PLACE

PLATFORM OF LABORATORIES FOR ADVANCES IN CARDIAC EXPERIENCE

ROMA
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di Confindustria
Auditorium
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1 Ottobre
2022

HOT TOPICS IN CATH LAB 1: MALATTIA CORONARICA

MALATTIA CORONARICA MULTIVASALE NELLE SINDROMI CORONARICHE CRONICHE A 13 ANNI DAL SYNTAX TRIAL

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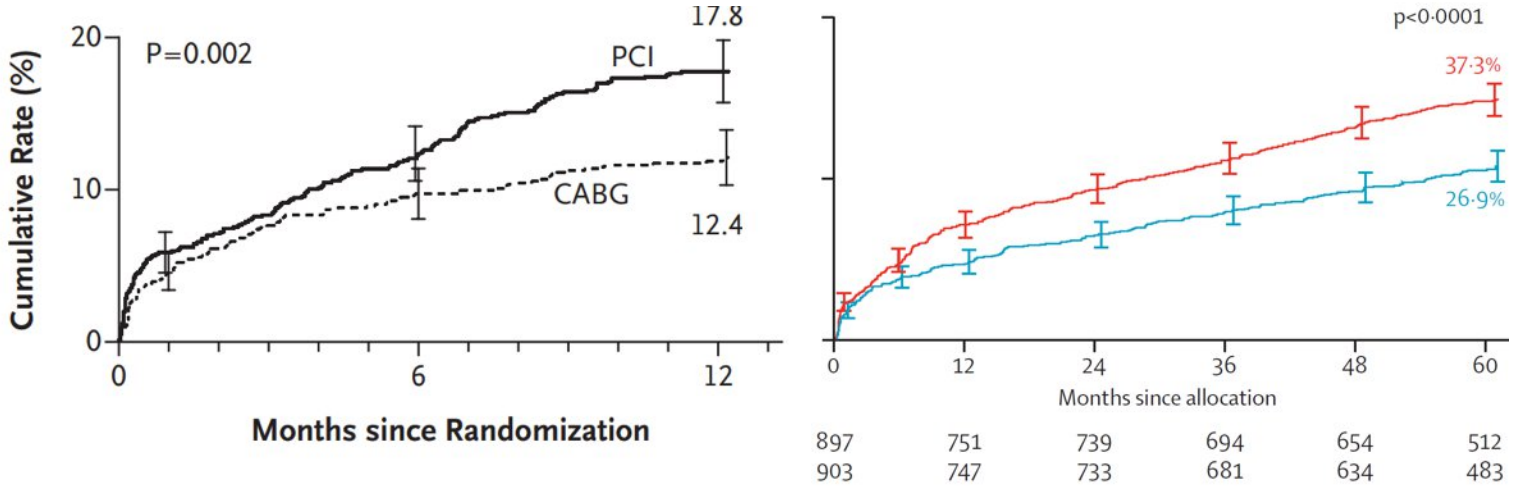
ONE AND 5-YEAR FINDINGS OF THE SYNTAX TRIAL

Serruys PW et al. *NEJM* 2009 - Mohr FW et al. *Lancet* 2013

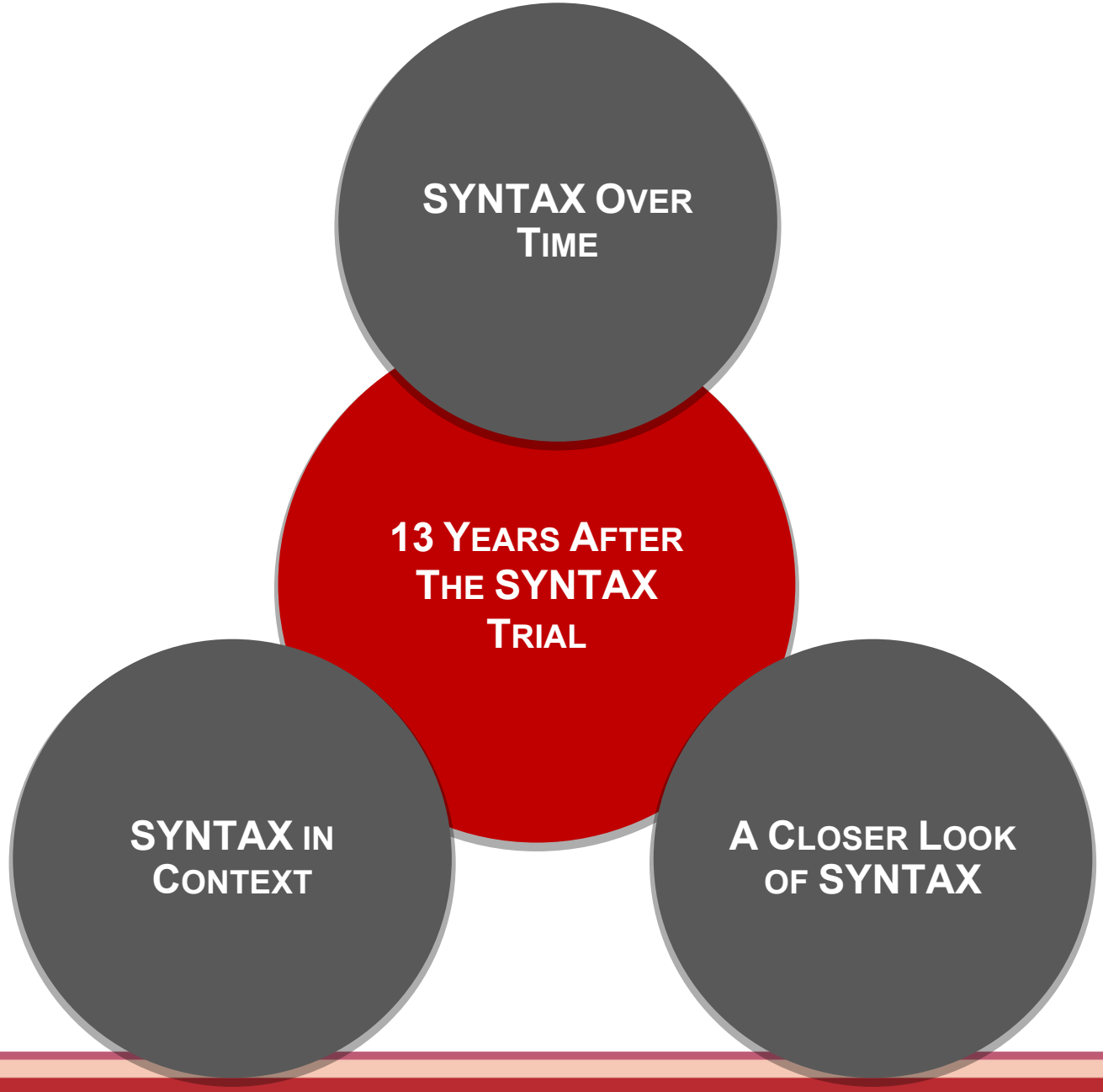
Primary EP MACCE: Death, MI, Stroke, or Repeat Revasc



2022: Is CABG the Standard-of-Care ?

