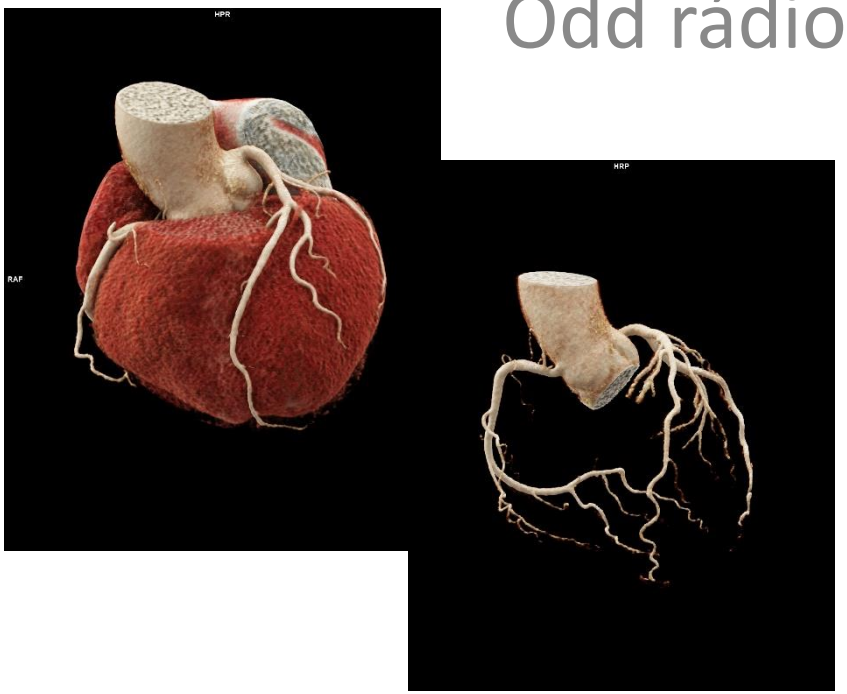
Akútna bolesť na hrudi a CTCA

Maroš Daxner

Odd rádiológie SÚSCCH



2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

Clinical Practice Guideline: Full Text

Writing Committee Members, Martha Gulati, Phillip D. Levy, Debabrata Mukherjee, Ezra Amsterdam, ... SEE ALL AUTHORS

J Am Coll Cardiol. 2021 Nov, 78 (22) e187–e285

2020 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC) FREE

Jean-Philippe Collet ✉, Holger Thiele ✉, Emanuele Barbato, Olivier Barthélémy, Johann Bauersachs, Deepak L Bhatt, Paul Dendale, Maria Dorobantu, Thor Edvardsen, Thierry Folliguet ... Show more

European Heart Journal, Volume 42, Issue 14, 7 April 2021, Pages 1289–1367,
https://doi.org/10.1093/eurheartj/ehaa575
Published: 29 August 2020

2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

Clinical Practice Guideline: Full Text

Writing Committee Members, Martha Gulati, Phillip D. Levy, Debabrata Mukherjee, Ezra Amsterdam, ... SEE ALL AUTHORS

J Am Coll Cardiol. 2021 Nov, 78 (22) e187–e285

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) FREE

Robert A Byrne ✉, Xavier Rossello, J J Coughlan, Emanuele Barbato, Colin Berry, Alaide Chieffo, Marc J Claeys, Gheorghe-Andrei Dan, Marc R Dweck, Mary Galbraith ...
Show more
Author Notes

European Heart Journal, Volume 44, Issue 38, 7 October 2023, Pages 3720–3826,
https://doi.org/10.1093/eurheartj/ehad191
Published: 25 August 2023

https://doi.org/10.1093/eurheartj/ehaa575
Published: 29 August 2020

2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

Clinical Practice Guideline: Full Text

Writing Committee Members, Martha Gulati, Phillip D. Levy, Debabrata Mukherjee, Ezra Amsterdam, ... SEE ALL AUTHORS

J Am Coll Cardiol. 2021 Nov, 78 (22) e187–e285

CLASS (STRENGTH) OF RECOMMENDATION	
CLASS 1 (STRONG)	**Benefit >>> Risk**
Suggested phrases for writing recommendations: • Is recommended • Is indicated/useful/effective/beneficial • Should be performed/administered/other • Comparative-Effectiveness Phrases†: – Treatment/strategy A is recommended/indicated in preference to treatment B – Treatment A should be chosen over treatment B	
CLASS 2a (MODERATE)	**Benefit >> Risk**
Suggested phrases for writing recommendations: • Is reasonable • Can be useful/effective/beneficial • Comparative-Effectiveness Phrases†: – Treatment/strategy A is probably recommended/indicated in preference to treatment B – It is reasonable to choose treatment A over treatment B	
CLASS 2b (WEAK)	**Benefit ≥ Risk**
Suggested phrases for writing recommendations: • May/might be reasonable • May/might be considered • Usefulness/effectiveness is unknown/unclear/uncertain or not well-established	
CLASS 3: No Benefit (MODERATE) **(Generally, LOE A or B use only)**	**Benefit = Risk**
Suggested phrases for writing recommendations: • Is not recommended • Is not indicated/useful/effective/beneficial • Should not be performed/administered/other	
Class 3: Harm (STRONG)	**Risk > Benefit**
Suggested phrases for writing recommendations: • Potentially harmful • Causes harm • Associated with excess morbidity/mortality • Should not be performed/administered/other	

LEVEL (QUALITY) OF EVIDENCE‡	
LEVEL A	
• High-quality evidence‡ from more than 1 RCT • Meta-analyses of high-quality RCTs • One or more RCTs corroborated by high-quality registry studies	
LEVEL B-R	**(Randomized)**
• Moderate-quality evidence‡ from 1 or more RCTs • Meta-analyses of moderate-quality RCTs	
LEVEL B-NR	**(Nonrandomized)**
• Moderate-quality evidence‡ from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies • Meta-analyses of such studies	
LEVEL C-LD	**(Limited Data)**
• Randomized or nonrandomized observational or registry studies with limitations of design or execution • Meta-analyses of such studies • Physiological or mechanistic studies in human subjects	
LEVEL C-EO	**(Expert Opinion)**
• Consensus of expert opinion based on clinical experience	

COR and LOE are determined independently (any COR may be paired with any LOE).

A recommendation with LOE C does not imply that the recommendation is weak. Many important clinical questions addressed in guidelines do not lend themselves to clinical trials. Although RCTs are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

* The outcome or result of the intervention should be specified (an improved clinical outcome or increased diagnostic accuracy or incremental prognostic information).

† For comparative-effectiveness recommendations (COR 1 and 2a; LOE A and B only), studies that support the use of comparator verbs should involve direct comparisons of the treatments or strategies being evaluated.

‡ The method of assessing quality is evolving, including the application of standardized, widely-used, and preferably validated evidence grading tools; and for systematic reviews, the incorporation of an Evidence Review Committee.

COR indicates Class of Recommendation; EO, expert opinion; LD, limited data; LOE, Level of Evidence; NR, nonrandomized; R, randomized; and RCT, randomized controlled trial.

	Definition	Wording to use
Class I	Evidence and/or general agreement that a given treatment or procedure is **beneficial, useful, effective.**	Is recommended or is indicated
Class II	**Conflicting evidence and/or a divergence of opinion about the usefulness/ efficacy of the given treatment or procedure.**	
Class IIa	Weight of evidence/opinion is in **favour of usefulness/efficacy.**	Should be considered
Class IIb	**Usefulness/efficacy is less well** established by evidence/opinion.	May be considered
Class III	Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful.	Is not recommended

2020 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC) FREE

Jean-Philippe Collet ✉, Holger Thiele ✉, Emanuele Barbato, Olivier Barthélémy, Johann Bauersachs, Deepak L Bhatt, Paul Dendale, Maria Dorobantu, Thor Edvardsen, Thierry Folliguet ... Show more

European Heart Journal, Volume 42, Issue 14, 7 April 2021, Pages 1289–1367, https://doi.org/10.1093/eurheartj/ehaa575
Published: 29 August 2020

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) FREE

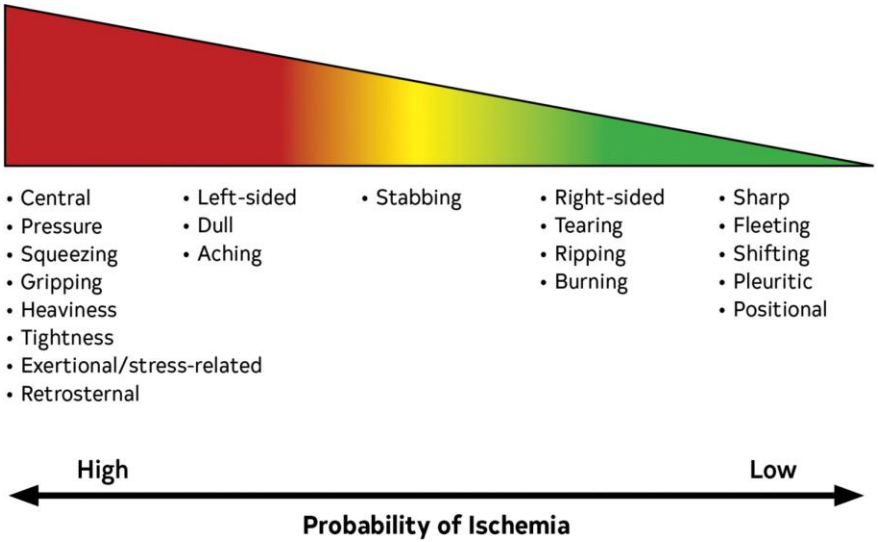
Robert A Byrne ✉, Xavier Rossello, J J Coughlan, Emanuele Barbato, Colin Berry, Alaide Chieffo, Marc J Claeys, Gheorghe-Andrei Dan, Marc R Dweck, Mary Galbraith ... Show more
Author Notes

European Heart Journal, Volume 44, Issue 38, 7 October 2023, Pages 3720–3826, https://doi.org/10.1093/eurheartj/ehad191
Published: 25 August 2023

Level of evidence A	Data derived from multiple randomized clinical trials or meta-analyses.
Level of evidence B	Data derived from a single randomized clinical trial or large non-randomized studies.
Level of evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

American Heart Association.

