AKS – ESC guidelines 2023 :
Dlouhodobá sekundární prevence

Jaroslav Ulman,
Kardiologická klinika
III.LFUK a FNKV, Praha
Koronární jednotka

2023 ESC Guidelines for the management of acute coronary syndromes

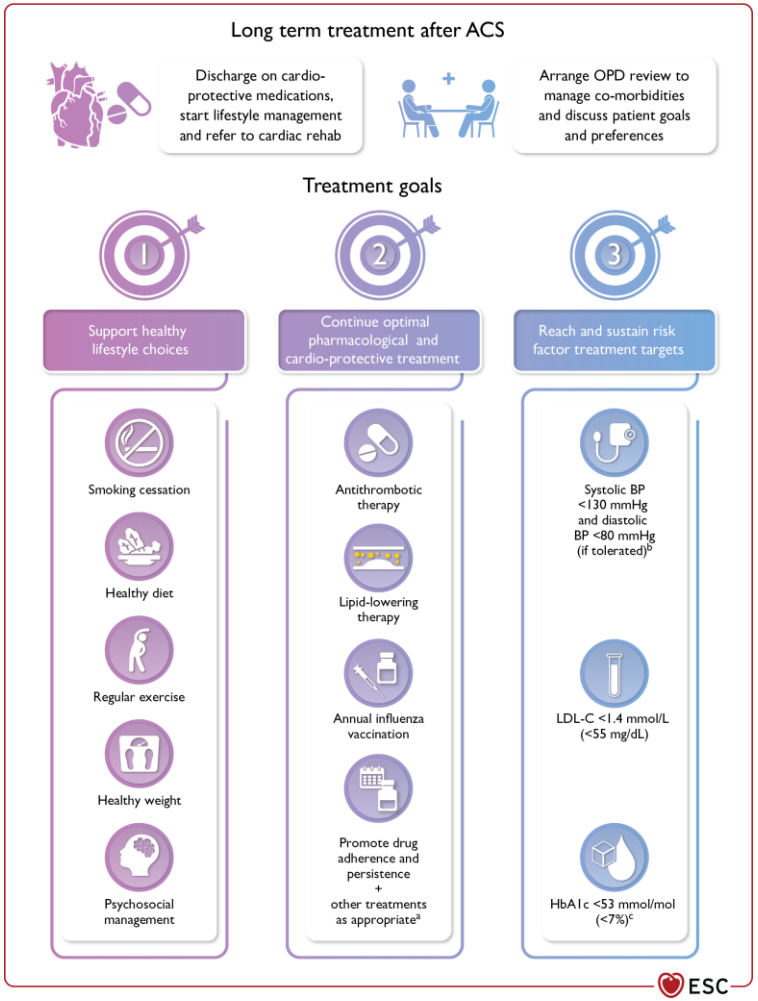
Authors/Task Force Members:

Robert A. Byrne (Chairperson) (Ireland), Borja Ibanez (Chairperson) (Spain),
Xavier Rossello (Task Force Coordinator) (Spain), J.J. Coughlan (Task Force Coordinator) (Ireland), Emanuele Barbato (Italy), Colin Berry (United Kingdom), Alaide Chieffo (Italy), Marc J. Claeys (Belgium), Gheorghe-Andrei Dan (Romania), Marc R. Dweck (United Kingdom), Mary Galbraith (United Kingdom), Martine Gilard (France), Lynne Hinterbuchner (Austria), Ewa A. Jankowska (Poland), Peter Jüni (United Kingdom), Takeshi Kimura (Japan), Vijay Kunadian (United Kingdom), Margret Leosdottir (Sweden), Roberto Lorusso (Netherlands), Roberto F. E. Pedretti (Italy), Angelos G. Rigopoulos (Greece), Maria Rubini Gimenez (Germany), Holger Thiele (Germany), Pascal Vranckx (Belgium), Sven Wassmann (Germany), Nanette Kass Wenger (United States of America).

©ESC

Figure 17

Long-term management after acute coronary syndrome



©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Recommendations for long-term management (1)

Recommendations	Class	Level
Cardiac rehabilitation		
It is recommended that all ACS patients participate in a medically supervised, structured, comprehensive, multidisciplinary exercise-based cardiac rehabilitation and prevention programme.	I	A
Lifestyle management		
It is recommended that ACS patients adopt a healthy lifestyle, including: • stopping all smoking of tobacco • healthy diet (Mediterranean style) • alcohol restriction • regular aerobic physical activity and resistance exercise • reduced sedentary time	I	B
In smokers, offering follow-up support, nicotine replacement therapy, varenicline or bupropion, individually or in combination, should be considered.	IIa	A

©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

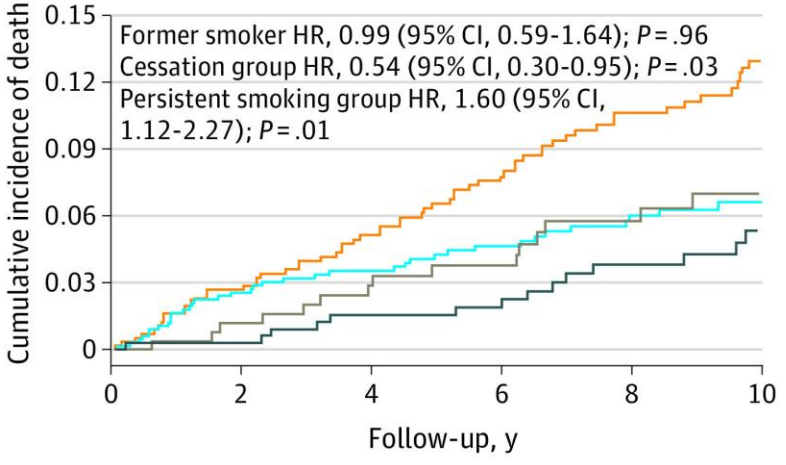
Kouření - Platí benefit nekouření i po r. 2000?

