Chest Pain in Everyday Practice

Dr Tommy Hennessy MRCPI MD Consultant Interventional Cardiologist, Beacon Hospital

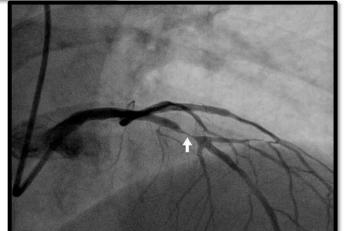


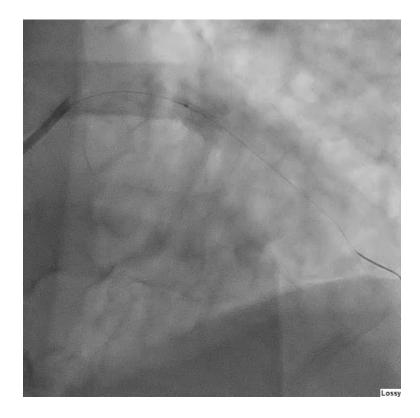
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THIS IS MODERN MEDICINE





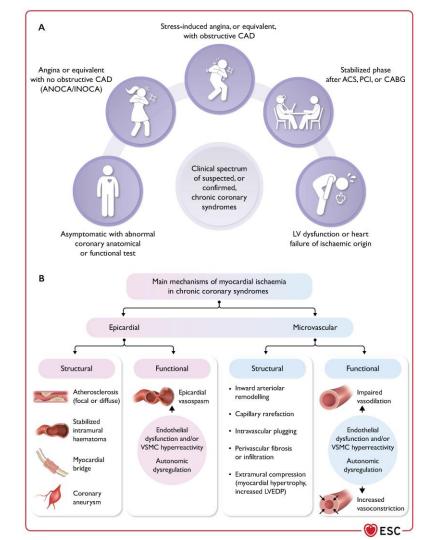






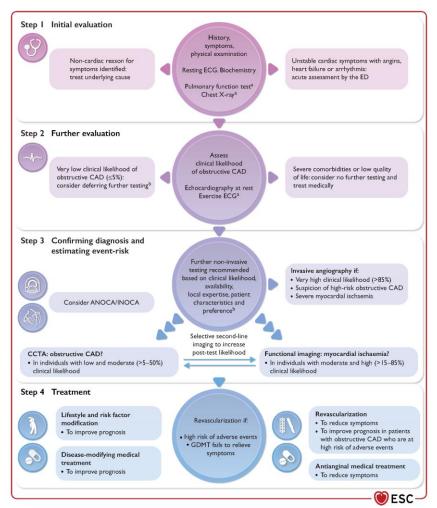
Central illustration: Clinical presentations of CCS and mechanisms of myocardial ischaemia

2024 ESC Guidelines for the management of chronic coronary syndromes (European Heart Journal; 2024 – doi:10.1093/eurheartj/ehae177)





Stepwise approach to the initial management of individuals with suspected CCS



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Main CCS Symptoms: angina and exertional dyspnoea

Symptom characteristics Decreasing likelihood of CCS 5 Increasing likelihood of CCS Burning Strangling Sharp Constricting Quality Tearing - Ripping Squeezing Pleuritic Pressure Aching Heaviness Retrosternal Right Location • Extending to left arm, or to jugular Shifting and size or intrascapular region · Large area or fine spot "Fist"-size • Short: up to 5–10 min if triggered by Duration Lasting physical exertion or emotion Chest On effort At rest discomfort · More frequent in cold weather, strong winds · On deep inspiration or when Trigger or after a heavy meal coughing · Emotional distress (anxiety, anger, When pressing on ribs or sternum excitation or nightmare) • Subsiding within 1-5 min after effort discontinuation Relief · By antacids, drinking milk · Relief accelerated by sublingual nitroglycerin · Difficulty to exhale Quality · Difficulty catching breath With wheezing · Both at rest and on effort Trigger • On effort While coughing Dyspnoea · Slowly subsiding at rest or after · Rapidly subsiding after effort Relief inhalation of bronchodilators discontinuation **ESC**