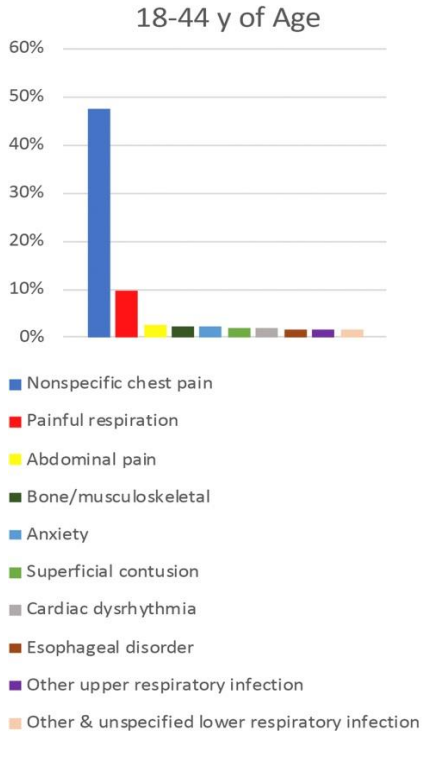
Hlavným príznakom u pacientov s podozrením na AKS je akútna bolesť/diskomfort na hrudníku

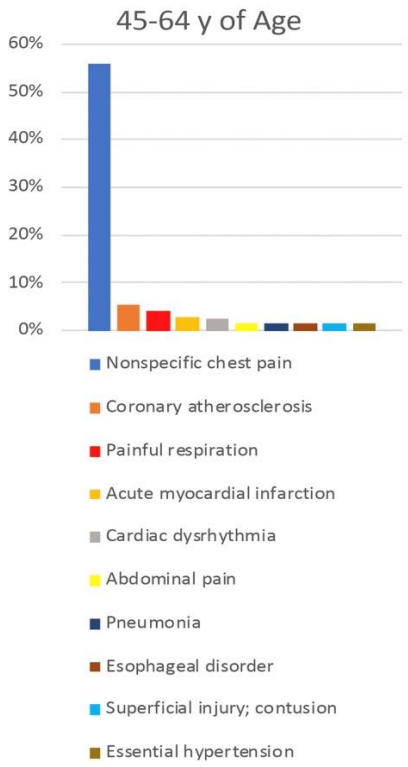


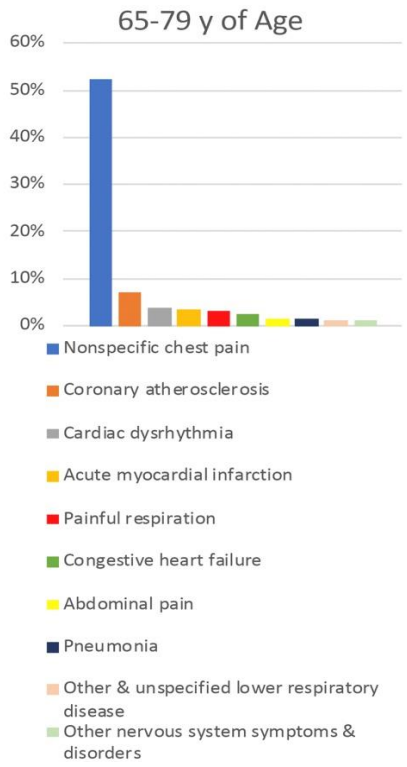
“kardiálna” “pravdepodobne kardiálna,” a “nekardiálna”

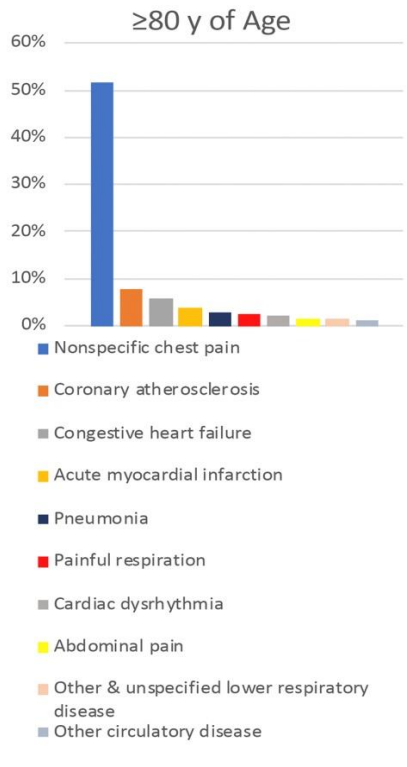
“typická” a “atypická”

ESC
European Society of Cardiology







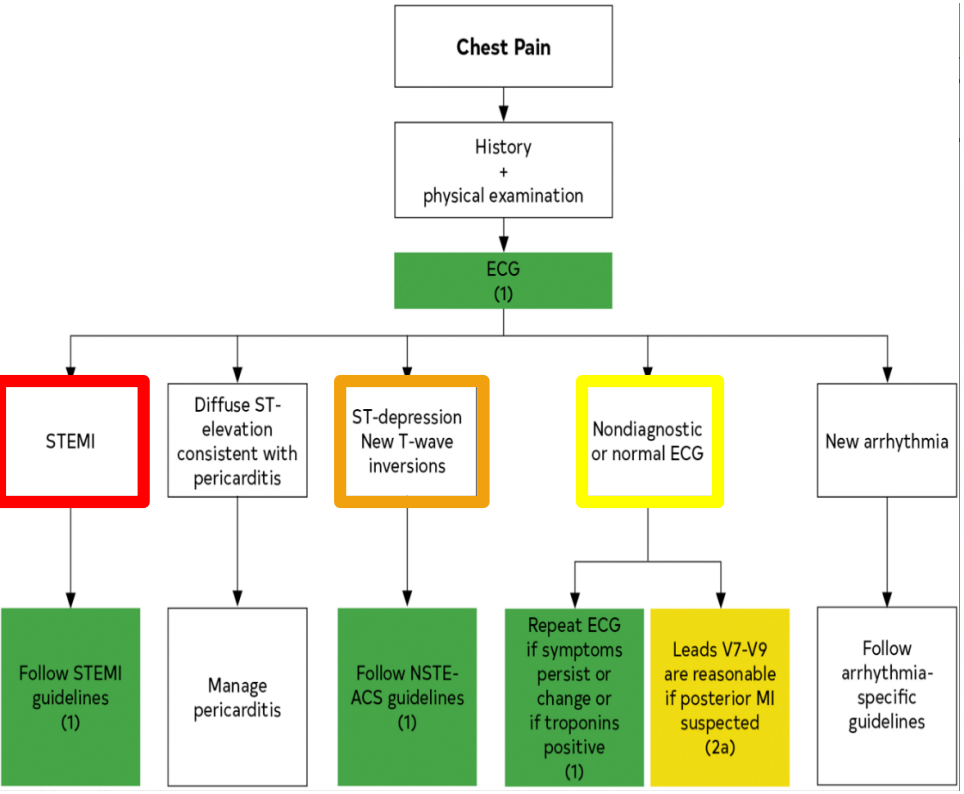


Po úrazoch druhá najčastejšia príčina príchodu UP u dospelých v US
viac ako 6,5 milióna návštev, čo je 4,7 % zo všetkých návštev na UP. Zo všetkých pacientov na UP s bolesťou na hrudníku iba 5,1 % má akútny koronárny syndróm

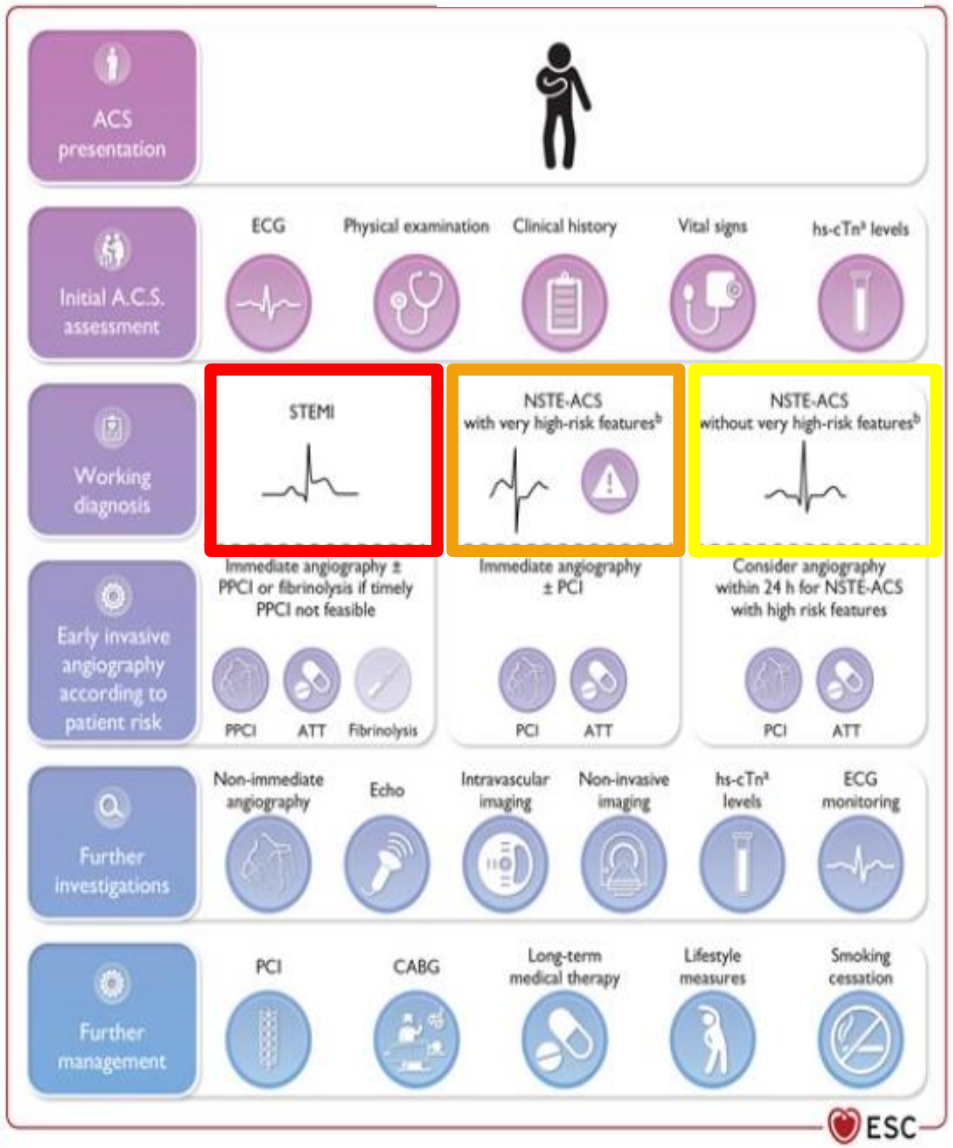
COR	LOE	Recommendations
1	B-NR	1. Women who present with chest pain are at risk for underdiagnosis, and potential cardiac causes should always be considered (1-7).
1	B-NR	2. In women presenting with chest pain, it is recommended to obtain a history that emphasizes accompanying symptoms that are more common in women with ACS (1-7).