Partners YOUNG-MI registry - *snížení motrtality celkové i CV > 50%* *Boston, Harvard JAMA 2020*

Konsekventních 2052 pt s 1. IM, < 50 let, 1088 kuřáci (52,5%), jen ICHS (IM typ 1.), leden 2000 - Duben 2016
910 klasifikováno v 1R po 1. IM jako /Ne37,7%/Kuřáci 62,3%/, sledováni 11,2 R - analýza OCT – DEC 2019

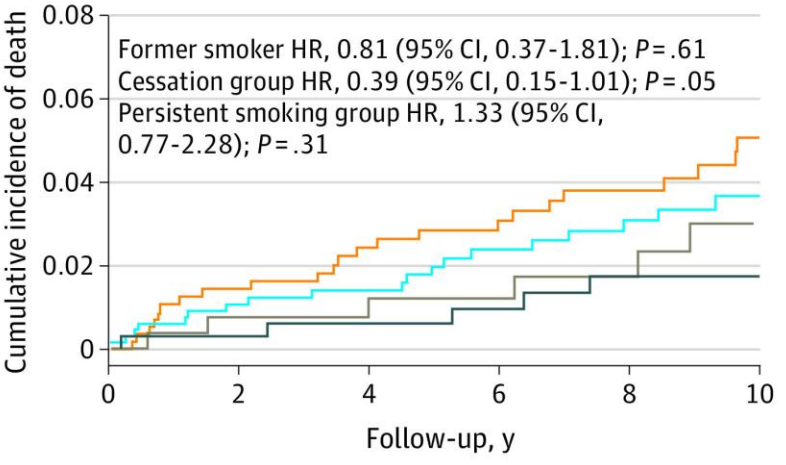
Biery, DW, et alt JAMA Network Open. 2020;3(7):e209649. doi:10.1001/jamanetworkopen.2020.9649

A All-cause mortality stratified by smoking status at 1 y after MI[a]



No. at risk						
Never smoker	675	616	538	452	379	283
Former smoker	270	244	217	198	164	122
Cessation group	343	329	295	269	226	166
Persistent smoking group	567	527	477	420	346	268

B Cardiovascular mortality stratified by smoking status at 1 y after MI[a]



No. at risk						
Never smoker	675	616	538	452	379	283
Former smoker	270	244	217	198	164	122
Cessation group	343	329	295	269	226	166
Persistent smoking group	567	527	477	420	346	268

Dietní doporučení

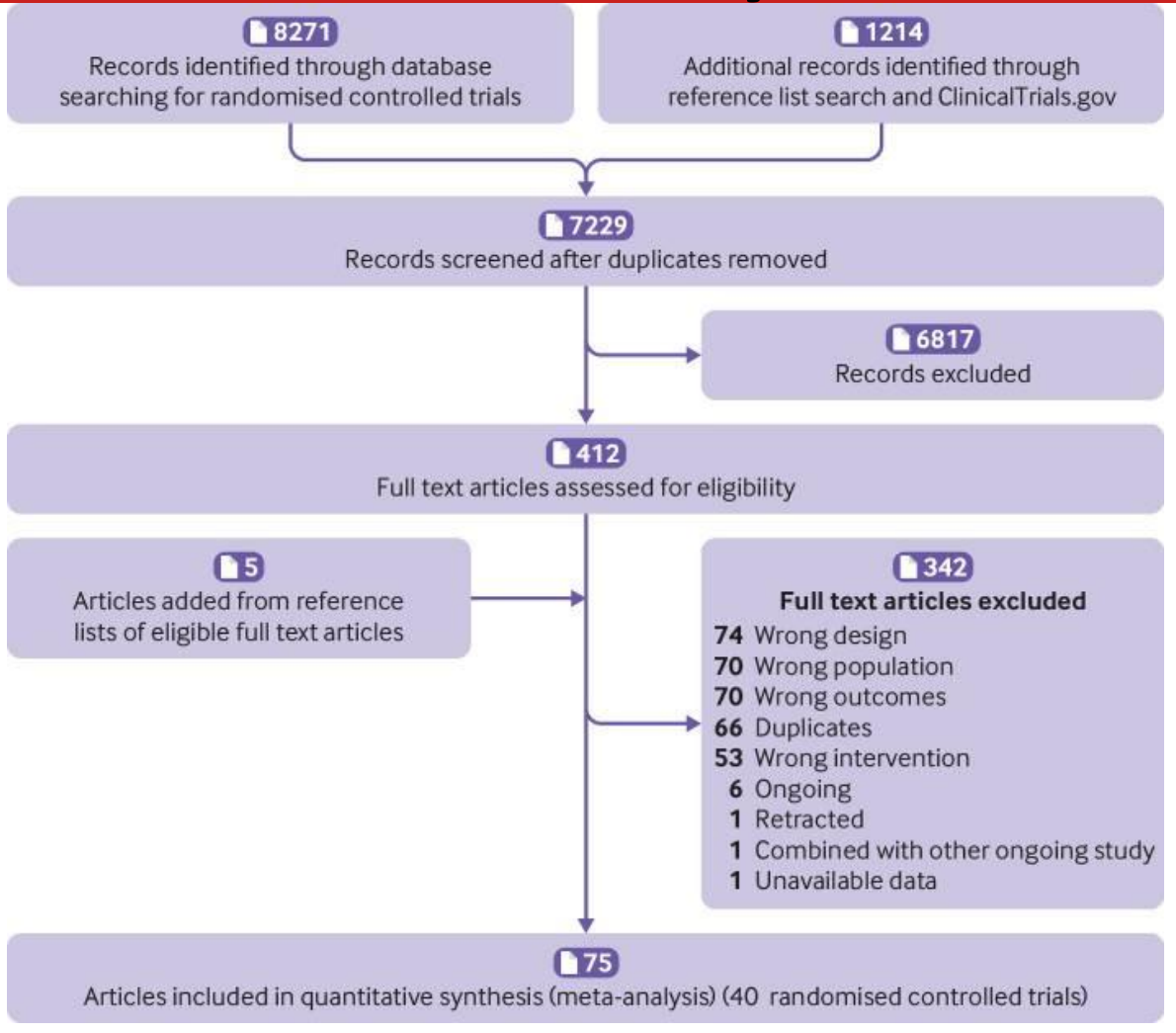
- Více rostlinné méně živočišné stravy
- Ovoce ≥200 g za den + Zelenina ≥200 g za den
- 35–45 g vlákniny, lépe celozrnné
- 30 g nesolených ořechů denně
- 1–2 porce ryby týdně (jedna tučná)
- Málo tučného masa, nízkotučné mléčné výrobky a tekuté rostlinné oleje
- červené maso max 300–500 g za týden
- Druhotně zpracované minimalizovat (= vyloučit)
- Nasycené tuky do <10% celkového energetického příjmu; nahradit polynenasycenými tuky
- Trans-nenasycené tuky minimalizovat (vyloučit);
- žádné druhotně zpracované potraviny : resp. <1% celkového energetického příjmu
- ≤5 g soli denně
- Pokud alkohol tak max 2 sklenice (20g) denně muži a jedna (10g) ženy a celkově do 100g týdně
- Vyloučit energetické bohaté potraviny jako je cukr a slazené nápoje

