

# Cardiology Update 2011, Davos

## Joint ESC – EACTS Guidelines on Myocardial Revascularisation

*Joint Task Force on Myocardial Revascularisation of the European Society of Cardiology (ESC) and the European Association of Cardio-Thoracic Surgery (EACTS)*

*Developed with the special contribution of the European Association for Percutaneous Cardiovascular Interventions (EAPCI)*

# Previous ESC Guidelines

The following ESC Guidelines are very relevant for Myocardial Revascularisation and served as background and foundation for our Task Force:

Silber S, Albertsson P, Aviles FF, et al.

**Guidelines for percutaneous coronary interventions. The Task Force for Percutaneous Coronary Interventions of the European Society of Cardiology.**

*Eur Heart J* **2005**;26:804-847.

Fox K, Garcia MA, Ardissino D, et al.

**Guidelines on the management of stable angina pectoris. The Task Force on the Management of Stable Angina Pectoris of the European Society of Cardiology.**

*Eur Heart J* **2006**;27:1341-1381.

Bassand JP, Hamm CW, Ardissino D, et al.

**Guidelines for the diagnosis and management of acute coronary syndromes.**

*Eur Heart J* **2007**;28:1598-1660.

Van De Werf F, Bax J, Betriu A, et al.

**Management of acute myocardial infarction in the presence of persistent ST-segment elevation: the Task Force on the Management of Acute Myocardial Infarction of the European Society of Cardiology.**

*Eur Heart J* **2008**;29:2909-2945.

**Only 2 chapters out of 12  
on « techniques »  
of PCI or CABG**



# Joint ESC – EACTS Guidelines on Myocardial Revascularisation

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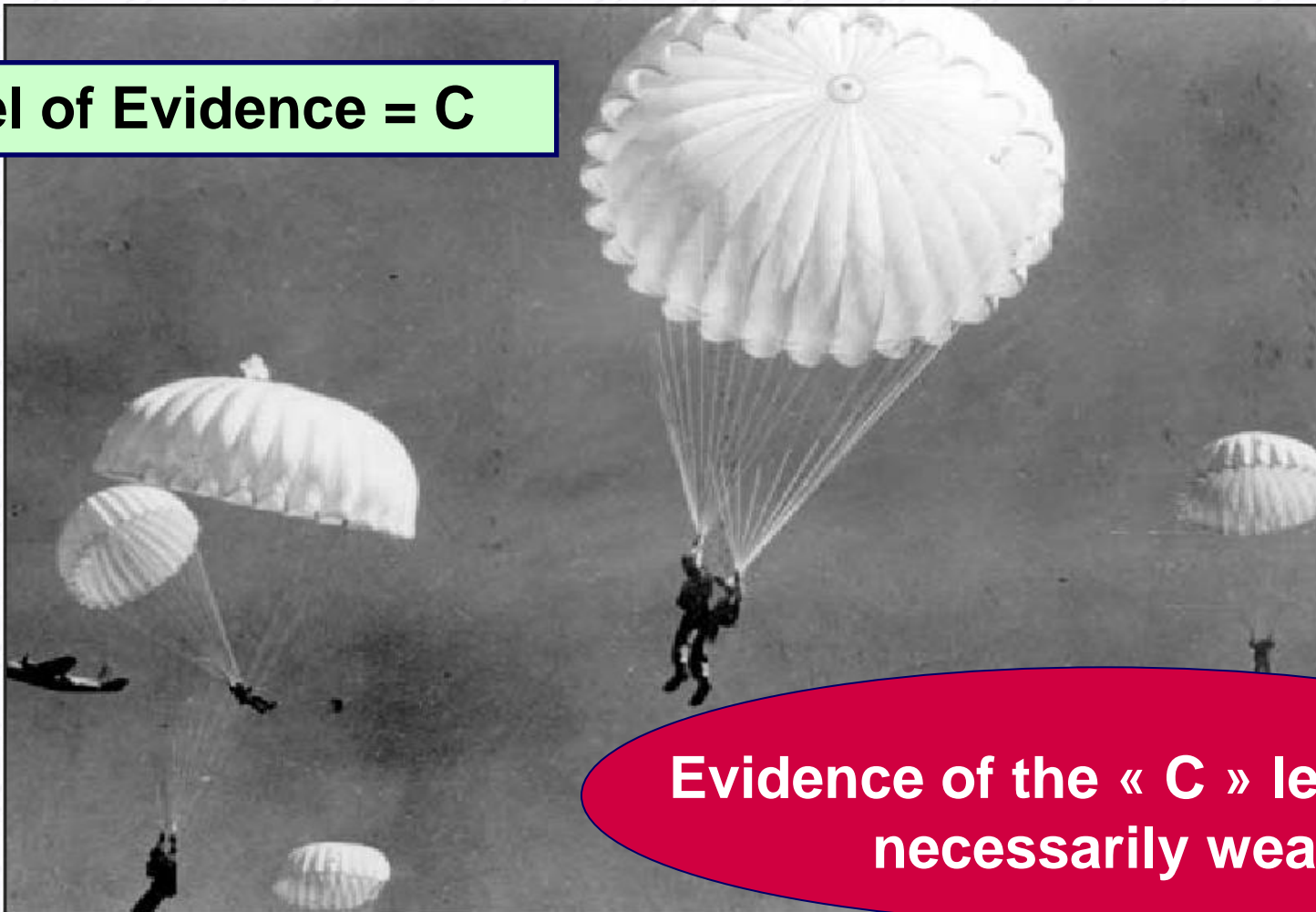
# Joint ESC – EACTS Guidelines on Myocardial Revascularisation