Recommendations according to extent of CAD	CABG	
	Class[a]	Level[b]
Three-vessel CAD without diabetes mellitus		
Three-vessel disease with low SYNTAX score (0 - 22).[102,105,121,123,124,135,149]	I	A
Three-vessel disease with intermediate or high SYNTAX score (>22).[c] [102,105,121,123,124,135,149]	I	A
Three-vessel CAD with diabetes mellitus		
Three-vessel disease with low SYNTAX score 0–22.[102,105,121,123,124,135,150–157]	I	A
Three-vessel disease with intermediate or high SYNTAX score (>22).[c] [102,105,121,123,124,135,150–157]	I	A

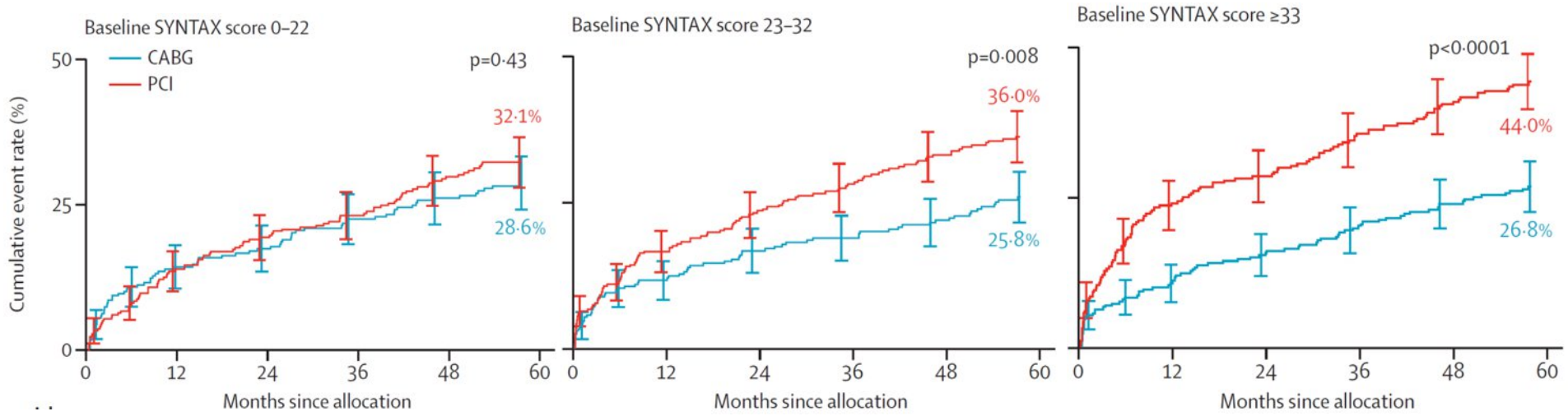
Neumann, Sousa Uva et al. Eur Heart J 2019


SYNTAX OVER TIME
13 YEARS AFTER THE SYNTAX TRIAL
SYNTAX IN CONTEXT
A CLOSER LOOK OF SYNTAX

MACCE TO 5 YEARS BY SYNTAX SCORE

Mohr FW et al. *Lancet* 2013; 381:629-38

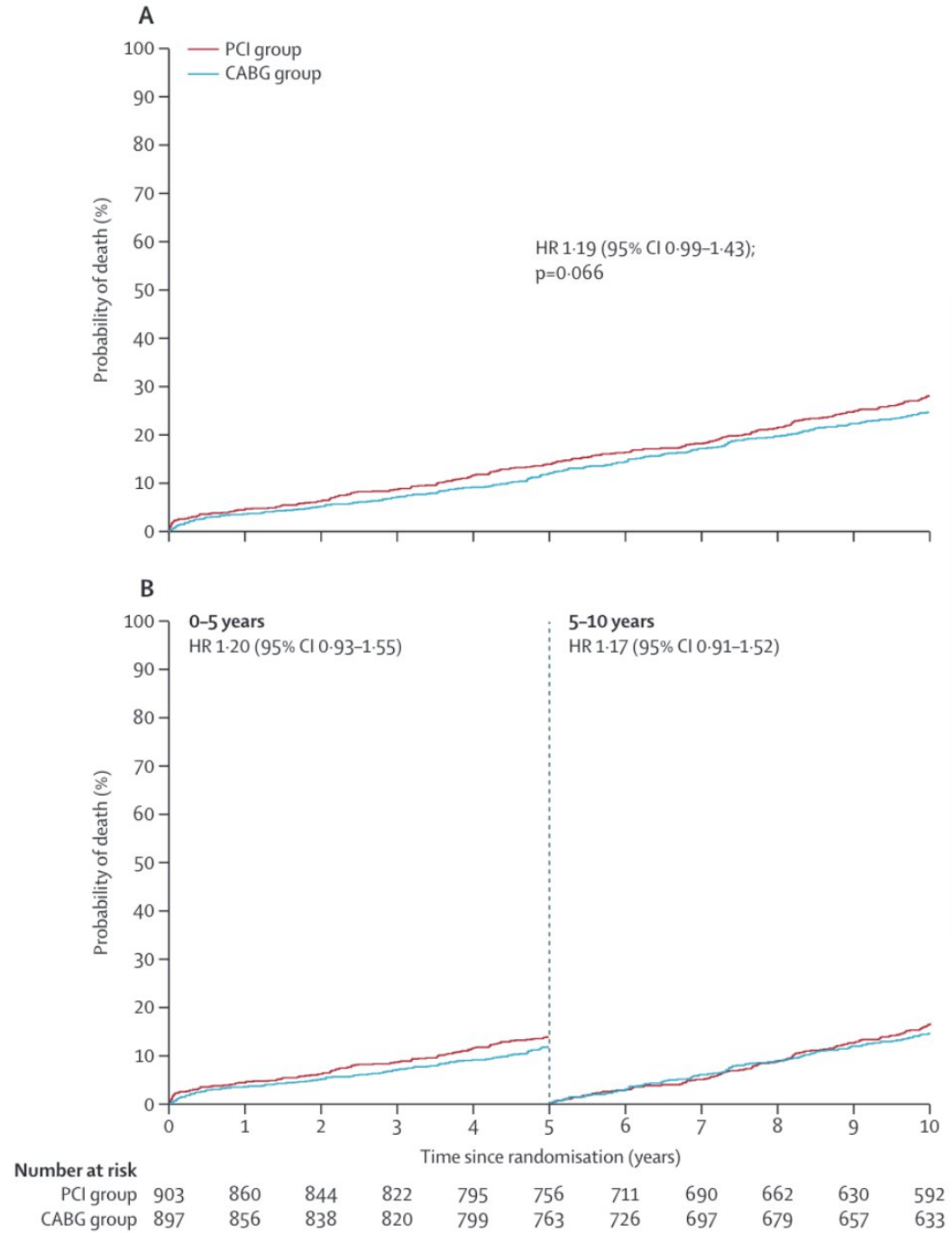
Low Scores (0-22) | **Intermediate Scores (23-32)** | **High Score ⊘33**



