

Destination LVAD Therapy Must Not Be Moved to NYHA IIIb Patients

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- What is NYHA IIIb?
- What do these patients look like?
- What is the survival of NYHA IIIb patients?
- Do VAD patients have similar survival?
(and stroke and rehospitalization risk?)

What is NYHA IIIb HF?

NYHA Classification

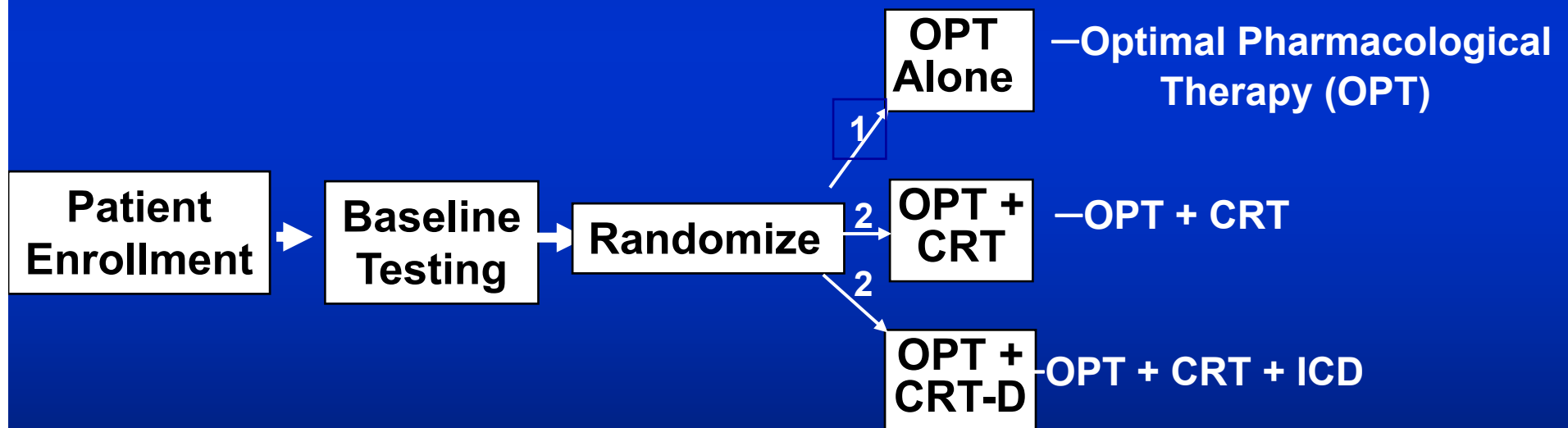
- Class I: Symptoms with more than ordinary activity
- Class II: Symptoms with ordinary activity
- Class III: Symptoms with minimal activity
 - Class IIIa: No **Dyspnea** at rest
 - Class IIIb: Recent **Dyspnea** at rest
- Class IV: Symptoms at rest

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COMPANION *Study Design*

EF \leq 35%, NYHA III-IV,
Hospitalization within 12 months



N = 1520

COMPANION Baseline Demographics

Characteristic		NYHA III (N=1303)	NYHA IV (N= 217)	P-value
Age (years)	Mean +/- SD	65.6 +/- 11.5	66.7 +/- 10.4	0.19
Gender [N (%)]	Female	413 (31.7)	80 (36.9)	0.13
	Male	890 (68.3)	137 (63.1)	
LVEF (%)	Mean +/- SD	22.6 +/- 6.9	20.8 +/- 6.6	0.00
LVEDD (mm)	Mean +/- SD	69 +/- 8	71 +/- 10	0.01
Resting Heart Rate (bpm)	Mean +/- SD	73 +/- 13	77 +/- 13	0.00
Systolic Blood Pressure (mmHg)	Mean +/- SD	115 +/- 17	110 +/- 18	0.00
Diastolic Blood Pressure (mmHg)	Mean +/- SD	67 +/- 10	66 +/- 10	0.02
Distance Walked in 6 Min (m)	Mean +/- SD	265 +/- 107	167 +/- 105	0.00
QRS Width (ms)	Mean +/- SD	158.1 +/- 24.0	161.0 +/- 26.6	0.12
Ischemic [N (%)]	HF: Ischemic	704 (54.0)	134 (61.8)	0.03
Conduction Disorder [N (%)]	LBBB	926 (71.1)	148 (68.2)	0.54

