

DGK CARDIO UPDATE 2024

16. und 17. Februar

23. und 24. Februar

KHK: Akutes Koronarsyndrom und Revaskularisation

Tanja K. Rudolph
Herz- und Diabeteszentrum NRW,
Bad Oeynhausen

Interessenkonflikte

Forschungsunterstützung:

Boston Scientific, Edwards Lifesciences

Vortragstätigkeit: Abbott, Amgen, Boston Scientific, Edwards Lifesciences, JenaValve, Medtronic

Beratertätigkeit: JenaValve, Medtronic

Akutes Koronarsyndrom

State of the Art

ESC

European Society
of Cardiology

European Heart Journal (2023) **00**, 1–107
<https://doi.org/10.1093/eurheartj/ehad191>

ESC GUIDELINES

2023 ESC Guidelines for the management of acute coronary syndromes

**Developed by the task force on the management of acute coronary
syndromes of the European Society of Cardiology (ESC)**

ACS encompasses a spectrum



Unstable angina

NSTEMI

STEMI

Diagnose - ACS

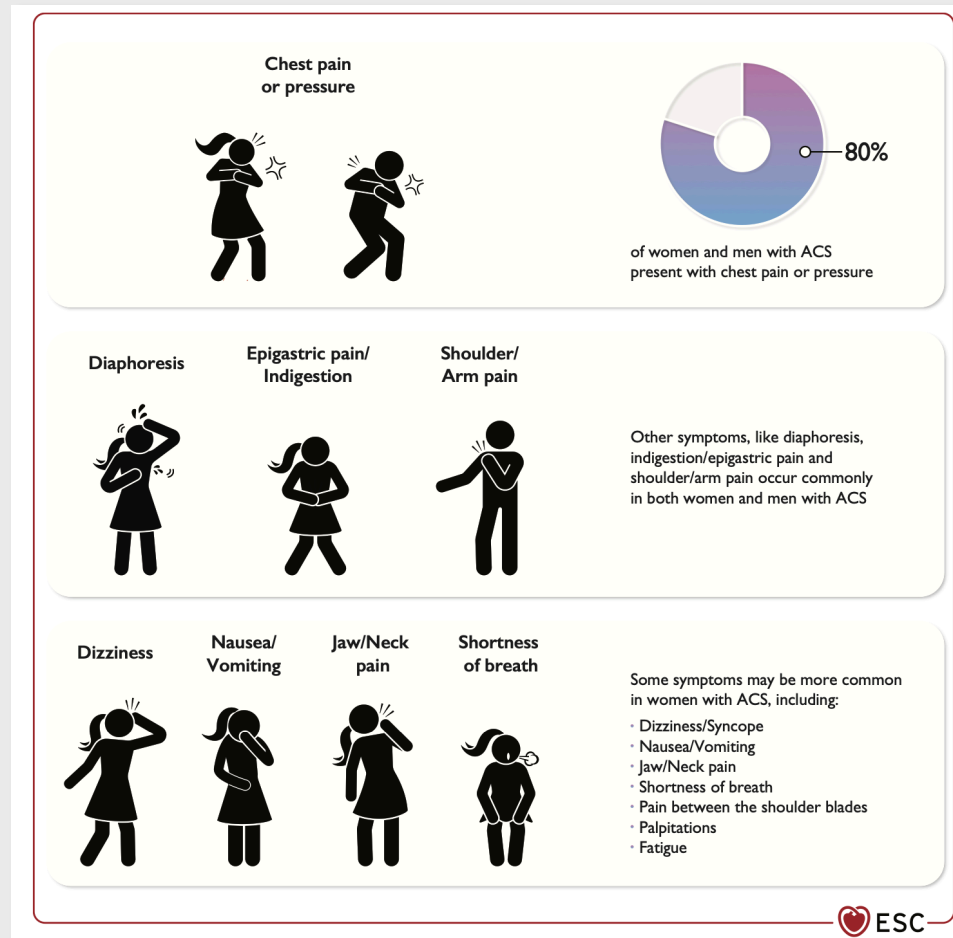
Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

Think 'A.C.S.' at initial assessment



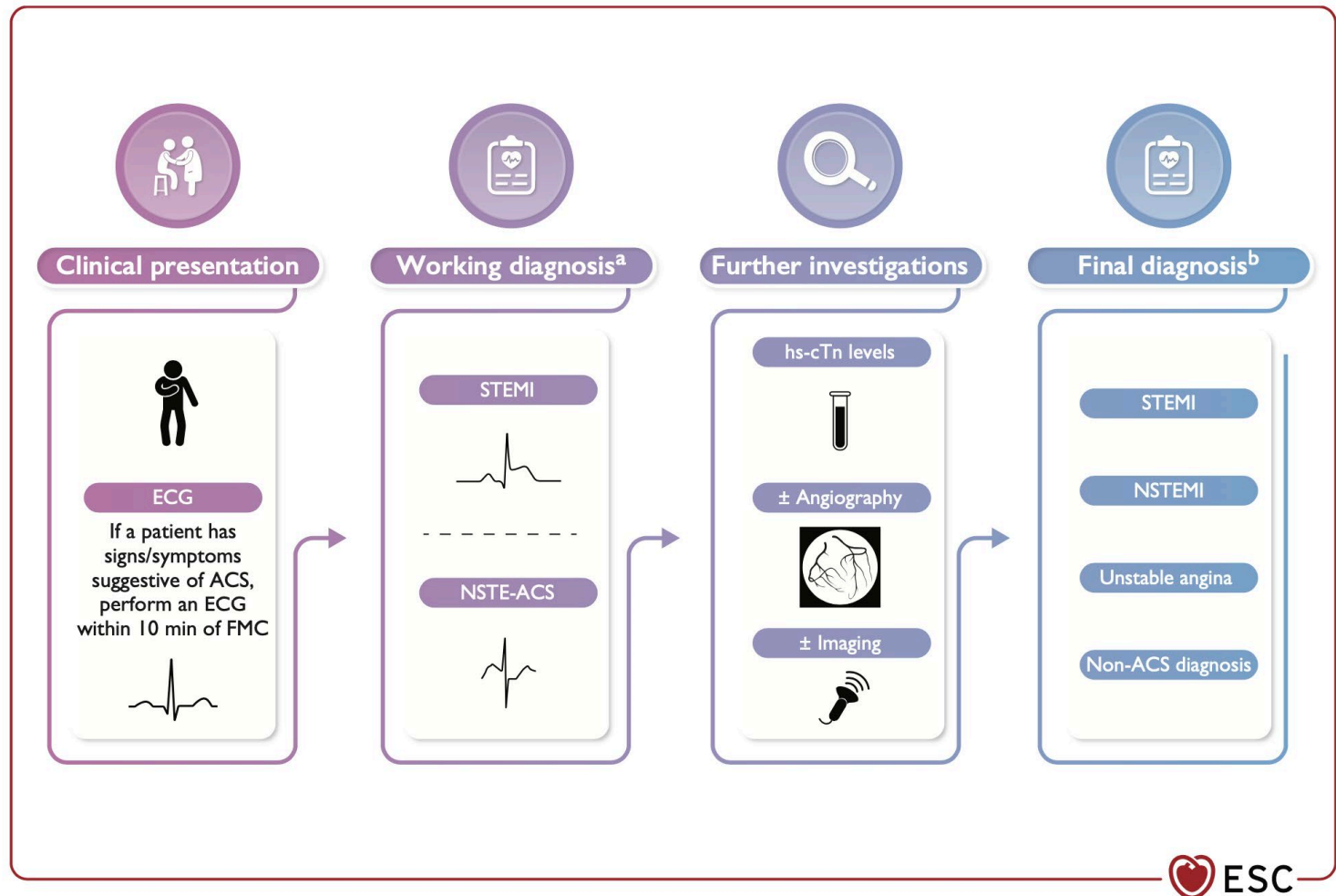
Diagnose - ACS

Byrne et al. *Eur Heart J.* 2023 Oct 12;44(38):3720-3826



Diagnose - ACS

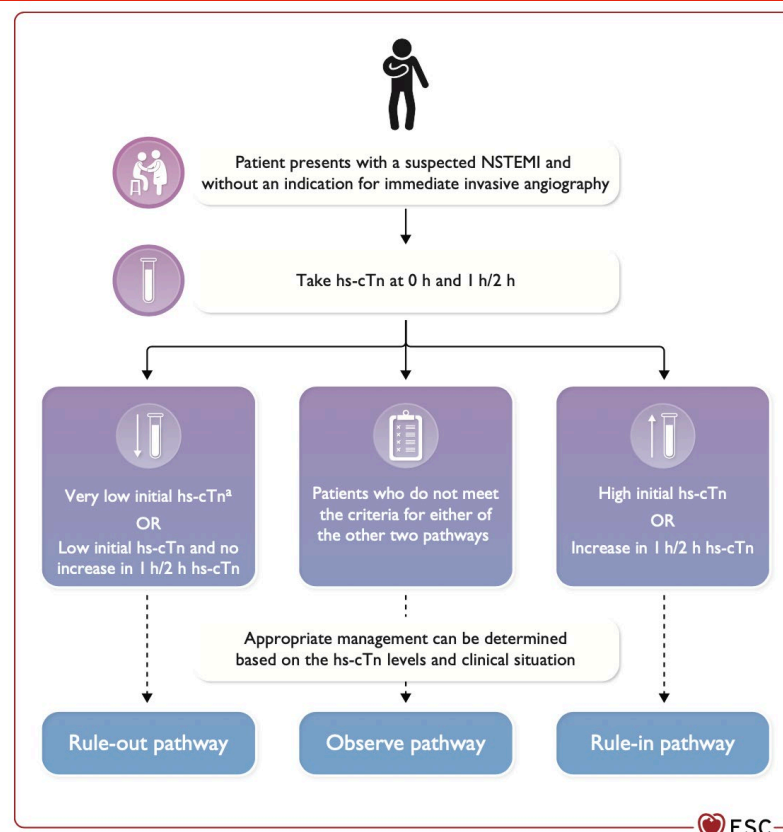
Byrne et al. *Eur Heart J.* 2023 Oct 12;44(38):3720-3826