ISCHEMIA trial - Ženy - menšia pravdepodobnosť, že budú mať včasnú a primeranú starostlivosť.
- sú symptomatickejšie ako muži s výskytom prodromálnych symptómov pri stredne ťažkej a ťažkej ischémii

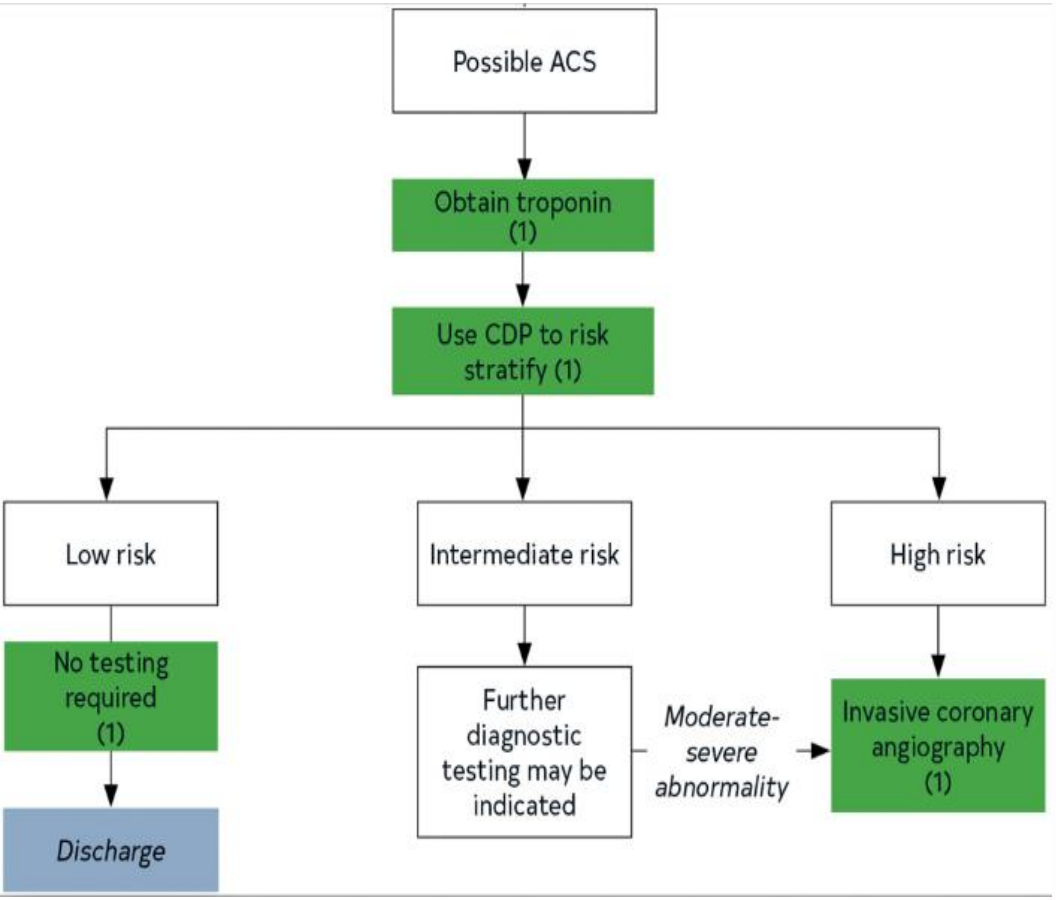
American Heart Association.



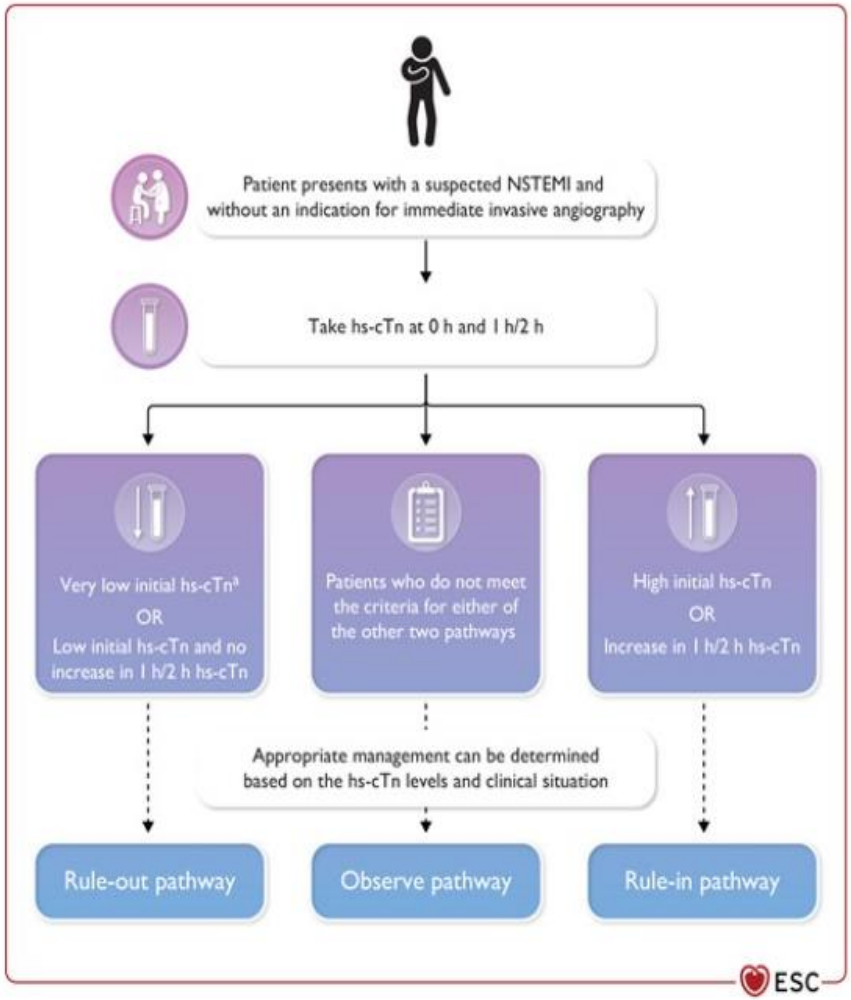
ESC European Society of Cardiology



American Heart Association.



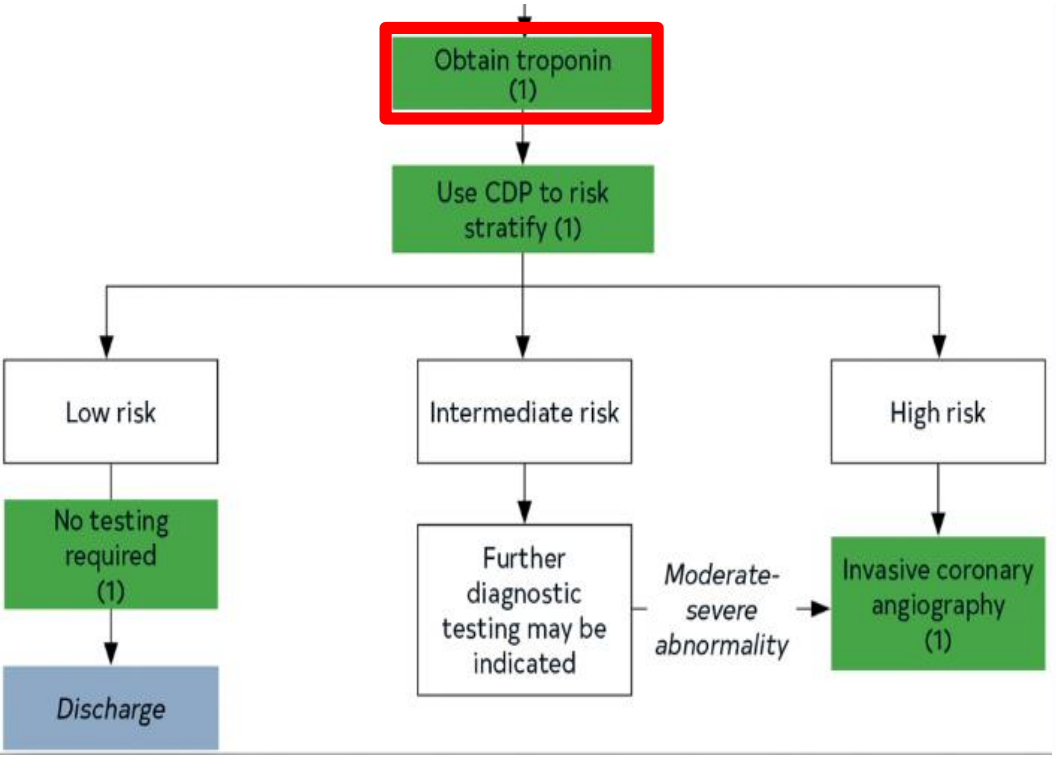
ESC European Society of Cardiology

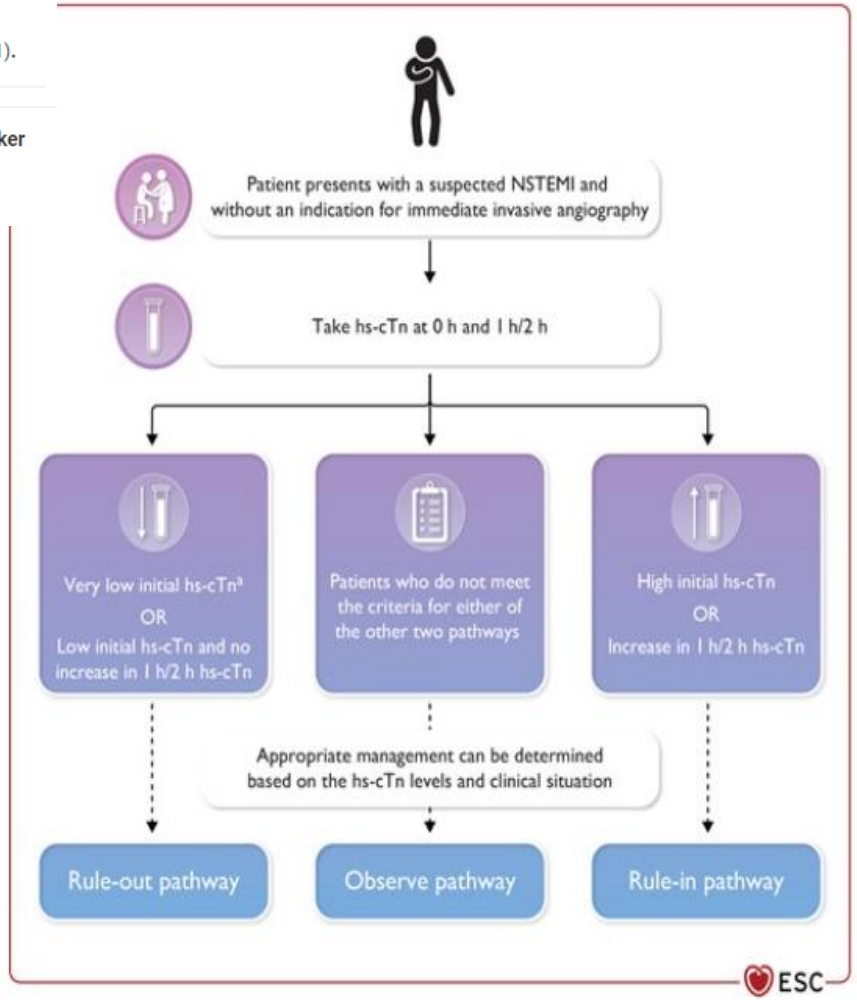


American Heart Association.