	Death	MI	Death	MI	Death	MI
PCI	**8.9**	**7.8**	**13.8**	**11.2**	**19.2**	**10.1**
CABG	**10.1**	**4.2**	**12.7**	**3.6**	**11.4**	**3.9**
	P=0.64	***P=0.11***	***P=0.68***	***P=0.0009***	***P=0.005***	***P=0.004***

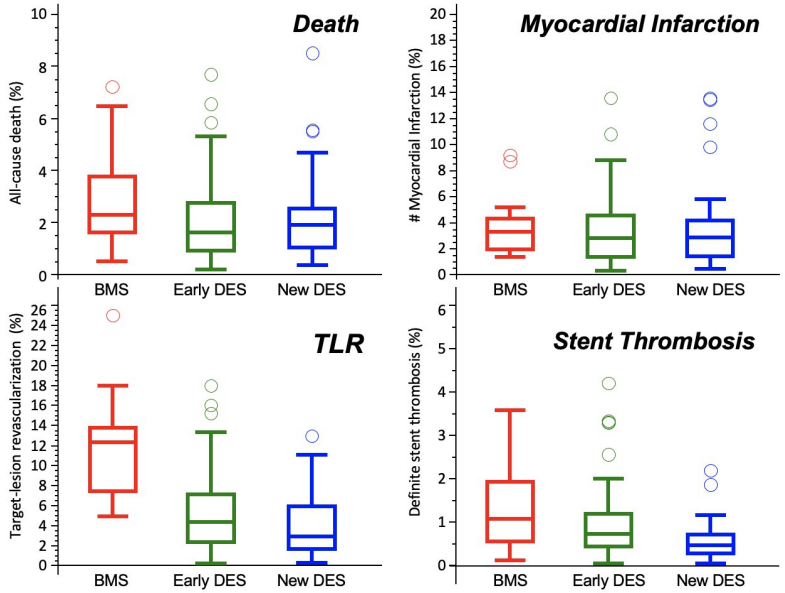
SYNTAX Mortality at 10 years: SYNTAXES

Thuijs D et al. *Lancet* 2019; 394:1325-35