Diagnose - ACS

Byrne et al. *Eur Heart J.* 2023 Oct 12;44(38):3720-3826

hsTroponin



0 h/1 h algorithm	Very low	Low	No 1 h Δ	High	1 h Δ
hs-cTnT (Elecsys; Roche)	<5	<12	<3	≥ 52	≥ 5
hs-cTnI (Architect; Abbott)	<4	<5	<2	≥ 64	≥ 6

Diagnose - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826



Routine, early CCTA in patients with suspected ACS is not recommended.¹¹⁷

III

B

Recommendations in 2017 and 2020 versions	Class ^a	LoE ^b	Recommendations in 2023 version	Class ^a	LoE ^b
Recommendations for imaging for patients with suspected NSTEMI-ACS					
In patients with no recurrence of chest pain, normal ECG findings, and normal levels of cardiac troponin (preferably high sensitivity), but still with suspected ACS, a non-invasive stress test (preferably with imaging) for inducible ischaemia or CCTA is recommended before deciding on an invasive approach.	I	B	In patients with suspected ACS, non-elevated (or uncertain) hs-cTn, no ECG changes and no recurrence of pain, incorporating CCTA or a non-invasive stress imaging test as part of the initial workup should be considered.	IIa	A

Fazit für Klinik und Praxis

Diagnosestellung

EKG

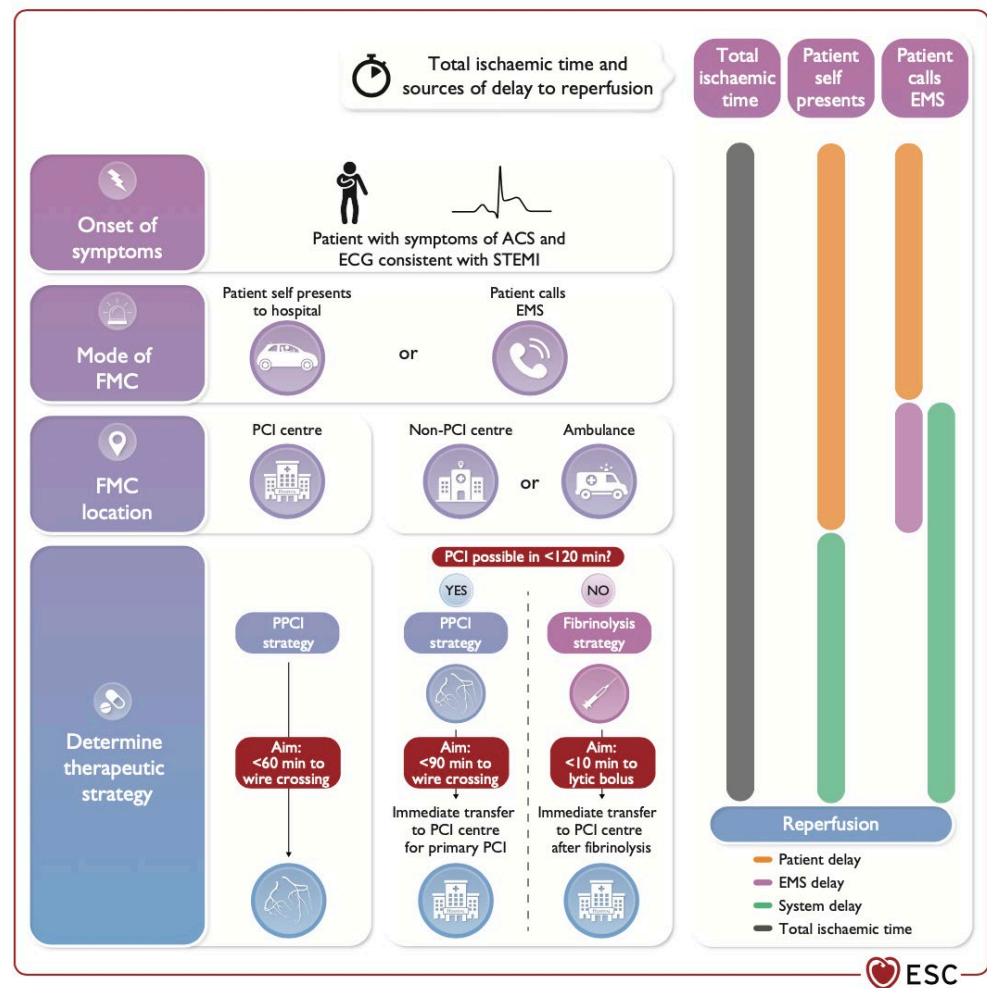
hsTroponin

TTE

Invasives Management - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

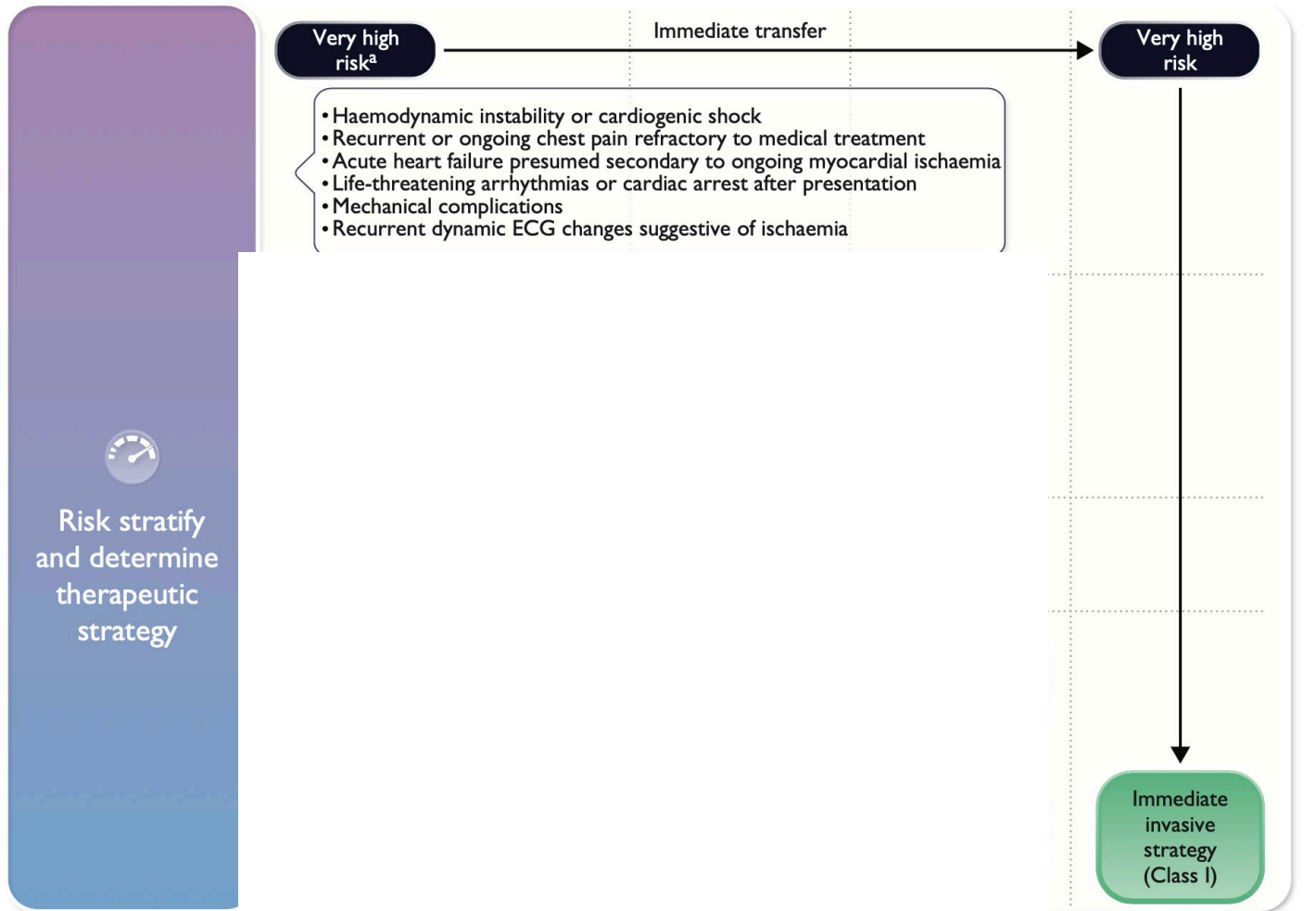
STEMI



Invasives Management - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

NSTEMI

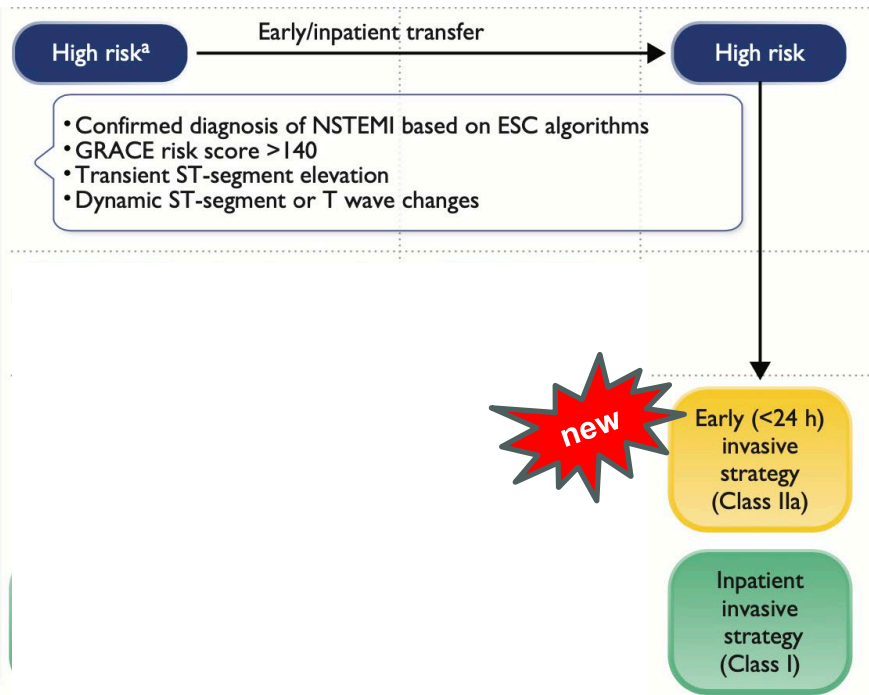


Invasives Management - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

NSTEMI

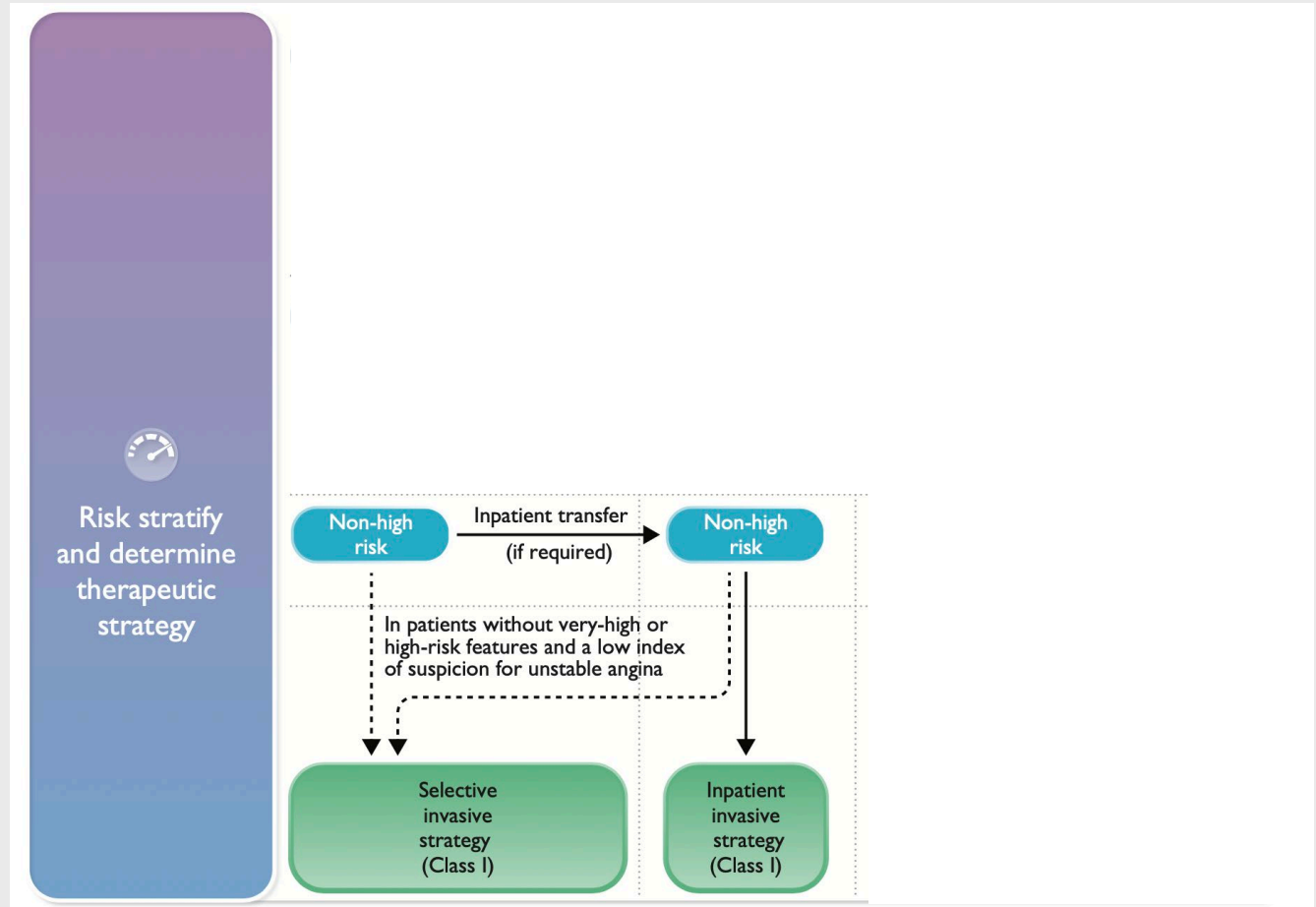
Risk stratify
and determine
therapeutic
strategy



Invasives Management - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

NSTEMI



Fazit für Klinik und Praxis

- Invasives Management -

- STEMI
wire crossing innerhalb von 60 Minuten
- NSTEMI
Risiko-adaptiert
- IAP
bei hoher Wahrscheinlichkeit im Indexaufenthalt

Akutes Koronarsyndrom Revaskularisation

Revaskularisation - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

Recommendations	Class ^a	Level ^b
Radial access is recommended as the standard approach, unless there are overriding procedural considerations. ^{451,452}	I	A
Drug-eluting stents are recommended in preference to bare metal stents in all cases. ^{463,466,468}	I	A
In patients with spontaneous coronary artery dissection, PCI is recommended only for patients with symptoms and signs of ongoing myocardial ischaemia, a large area of myocardium in jeopardy, and reduced antegrade flow.	I	C
Coronary artery bypass grafting should be considered in patients with an occluded IRA when PPCI is not feasible/unsuccessful and there is a large area of myocardium in jeopardy.	IIa	C