ESC European Society of Cardiology

1	B-NR	1. In patients presenting with acute chest pain, serial cTn I or T levels are useful to identify abnormal values and a rising or falling pattern indicative of acute myocardial injury (1-21).
1	B-NR	2. In patients presenting with acute chest pain, high-sensitivity cTn is the preferred biomarker because it enables more rapid detection or exclusion of myocardial injury and increases diagnostic accuracy (17,21-25).

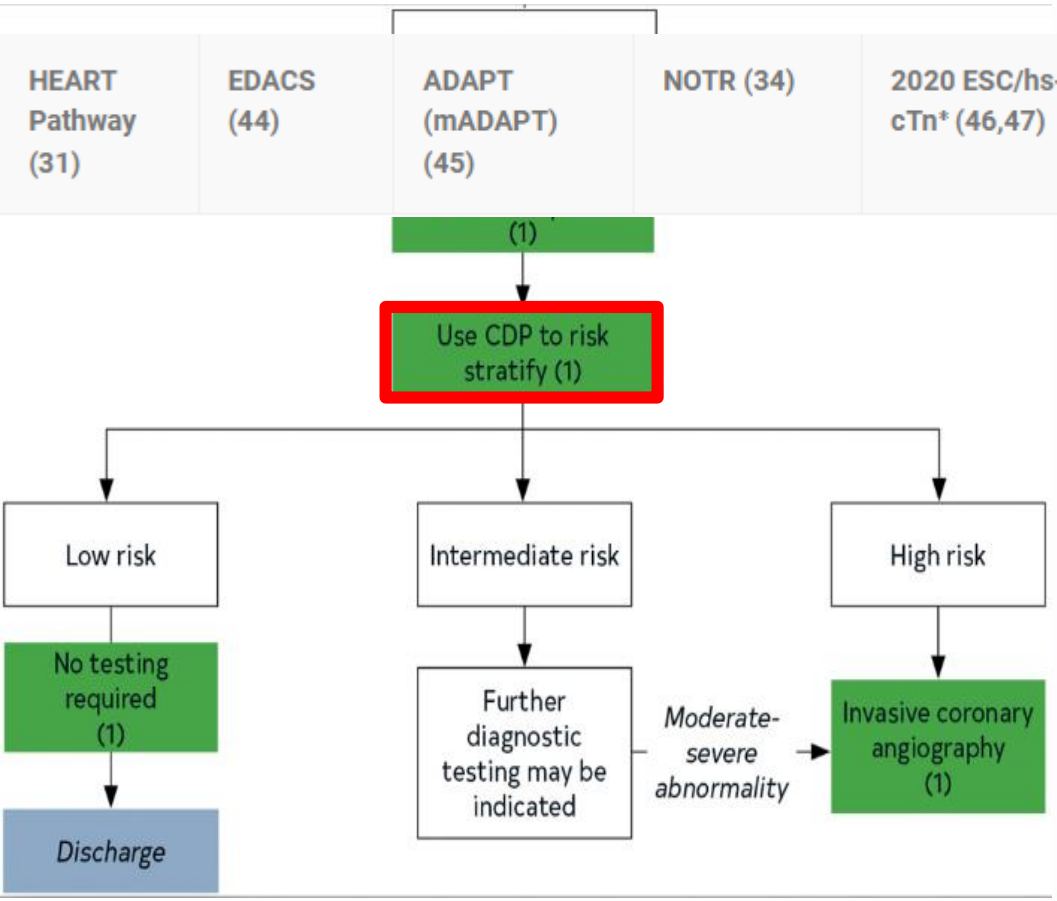


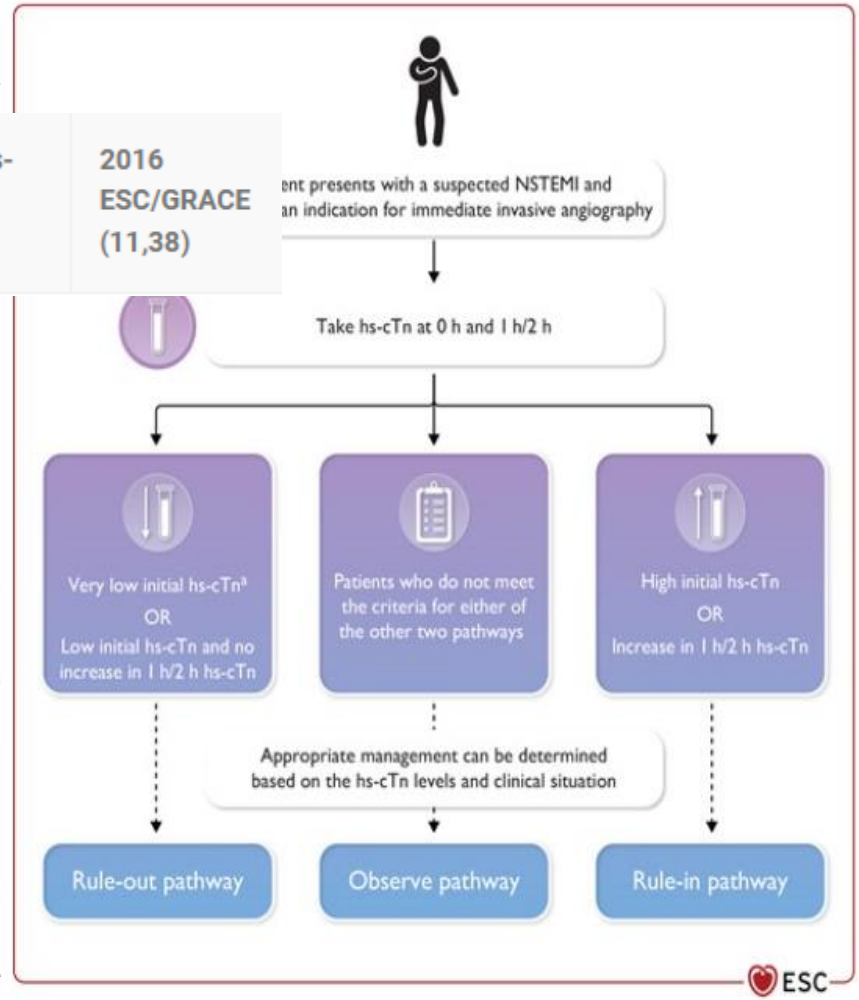


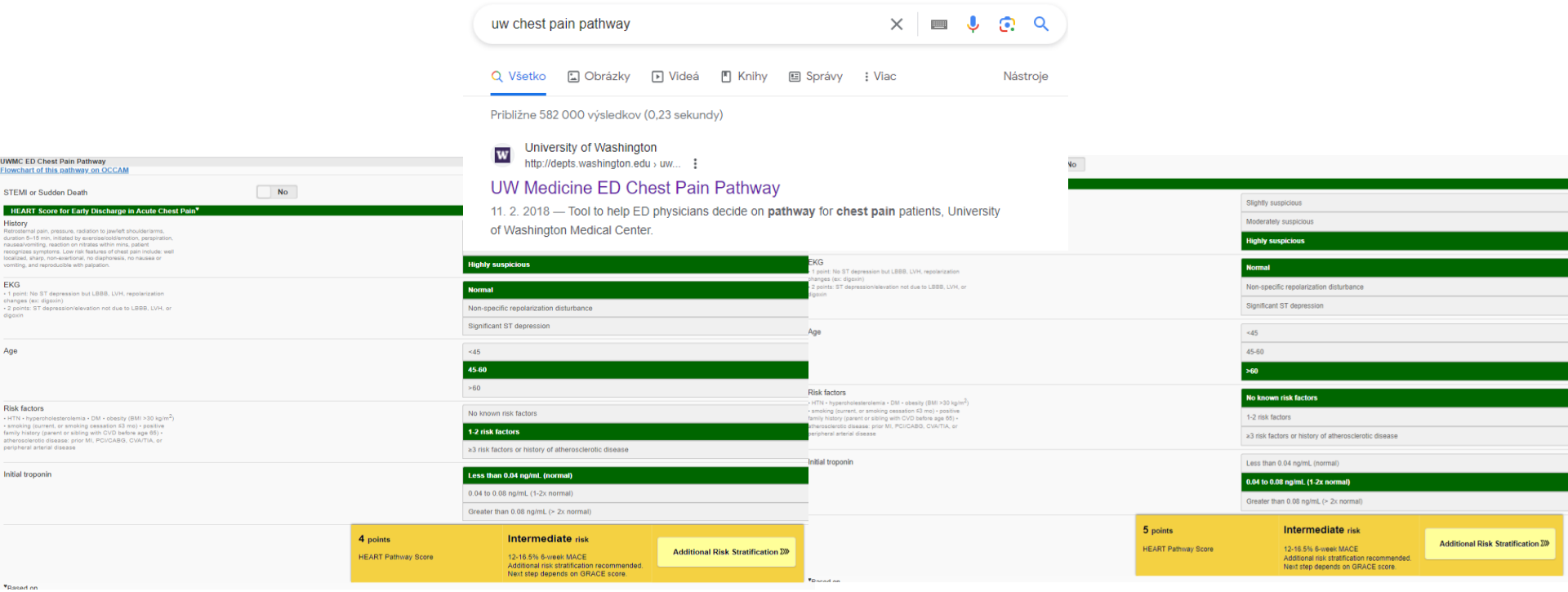
American Heart Association.

ESC European Society of Cardiology

HEART Pathway (31)	EDACS (44)	ADAPT (mADAPT) (45)	NOTR (34)	2020 ESC/hs-cTn* (46,47)	2016 ESC/GRACE (11,38)







Low/Intermediate Risk – Additional risk stratification appropriate

Initial Assessment: Intermediate Risk (HEART 4 pts, contributions: +2 History; +1 Age; +1 Additional;)--> Additional risk stratification recommended.
46 yr old male, w/ typical chest pain, no diabetes, dyslipidaemia, hyptensive, non smoker --> 36% risk of obstructive CAD;
75 BPM, 105 mmHg, no diuretic, no renal failure, STEMI absent, normal troponin, no arrest at admission --> 4% risk of in-hospital event (by GRACE 2.0)
Since risk of in-hospital event is 0-6%, expedited diagnostic testing is recommended.