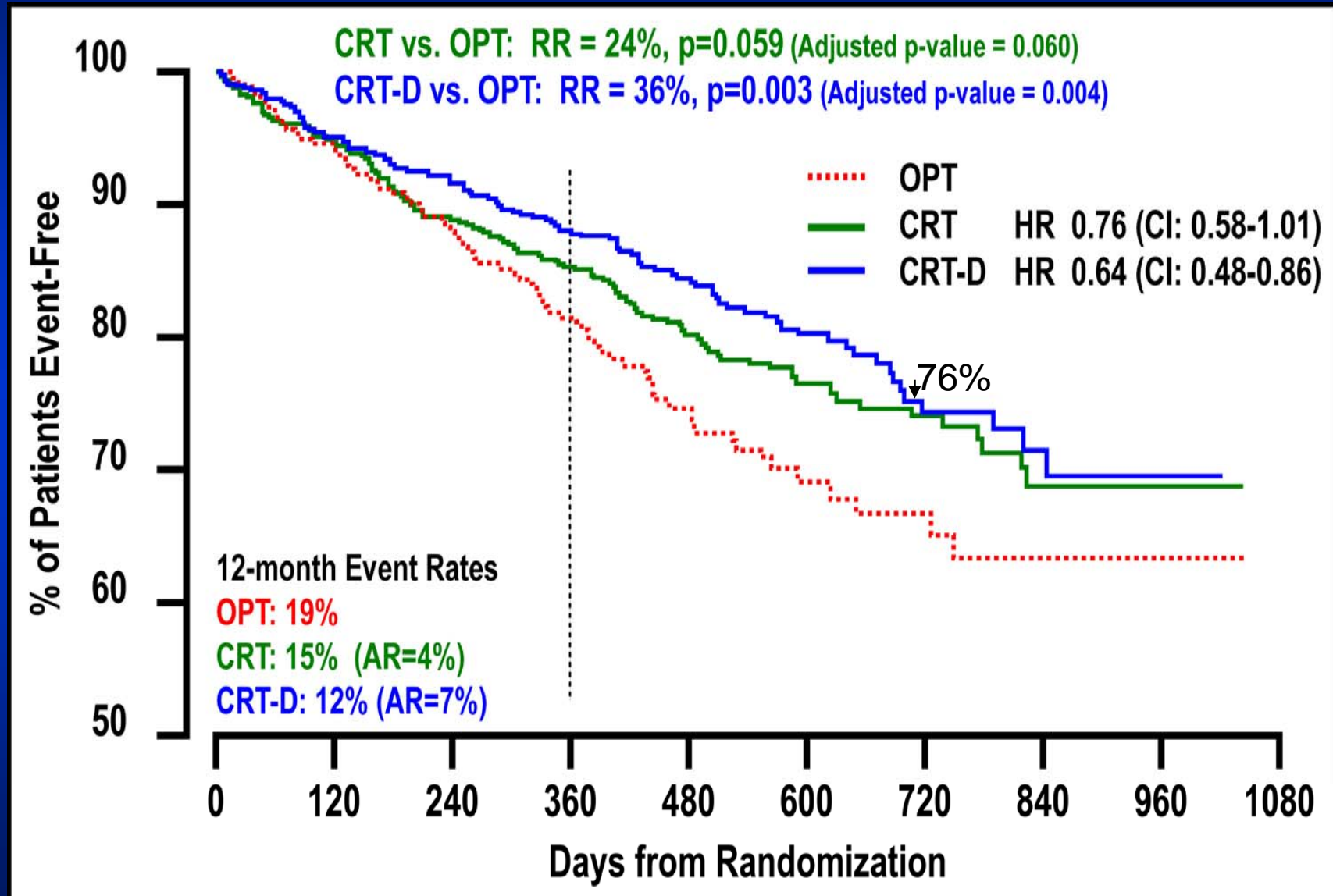
Mortality in Advanced Heart Failure

	RALES	COPERNICUS	REMATCH Oral	REMATCH IV	COMPANION
n	841	1133	15	46	575
age	65	64	68	68	66
LVEF%	25	20	17	17	22
Systolic BP	122	107	107	100	107
ACE/ ARB	93%	97%	66%	53%	82%
Beta-blocker	10%	100%	34%	13%	48%
NYHA	III/IV	IV	IV	IV	III/IV
1 yr survival	70%	82%	49%	24%	88%