7 Diet – metaanalýza Karam G, BMJ 2023

Named dietary programme category	Description
Low fat	Total fat intake reduced to 20-30% of caloric intake; saturated fat intake reduced to <10% of caloric intake
Very low fat	Total fat intake reduced to 10-20% of caloric intake
Combined low fat and low sodium	As in low fat diet, plus sodium reduction (<2.4 g/day)
Modified fat	No decrease in total fat intake, but increase in polyunsaturated to saturated fat ratio
Mediterranean	Increased fish, fruit, and vegetable intake; increased intake of monounsaturated fats (eg, olive oil)
Dr Ornish	Total fat intake reduced to <10% of caloric intake; primarily plant based
Pritikin	Total carbohydrate intake 70-75% of caloric intake; total protein intake 15-20% of caloric intake; total fat intake 5-10% of caloric intake; fibre intake 40-45 g/1000 kilocalories
Minimal intervention	Usual diet or no advice, referral to own physician, usual care, non-dietary programming, or minimal dietary advice

7 Diet - metaanalýza

Karam G, BMJ 2023



7 Diet – metaanalýza

Karam G, BMJ 2023

Dietary programme *v* minimal intervention	All cause mortality	Cardiovascular mortality	Stroke	Non-fatal myocardial infarction	Unplanned cardiovascular intervention
Mediterranean	-17 (-26 to -5)	-13 (-17 to -6)	-7 (-11 to -1)	-17 (-21 to -11)	-1 (-12 to 16)
Low fat	-9 (-15 to -3)	-6 (-11 to 1)	0 (-5 to 6)	-7 (-13 to -1)	-13 (-20 to -2)
Very low fat	-3 (-14 to 10)	0 (-10 to 14)	-1 (-7 to 9)	6 (-4 to 20)	-2 (-14 to 19)
Modified fat	3 (-12 to 22)	3 (-7 to 17)	13 (-9 to 74)	-4 (-13 to 11)	NA
Combined low fat-low sodium	1 (-11 to 15)	2 (-12 to 25)	-8 (-14 to 5)	21 (-2 to 59)	10 (-12 to 59)
Ornish	76 (-46 to 553)	13 (-22 to 179)	NA	NA	-2 (-22 to 60)
Pritikin	-48 (-61 to 207)	NA	30 (-19 to 561)	NA	NA

Superior to minimal intervention with moderate to high certainty

Little or no benefit relative to minimal intervention with moderate to high certainty

Might be superior to minimal intervention with very low to low certainty

Might have little or no benefit relative to minimal intervention with very low to low certainty

thebmj Visual abstract

Risk of mortality and cardiovascular events

Comparison of seven popular structured dietary programmes

Summary

In those at increased cardiovascular risk, evidence indicates that diet programmes, such as Mediterranean and low fat, reduce outcomes including all cause mortality, and non-fatal myocardial infarction

Study design

Systematic review with network meta-analysis

Adults with cardiovascular disease or with at least two cardiovascular risk factors

Data sources

40 randomised controlled trials

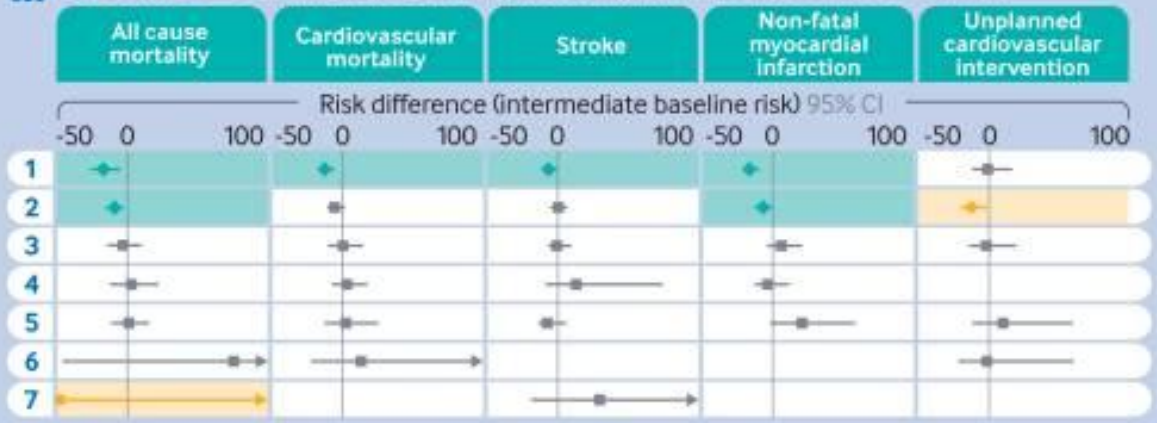
35 548 participants

Comparison

Seven popular structured dietary programmes with or without co-interventions such as exercise or psychological support

Outcomes

Summary of results in patients with intermediate cardiovascular risk



Superior to minimal intervention Moderate-high certainty

May be superior to minimal intervention Very low-low certainty

Little or no benefit relative to minimal interventaion

© 2023 BMJ Publishing Group Ltd

https://bit.ly/BMJdietcv

Pohyb po IM:

22RCT a 4554 pt

1960 – 1988

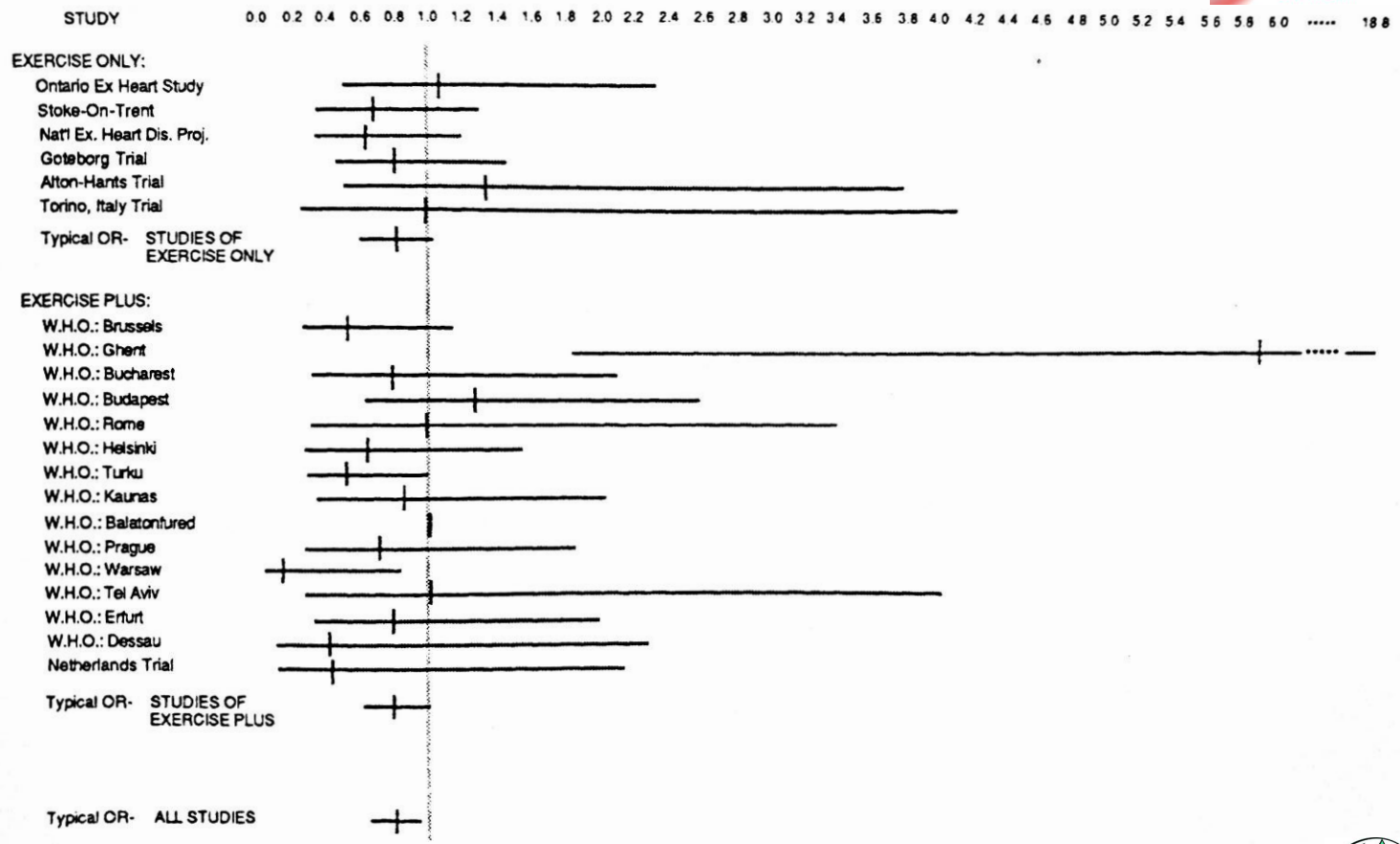


FIGURE 1. *Chart of effects of pooling from randomized trials of cardiac rehabilitation on the estimate of mortali after randomization. Short vertical lines indicate the point estimates; horizontal lines depict the 95% confidence*

Ekblom O, (J Am Heart Assoc. 2018;7:e010108. DOI: 10.1161/JAHA.118.010108.)

Pohyb po IM - SWEDEHEART 2018

Data on survival

N= 48 718

Lacking PA data

N= 17 957

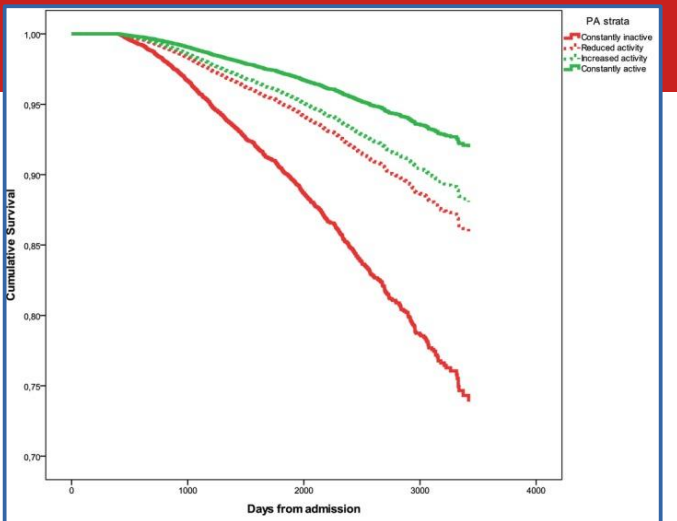
Data on change in PA level

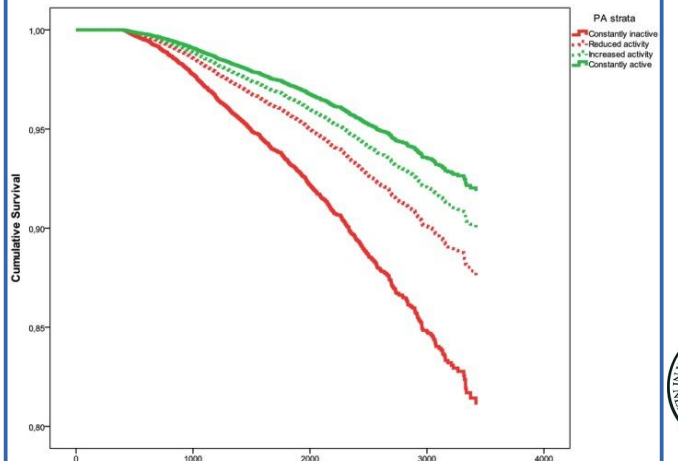
N= 30 761

- Under 18 or over 75 yrs: 17
- Lacking data on
  - STEMI (hia) n= 52
  - EF n=4895
  - BMI (hia) n=3573
  - EQ-5D (f1) n= 19
  - eGFR n=2615