High likelihood CAD	No
Iodine contrast allergy	No
Atrial Fibrillation	No
Can walk on treadmill	No
Bronchospastic lung disease	No
Heart block	No
Left bundle branch block	No

Recommended Test:

- Coronary CTA

Alternative Tests:

- Vasodilator SPECT (NM Cardiac Stress Perfusion)
- Dobutamine Stress Echocardiogram
- Cardiology Consult

Initial Assessment: Intermediate Risk (HEART 5 pts, contributions: +2 History; +2 Age; +1 Troponin;)--> Additional risk stratification recommended.
70 yr old male, w/ typical chest pain, no diabetes, no dyslipidaemia, hyptensive, smoker --> 72% risk of obstructive CAD;
85 BPM, 135 mmHg, no diuretic, no renal failure, STEMI absent, normal troponin, no arrest at admission --> 6% risk of in-hospital event (by GRACE 2.0)
Since risk of in-hospital event is 0-6%, expedited diagnostic testing is recommended.

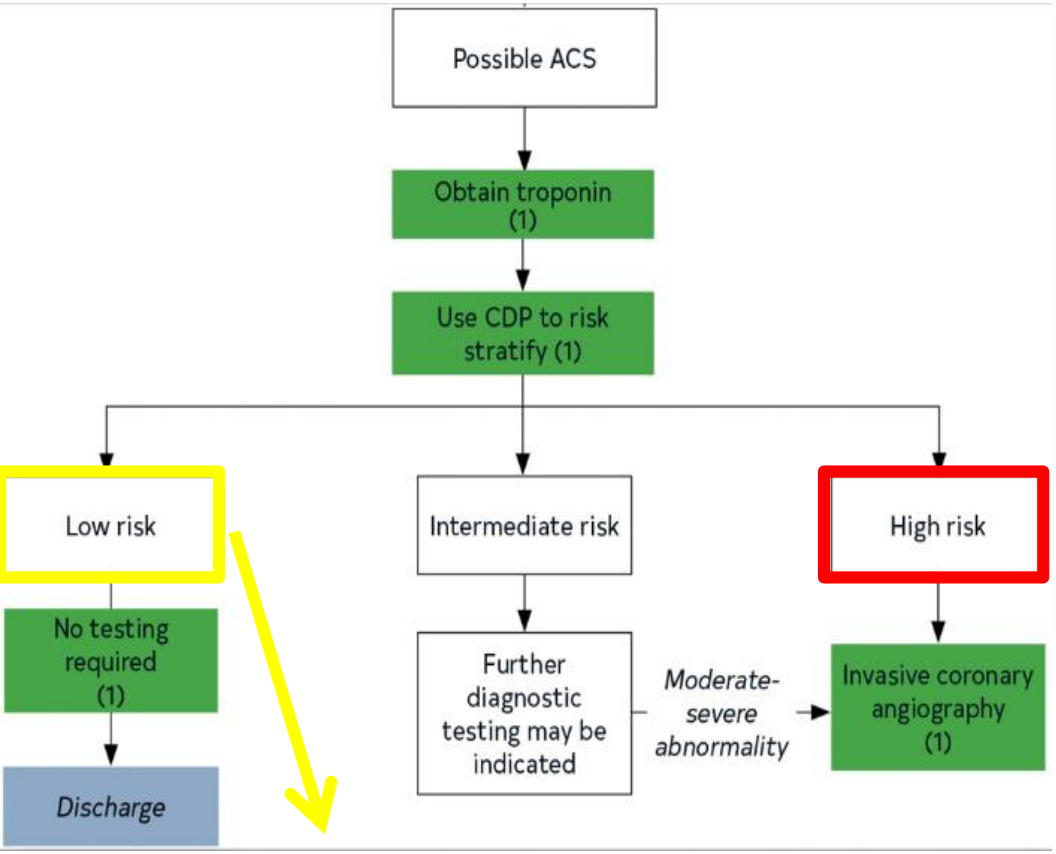
High likelihood CAD	Yes
Iodine contrast allergy	No
Atrial Fibrillation	No
Can walk on treadmill	No
Bronchospastic lung disease	No
Heart block	No
Left bundle branch block	No

Recommended Test:

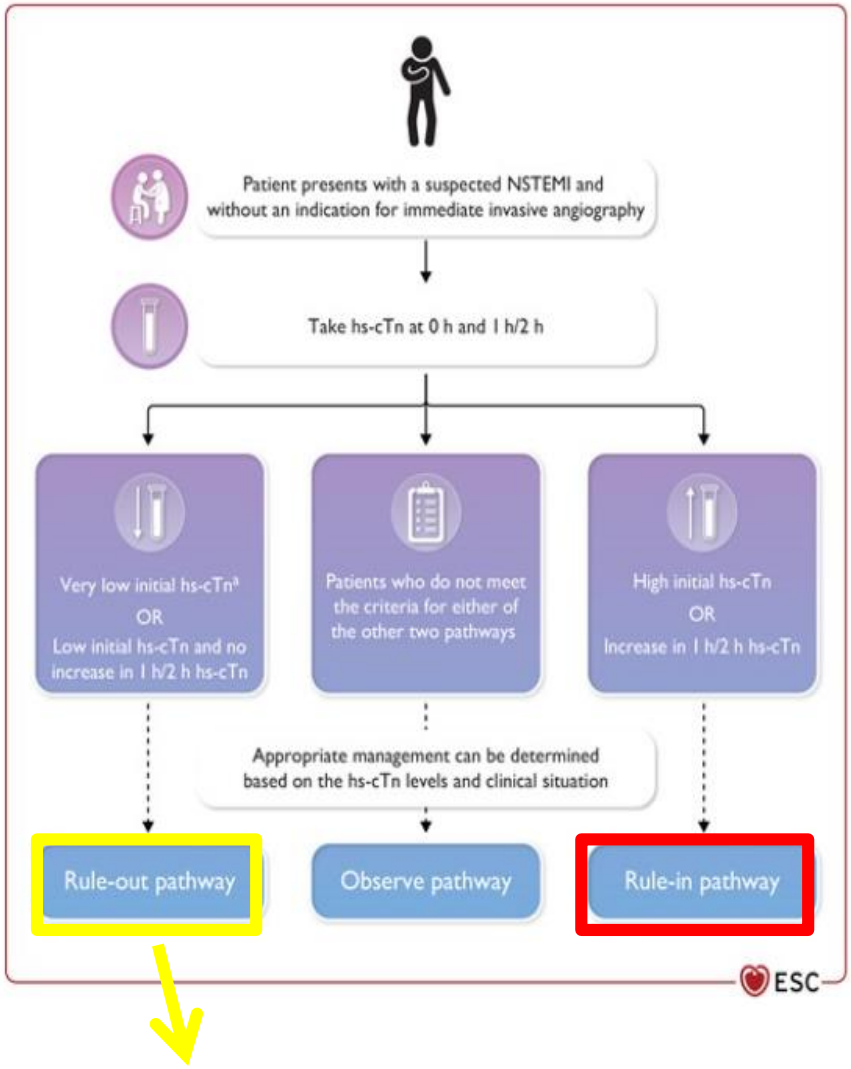
- Vasodilator SPECT (NM Cardiac Stress Perfusion)

Alternative Tests:

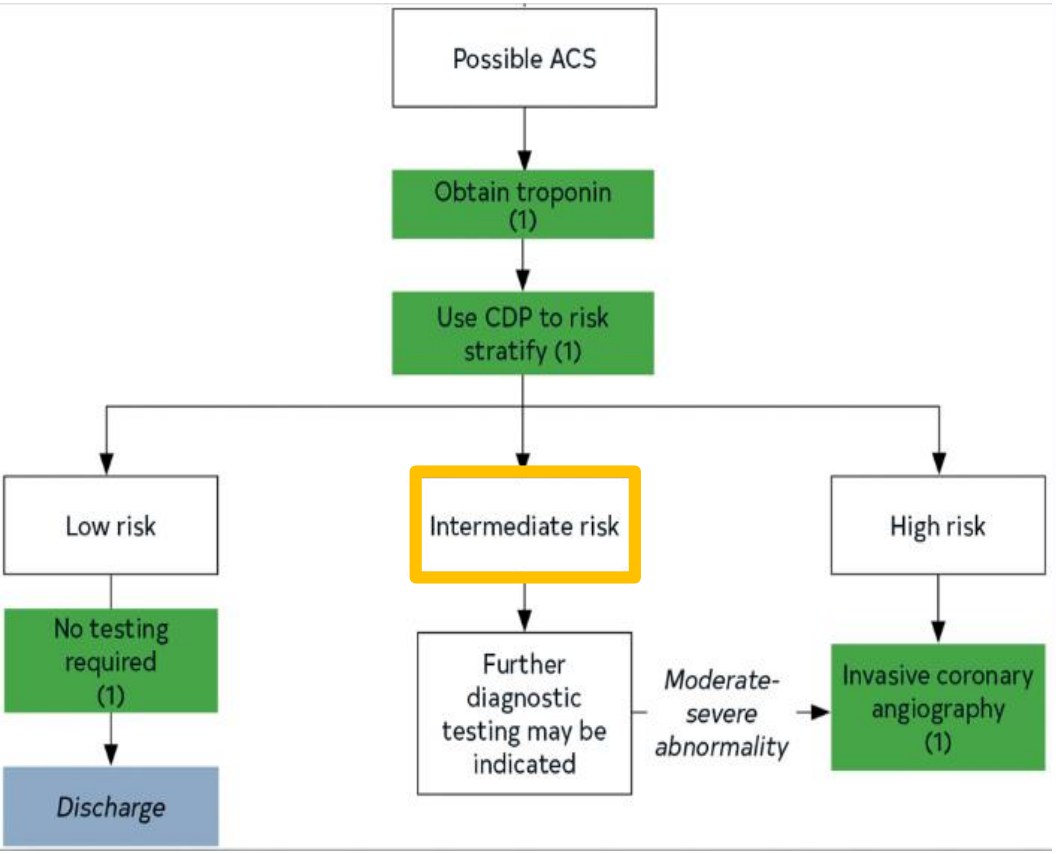
- Dobutamine Stress Echocardiogram
- Cardiology Consult