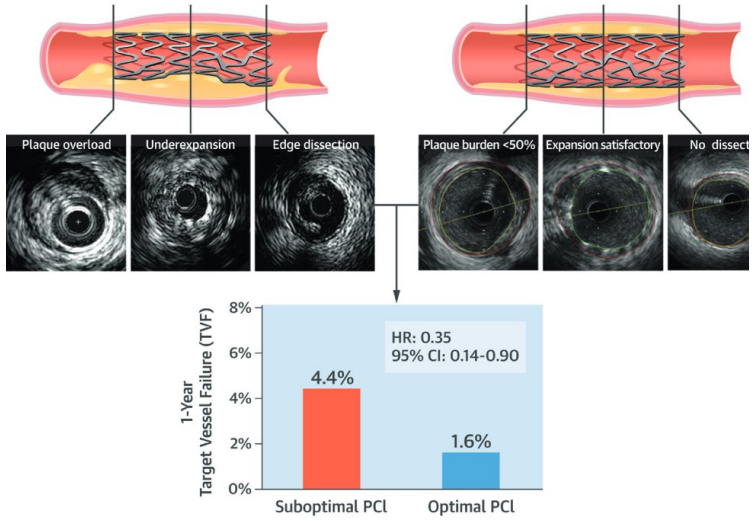


IMPROVEMENTS IN PCI TECHNIQUES

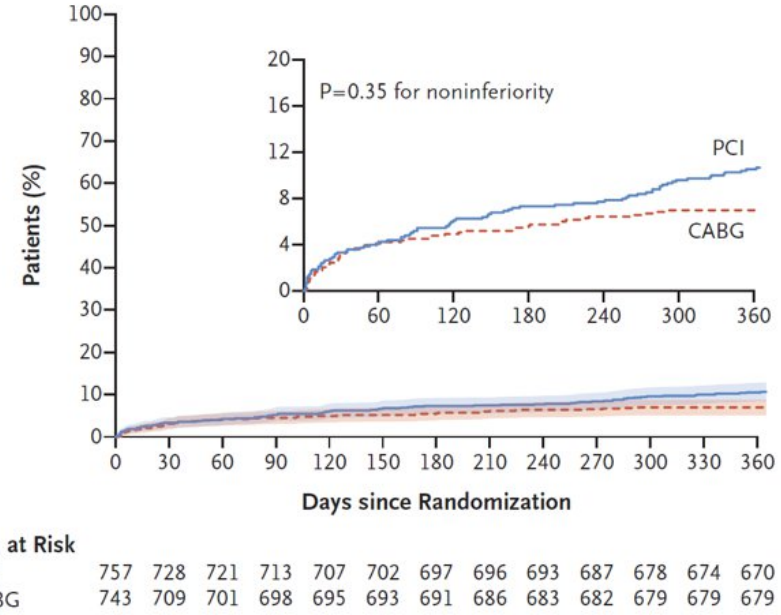
Stent Technology



Intracoronary Imaging

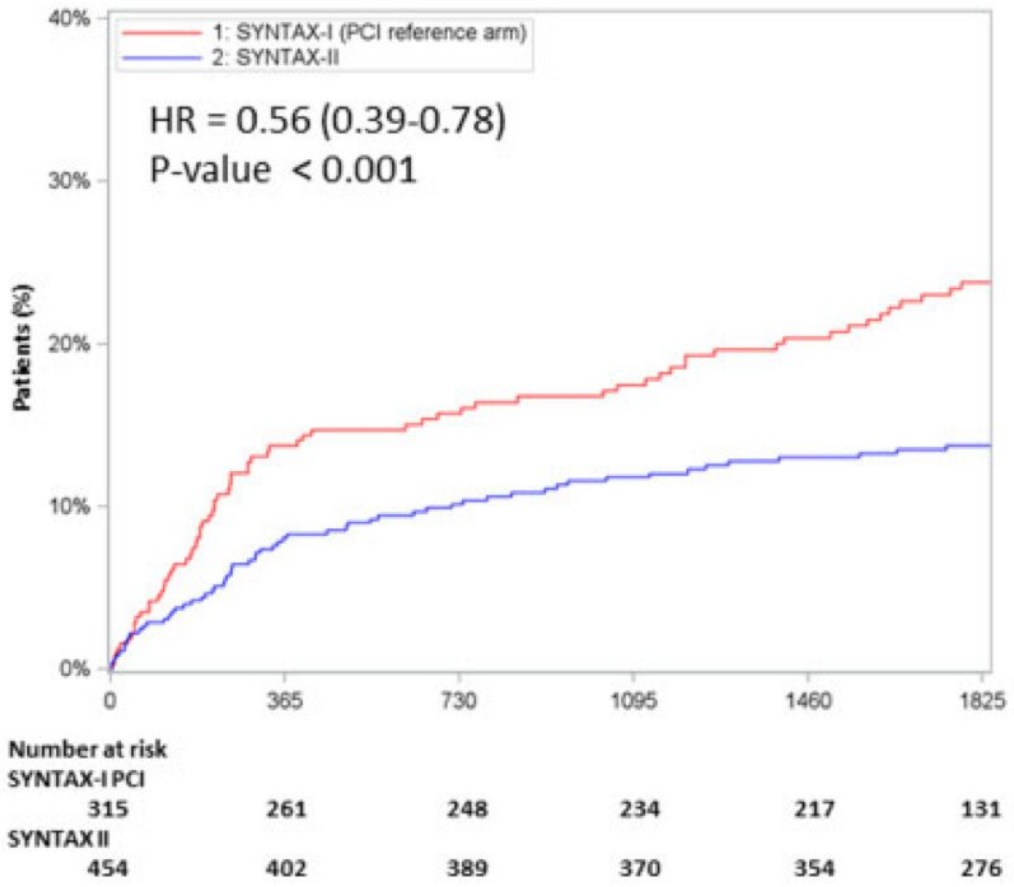


Physiological Assessment

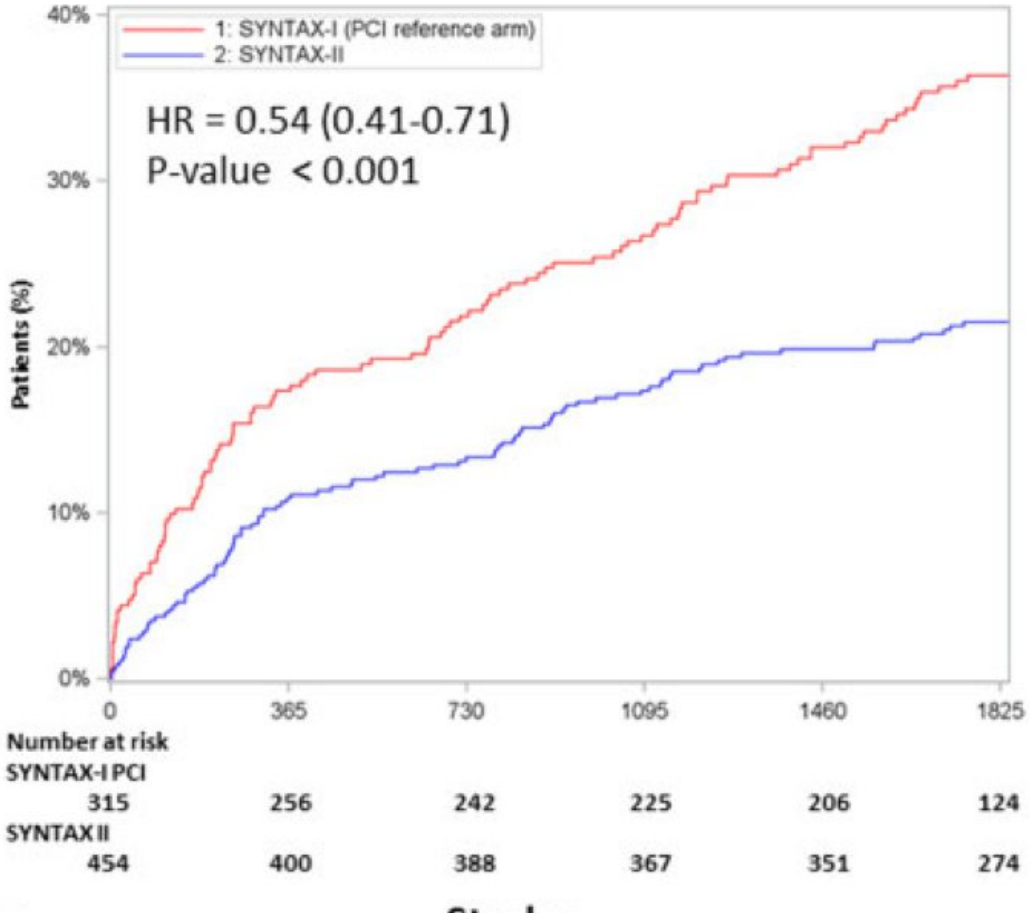


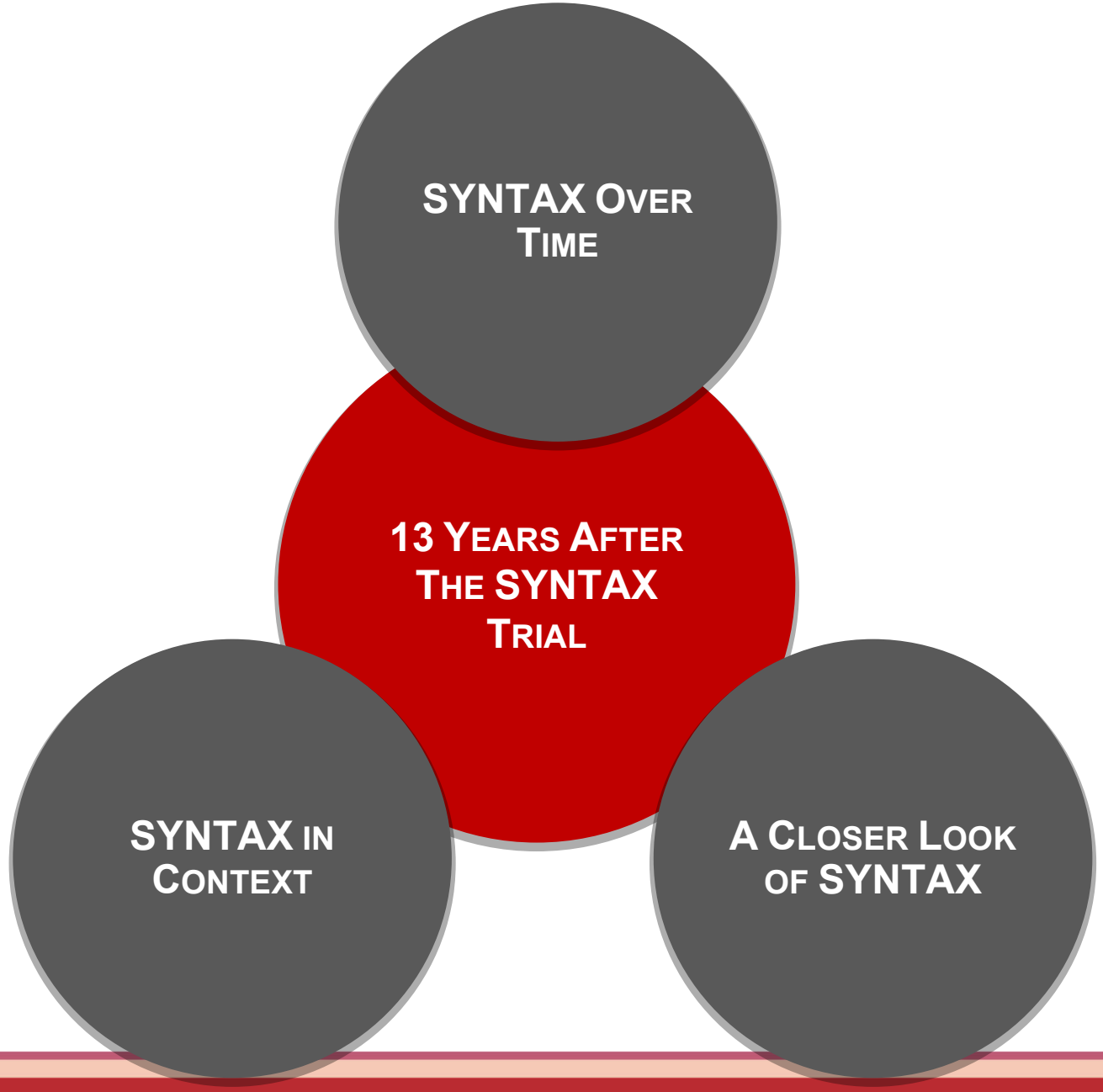