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.

- Out of 273 recommendations, level of evidence was A in 28%, B in 43% and C in 29%

Parachutes appear to reduce the risk of injury but ...  
their effectiveness has not been proved with randomised controlled trials

**Level of Evidence = C**



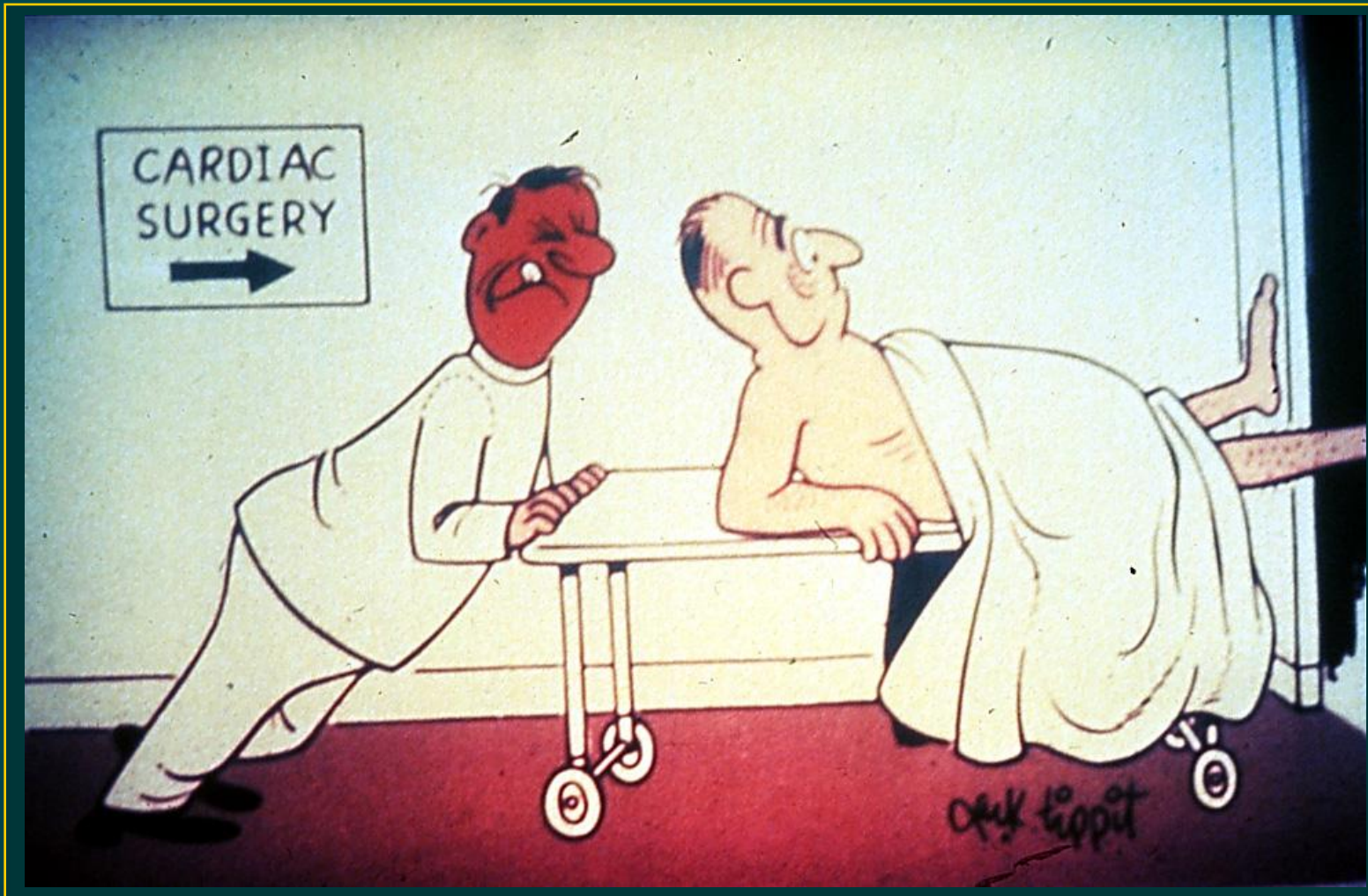
**Evidence of the « C » level is not necessarily weak!**