► Radial access

► DES



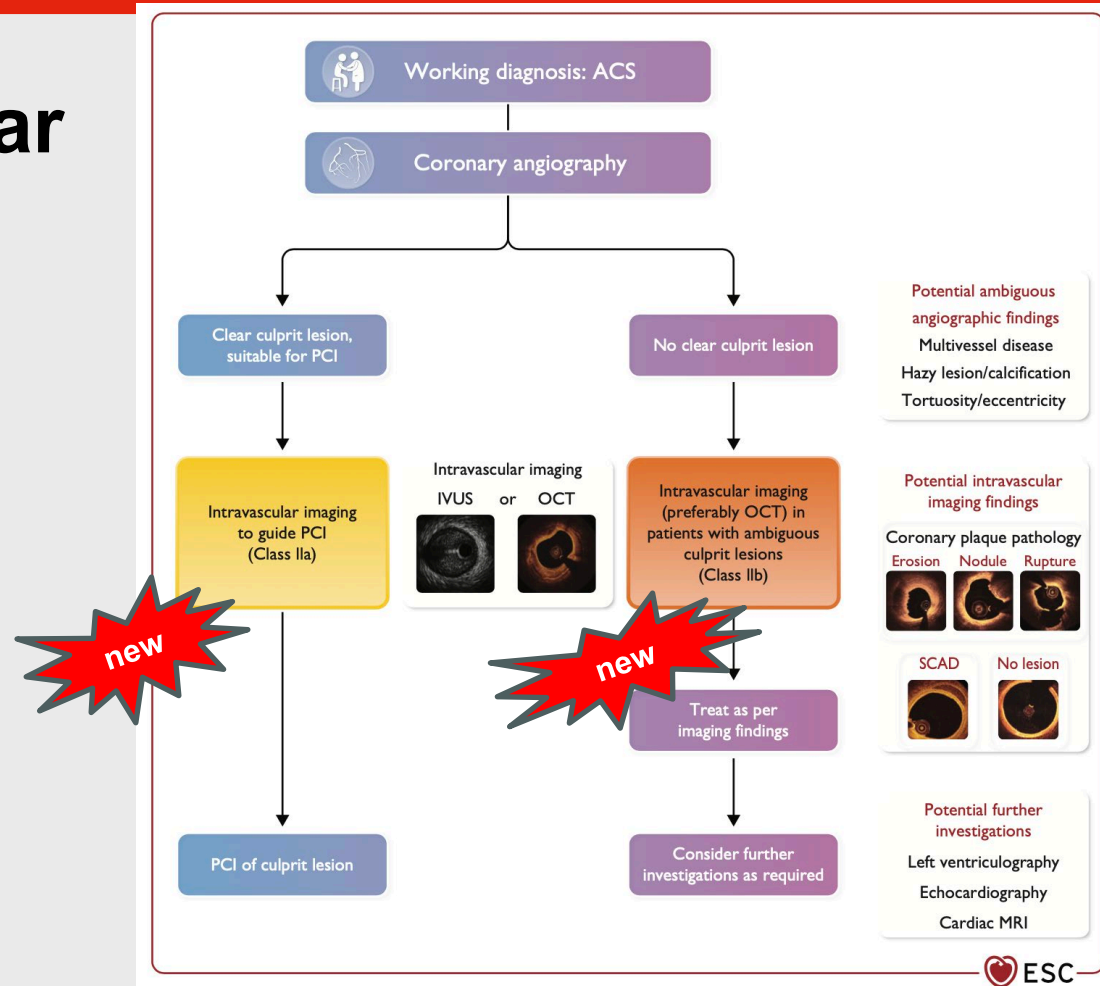
► dissection ≠ PCI

► CABG, when PCI not feasible

Revaskularisation - ACS

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826

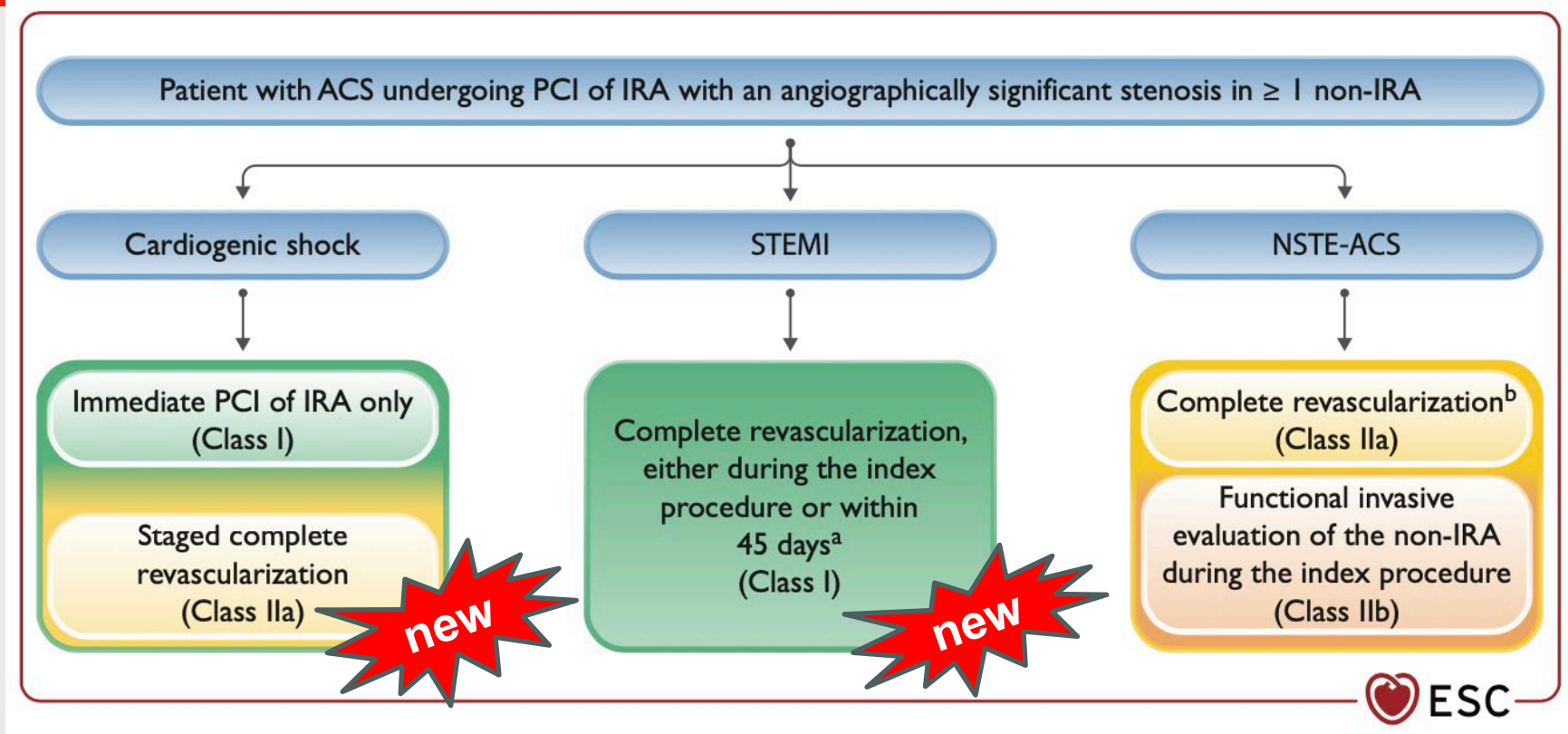
Intravascular imaging



Revaskularisation – ACS

Mehrgefäßerkrankung

Byrne et al. Eur Heart J. 2023 Oct 12;44(38):3720-3826



Invasive epicardial functional assessment of non-culprit segments of the IRA is not recommended during the index procedure.