Data on all covariates

N= 22 227





EAPC
European Association
of Preventive Cardiology

Exercise intensity assessment and prescription in cardiovascular rehabilitation and beyond: why and how: a position statement from the Secondary Prevention and Rehabilitation Section of the European Association of Preventive Cardiology

Dominique Hansen, Ana Abreu, Marco Ambrosetti, Veronique Cornelissen, Andreas Gevaert, Hareld Kemps, Jari A Laukkanen, Roberto Pedretti, Maria Simonenko, Matthias Wilhelm ... et alt

European Journal of Preventive Cardiology, Volume 29, Issue 1, January 2022, Pages 230–245, https://doi.org/10.1093/eurjpc/zwab007
Published: 02 June 2021

Recommendations for long-term management (2)

Recommendations	Class	Level
Pharmacological treatment		
Lipid-lowering therapy		
It is recommended that high-dose statin therapy is initiated or continued as early as possible, regardless of initial LDL-C values.	I	A
It is recommended to aim to achieve an LDL-C level of <1.4 mmol/L (<55 mg/dL) and to reduce LDL-C by ≥50% from baseline.	I	A
If the LDL-C goal is not achieved despite maximally tolerated statin therapy after 4–6 weeks, the addition of ezetimibe is recommended.	I	B
If the LDL-C goal is not achieved despite maximally tolerated statin therapy and ezetimibe after 4–6 weeks, the addition of a PCSK9 inhibitor is recommended.	I	A
It is recommended to intensify lipid-lowering therapy during the index ACS hospitalization for patients who were on lipid-lowering therapy before admission.	I	C

©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Recommendations for long-term management (3)

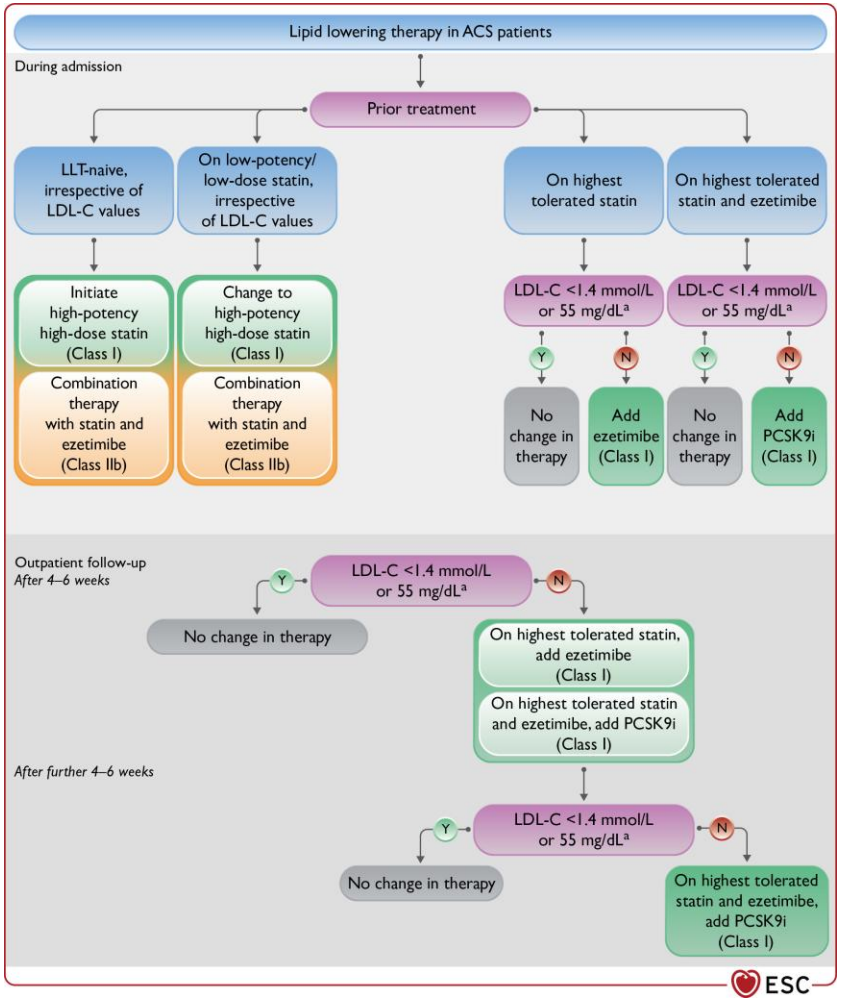
Recommendations	Class	Level
Pharmacological treatment		
Lipid-lowering therapy (continued)		
For patients with a recurrent atherothrombotic event (recurrence within 2 years of first ACS episode) while taking maximally tolerated statin-based therapy, an LDL-C goal of <1.0 mmol/L (<40 mg/dL) may be considered.	IIb	B
Combination therapy with high-dose statin plus ezetimibe may be considered during index hospitalization.	IIb	B
Beta-blockers		
Beta-blockers are recommended in ACS patients with LVEF ≤40% regardless of HF symptoms.	I	A
Routine beta-blockers for all ACS patients regardless of LVEF should be considered.	IIa	B

©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Figure 18

Lipid-lowering therapy in ACS patients



©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Recommendations for long-term management (4)

Recommendations	Class	Level
Pharmacological treatment		
RAAS system inhibitors		
Angiotensin-converting enzyme (ACE) inhibitors are recommended in ACS patients with HF symptoms, LVEF ≤40%, diabetes, hypertension, and/or CKD.	I	A
Mineralocorticoid receptor antagonists are recommended in ACS patients with an LVEF ≤40% and HF or diabetes.	I	A
Routine ACE inhibitors for all ACS patients regardless of LVEF should be considered.	IIa	A
Adherence to medication		
A polypill should be considered as an option to improve adherence and outcomes in secondary prevention after ACS.	IIa	B