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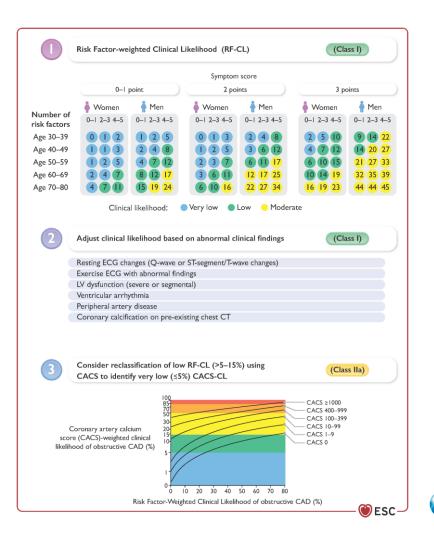
2024 ESC Guidelines for the management of chronic coronary syndromes (European Heart Journal; 2024 – doi:10.1093/eurheartj/ehae177)

Estimation of the likelihood of obstructive CAD

				Symptom score	e (0–3 points)			
	Che	est pai	n characteri	stics		Symptom score	e	
Type and lo				located retrosternal or arm (I point)	ly	Main symptom eith	er:	
Aggravated	by Phy	sical or	emotional str	ess (point)		Chest pain		
Relieved by	e Res	t or nit	trates within 5	min (point)		(0–3 points) or		
	Dys	pnoe	a characteris	stics		Dyspnoea		
S			nd/or trouble ysical exertion	catching breath (2 points)		(2 points)		
				0.7.1	emia, hypertensic			
3				sk Factor-weight of obstruct	ed Clinical Like ive CAD			
3		Esti	imate the Ri	sk Factor-weight of obstruct Symptor	ed Clinical Like ive CAD	lihood (RF-CL)	Dints	
3		Esti 0–1 poi	imate the Ri	sk Factor-weight of obstruct Symptor 2 pc	ed Clinical Like ive CAD n score ints	lihood (RF-CL)	Dints	
	♦ Wome 0-1 2-3 4	Esti D–I poi	imate the Ri	sk Factor-weight of obstruct Symptor	ed Clinical Like ive CAD	lihood (RF-CL)	oints ↑ Men 0-1 2-3 4-5	
isk factors	Wome	Esti D–I poi	imate the Ris int Men 0-1 2-3 4-5	sk Factor-weight of obstruct Symptor 2 pc Women 0-1 2-3 4-5	ed Clinical Like ive CAD n score ints Men 0-1 2-3 4-5	lihood (RF-CL) 3 pc ∳ Women	Men 0–1 2–3 4–5	
isk factors Age 30–39	 Wome 0-1 2-3 4 0 1 	Esti 0–1 poi	imate the Ris int Men 0-1 2-3 4-5 1 2 5	sk Factor-weight of obstruct Symptor 2 pc Women 0-1 2-3 4-5 0 1 3	ed Clinical Like ive CAD n score ints Men 0-1 2-3 4-5 2 4 8	lihood (RF-CL)	Men 0-1 2-3 4-5 9 14 22	
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isk factors Age 30–39 Age 40–49 Age 50–59	Wome 0-1 2-3 4 0 1 1 1	Esti 0–1 poi	imate the Ris int Men 0-1 2-3 4-5 1 2 5 2 4 8 4 7 12	sk Factor-weight of obstruct Symptor 2 pc Women 0-1 2-3 4-5 0 1 3	ed Clinical Like ive CAD n score ints Men 0-1 2-3 4-5 2 4 8 3 6 12 6 11 17	lihood (RF-CL) [↑] Women 0-1 2-3 4-5 2 5 10 4 7 12 6 10 15	Men 0-1 2-3 4-5 9 14 22 14 20 27 21 27 33	
3 Number of isk factors Age 30–39 Age 40–49 Age 50–59 Age 60–69 Age 70–80	Wome 0-1 2-3 4 0 1 1 1	Esti 0-1 poi	imate the Ris int 0-1 2-3 4-5 1 2 5 2 4 8	sk Factor-weight of obstruct Symptor 2 pc Women 0-1 2-3 4-5 0 1 3 1 2 5 2 3 7	ed Clinical Like ive CAD n score ints Men 0-1 2-3 4-5 2 4 8 3 6 12	lihood (RF-CL) [↑] Women 0-1 2-3 4-5 2 5 10 4 7 12 6 10 15	Men 0-1 2-3 4-5 9 14 22 14 20 27	

