

**Cardiac REsynchronisation in Heart Failure  
Extension –**

**Discussant**

**Karl Swedberg**

**Professor of Medicine  
Department of Medicin**

**Sahlgrenska University Hospital/Östra  
Göteborg University**

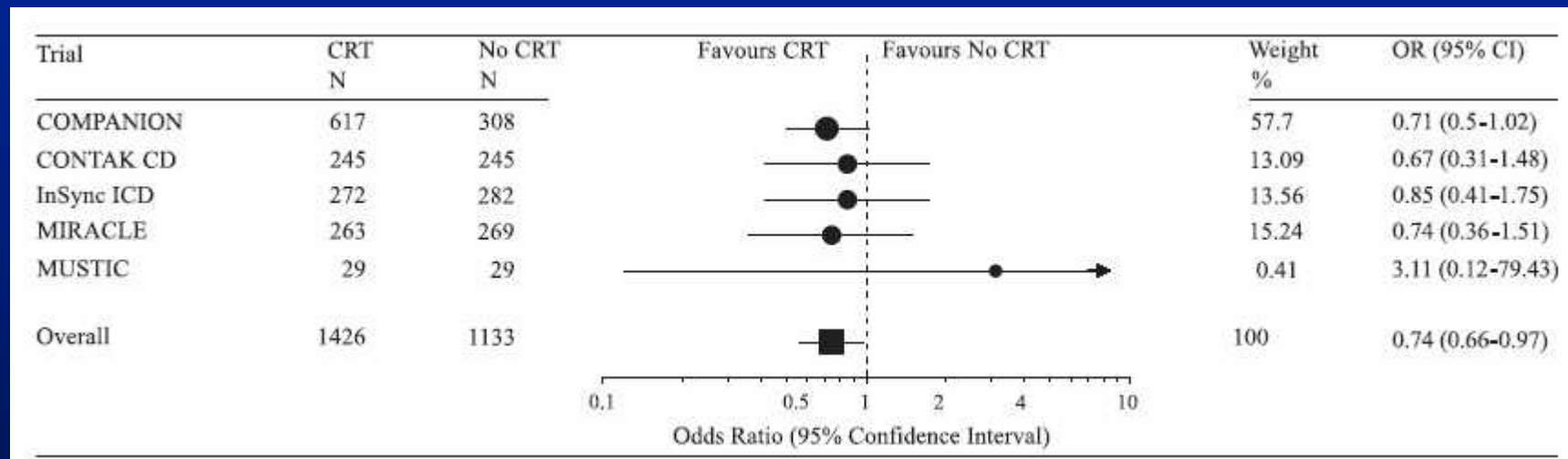
**Göteborg**

***karl.swedberg@hjl.gu.se***

# Disclosure

**Received honoraria for lectures from Guidant and Medtronic and major pharmaceutical companies in the cardiovascular area**