©ESC

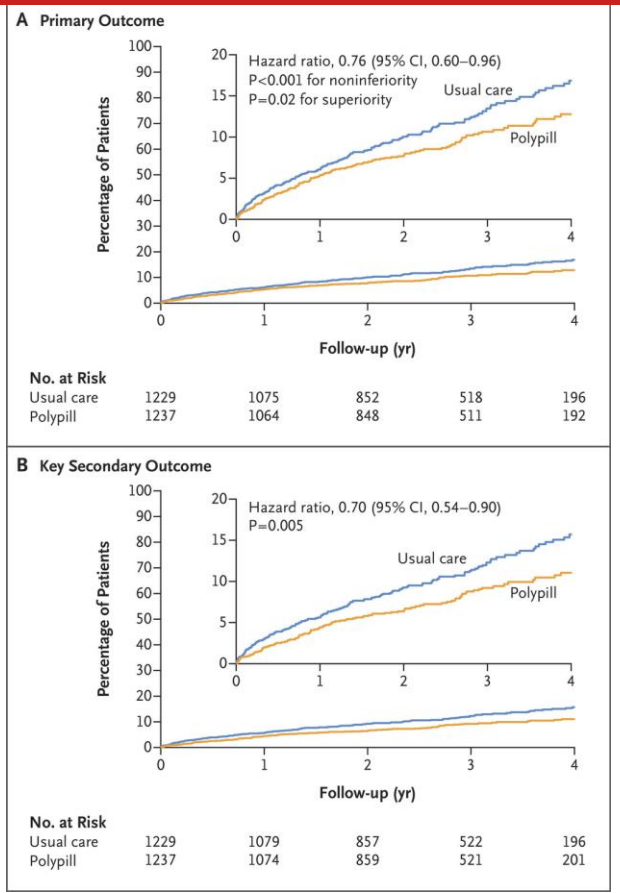
2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

XXXII. VÝROČNÍ SJEZD ČESKÉ KARDIOLOGICKÉ SPOLEČNOSTI

SECURE

Castellano, JM, Pocock, SJ, Bhatt DL, ... NEJM 2022

Polypill vs usual care, 6/36 month, 2499 post MI, >75(65) y.o



The NEW ENGLAND JOURNAL of MEDICINE

RESEARCH SUMMARY

Polypill Strategy in Secondary Cardiovascular Prevention

Castellano JM et al. DOI: 10.1056/NEJMoa2208275

CLINICAL PROBLEM

Adherence to treatment with medications that provide secondary cardiovascular prevention has been estimated at approximately 50%, which increases the risk of poor outcomes. A daily pill containing several of those medications — a so-called polypill — may increase adherence and, in turn, lower subsequent risk.

CLINICAL TRIAL

Design: A phase 3, multinational, randomized, controlled trial examined the efficacy of a polypill containing aspirin, an angiotensin-converting–enzyme inhibitor, and a statin in older adults with a recent myocardial infarction.

Intervention: 2499 older adults (>75 years of age or ≥65 years with at least one cardiovascular risk factor) with myocardial infarction in the previous 6 months were assigned to either a polypill strategy or usual care. The polypill contained aspirin (100 mg), ramipril (2.5 mg, 5.0 mg, or 10.0 mg), and atorvastatin (20 mg or 40 mg). The primary outcome was a composite of cardiovascular death, nonfatal myocardial infarction, nonfatal ischemic stroke, or urgent coronary revascularization.

RESULTS

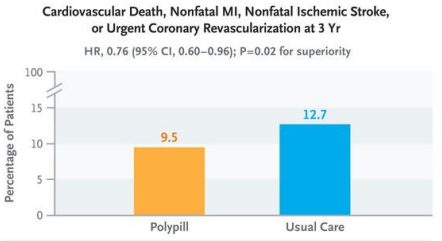
Efficacy: During a median follow-up of 3 years among 2466 evaluable patients, the incidence of primary-outcome events was significantly lower in the polypill group than in the usual-care group. Treatment adherence, as reported by the patients at 6 and 24 months, was higher with the polypill.

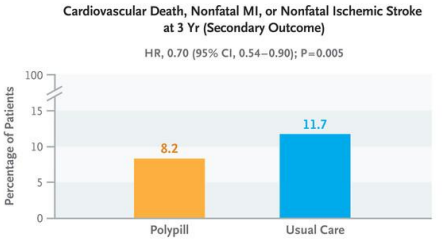
Safety: The incidences of adverse events, serious adverse events, and death from any cause were similar in the two groups.

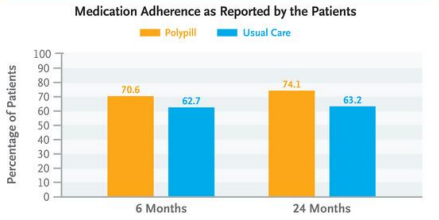
LIMITATIONS AND REMAINING QUESTIONS

- The trial was not blinded.
- The incidence of cardiovascular death was 3.9% and 5.8% in the polypill and usual care groups, respectively. But the analysis was exploratory, so no inference can be made.

Links: Full Article | NEJM Quick Take | Editorial







CONCLUSIONS

Among older adults with recent myocardial infarction, treatment with a polypill containing aspirin, ramipril, and atorvastatin resulted in a significantly lower risk of major adverse cardiovascular events than usual care.

Copyright © 2022 Massachusetts Medical Society.

Cílové hodnoty

LDL-C < 1,4 (1,0) mmol/L

Tk < 130/80 mmHg

HbA1C < 53 mmol/mol

Recommendations for long-term management (5)

Recommendations	Class	Level
Imaging		
In patients with pre-discharge LVEF ≤40%, repeat evaluation of the LVEF 6–12 weeks after an ACS (and after complete revascularization and the institution of optimal medical therapy) is recommended to assess the potential need for sudden cardiac death primary prevention ICD implantation.	I	C
Cardiac magnetic resonance imaging should be considered as an adjunctive imaging modality in order to assess the potential need for primary prevention ICD implantation.	IIa	C
Vaccination		
Influenza vaccination is recommended for all ACS patients.	I	A
Anti-inflammatory drugs		
Low-dose colchicine (0.5 mg once daily) may be considered, particularly if other risk factors are insufficiently controlled or if recurrent cardiovascular disease events occur under optimal therapy.	IIb	A

©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Fröbert O, … Motovska Z, Hlinomaz O … Circulation. 2021;144:1476–1484