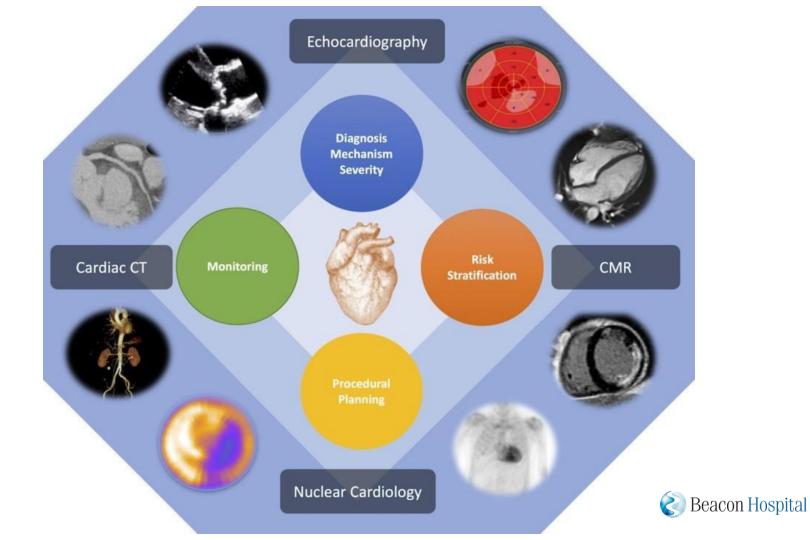


Adjustment and reclassification of the estimated clinical likelihood of obstructive CAD

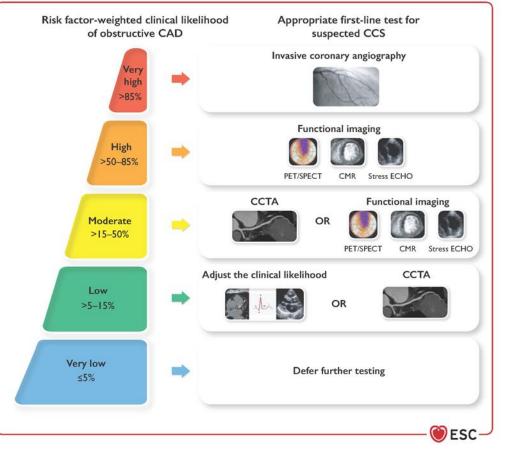


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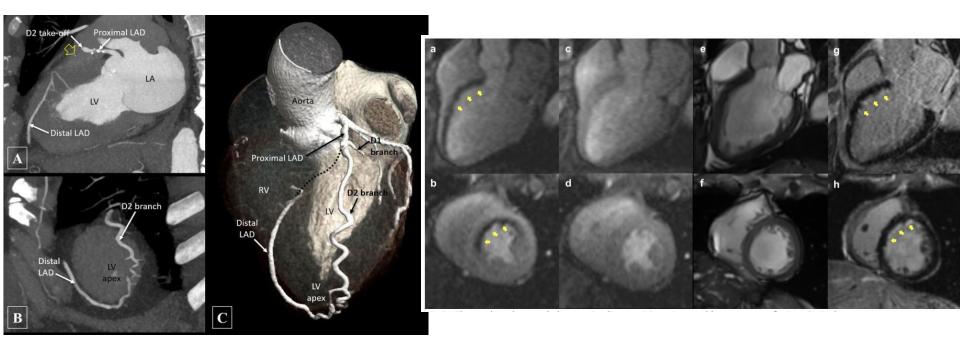
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Appropriate first-line testing in symptomatic patients with suspected CCS





