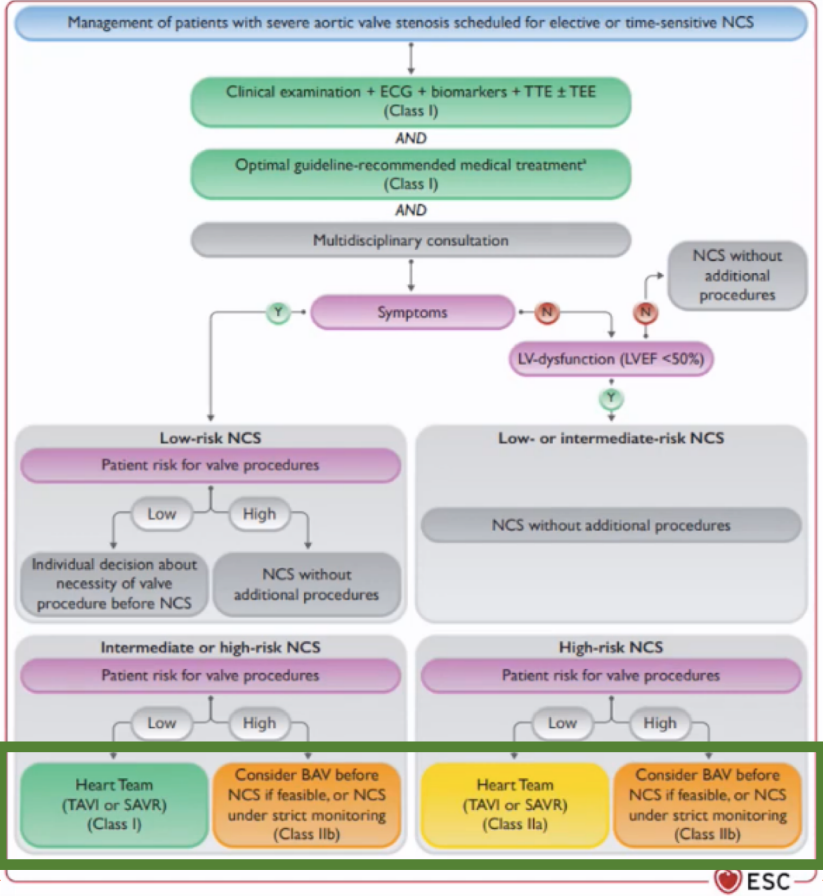
Recommendations	Class ^a	Level ^b
It is recommended to use the same indications for ICA and revascularization pre-operatively as in the non-surgical setting. ^{98,146}	I	C
CCIA should be considered to rule out CAD in patients with suspected CCS or biomarker-negative NSTEMI-ACS in case of low-to-intermediate clinical likelihood of CAD, or in patients unsuitable for non-invasive functional testing undergoing non-urgent, intermediate-, and high-risk NCS.	IIa	C

Recommendations	Class ^a	Level ^b
Patients with CCS		
If PCI is indicated before NCS, the use of new-generation DES is recommended over BMS and balloon angioplasty. ²⁶⁸	I	A
Pre-operative evaluation of patients with an indication for PCI by an expert team (surgeon and cardiologist) should be considered before elective NCS.	IIa	C
Myocardial revascularization before high-risk elective NCS may be considered, depending on the amount of ischaemic myocardium, refractory symptoms, and findings at coronary angiography (as in the case of left main disease). ^{399,402,403}	IIb	B
Routine myocardial revascularization before low- and intermediate-risk NCS in patients with CCS is not recommended. ^{399,400}	III	B



Enfermedades Específicas

Estenosis Aórtica



Enfermedades Específicas

HTA

Recommendation Table 27 — Recommendations for pre-operative management of hypertension

Recommendations	Class ^a	Level ^b
In patients with chronic hypertension undergoing elective NCS, it is recommended to avoid large peri-operative fluctuations in blood pressure, particularly hypotension, during the peri-operative period. ^{528,531}	I	A
It is recommended to perform pre-operative screening for hypertension-mediated organ damage and CV risk factors in newly diagnosed hypertensive patients who are scheduled for elective high-risk NCS.	I	C
It is not recommended to defer NCS in patients with stage 1 or 2 hypertension.	III	C