# Meta-analysis CRT on Mortality

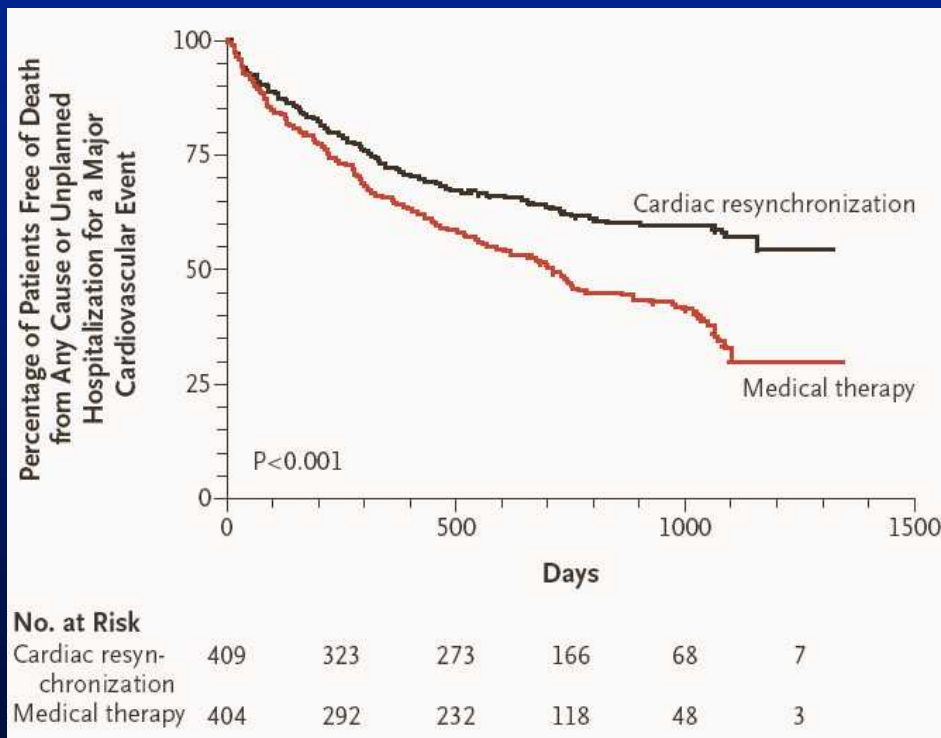


*Salukhe et al Int J Card 2004*

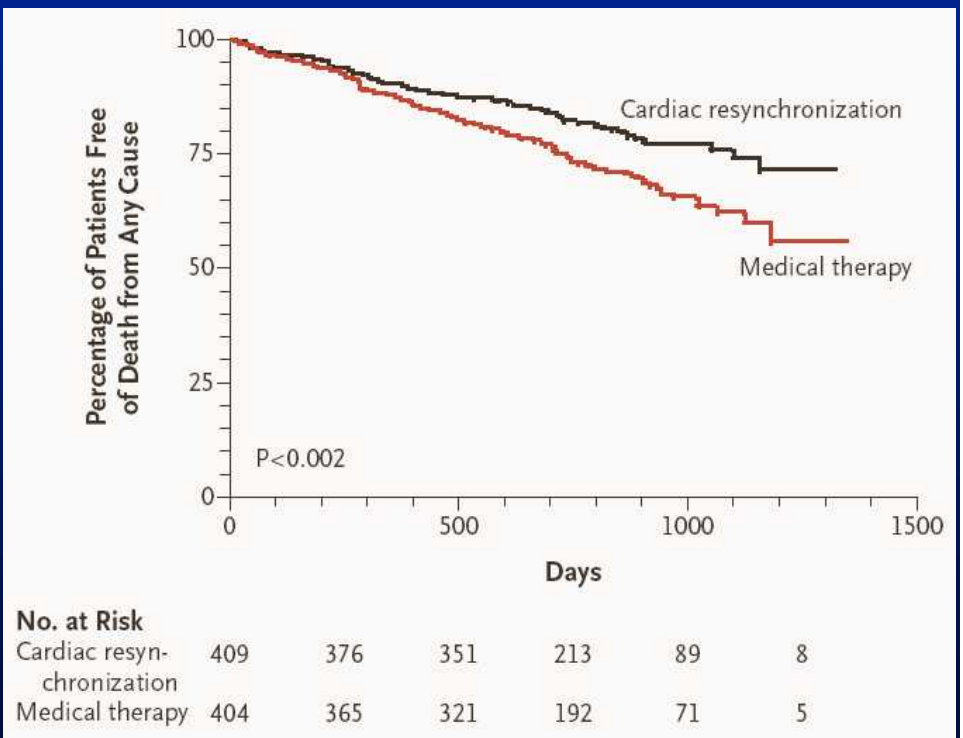
# CARE-HF

- 813 pts with with CHF and LV dyssynchrony and/or QRS  $\geq 150$  msec
- Randomised to CRT or control (open)