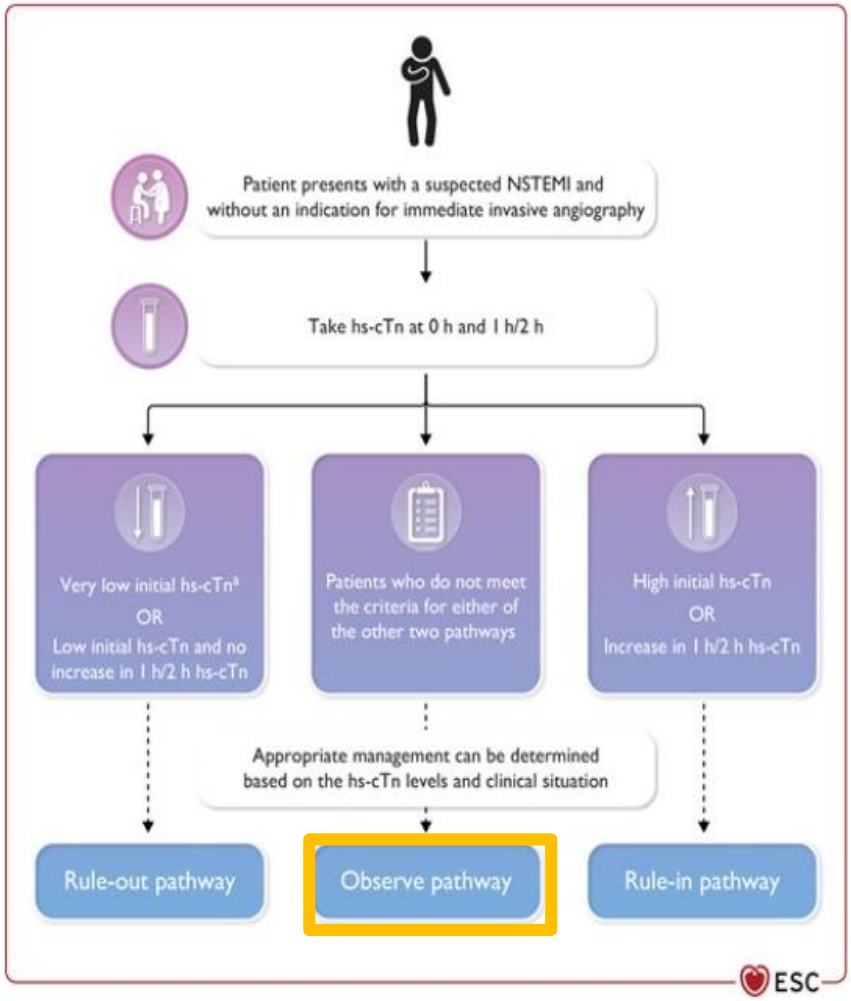


probability of MACE within 30 days is ≤1%



The NPV for MI in patients assigned to the 'rule-out' pathway has exceeded 99%
elective non-invasive or invasive imaging may be appropriate according to clinical and risk assessment

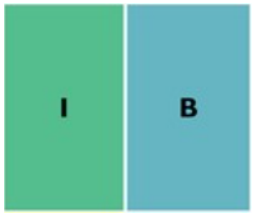

Possible ACS
Obtain troponin (1)
Use CDP to risk stratify (1)
Low risk
Intermediate risk
High risk
No testing required (1)
Discharge
Further diagnostic testing may be indicated
Moderate-severe abnormality
Invasive coronary angiography (1)


Patient presents with a suspected NSTEMI and without an indication for immediate invasive angiography
Take hs-cTn at 0 h and 1 h/2 h
Very low initial hs-cTn[a] OR Low initial hs-cTn and no increase in 1 h/2 h hs-cTn
Patients who do not meet the criteria for either of the other two pathways
High initial hs-cTn OR Increase in 1 h/2 h hs-cTn
Appropriate management can be determined based on the hs-cTn levels and clinical situation
Rule-out pathway
Observe pathway
Rule-in pathway
ESC

ESC
European Society of Cardiology

Observe pathway

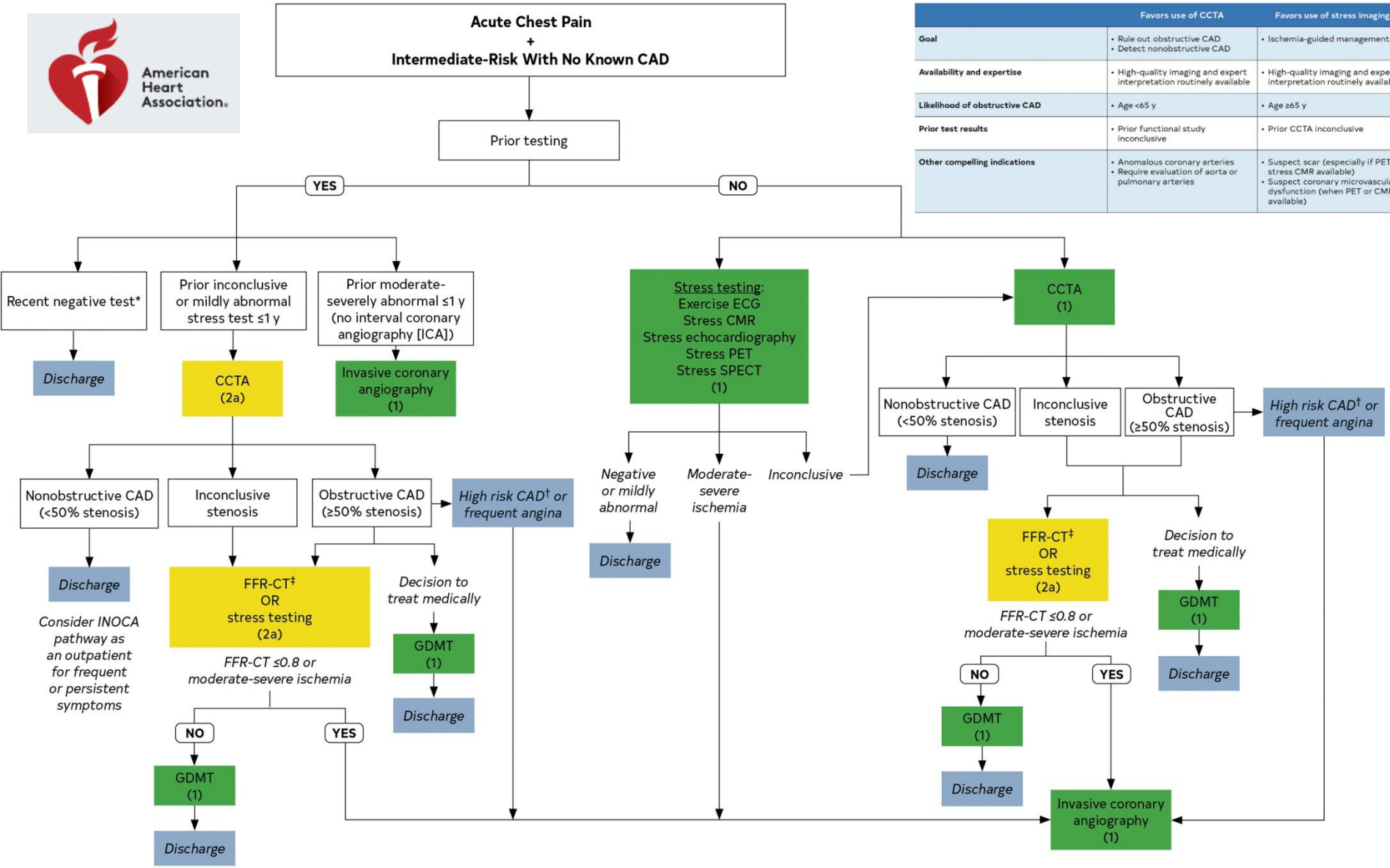
cTn at 3 h (± echocardiography) - odporúčané



- vysoký stupeň klinického podozrenia pre AKS (napr. relevantné zvýšenie 3h cTn) – ICA
- nízka až stredná pravdepodobnosť pre AKS - podľa klinického posúdenia - neinvazívne zobrazovacie metódy - CTCA

CTCA

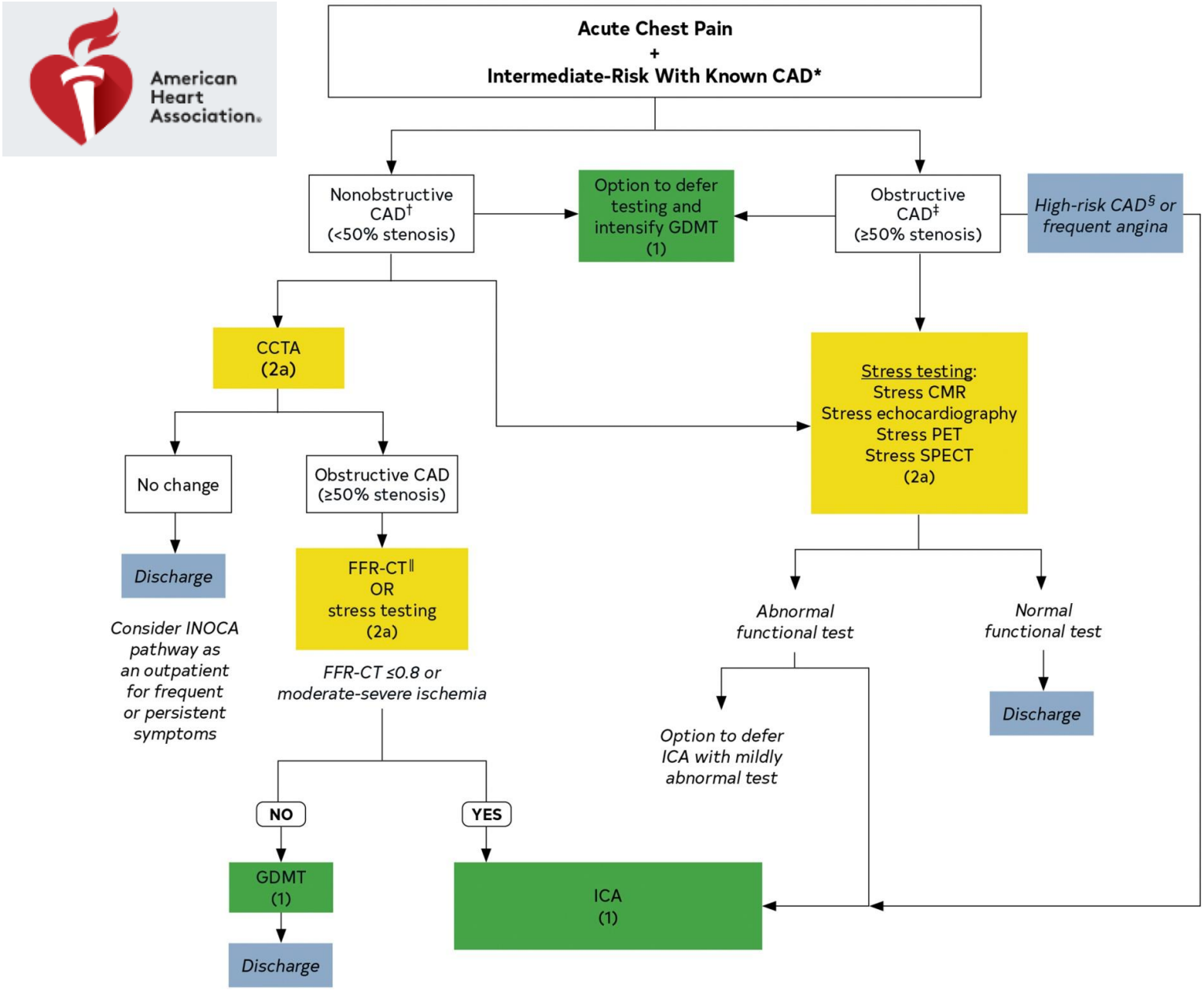
- neobštrukčné AS postihnutie koronárnych aa - prepustenie
- Obštrukčné AS postihnutie koronárnych aa – zvážiť revaskularizáciu



	Favors use of CCTA	Favors use of stress imaging
Goal	• Rule out obstructive CAD • Detect nonobstructive CAD	• Ischemia-guided management
Availability and expertise	• High-quality imaging and expert interpretation routinely available	• High-quality imaging and expert interpretation routinely available
Likelihood of obstructive CAD	• Age <65 y	• Age ≥65 y
Prior test results	• Prior functional study inconclusive	• Prior CCTA inconclusive
Other compelling indications	• Anomalous coronary arteries • Require evaluation of aorta or pulmonary arteries	• Suspect scar (especially if PET or stress CMR available) • Suspect coronary microvascular dysfunction (when PET or CMR available)

High-risk CAD means left main stenosis ≥ 50%; anatomically significant 3-vessel disease (≥70% stenosis)

Patients with acute chest pain who have coronary artery stenosis from 40% to 90% on CCTA may benefit from measurement of FFR-CT, especially when the stenosis is proximal or mid-coronary artery



High-risk CAD means left main stenosis ≥ 50%; anatomically significant 3-vessel disease (≥70% stenosis)

ESC
European Society of Cardiology

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 NSTE-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

American Heart Association.