III

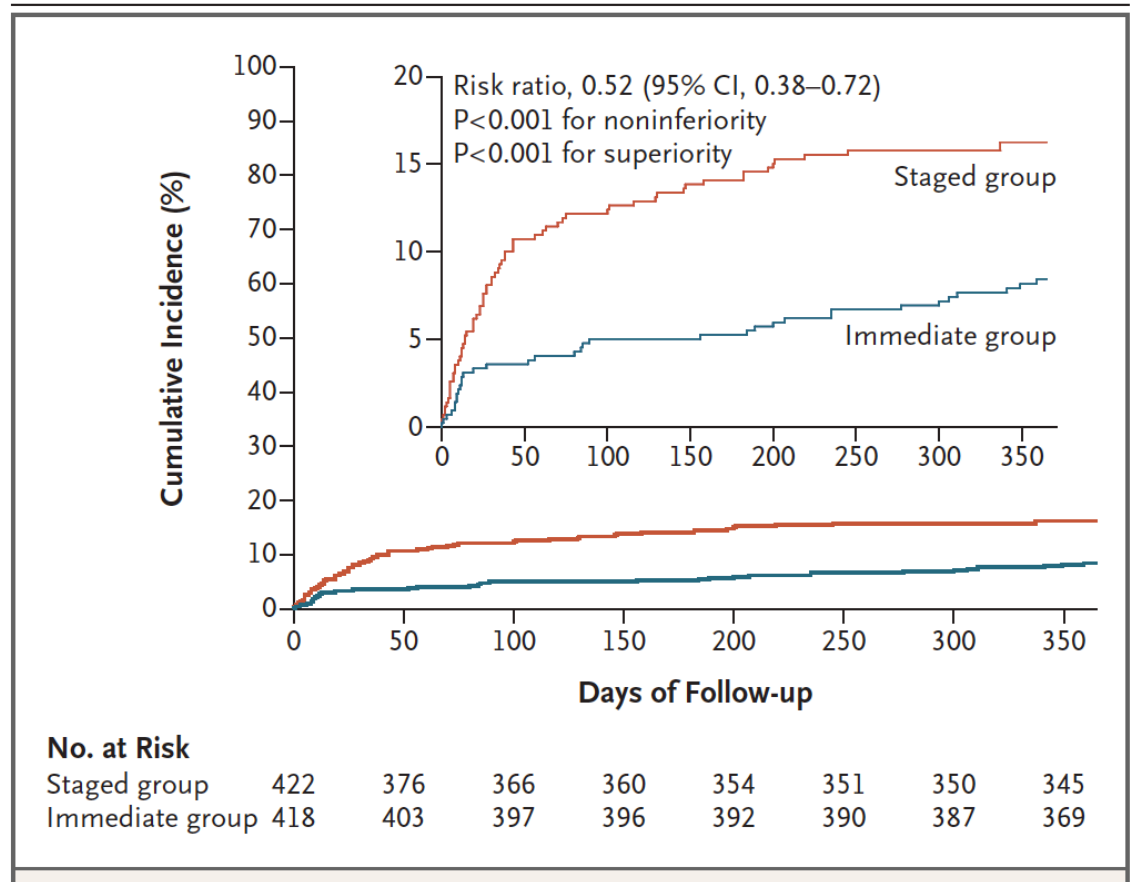
C

new

Revaskularisation - ACS

Stähli et al. N Engl J Med. 2023 Oct 12;389(15):1368-1379

418 Pat. mit STEMI
Mittleres Alter 60 Jahre
20% Frauen

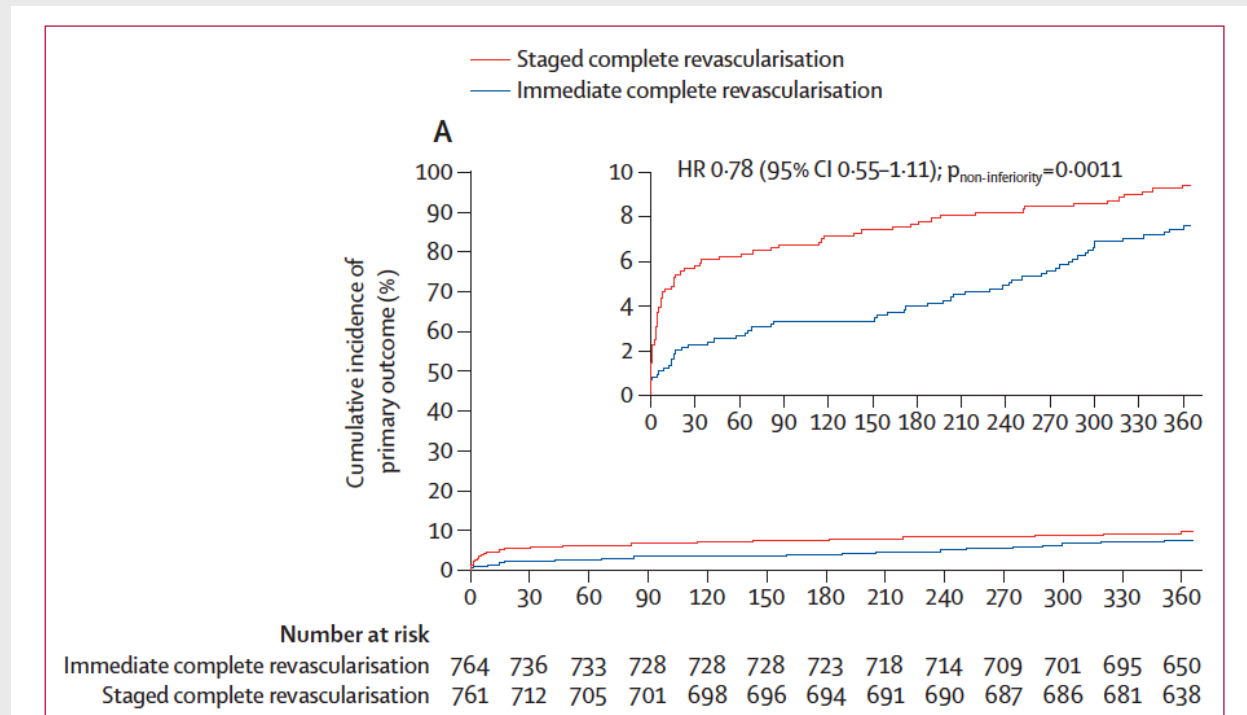


MULTISTARS trial

Revaskularisation - ACS

Diletti et al. Lancet. 2023 Apr 8;401(10383):1172-1182

764 Pat. mit ACS
40% STEMI
Mittleres Alter 66 Jahre
22% Frauen



BIOVASC trial

Revaskularisation - ACS

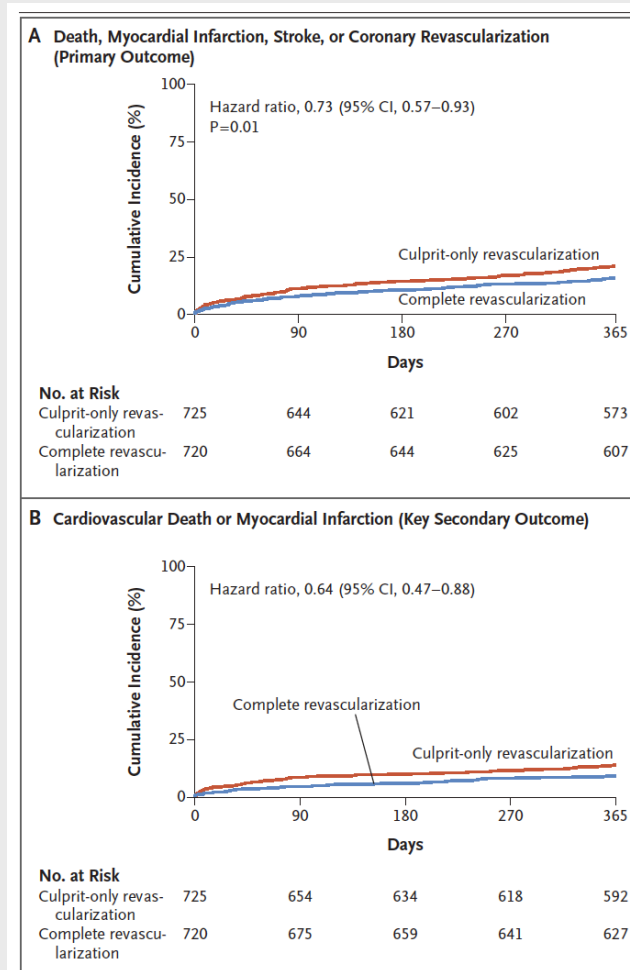
Biscaglia et al. N Engl J Med. 2023 Sep 7;389(10):889-898

1445 Pat. mit ACS
35% STEMI
Mittleres Alter 80 Jahre
36% Frauen

Culprit-only
Revaskularisation



FFR/iFR -gesteuerte
Revaskularisation



FIRE trial

Revaskularisation – ACS

Hauptstammstenose

Gaba et al. JAMA Cardiol. 2023 Jul 1;8(7):631-639

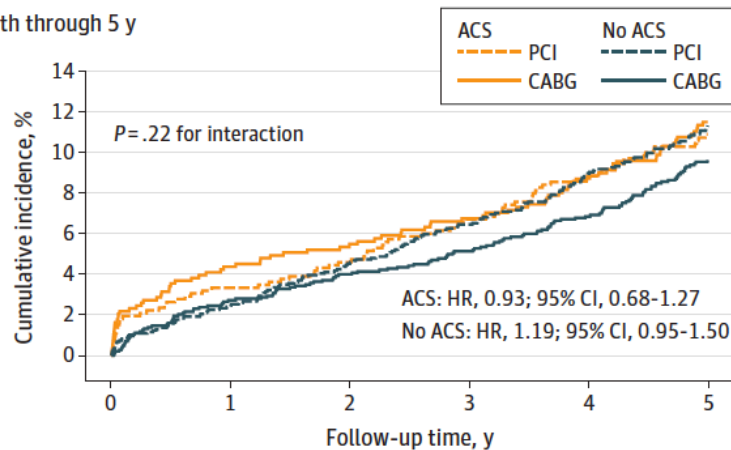
Gepoolte Analyse (Nobel, Excel, Syntax, Precombat)

4394 Pat. mit ACS und HST (Syntax Score 25)

Mittleres Alter 65 Jahre

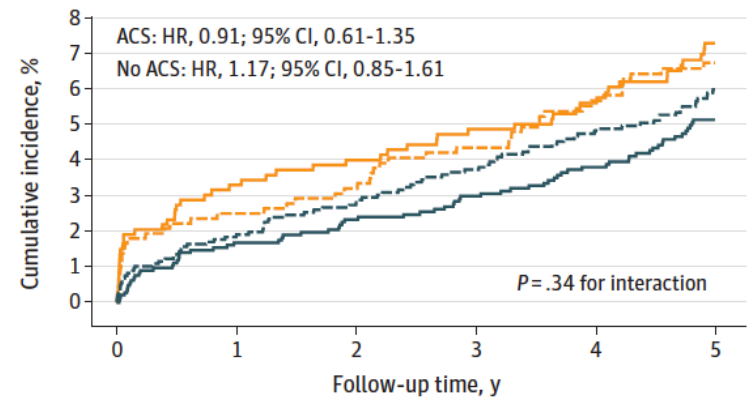
25% Frauen

A Death through 5 y



No. at risk						
CABG/ACS	741	694	682	666	645	517
PCI/ACS	725	693	680	662	640	511
CABG/Not ACS	1455	1390	1359	1335	1293	1067
PCI/Not ACS	1472	1427	1388	1353	1302	1028

B Cardiovascular death through 5 y



No. at risk						
CABG/ACS	741	689	677	660	638	485
PCI/ACS	725	693	679	659	637	483
CABG/Not ACS	1455	1384	1349	1325	1282	994
PCI/Not ACS	1472	1426	1386	1351	1297	953

Fazit für Klinik und Praxis

- Revaskularisation -

Komplette Revaskularisation anstreben
STEMI > NSTEMI

Einsatz intravaskulärer Bildgebung

HST-Stenose: individuelle Entscheidung

Revaskularisation - Intravaskuläre Bildgebung

State of the Art

Neumann et al. Eur Heart J. 2019 Jan 7;40(2):87-165

IVUS should be considered to assess the severity of unprotected left main lesions.^{35–37}

Ila

B

IVUS and/or OCT should be considered to detect stent-related mechanical problems leading to restenosis.

Ila

C

Recommendations on intravascular imaging for procedural optimization

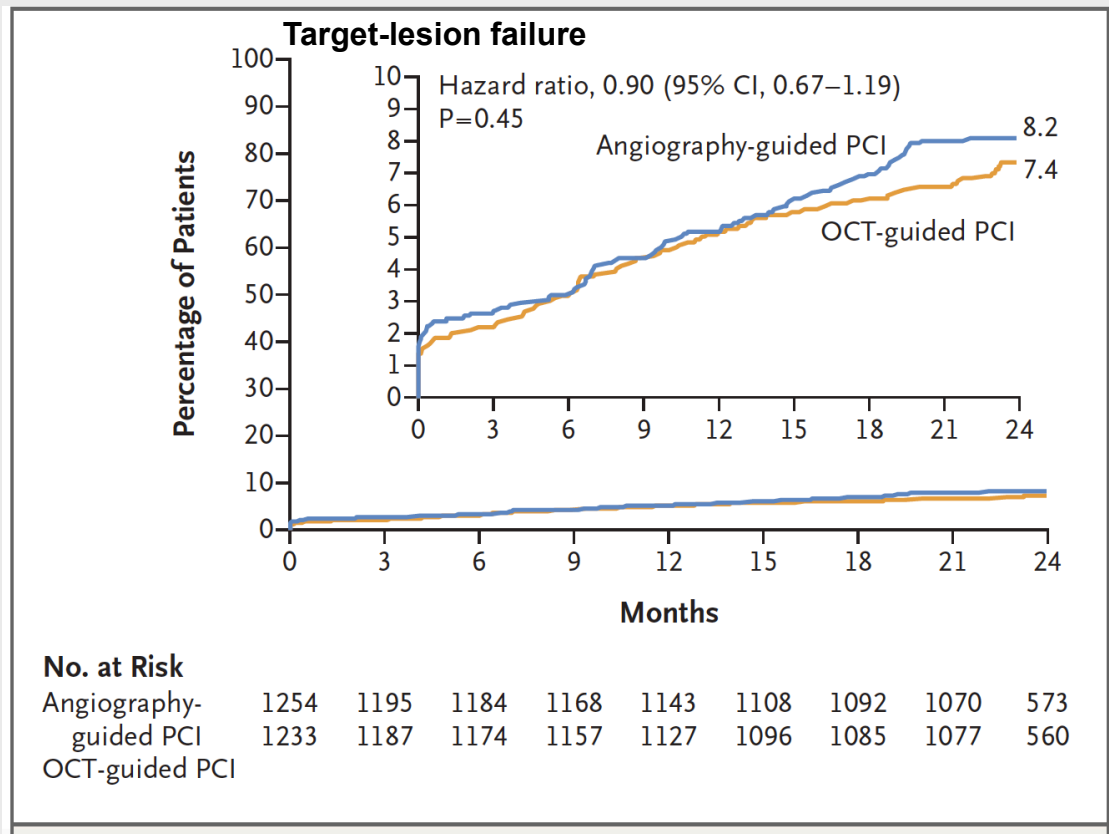
Recommendations	Class ^a	Level ^b
IVUS or OCT should be considered in selected patients to optimize stent implantation. ^{603,612,651–653}	Ila	B
IVUS should be considered to optimize treatment of unprotected left main lesions. ³⁵	Ila	B