SYNTAX-2 TRIAL

Any Revascularization



Patient-Oriented Composite Endpoint




SYNTAX OVER TIME
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COMPARATIVE EFFECTIVENESS OF PCI AND CABG

Weintraub W et al. *N Eng J Med* 2012

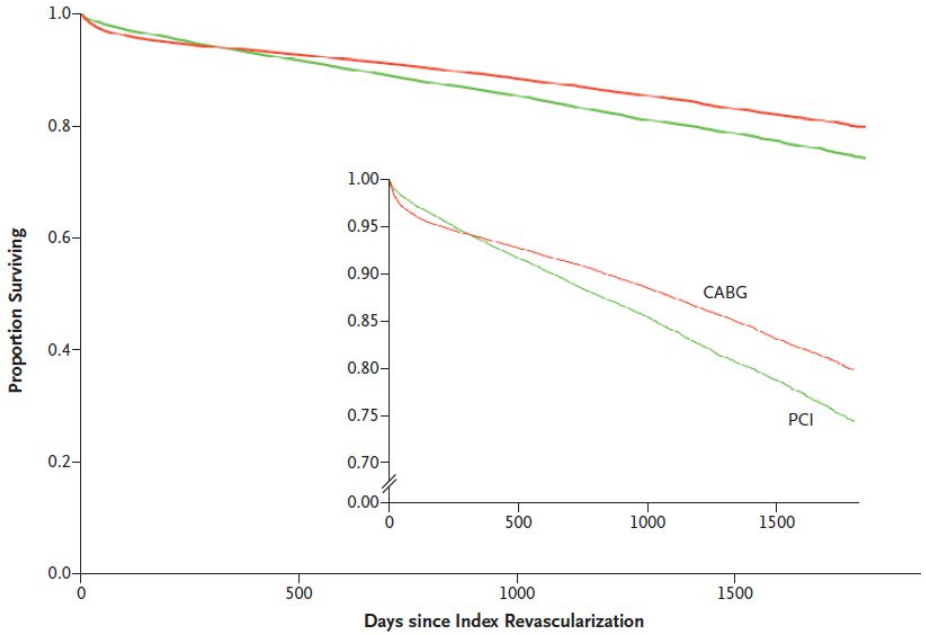
Patients >65 Years Old With 2 or 3 Vessel Disease Without AMI