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Enfermedades Específicas

IC

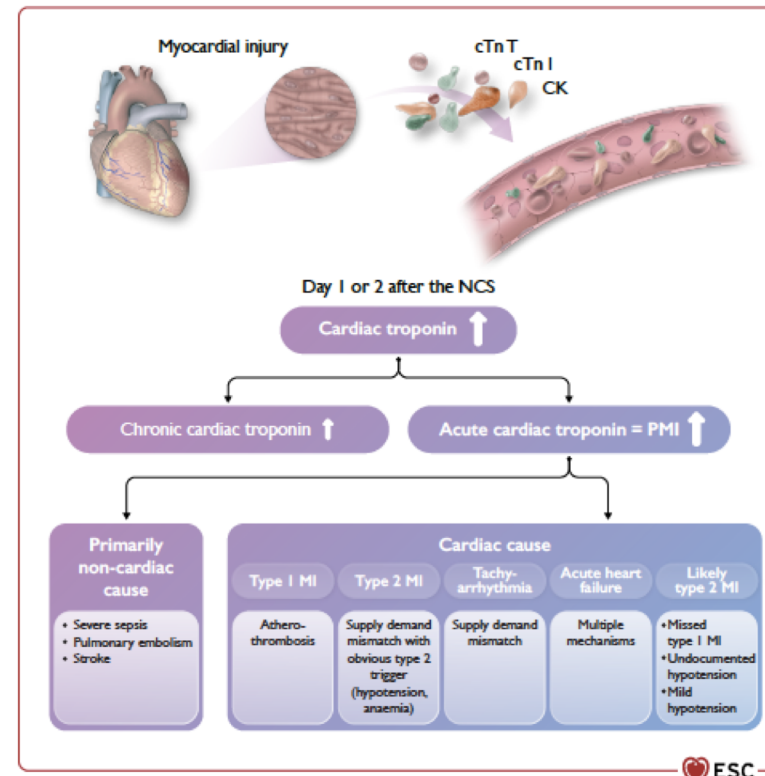
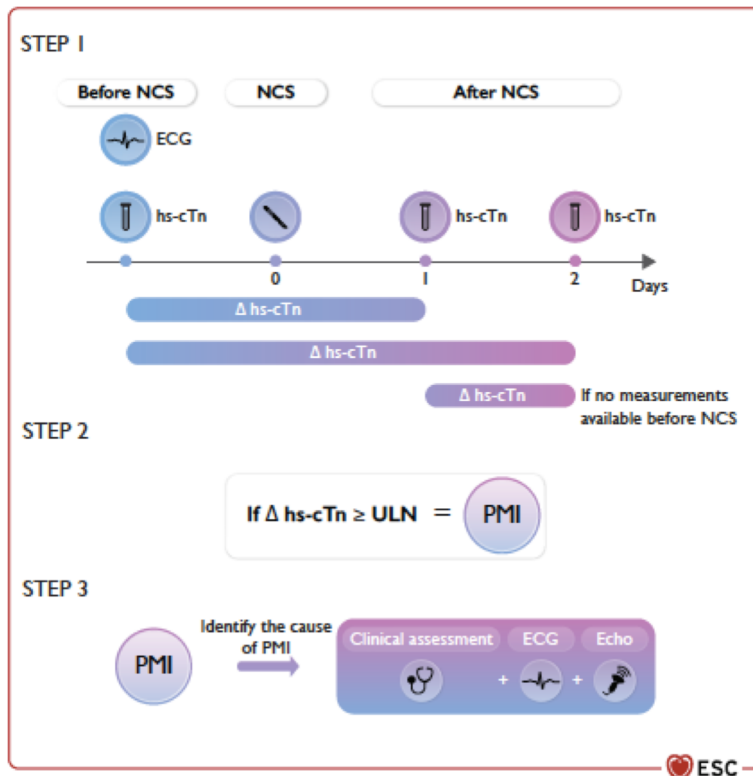
Heart failure	
In patients with HF undergoing NCS, it is recommended to regularly assess volume status and signs of organ perfusion.	I
A multidisciplinary team including VAD specialists is recommended for peri-operative management of patients with HF receiving mechanical circulatory support.	I

Enfermedades Específicas

Arritmias

Arrhythmias	
In AF patients with acute or worsening haemodynamic instability undergoing NCS, emergency electrical cardioversion is recommended.	I
In patients with symptomatic, monomorphic, sustained VT associated with myocardial scar, recurring despite optimal medical therapy, ablation of arrhythmia is recommended before elective NCS.	I
It is recommended that all patients with CIEDs that are reprogrammed before surgery have a re-check and necessary reprogramming as soon as possible after the procedure.	I