## Debated and Controversial Issues

- **Patient information and process for decision making**
- **Heart Team**
- **PCI “ad hoc” and self-referral**
- **Revascularisation for stable CAD**
  - OMT only vs OMT + revascularisation
  - PCI vs CABG
- **Equipoise between Primary PCI and fibrinolytic therapy  $\leq 2$  hours**
- **Delay for urgent PCI in high-risk NSTEMI-ACS**
- **New antithrombotic and antiplatelet drugs**

# ***NIKO NE VOLI HIRURGIJU!!! (pa ni CABG)!***





# Recommendations for decision making and patient information

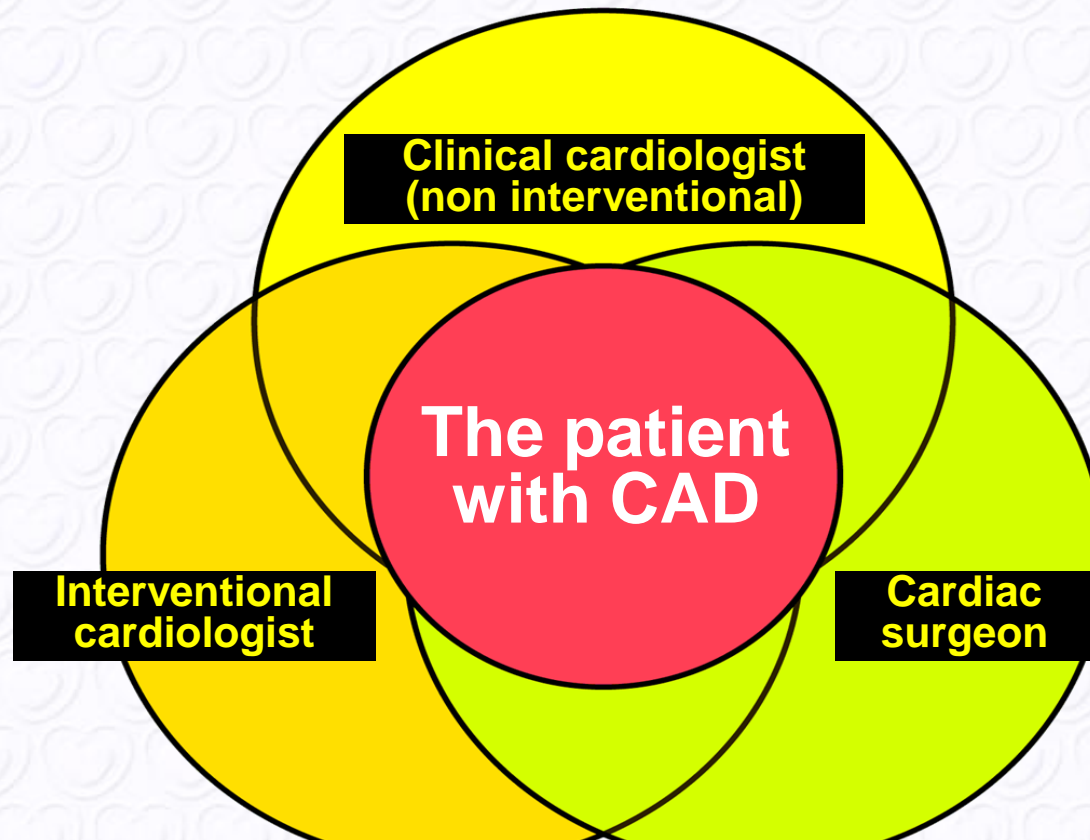
	Class	Level
It is recommended that patients should be adequately informed of the potential benefits and short-term risks of a revascularisation procedure. Enough time should be spared for informed decision making.	I	C
The appropriate revascularisation strategy in patients with MVD should be discussed by the Heart Team.	I	C