© ESC 2018

Intravaskuläre Bildgebung-PCI

Ali et al. N Engl J Med. 2023 Oct 19;389(16):1466-1476

2487 Pat. mit PCI
Komplex oder Diabetes mell.
Mittleres Alter 65 Jahre
22% Frauen



ILUMIEN IV trial

Intravaskuläre Bildgebung-PCI

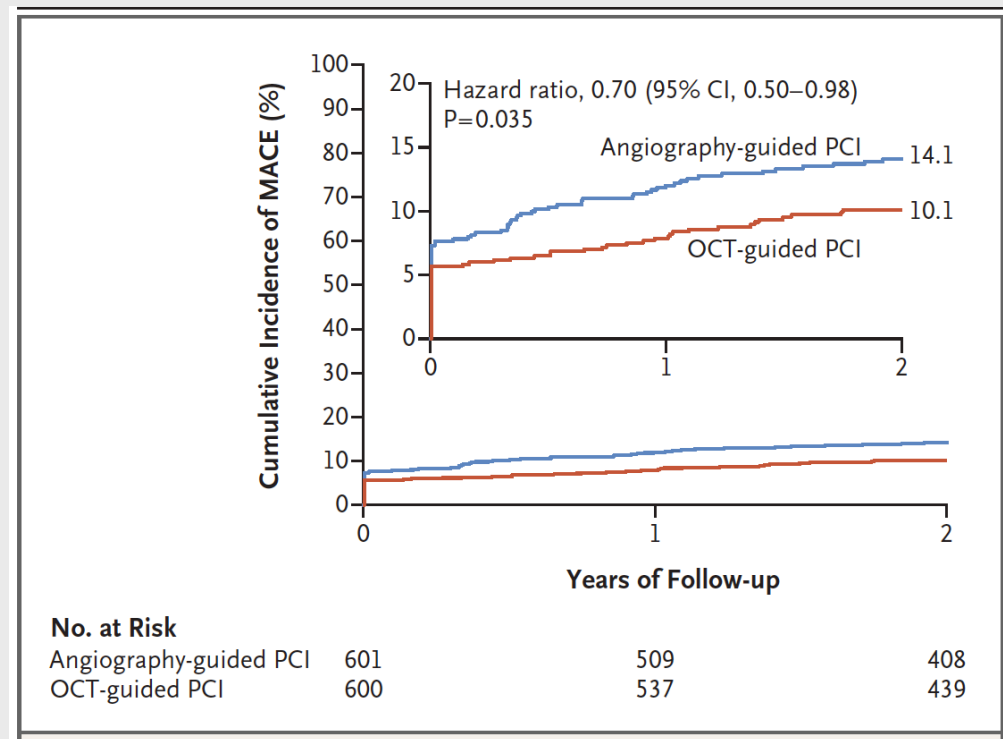
Holm et al. N Engl J Med. 2023 Oct 19;389(16):1477-1487

1200 Pat. mit komplexer Bifurkationsstenose

50% 2-Stent-Strategie

Mittleres Alter 66 Jahre

21% Frauen



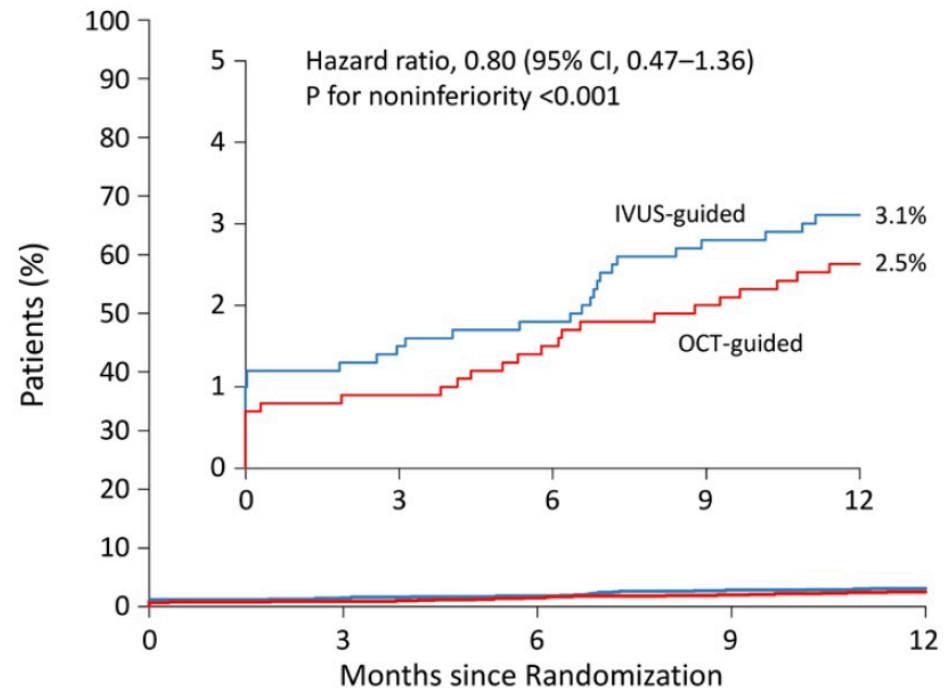
OCTOBER trial

Intravaskuläre Bildgebung-PCI

Kang et al. Circulation. 2023;148:1195–1206

2008 Pat.
Mittleres Alter 65 Jahre
21% Frauen

Primary Endpoint



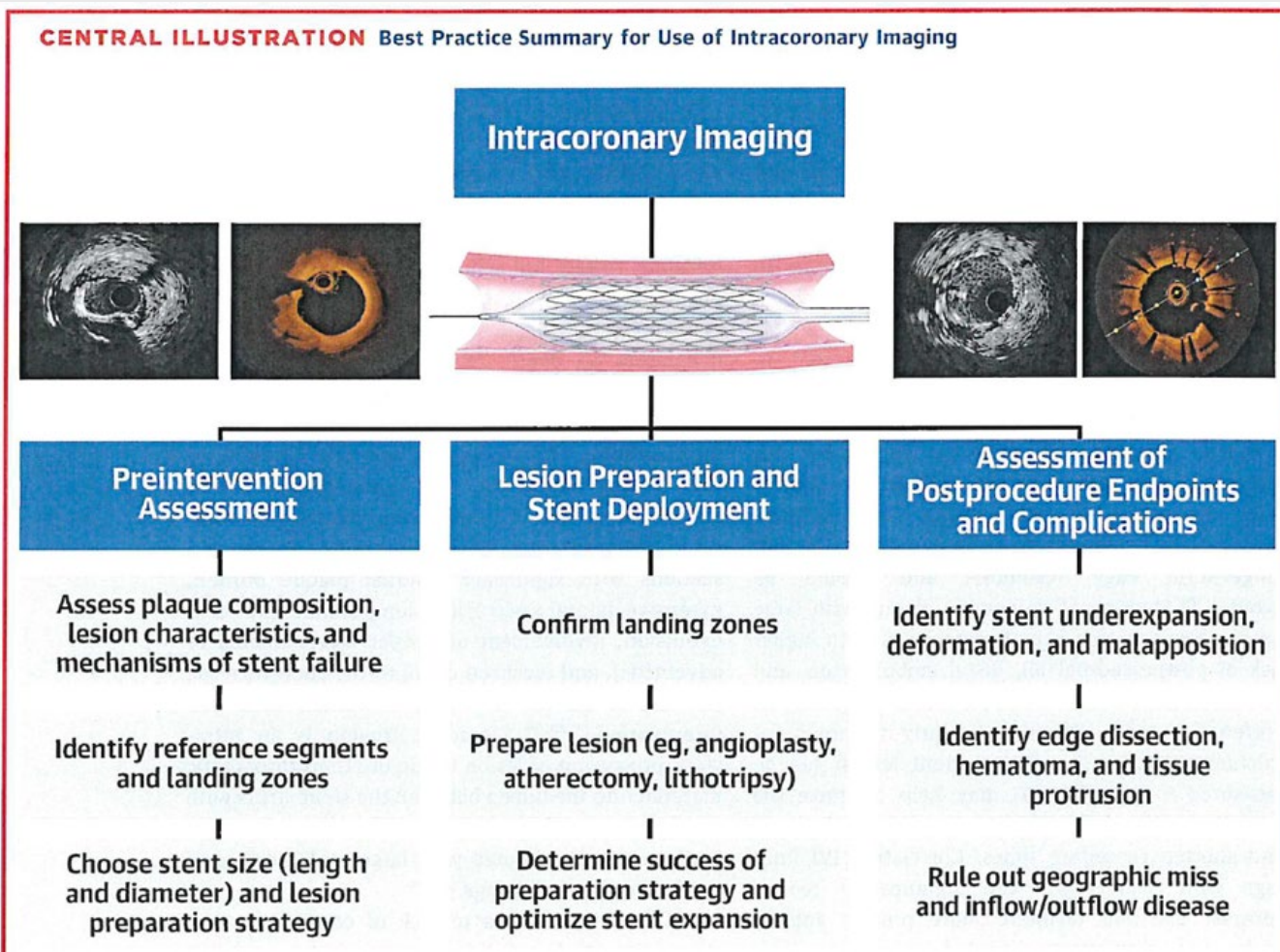
No. at Risk

OCT-guided PCI	1005	990	984	979	912
IVUS-guided PCI	1003	985	981	969	893

OCTIVUS trial

Intravaskuläre Bildgebung-PCI

Truesdell et al. J Am Coll Cardiol. 2023 Feb 14;81(6):590-605



Hauptstammstenose PCI versus OP?