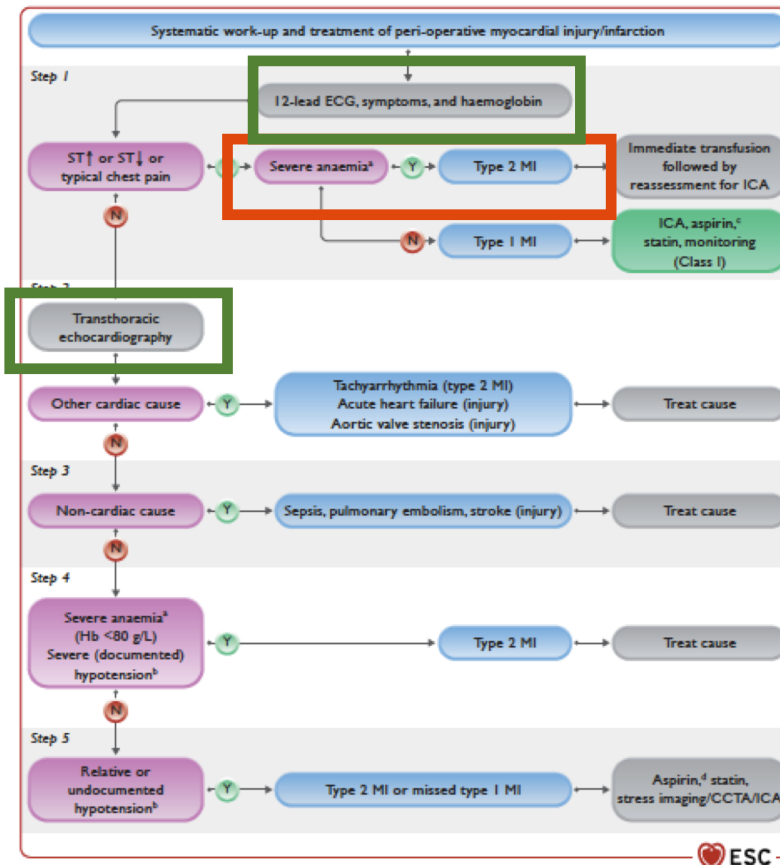
Complicaciones CV Perioperatorias IAM



PMI: daño miocárdico perioperatorio

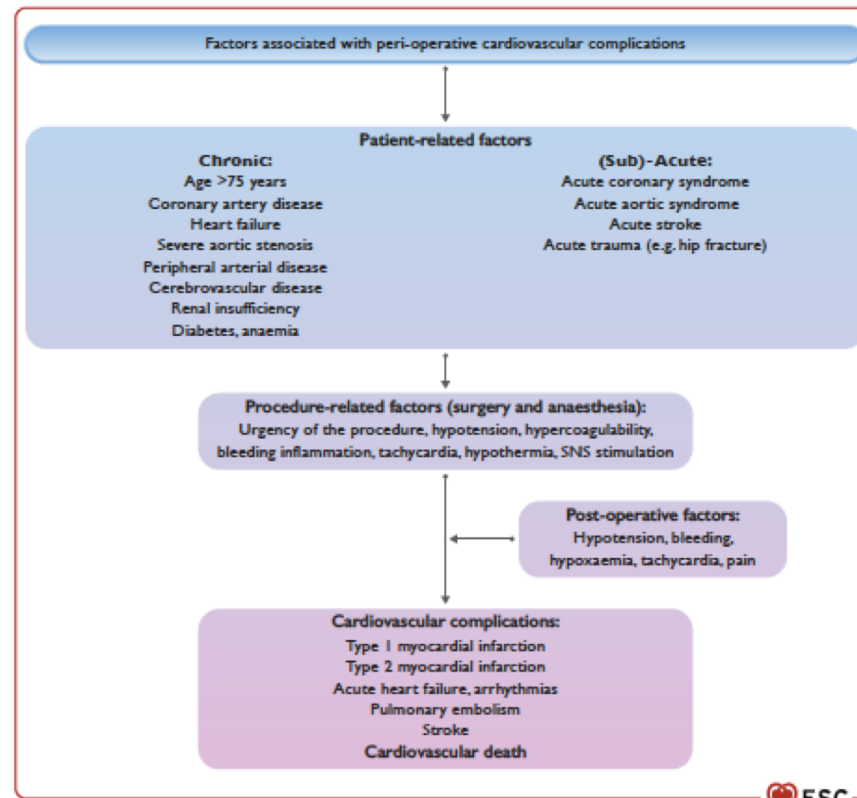
Complicaciones CV Perioperatorias

IAM



Complicaciones CV Perioperatorias

Factores Asociados





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