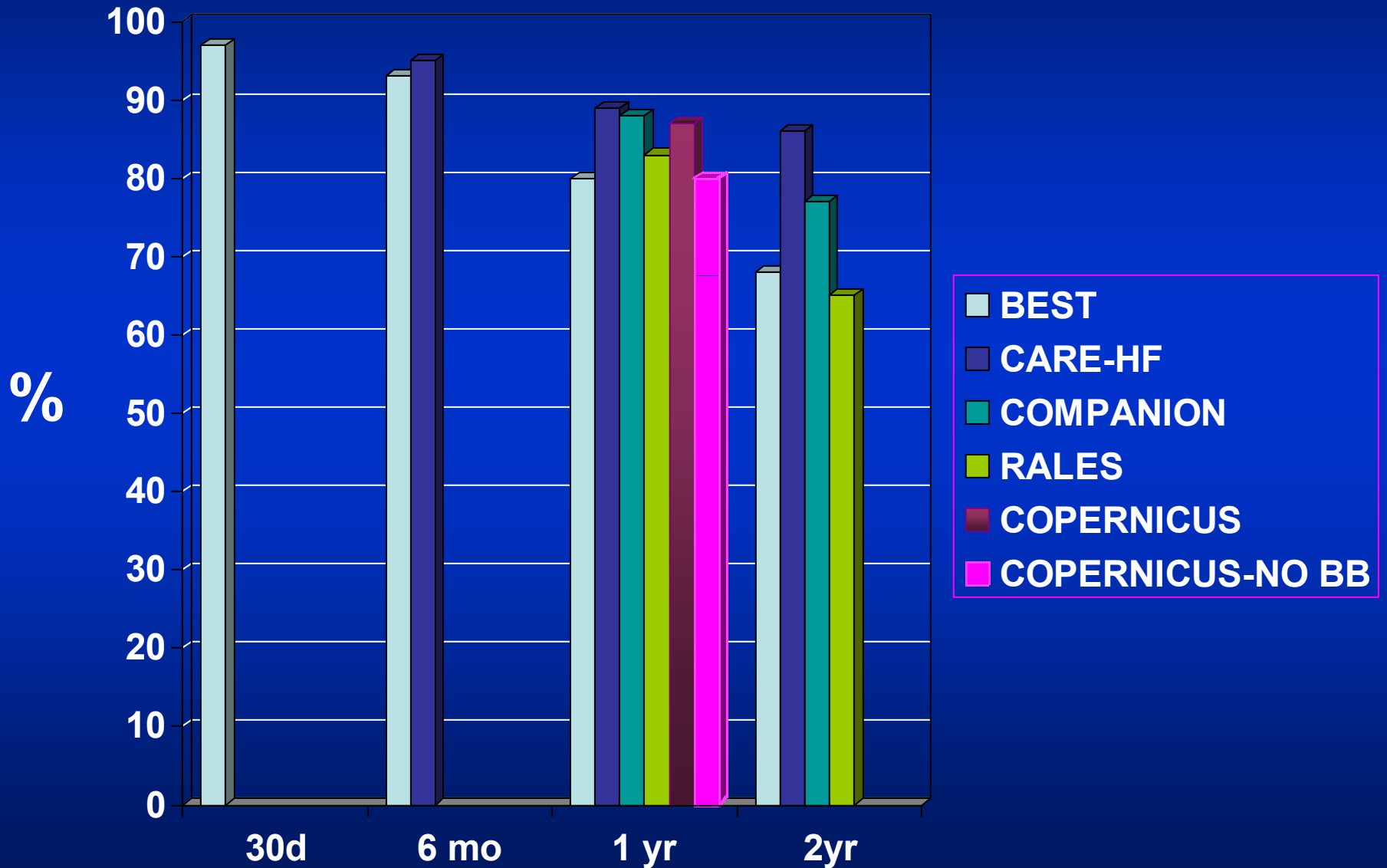
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COMPANION: All-Cause Mortality