informed ?

time ?



# The Heart Team



**Task Force composition = 7 clinical cardiologists (non interventional)  
+ 10 interventional cardiologists + 8 cardiac surgeons**

# SYNTAX Trial Design



62 EU Sites

+



23 US Sites

De novo 3VD and/or LM (isolated, +1,2,3 VD)

Limited Exclusion Criteria

Previous interventions , Acute MI with CPK>2x, Concomitant cardiac surgery

Heart Team (Surgeon & Interventional Cardiologist)

Amenable for both  
treatment options

Amenable for only one  
treatment approach

Stratification:  
LM and Diabetes

*Randomized Arms*  
N=1800

*Two Registry Arms*  
N=1275





I say to all surgeons if there are two or several of them that they should never quarrel before the patient for that would frighten the patient very much.

# Tasks for the local Heart Team

- To review institutional results in all transparency for benchmarking and guidance in decision making
- To organize morbidity and mortality conferences
- To ensure proper patient information and consent, including adequate discussion of alternatives, risks and benefits, short and longer term, avoiding anonymous treatment
- To define standard protocols compatible with the current Guidelines to avoid the need for the systematic case by case review of all diagnostic angiograms (clinical pathways)
- To design institutional protocols that define specific anatomic criteria and clinical subsets that should be treated *ad hoc*, or not



## Potential indications for *ad hoc* PCI versus revascularisation at an interval

<i>Ad hoc</i> PCI
Haemodynamically unstable patients (including cardiogenic shock).
Culprit lesion in STEMI and NSTEMI-ACS.
Stable low-risk patients with single or double vessel disease (proximal LAD excluded) and favourable morphology (RCA, non-ostial LCx, mid or distal LAD).
Non-recurrent restenotic lesions.

- *Ad hoc* PCI is convenient for the patient, associated with fewer access site complications, and often cost-effective.
- *Ad hoc* PCI is reasonable for many patients, but not desirable for all, and should not be automatically applied as a default approach.

## Potential indications for ad hoc PCI versus revascularisation at an interval

Revascularisation at an interval
Lesions with high-risk morphology.
Chronic heart failure.
Renal failure (creatinine clearance < 60 mL/min), if total contrast volume required > 4 mL/kg.
Stable patients with MVD including LAD involvement.
Stable patients with ostial or complex proximal LAD lesion.
Any clinical or angiographic evidence of higher periprocedural risk with <i>ad hoc</i> PCI.

- Hospital teams without a cardiac surgical unit or with interventional cardiologists working in an ambulatory setting should refer to standard evidence-based protocols designed in collaboration with an expert interventional cardiologist and a cardiac surgeon, or seek their opinion for complex cases.



# Indications for revascularisation in stable CAD

- The Heart Team agrees on the indication for myocardial revascularisation, on top of optimal medical therapy
- Which technique can best be proposed to the patient:

PCI or CABG?