Byrne et al. Eur Heart J. 2023 Nov 1;44(41):4310-4320

2022 joint ESC/EACTS review of the 2018 guideline recommendations on the revascularization of left main coronary artery disease in patients at low surgical risk and anatomy suitable for PCI or CABG



Objective

Review new data since the 2018 ESC/EACTS Guidelines on myocardial revascularization as they apply to patients with left main disease with low-to-intermediate SYNTAX score (0–32)

Task Force



Interventional cardiologists



Cardiac surgeons



General cardiologists



Methodologist/statistician

6

ESC appointees

6

EACTS appointees



Heart Team

The Heart Team continues to be of central importance to the consideration of revascularization modality in patients with LM disease as outlined in the 2018 ESC/EACTS Guidelines on myocardial revascularization

Summary of clinical trial evidence

Review of clinical trial evidence for stable patients with left main coronary artery disease, low or intermediate SYNTAX score, low predicted surgical risk, and suitable anatomy for PCI and CABG

100 people undergoing PCI at 5 years

20%



Event^a

80%



Alive, no event

89%



Alive

100 people undergoing CABG at 5 years

16%



Event^a

84%



Alive, no event

90%



Alive

Table 1 Suggested recommendation for type of revascularization in stable patients with left main disease, coronary anatomy suitable for both procedures and low predicted surgical mortality

Recommendation	CABG		PCI	
	Class ^a	Level ^b	Class ^a	Level ^b
Left main disease with low or intermediate SYNTAX score (0–32).	I	A	IIa	A