## Mortality or CV hospitalisation



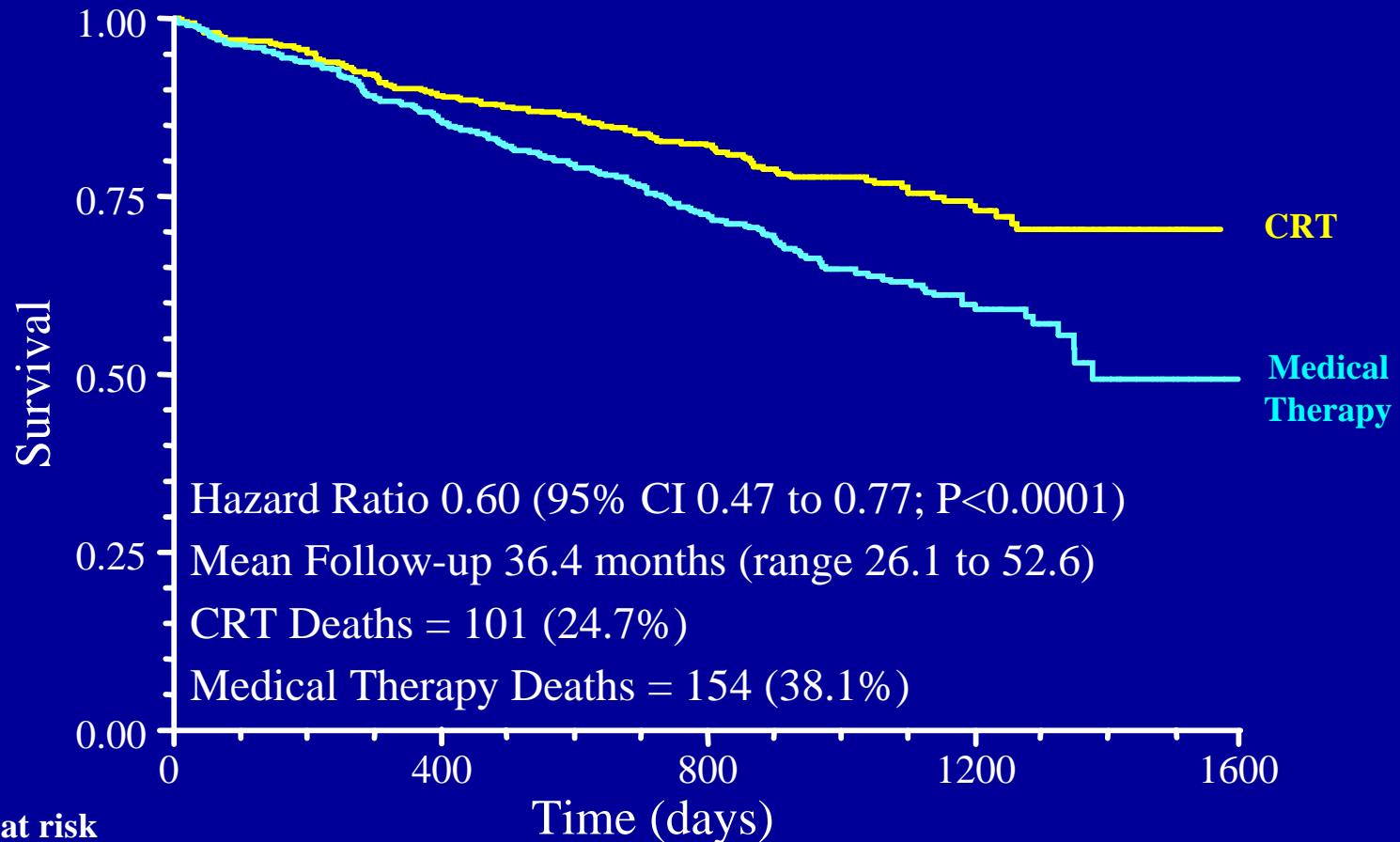
## Mortality



# Pacing/Resynchronisation (CRT)

- Bi-ventricular pacing can be considered in patients with reduced ejection fraction and ventricular dyssynchrony (QRS width  $\geq 120$  msec) and who remain symptomatic (NYHA III-IV) despite optimal medical therapy to improve symptoms and hospitalisations
  - level of evidence A, class I
- Mortality
  - level of evidence B, class I