ACCF and STS Registries

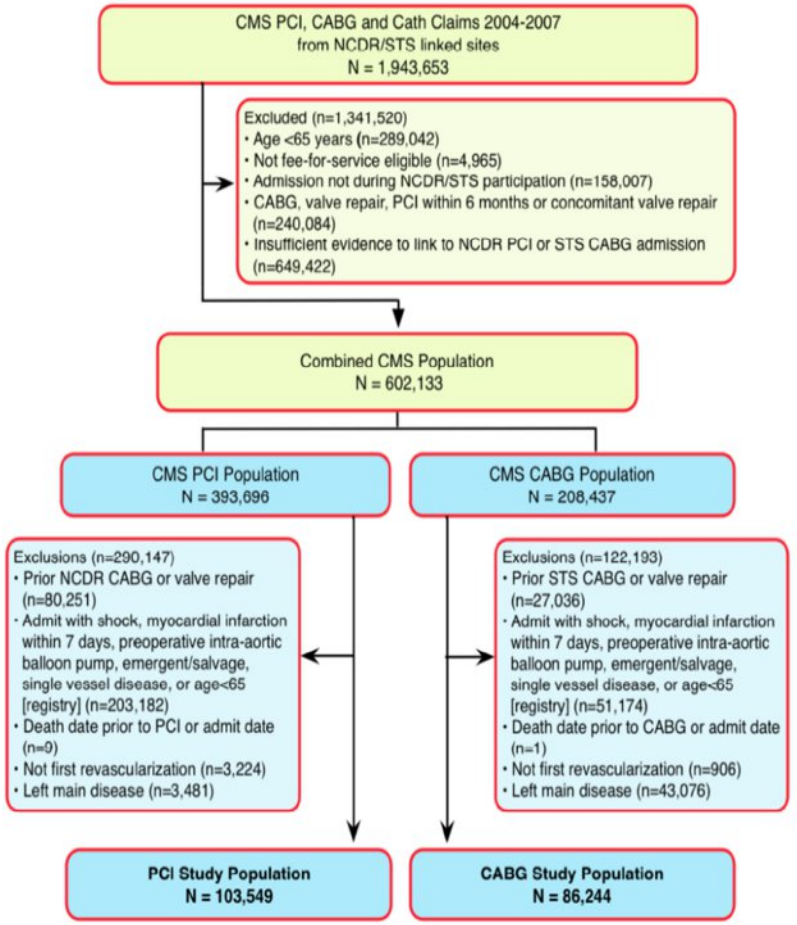
86,244 underwent CABG and 103,549 underwent PCI between 2004 and 2008

Survival Through 4 Years

Analysis Adjusted with the Use of Inverse Probability Weighting

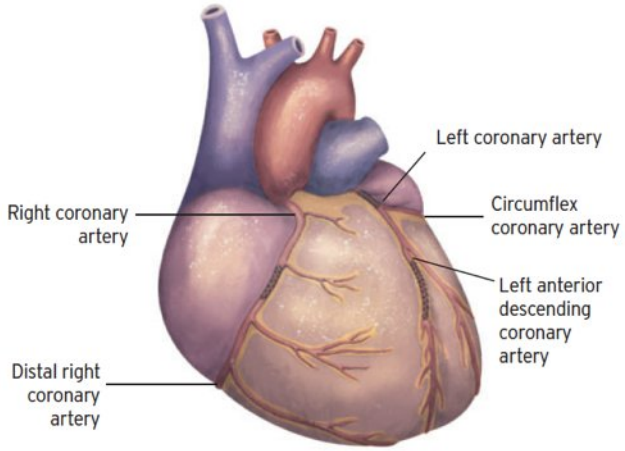


	30-Day	1-Yr	2-Yr	3-Yr	4-Yr
Mortality after CABG, % (95% CI)	2.25 (2.09–2.41)	6.24 (5.97–6.50)	8.98 (8.68–9.29)	12.4 (12.0–12.8)	16.4 (15.9–16.9)
Mortality after PCI, % (95% CI)	1.31 (1.21–1.41)	6.55 (6.35–6.76)	11.3 (11.0–11.6)	15.9 (15.6–16.3)	20.8 (20.4–21.2)
Relative risk with CABG (95% CI)	1.72 (1.52–1.89)	0.95 (0.90–1.00)	0.79 (0.76–0.83)	0.78 (0.75–0.81)	0.79 (0.76–0.82)

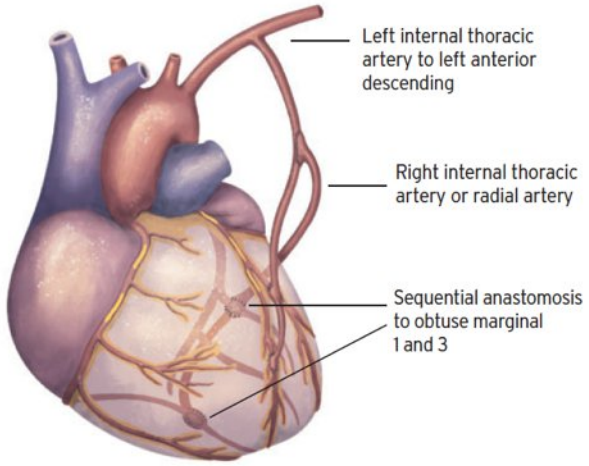


PATIENT-TAILORED TREATMENT STRATEGIES

PCI



CABG



FAVOURS PCI

Clinical characteristics

- Presence of severe co-morbidity (not adequately reflected by scores)
- Advanced age/frailty/reduced life expectancy
- Restricted mobility and conditions that affect the rehabilitation process

Anatomical and technical aspects

- MVD with SYNTAX score 0–22
- Anatomy likely resulting in incomplete revascularization with CABG due to poor quality or missing conduits
- Severe chest deformation or scoliosis
- Sequelae of chest radiation
- Porcelain aorta[a]

FAVOURS CABG

Clinical characteristics

- Diabetes
- Reduced LV function (EF ≤35%)
- Contraindication to DAPT
- Recurrent diffuse in-stent restenosis

Anatomical and technical aspects

- MVD with SYNTAX score ≥23
- Anatomy likely resulting in incomplete revascularization with PCI
- Severely calcified coronary artery lesions limiting lesion expansion