Fazit für Klinik und Praxis

Intravaskuläre Bildgebung bei komplexer PCI unabdingbar

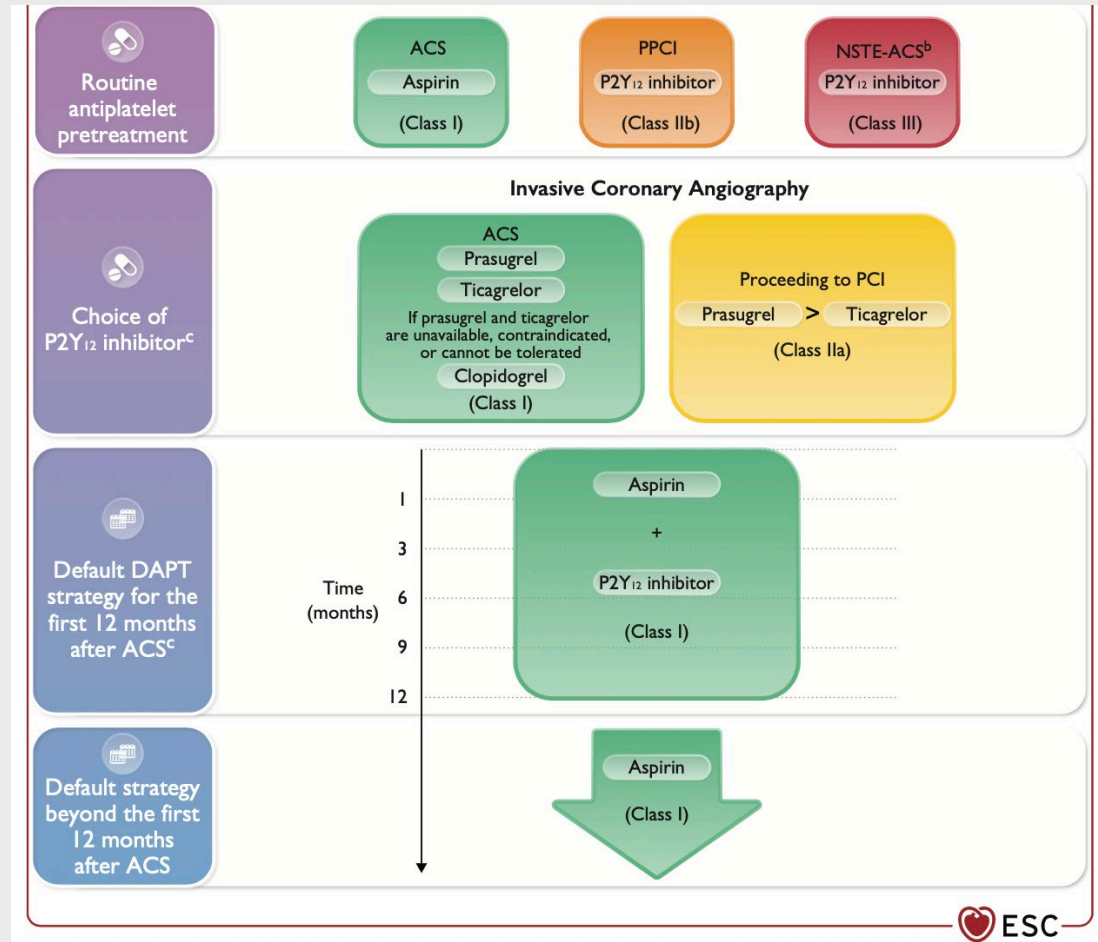
Bei HST-Stenose

Individuelle Revaskularisationsstrategie

Antithrombotische Therapie

State of the Art

Byrne et al. *Eur Heart J*. 2023 Oct 12;44(38):3720-3826

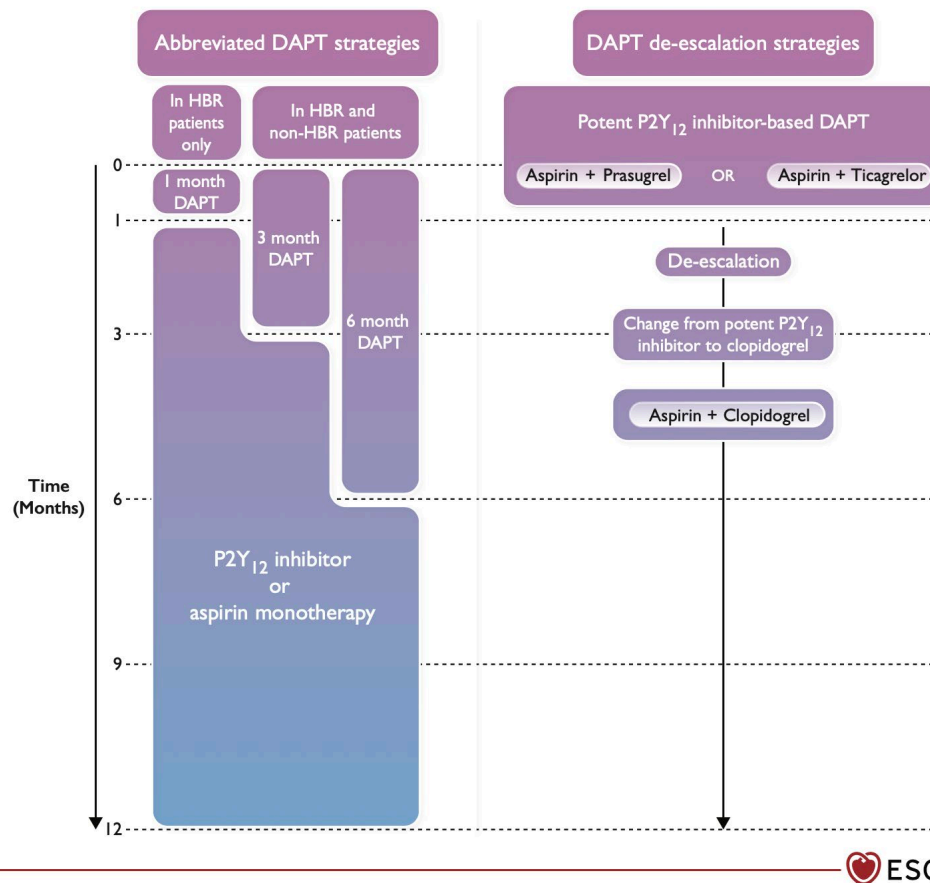


State of the Art

Byrne et al. *Eur Heart J.* 2023 Oct 12;44(38):3720-3826

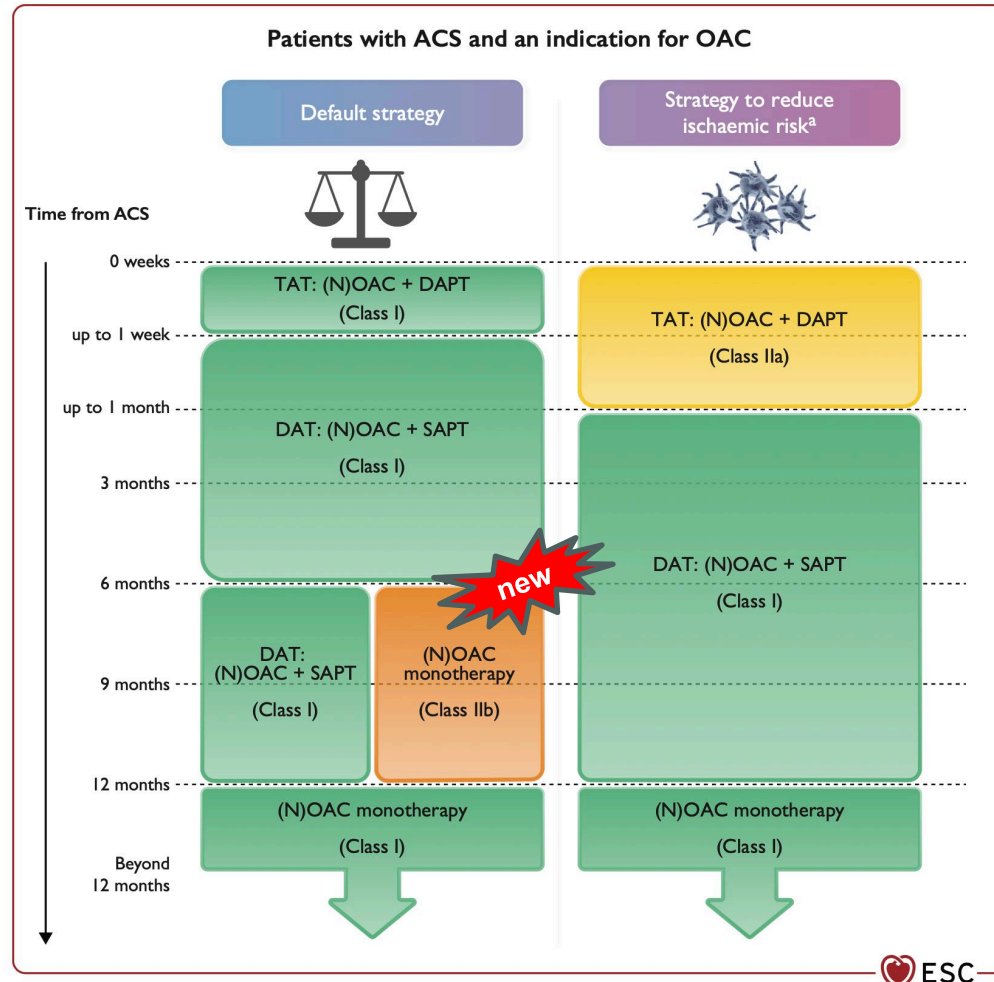


Antiplatelet strategies to reduce bleeding risk in the first 12 months after ACS