IAMI

chřipková vakcinace do 72hod od AIM -> CV a celková mortalita za 1M a 1R

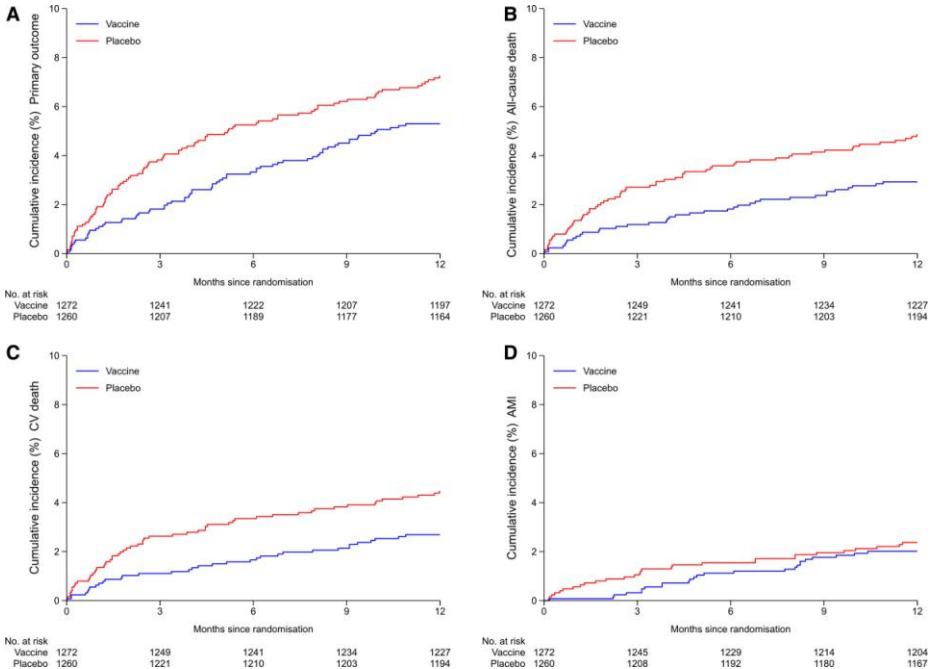
Follow-up 1 year. :

Influenza vaccine: 2571 patients post-MI or admission with high-risk coronary artery disease.

Cardiovascular death events: vaccine (2.7%)

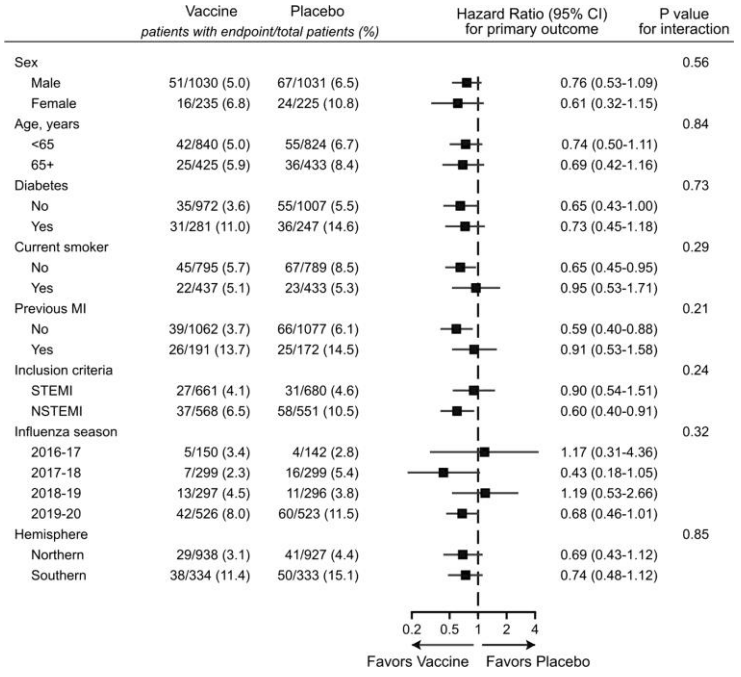
versus placebo (4.5%), **= 41% RR** (HR 0.59 [95% CI, 0.39–0.90]).

(IAMI trial [Influenza Vaccination After Myocardial Infarction]: NCT02831608) Circ 2021



Ole Fröbert. Circulation. Influenza Vaccination After Myocardial Infarction: A Randomized, Double-Blind, Placebo-Controlled, Multicenter Trial, Volume: 144, Issue: 18, Pages: 1476-1484, DOI: (10.1161/CIRCULATIONAHA.121.057042)

© 2021 American Heart Association, Inc.