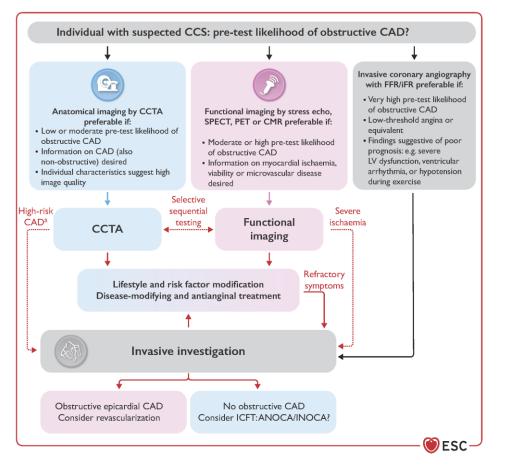




Recommendations	Class	Level			
Selection of individual diagnostic tests in individuals with suspected chronic coronary syndrome					
To rule out obstructive CAD in individuals with low or moderate (>5%–50%) pre-test likelihood, CCTA is recommended as the preferred diagnostic modality.	1	В			
CCTA is recommended in individuals with low or moderate (>5%–50%) pre-test likelihood of obstructive CAD if functional imaging for myocardial ischaemia is not diagnostic.	1	В			
Invasive coronary angiography with the availability of invasive functional assessment is recommended to confirm or exclude the diagnosis of obstructive CAD or ANOCA/INOCA in individuals with an uncertain diagnosis on non-invasive testing.	I.	В			
In patients with a known intermediate coronary artery stenosis in a proximal or mid coronary segment on CCTA, CT-based FFR may be considered.	llb	В			



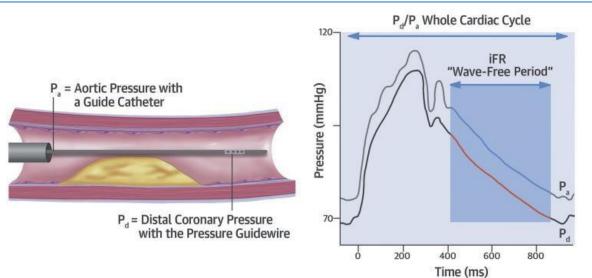
Initial management of symptomatic patients with suspected CCS



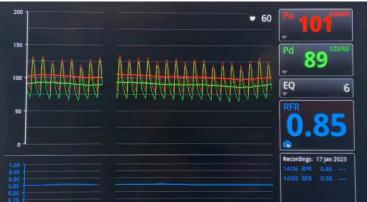


Functional Assessment – Intermediate Lesions

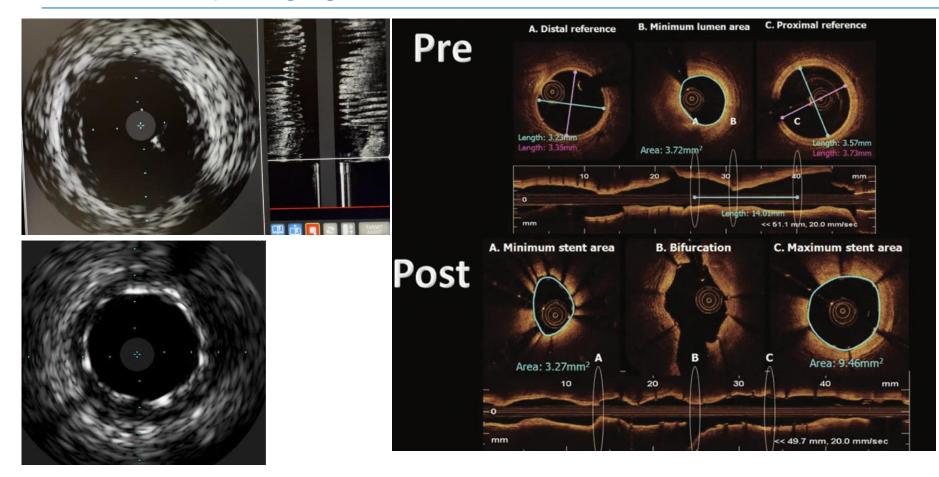
- FFR Fractional Flow Reserve
- iFR Instantaneous wave free ratio