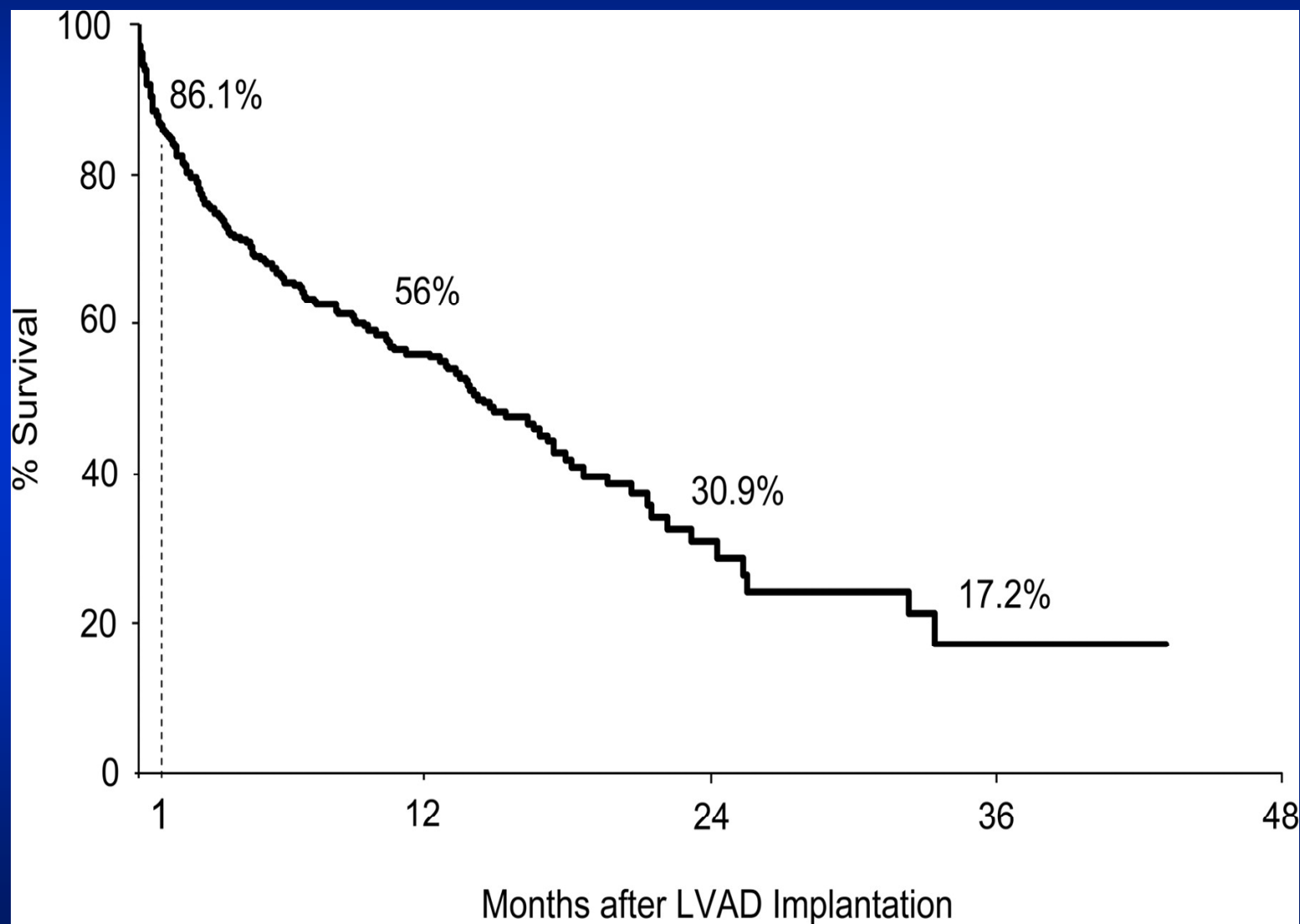
Survival In NYHA IIIb



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