State of the Art

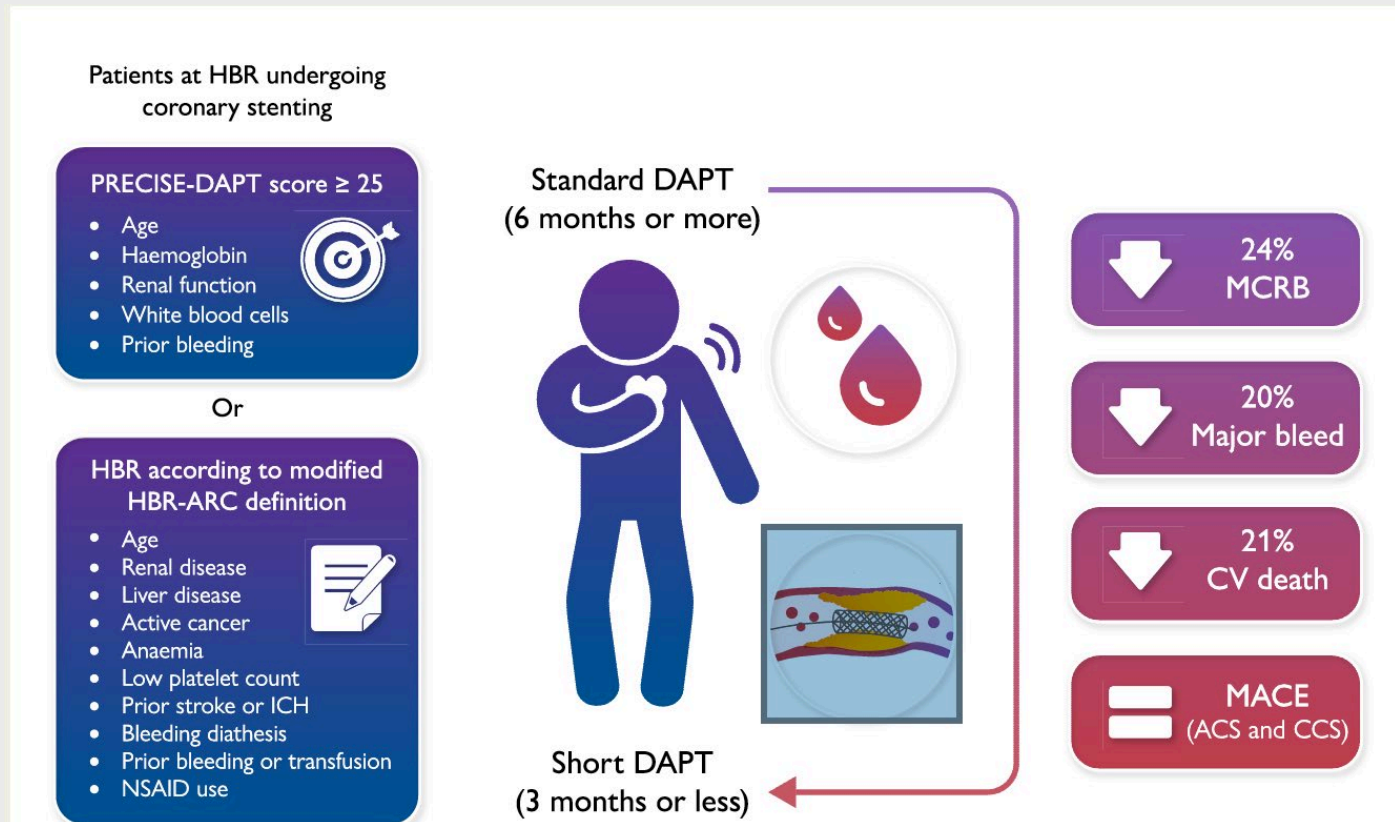
Byrne et al. *Eur Heart J.* 2023 Oct 12;44(38):3720-3826



Antithrombotische Therapie

Costa et al. European Heart Journal (2023) 44, 954–968

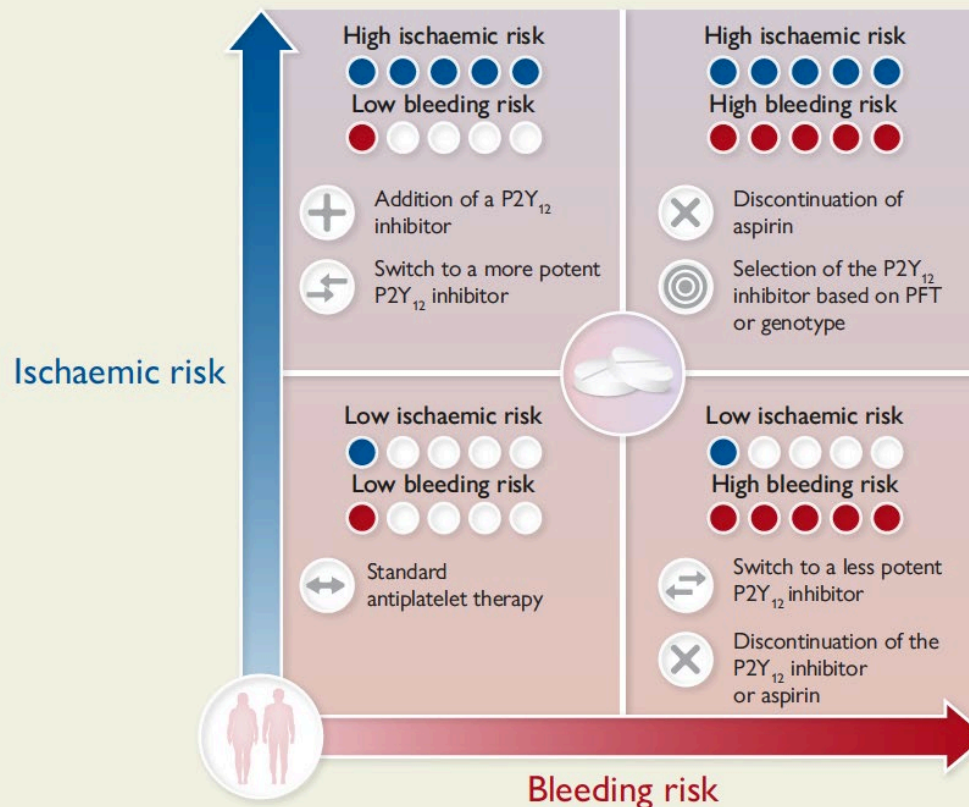
Metaanalyse, 9006 Pat., 11 Studien Verkürzte versus Standard-DAPT



Antithrombotische Therapie

Capodanno et al. *Eur Heart J.* 2023 Aug 22;44(32):3059-3072

Personalized approach to antiplatelet therapy in coronary artery disease



Fazit für Klinik und Praxis

Individualisierte antithrombotische Therapie