Intra-coronary Imaging

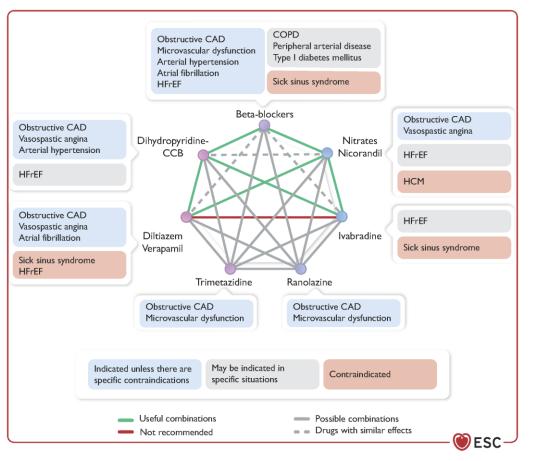


Recommendations	Class	Level			
Assessment of procedural risks and post -procedural outcomes					
Intracoronary imaging guidance by IVUS or OCT is recommended when performant of the performant of t	0				
anatomically complex lesions, in particular left main stem, true bifurcations, a	nd long	Α			
lesions.					
Intracoronary pressure measurement (FFR or iFR) or computation (QFR):					
 is recommended to guide lesion selection for intervention in patients with 	n multivessel	•			
disease;		A			
• should be considered at the end of the procedure to identify patients at		-			
persistent angina and subsequent clinical events;	lla	В			
 may be considered at the end of the procedure to identify lesions potent 		_			
amenable to treatment with additional PCI.	llb	В			
Choice of revascularization modality					
It is recommended that physicians select the most appropriate reva	scularization modality				
based on patient profile, coronary anatomy, procedural factors, LVE	, patient preferences,	С			
and outcome expectations.					



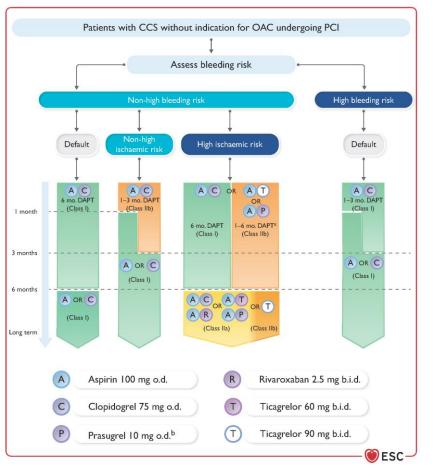
Possible combinations of antianginal drugs







Antithrombotic treatment in CCS patients undergoing PCI



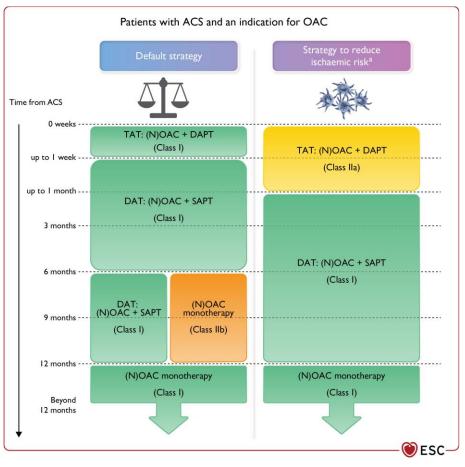


Revised Recommendations

2019 Guidelines	Class	Level	2024 Guidelines	Class	Level	
Antithrombotic therapy post-percutaneous coronary intervention in chronic coronary syndrome						
patients and an indication for oral anticoagulation						
After uncomplicated PCI, early			After uncomplicated PCI in CCS			
cessation (≤1 week) of aspirin and			patients with concomitant indication			
continuation of dual therapy with an			for OAC:			
OAC and clopidogrel should be			 early cessation of aspirin (≤1 			
considered if the risk of stent			week);			
thrombosis is low, or if concerns			 followed by continuation of OAC 			
about bleeding risk prevail over	lla	В	and clopidogrel:	1	Α	
concerns about the risk of stent			 up to 6 months in patients 			
thrombosis, irrespective of the type of			not at high ischaemic risk or			
stent used.			 up to 12 months in patients 			
			at high ischaemic risk;			
			 followed by OAC alone; 			
			is recommended.			



Antithrombotic regimens in patients with acute coronary syndrome and an indication for oral anticoagulation

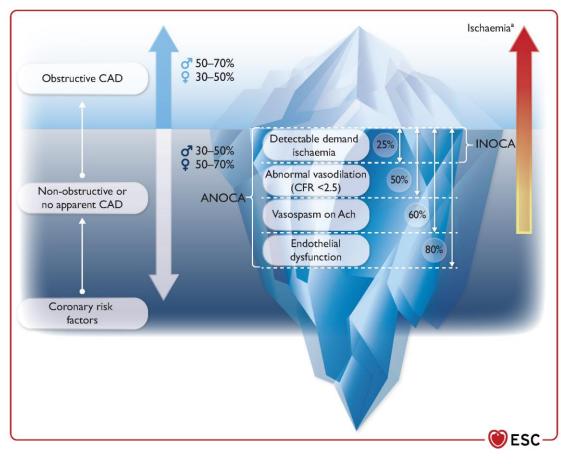




	Recommendations	Class	Level
٨	Lipid-lowering drugs in patients with chronic coronary syndrome		
	Lipid-lowering treatment with an LDL-C goal of <1.4 mmol/L (55 mg/dL) and a ≥50% reduction in LDL-C vs. baseline is recommended.	1	Α
	For patients who are statin intolerant and do not achieve their goal on ezetimibe, combination with bempedoic acid is recommended.	1	В
	For patients who do not achieve their goal on a maximum tolerated dose of statin and ezetimibe, combination with bempedoic acid should be considered.	lla	С