# Effect of CRT on All-Cause Mortality: CARE-HF Extension Study



Number at risk

CRT	409	383	358	338	209	85	9
Medical therapy	404	372	331	298	178	63	6

**Care - HF**

# Extension

- **Another 7 months of follow-up**
- **Another 50 deaths**

# Not presented

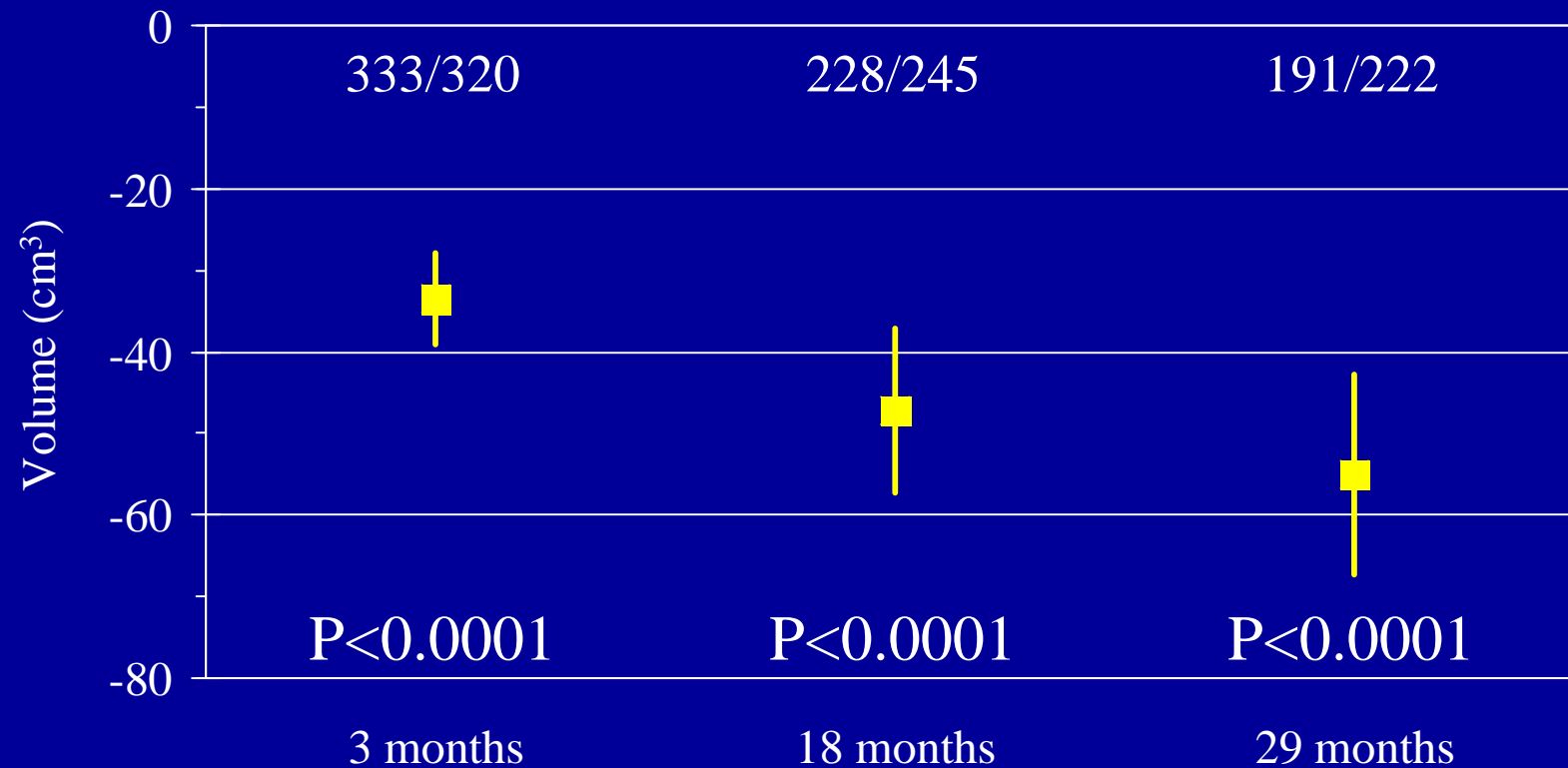
Effects on primary outcome during follow-up

- Death or unplanned CV hospitalization

Original findings in main publication :