# Indications for revascularisation in stable angina or silent ischaemia

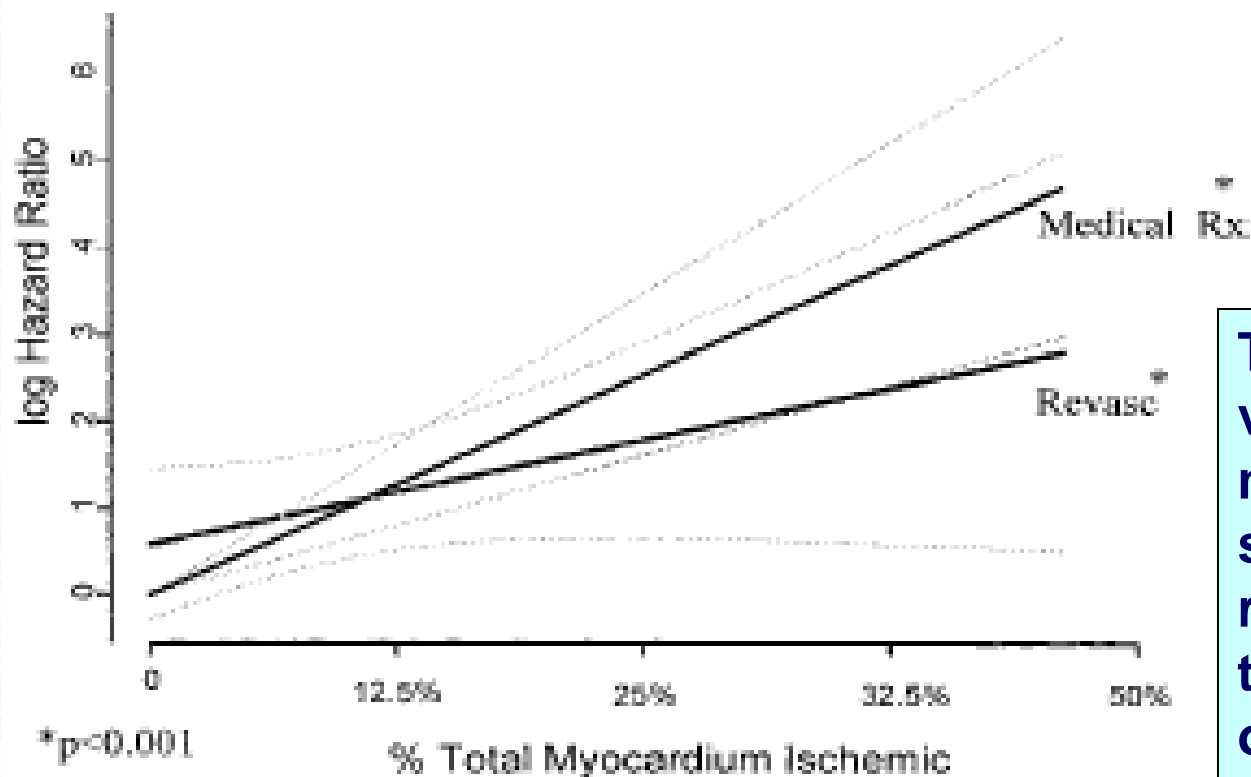
	Subset of CAD by anatomy	Class	Level
<b>For prognosis</b>	Left main > 50%*	I	A
	Any proximal LAD > 50%*	I	A
	2VD or 3VD with impaired LV function*	I	B
	Proven large area of ischaemia (> 10% LV)	I	B
	Single remaining patent vessel > 50% stenosis*	I	C
	1VD without proximal LAD and without > 10% ischaemia	III	A

\* With documented ischaemia or Fractional Flow Reserve (FFR) < 0.80 for angiographic diameter stenosis 50-90%.

	Subset of CAD by anatomy	Class	Level
<b>For symptoms</b>	Any stenosis > 50% with limiting angina or angina equivalent, unresponsive to OMT	I	A
	Dyspnoea/CHF and > 10% LV ischaemia/viability supplied by > 50% stenotic artery	IIa	B
	No limiting symptoms with OMT	III	C



# Revascularisation versus Medical Therapy after Stress SPECT: Survival Analysis



These two lines intersect at a value of ~ 10% of ischaemic myocardium, above which the survival benefit for revascularization over medical therapy increases as a function of increasing amounts of inducible ischemia

Figure 4. Log hazard ratio for revascularization (Revasc) vs medical therapy (Medical Rx) as a function of % myocardium ischemic based on final Cox proportional hazards model. Model,  $P < 0.0001$ ; interaction,  $P = 0.0305$ .