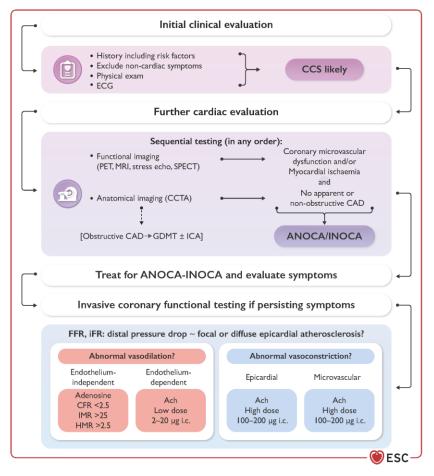


Prevalence of disease characteristics in patients with ANOCA/INOCA referred for invasive coronary functional testing





Diagnostic algorithm for patients with angina / ischaemia with non-obstructive coronary arteries

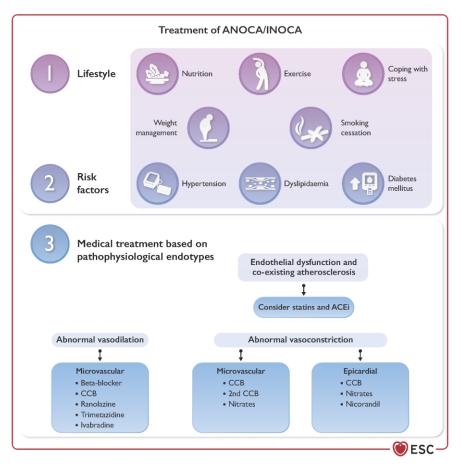




Recommendations	Class	Level			
Recurrent or refractory angina/ischaemia					
In patients with refractory angina leading to poor quality of life and with documented or suspected ANOCA/INOCA, invasive coronary functional testing is recommended to define ANOCA/INOCA endotypes and appropriate treatment, considering patient choices and preferences.	T	В			

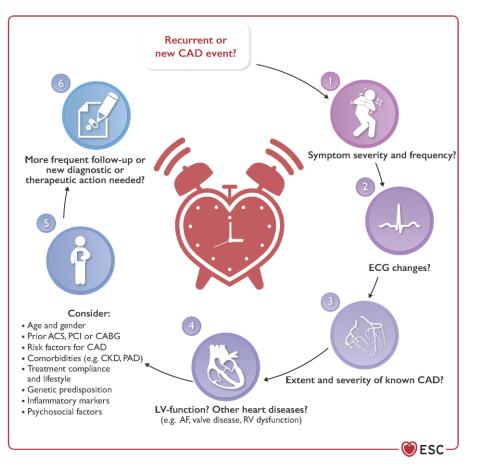


Treatment of angina / ischaemia with nonobstructive coronary arteries





Approach for the follow-up of patients with established CCS



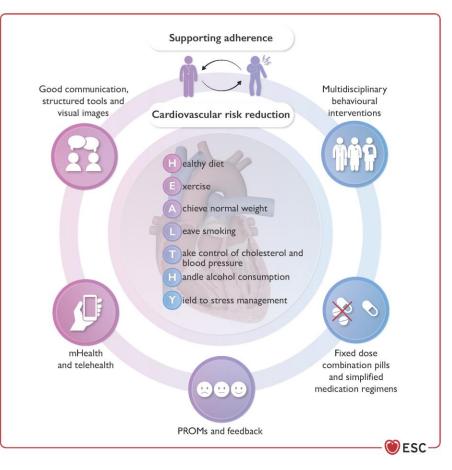


Thank You

Thomas.Hennessy@beaconhospital.ie



Strategies for long-term adherence to a healthy lifestyle





Invasive Testing

- Coronary angiogram 1st line test with High clinical likelihood/Severe symptoms and those with typical angina at low levels of exercise
- Otherwise reserved for those with abnormal non- invasive testing