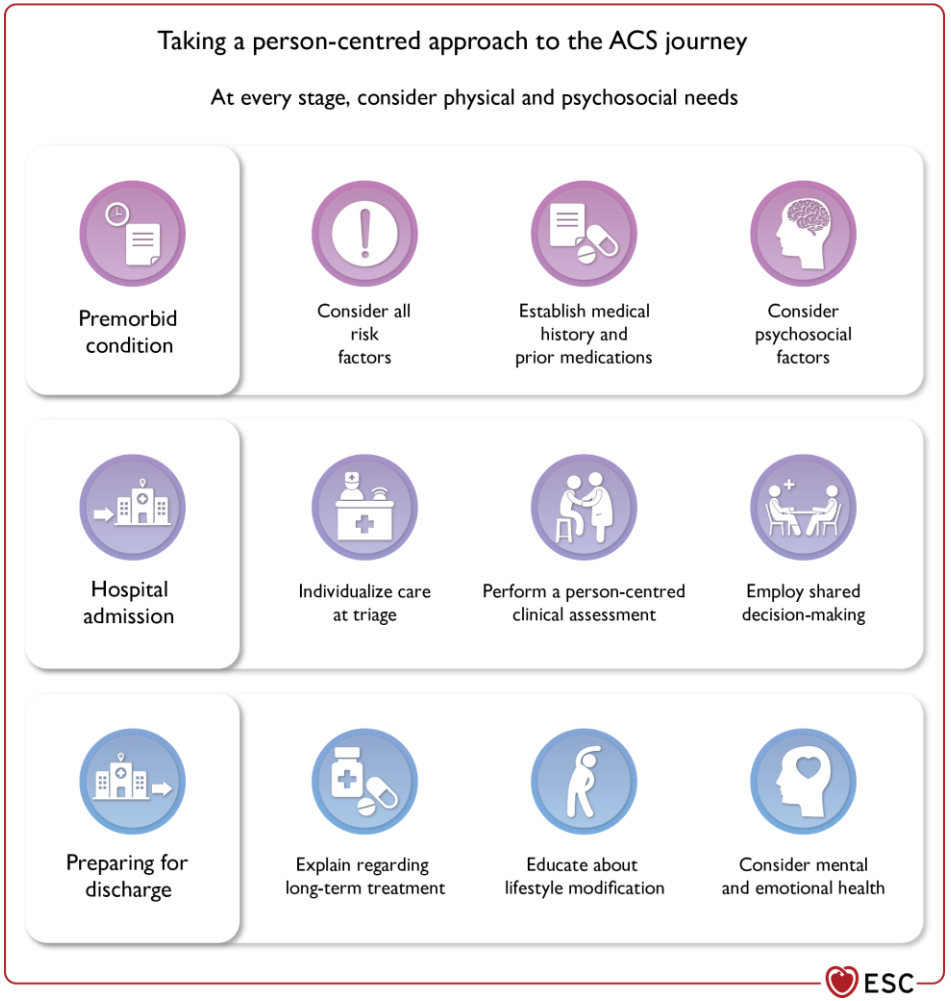


Ole Fröbert. Circulation. Influenza Vaccination After Myocardial Infarction: A Randomized, Double-Blind, Placebo-Controlled, Multicenter Trial, Volume: 144, Issue: 18, Pages: 1476-1484, DOI: (10.1161/CIRCULATIONAHA.121.057042)

© 2021 American Heart Association, Inc.

Figure 19

A person-centred approach to the ACS journey

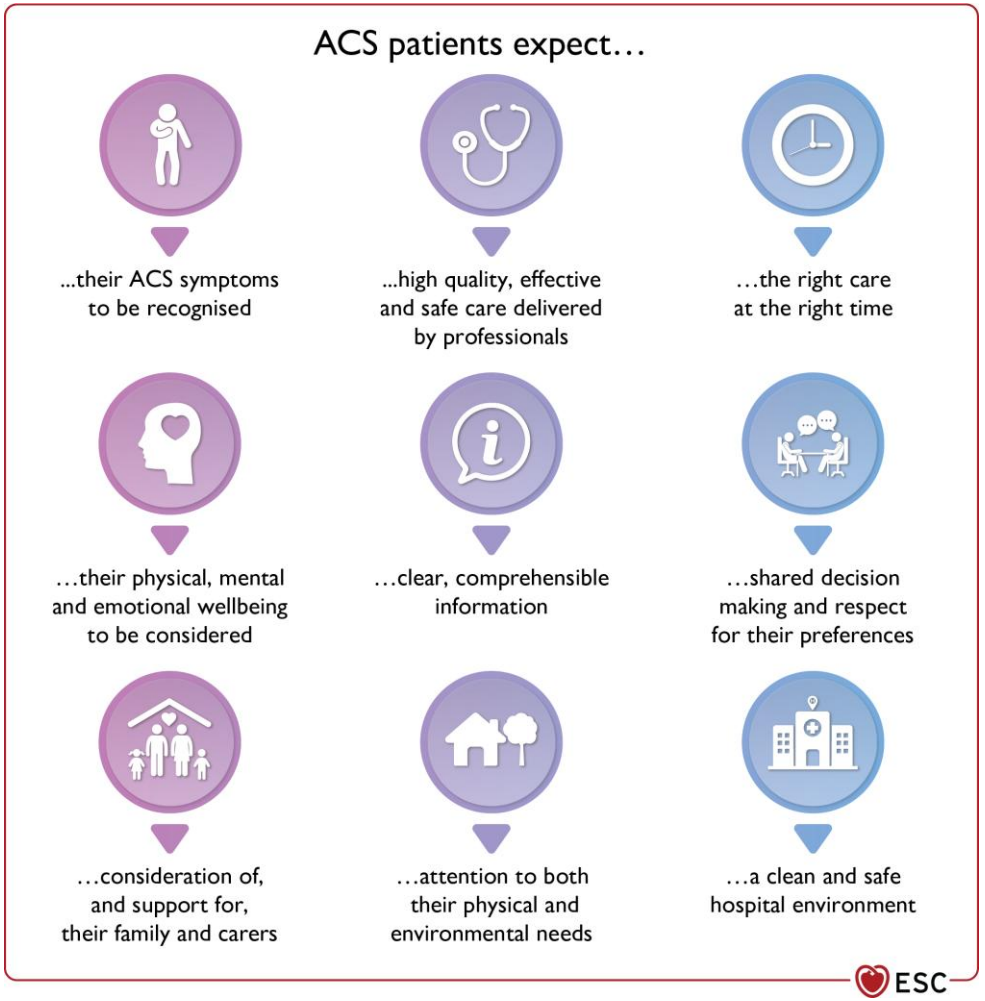


©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Figure 20

Acute coronary syndrome patient expectations



©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Recommendations for patient perspectives in acute coronary syndrome care (1)

Recommendations	Class	Level
Patient-centred care is recommended by assessing and adhering to individual patient preferences, needs and beliefs, ensuring that patient values are used to inform all clinical decisions.	I	B
It is recommended to include ACS patients in decision-making (as much as their condition allows) and to inform them about the risk of adverse events, radiation exposure, and alternative options. Decision aids can be used to facilitate the discussion.	I	B
It is recommended to assess symptoms using methods that help patients to describe their experience.	I	C
Use of the 'teach back' technique for decision support during the securing of informed consent should be considered.	IIa	B

©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)

Recommendations for patient perspectives in acute coronary syndrome care (2)

Recommendations (continued)	Class	Level
Patient discharge information should be provided in both written and verbal formats prior to discharge. Adequate preparation and education for patient discharge using the teach back technique and/or motivational interviewing, giving information in chunks, and checking for understanding should be considered.	IIa	B
Assessment of mental well-being using a validated tool and onward psychological referral when appropriate should be considered.	IIa	B

©ESC

2023 ESC Guidelines for the management of acute coronary syndromes
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad191)