I	A

For intermediate-risk patients with acute chest pain and no known CAD eligible for diagnostic testing after a negative or inconclusive evaluation for ACS, CCTA is useful for exclusion of atherosclerotic plaque and obstructive CAD (1-11).

ESC
European Society of Cardiology

CTCA
Rýchle, neinvazívne, bezpečné, prijatelné radiačné zaťaženie - ED 3-5mSv
Vysoká senzitivita > 95% - závažnosť + rozsah a distribúcia AS postihnutia
Vysoká NPH 95-99%
Charakter AS plátov – kalcif /nonkalcf + HRP
CT-FFR – funkčné hodnotenie stenóz

American Heart Association.

8 randomized controlled trials and 5 meta-analyses

Éra hs-cTn

CCTA neidentifikuje viac pacientov vyžadujúcich revaskularizáciu, neurýchluje prepustenie z ED

CCTA – menší počet následných amb vyš, nižšie priame náklady, redukcia opakovaných návštev na ED a hospitalizácii
stratifikácia rizika – rozsah a charakter AS plátov

115 Dedic A, Lubbers MM, Schaap J, Lammers J, Lamfers EJ, Rensing BJ, et al. Coronary CT angiography for suspected ACS in the era of high-sensitivity troponins: randomized multicenter study. *J Am Coll Cardiol* 2016;67:16–26. https://doi.org/10.1016/j.jacc.2015.10.045
Google Scholar Crossref PubMed WorldCat

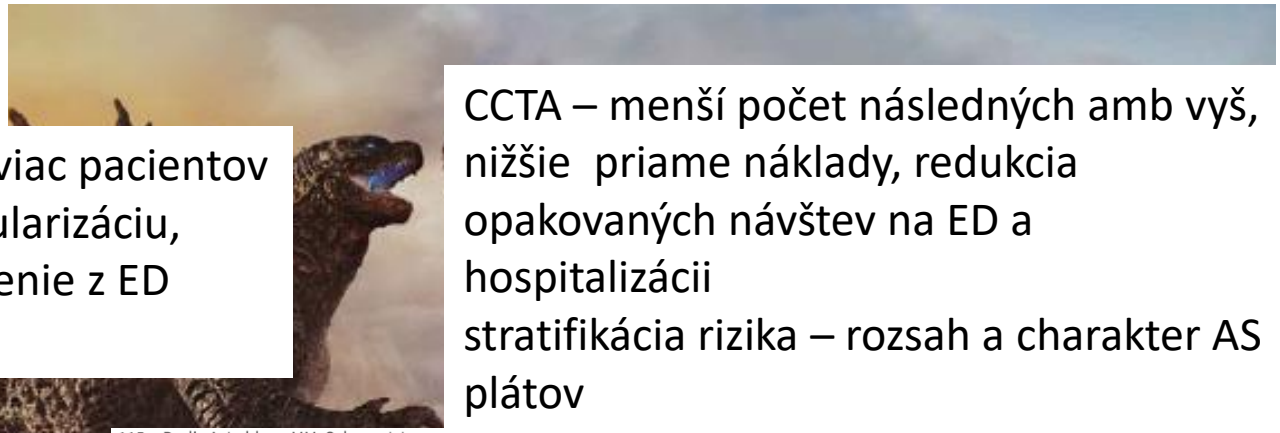
116 Hoffmann U, Truong QA, Schoenfeld DA, Chou ET, Woodard PK, Nagurney JT, et al. Coronary CT angiography versus standard evaluation in acute chest pain. *N Engl J Med* 2012;367:299–308. https://doi.org/10.1056/NEJMoa1201161

CCTA u pacientov s podozrením na NSTE-AKS nezlepšila klinické výsledky po 1 roku

40 – 50 % pacientov s eleváciou hs-cTn má negat event
neobštručné AS postihnutie
19% redukcia ICA

117 Gray AJ, Roobottom C, Smith JE, Goodacre S, Oatey K, O'Brien R, et al. Early computed tomography coronary angiography in patients with suspected acute coronary syndrome: randomised controlled trial. *BMJ* 2021;374:n2106. https://doi.org/10.1136/bmj.n2106

Éra hsTc



CCTA neidentifikuje viac pacientov vyžadujúcich revaskularizáciu, neurýchluje prepustenie z ED

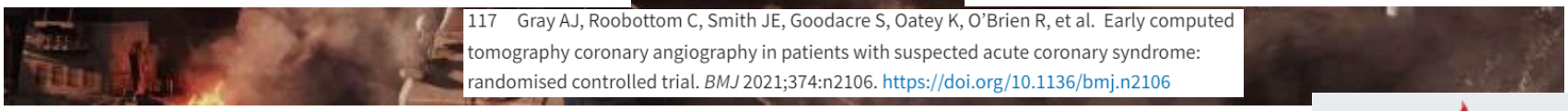
CCTA – menší počet následných amb vyš, nižšie priame náklady, redukcia opakovaných návštev na ED a hospitalizácii
stratifikácia rizika – rozsah a charakter AS plátov

115 Dedic A, Lubbers MM, Schaap J, Lammers J, Lamfers EJ, Rensing BJ, et al. Coronary CT angiography for suspected ACS in the era of high-sensitivity troponins: randomized multicenter study. *J Am Coll Cardiol* 2016;67:16–26. https://doi.org/10.1016/j.jacc.2015.10.045
Google Scholar Crossref PubMed WorldCat

116 Hoffmann U, Truong QA, Schoenfeld DA, Chou ET, Woodard PK, Nagurney JT, et al. Coronary CT angiography versus standard evaluation in acute chest pain. *N Engl J Med* 2012;367:299–308. https://doi.org/10.1056/NEJMoa1201161

CCTA u pacientov s podozrením na NSTE-AKS nezlepšila klinické výsledky po 1 roku

40 – 50 % pacientov s eleváciou hs-cTn má negat event
neobštručné AS postihnutie
19% redukcia ICA

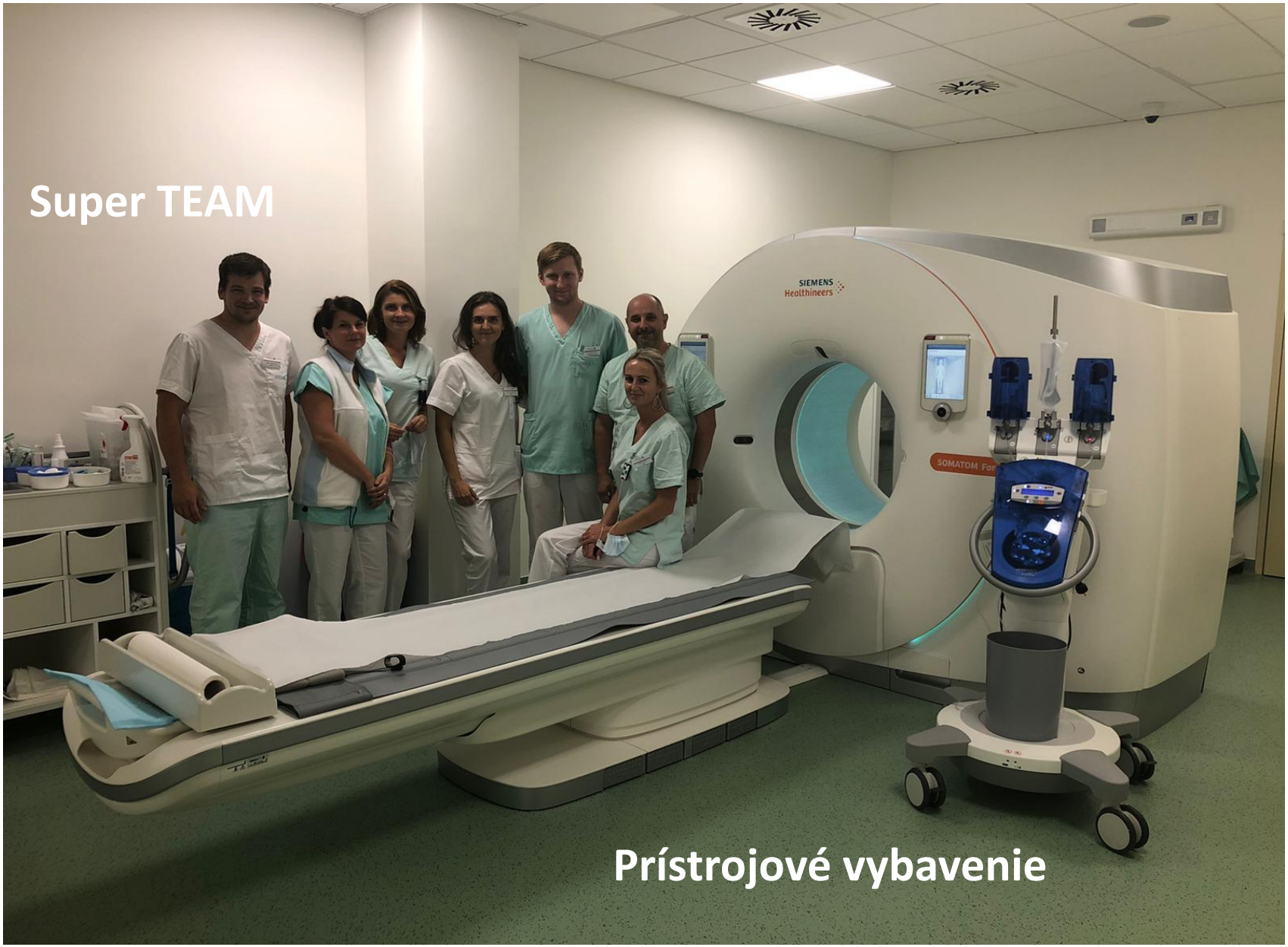


117 Gray AJ, Roobottom C, Smith JE, Goodacre S, Oatey K, O'Brien R, et al. Early computed tomography coronary angiography in patients with suspected acute coronary syndrome: randomised controlled trial. *BMJ* 2021;374:n2106. https://doi.org/10.1136/bmj.n2106