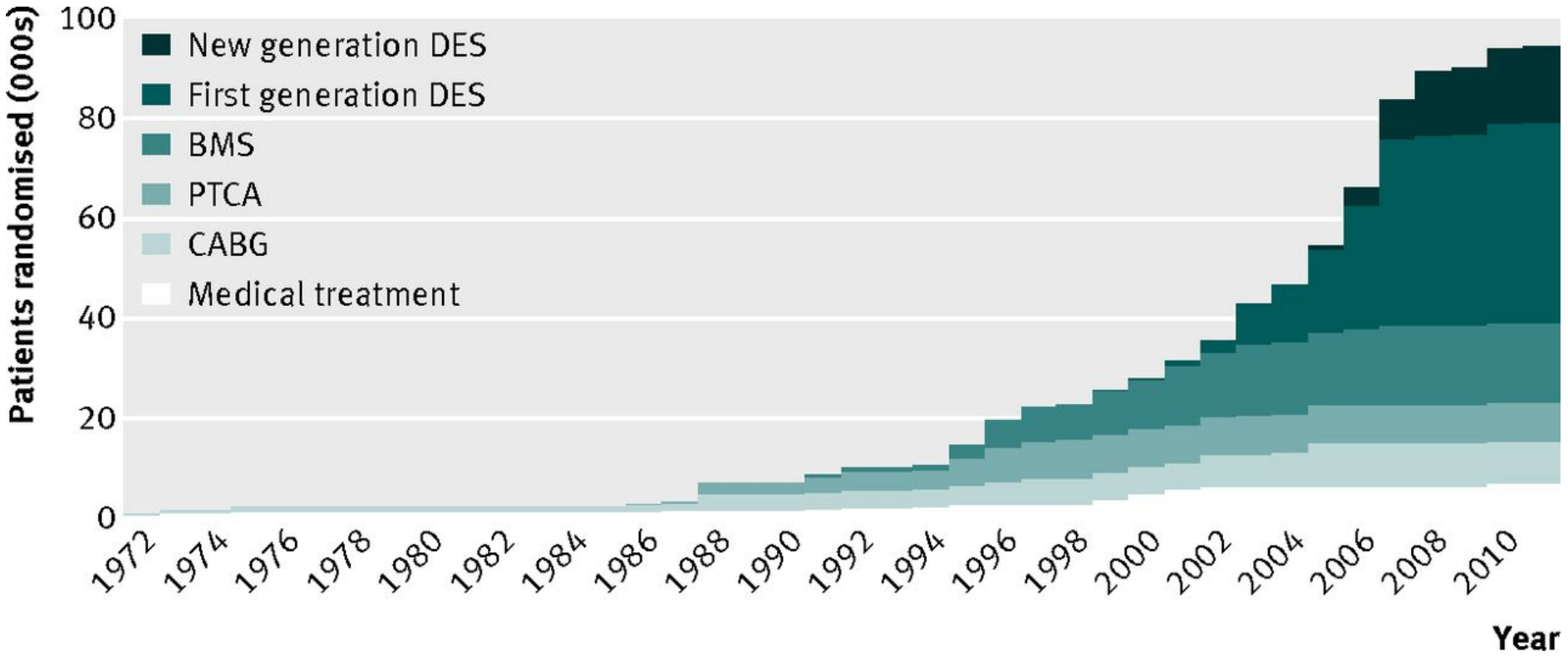
Need for concomitant interventions

- Ascending aortic pathology with indication for surgery
- Concomitant cardiac surgery

ESC Guidelines on Myocardial Revascularization 2020

Accumulation of Data from Randomized Trials Using Different PCI Technologies over time

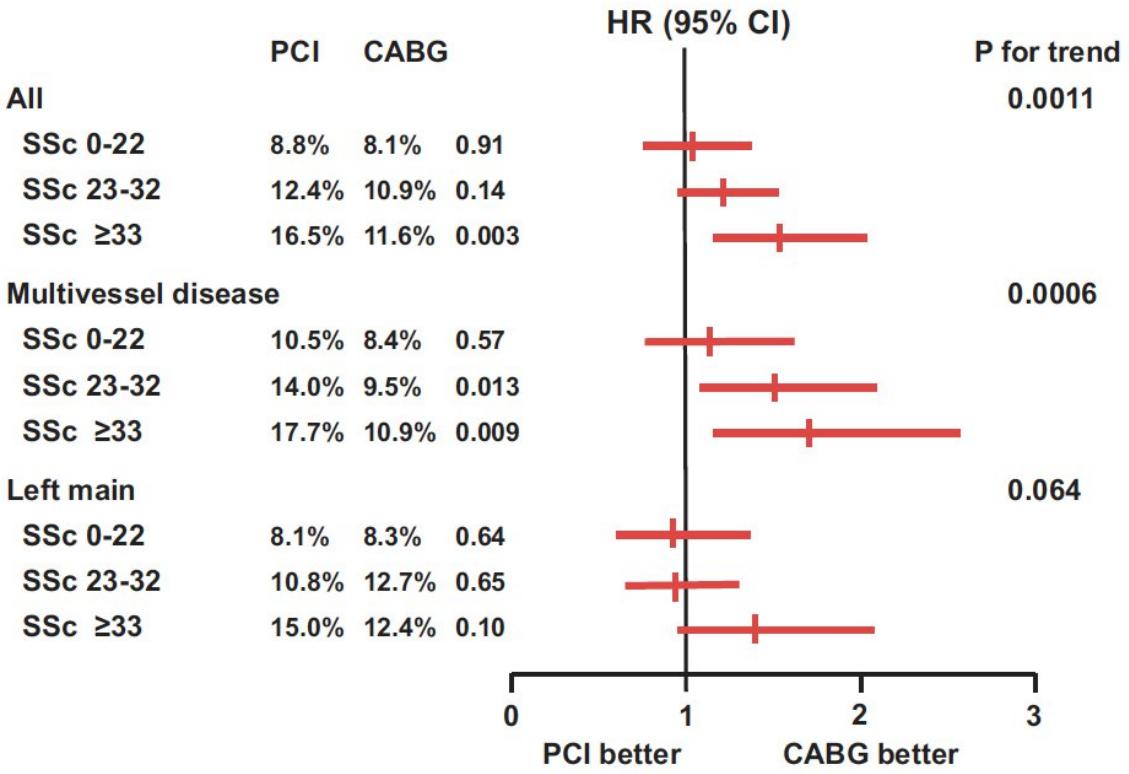
Windecker S, Stortecky S, Stefanini G et al. *BMJ* 2014