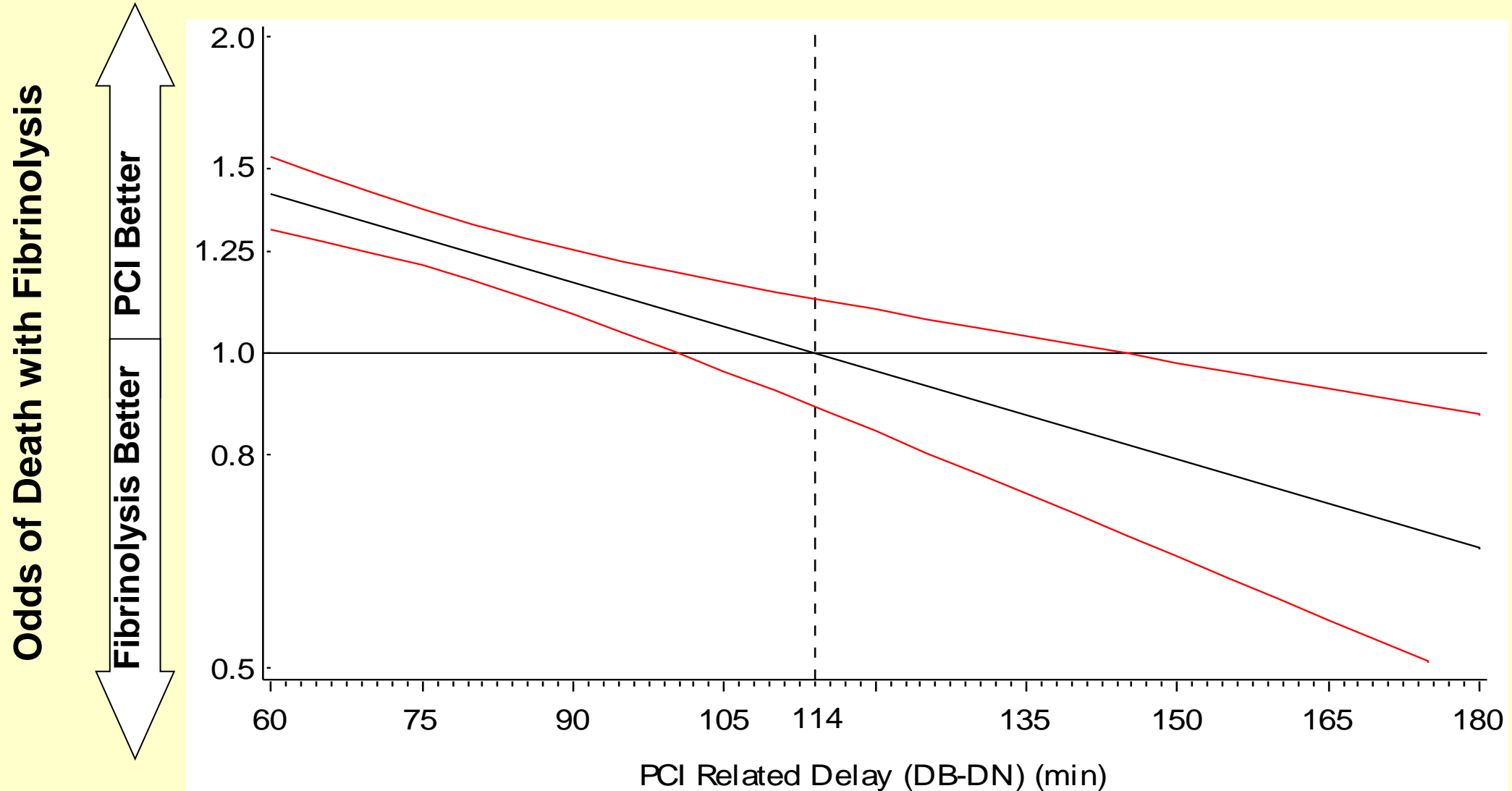
Hachamovitch et al. Circulation 2003;107:2900-6.

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# PCI vs. Lysis: Importance of Time

## Data from NRM1 2, 3 and 4 Registries





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- By placing the patient at the center and emphasizing the importance of holistic clinical appraisal, the 2010 Joint ESC – EACTS Guidelines on Myocardial Revascularisation are promoting a multidisciplinary approach to the treatment of patients with CAD (and co-morbid conditions)
- Specialists in surgical and interventional revascularisation techniques have the choice between:
  - level zero: to continue the turf battle
  - level wisdom: to enjoy the Heart Team approach
  - level future: to implement the Hybrid Team concept

# Status of Endorsement by National Societies

- Cardiology societies and interventional working groups  
53 societies representing Europe of cardiology
- Surgical societies