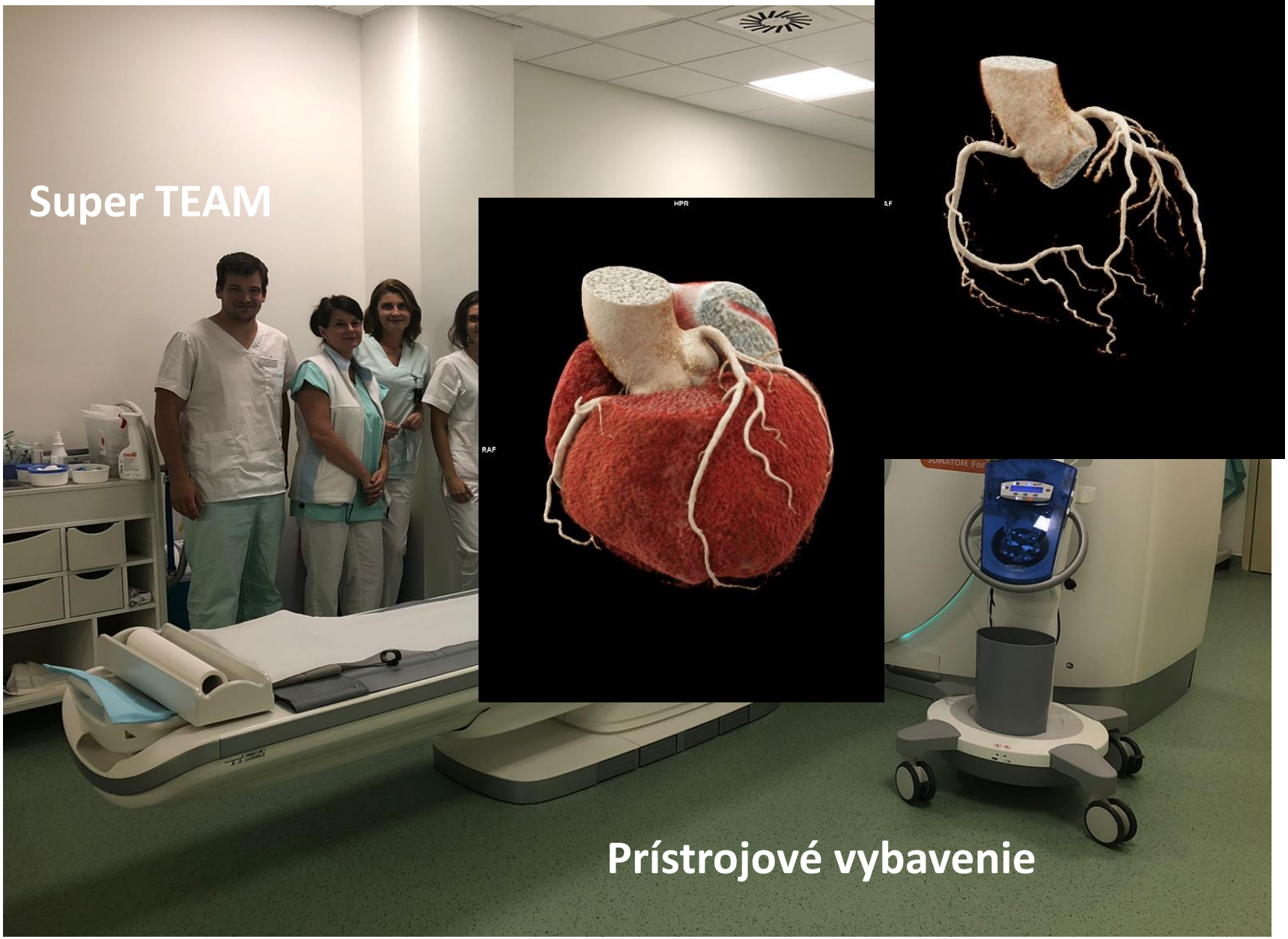
Spokojnosť pacientov v CTCA ramene bola vyššia

hs-cTn a koronárna CTA majú komplementárne úlohy a spoločne môžu ponúknuť lepšiu stratégiu triedenia pacientov s akútnou bolesťou na hrudi v porovnaní s akýmkoľvek testom používaným izolovane.

CTCA pri AKS


Super TEAM
SIEMENS
Healthineers
SOMATOM
Prístrojové vybavenie

CTCA pri AKS



CAD-RADS 2.0

- CAD – RADS - coronary artery disease reporting and data system – systém na hodnotenie postihnutia koronárnych artérií
- Bol vytvorený s cieľom štandardizovať systém popisov CT koronarografie a usmerňovať ďalší manažment pacienta.

1. Klasifikácia klinicky najrelevantnejšej stenózy (zvyčajne najvyššieho stupňa) u artérii s diametrom >1,5mm

CAD-RADS 0	0%	žiadny plát, stenóza
CAD-RADS 1	1–24%	minimálna stenóza
CAD-RADS 2	25–49%	ľahká stenóza
CAD-RADS 3	50–69%	stredne závažná stenóza
CAD-RADS 4	**A** - 70–99%	signifikatná stenóza
	B - kmeň LCA ≥50% alebo 3 - cievne postihnutie (≥70%)	
CAD-RADS 5	100%	kompletná oklúzia

2. P - hodnotenie rozsahu atherosklerotického postihnutia koronárnych ciev

P1	ľahké AS postihnutie
P2	stredne závažné AS postihnutie
P3	závažné AS postihnutie
P4	rozsiahle AS postihnutie

3. Modifikátory

- **N** - nediagnostické vyšetrenie - vyšetrenie nie je v plnom rozsahu hodnotiteľné
- **HRP** - rizikový/vulnerabilný plát – aterosklerotický plát asociovaný s vyšším rizikom: a) akútneho kornárneho sydrómu bez ohľadu na stupeň stenózy, b) závažných kardiovaskulárnych príhod u pacinetov so stabilnou bolesťou na hrudi, c) léziou podmienej špecifickej ischémie

- **I** - ischemia – léziou podmienená špecifická ischemia, hodnotená pomocou CT-FFR alebo CT perfúzie. I+ prítomná, I- neprítomná, I+- hraničné hodnoty
- **S** – stent – prítomnosť stentov v koronárnych artériách (stenty vhodné pre CTCA: ≥3.0 mm,stenty <3.0mm - >2,5mm môžu byť hodnotiteľné len pri proximálnej a non bifurkačnej lokalizácií
- **G** – graft/bypass - prítomnosť koronárnych bypassov
- **E** – výnimky – disekcia, aneuryzma, pseudoaneuryzma, anomálny odstup, vaskulitída, fistula, AV malformácia, externá kompresia

CAD-RADS 1	P1 a 2	Ďalšie vyšetrovanie AKS nie je potrebné. Ak Tn + je potrebné prehodnotiť inú príčinu zvýšeného troponínu. Odporučenie pre ambulantné sledovanie + modifikáciu rizikových faktorov a preventívnu farmakoterapiu
	P3 a P4	Ďalšie vyšetrovanie AKS nie je potrebné. Ak Tn + je potrebné prehodnotiť inú príčinu zvýšeného troponínu. Odporučenie pre ambulantné sledovanie + agresívnu modifikáciu rizikových faktorov a preventívnu farmakoterapiu
CAD-RADS 2	P1 a 2	Ak je vysoká klinická suspekcia pre AKS, Tn + alebo prítomná HRP morfológia AS plátu zvážiť hospitalizáciou s kardiologickou konzultáciou. Ak Tn + je potrebné prehodnotiť inú príčinu zvýšeného troponínu. Odporučenie pre ambulantné sledovanie + modifikáciu rizikových faktorov a preventívnu farmakoterapiu
	P3 a P4	Ak je vysoká klinická suspekcia pre AKS, Tn + alebo prítomná HRP morfológia AS plátu zvážiť hospitalizáciou s kardiologickou konzultáciou. Ak Tn + je potrebné prehodnotiť inú príčinu zvýšeného troponínu. Odporučenie pre ambulantné sledovanie + agresívnu modifikáciu rizikových faktorov a preventívnu farmakoterapiu
CAD-RADS 3	P1, P2, P3, P4	Zvážiť hospitalizáciou s kardiologickou konzultáciou. Zvážiť CT-FFR, CTP (CT perfúzia), záťažové testovanie. Preventívny manažment vrátane agresívnej preventívnej farmakoterapie. Iná liečba (vrátane antianginóznej liečby) by sa mala zvážiť podľa aktuálnych usmernení.
	I+	Zvážiť ICA
CAD-RADS 4A	P1, P2, P3, P4	Hospitalizácia s kardiologickou konzultáciou. Zvážiť ICA. Preventívny manažment vrátane agresívnej preventívnej farmakoterapie. Antianginózna liečba a revaskularizácia by sa mala zvážiť podľa aktuálnych usmernení.
CA-RADS 4B	P1, P2, P3, P4	Hospitalizácia s kardiologickou konzultáciou. ICA je doporučená. Preventívny manažment vrátane agresívnej preventívnej farmakoterapie. Antianginózna liečba a revaskularizácia by sa mala zvážiť podľa aktuálnych usmernení.
CAD-RADS 5	P1, P2, P3, P4	Hospitalizácia s kardiologickou konzultáciou. ICA a revaskularizácia pri suspektnej akútnej oklúzii. Preventívny manažment vrátane agresívnej preventívnej farmakoterapie. Antianginózna liečba a revaskularizácia by sa mala zvážiť podľa aktuálnych usmernení.
CAD-RADS N		Zvážiť doplňujúce alebo alternatívne vyšetrenie

a) Funkčná diagnostika : CT-FFR, CTP (CT perfúzia), záťažové testovanie (ETT, záťažové ECHO, SPECT, PET, MRI srdca) alebo invazívne FFR.

b) ICA – invazívna koronárna angiografia môže byť uprednostnená, pri kritickej stenóze (> 90 %), pri plátoch s rizikovou morfológiou alebo I + (prítomnosť špecifickej ischémie pre léziu na CT FFR alebo CTP) alebo ischémia potvrdená inými funkčnými vyšetreniami alebo u kandidátov na revaskularizáciu.

Ďakujem za pozornosť