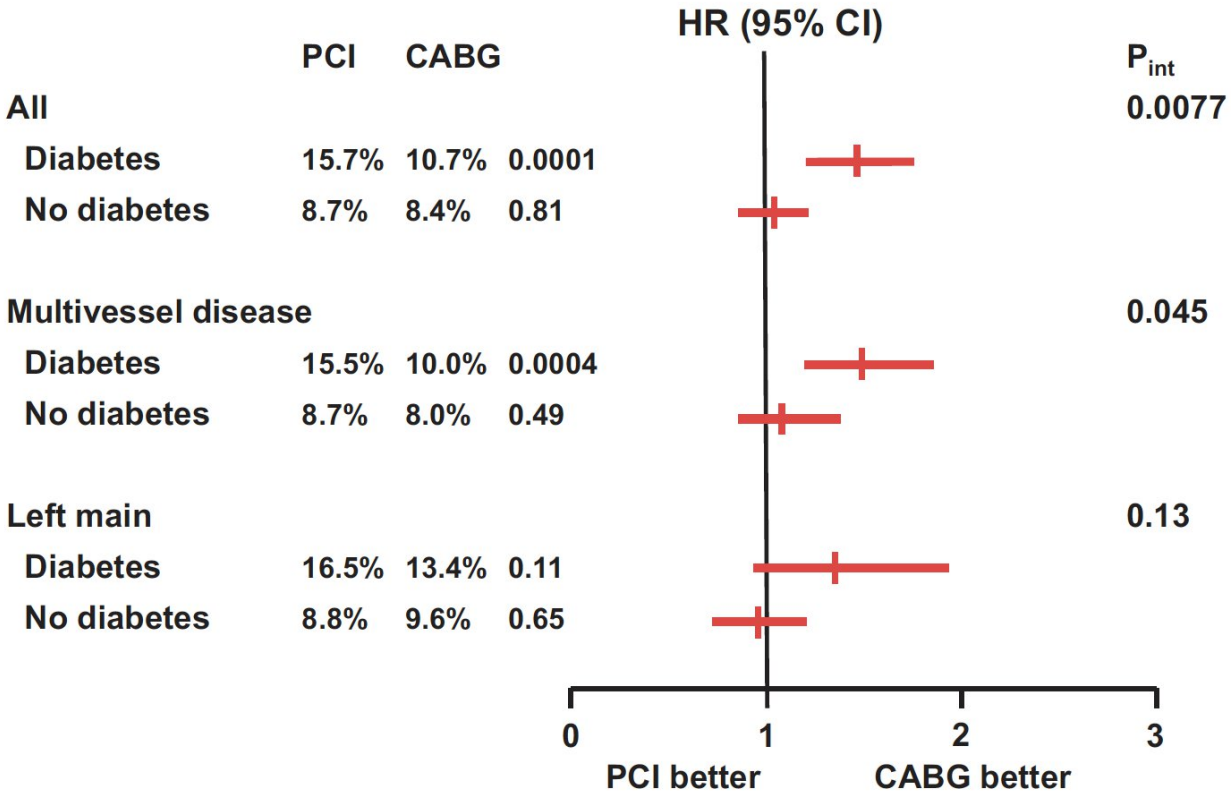
5-Year All-Cause Mortality After PCI versus CABG

11 RCTs in 11,518 patients selected by heart teams who were assigned to PCI (n=5753) or to CABG (n=5765)

By Disease Type and Strata of SYNTAX score



By Disease Type and Diabetes Mellitus



Head SJ et al. Lancet 2018; 391:939-48
Windecker S et al. Eur Heart J 2019; 40:204-12

PCI vs CABG in 3VD and LM Disease

Stable three-vessel or left main coronary artery disease with suitable anatomy for PCI and CABG and clinical eligibility for either PCI or CABG

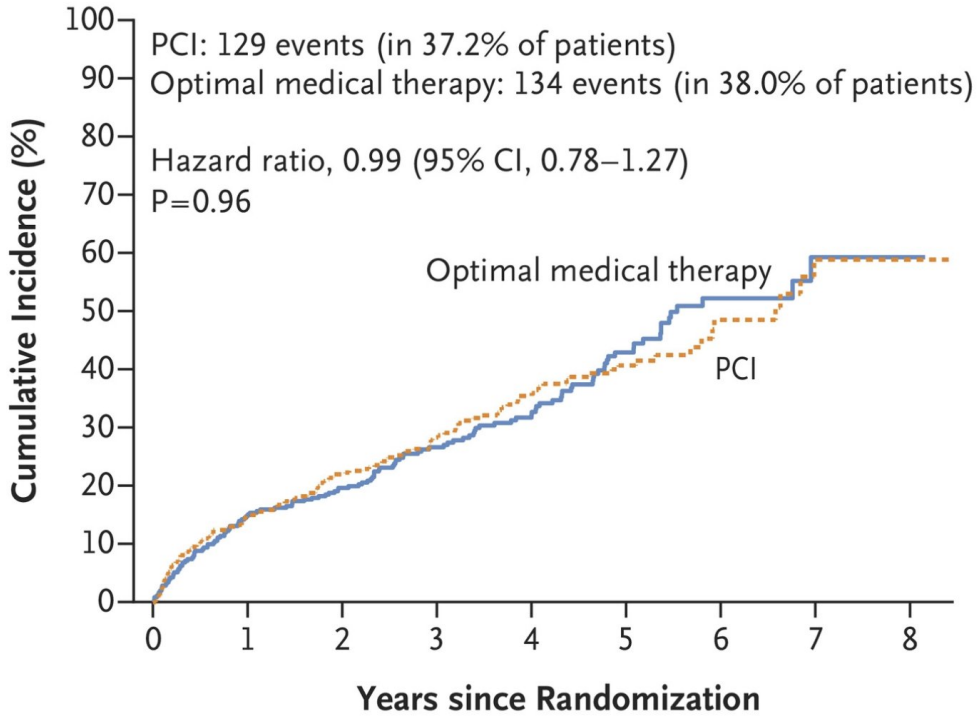
- Three-vessel CAD
  - Syntax Score 0-22
    - No Diabetes → PCI IA, CABG IA
    - Diabetes → PCI IIb A, CABG IA
  - SYNTAX Score > 22 → PCI IIIA, CABG IA
- Left main CAD
  - SYNTAX Score 0-22 → PCI IA, CABG IA
  - SYNTAX 23-32 → PCI IIa A, CABG IA
  - SYNTAX Score >32 → PCI IIIB, CABG IA

Neumann, Sousa Uva et al. Eur Heart J 2019 - Windecker S et al. Eur Heart J 2019

SHALL WE STILL DISCUSS ABOUT TREATMENT OPTIONS OR SHALL WE FOCUS ON PATIENTS SELECTION ?…

REVIVED-BCIS2

Death or HF Hospitalization



No. at Risk									
PCI	347	295	262	179	130	80	32	14	3
Optimal medical therapy	353	299	276	191	142	82	33	10	1

Perera D et al. *NEJM* 2022

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THANKS FOR YOUR KIND ATTENTION !

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