Primary EP	224 (55%)	159 (39%)	0.63 (0.51- 0.77)	<0.001
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# Change in LV End-Systolic Volumes: Control vs CRT

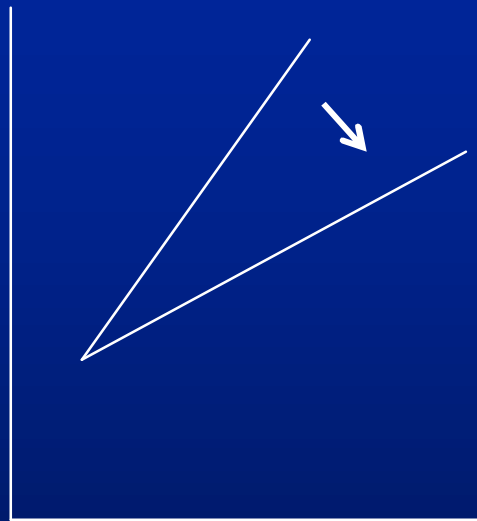


Values indicate differences between CRT and control patients surviving at the different time points

**Care - HF**

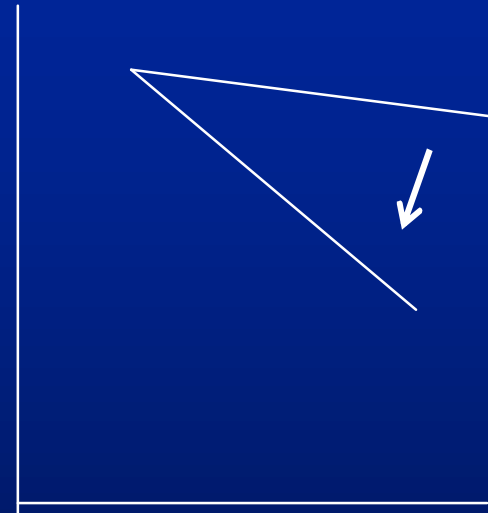
# End-systolic volume and contractility

Stroke Volume



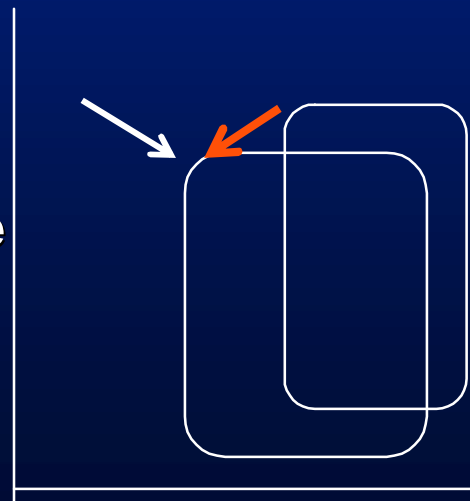
EDV

Stroke Volume



Afterload

Pressure



Volume

**Contractility**  
**End systolic volume**

## Resource Use

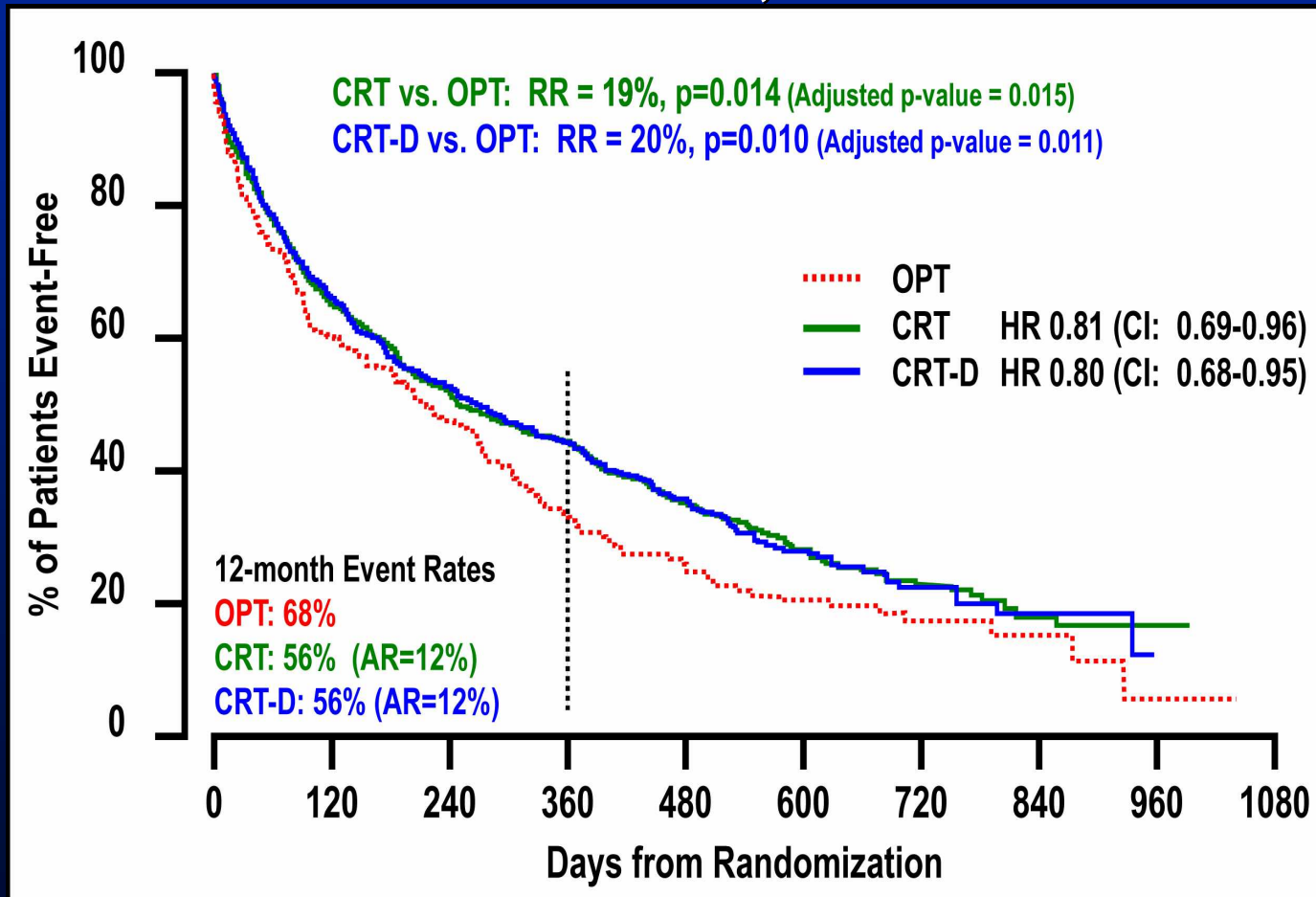
	<b>Medical Therapy (n=404)</b>	<b>CRT (n=409)</b>
Mean Hospital Days	22.4	20.7
Mean ICU Days	0.79	0.35
Mean CCU Days	2.52	2.92
Total PTCA/CABG	8	6
Total Heart Transplants	9	10
Total CRT Implants	48	467
Total CRT-ICD Implants	27	9

## Recent Cost per QALY Comparisons

- **CRT from CARE-HF**
  - £13,142 (95% CI: £3,729-£30,886)
  - €19,367 (95% CI: €5,494-€45,507)
- **Bare Metal Stents for Revascularisation**
  - Cost per QALY = €24,000
- **Carvedilol in Heart Failure**
  - Cost per QALY = €13,000

# COMPANION: *Primary Endpoint* *All-cause mortality or all-cause hospitalisation*

1520 patients in CHF NYHA class III-IV  
randomised to conv. treatment, CRT or CRT+ICD



# Conclusions

- CARE-HF Extension provides additional information that supports and extends initial report
- CRT is indicated in patients with moderate-severe symptomatic CHF in spite of optimal pharmacological therapy when QRS width  $>120$  msec and cardiac dyssynchrony are present
- Mechanistic insight valuable
- Cost-effectiveness reasonable
- In patients with low EF and LV dyssynchrony in addition to pharmacological therapy-
  - is CRT enough?
  - what about ICDs?