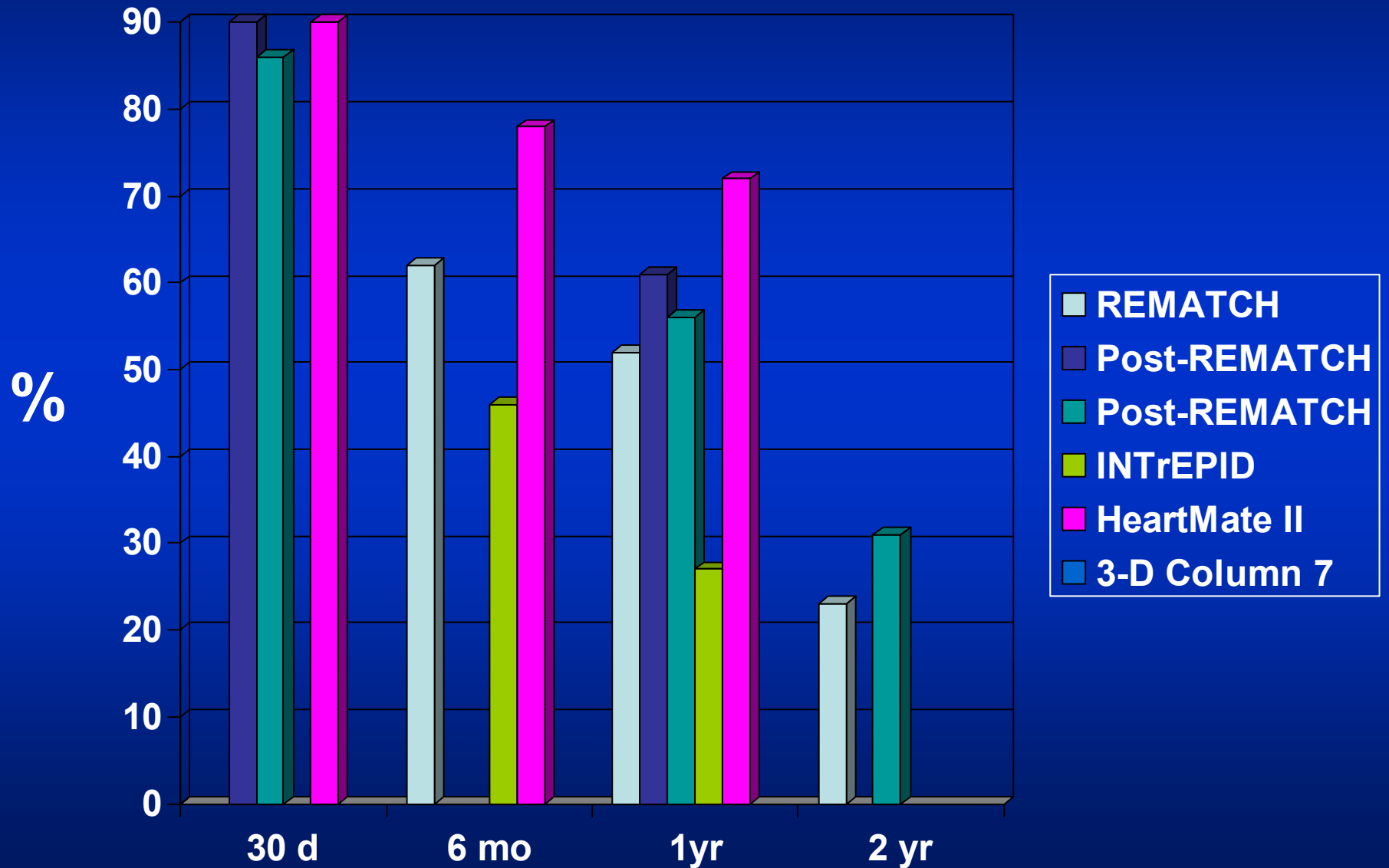
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Survival after LVAD implantation as DT in the post-REMATCH era

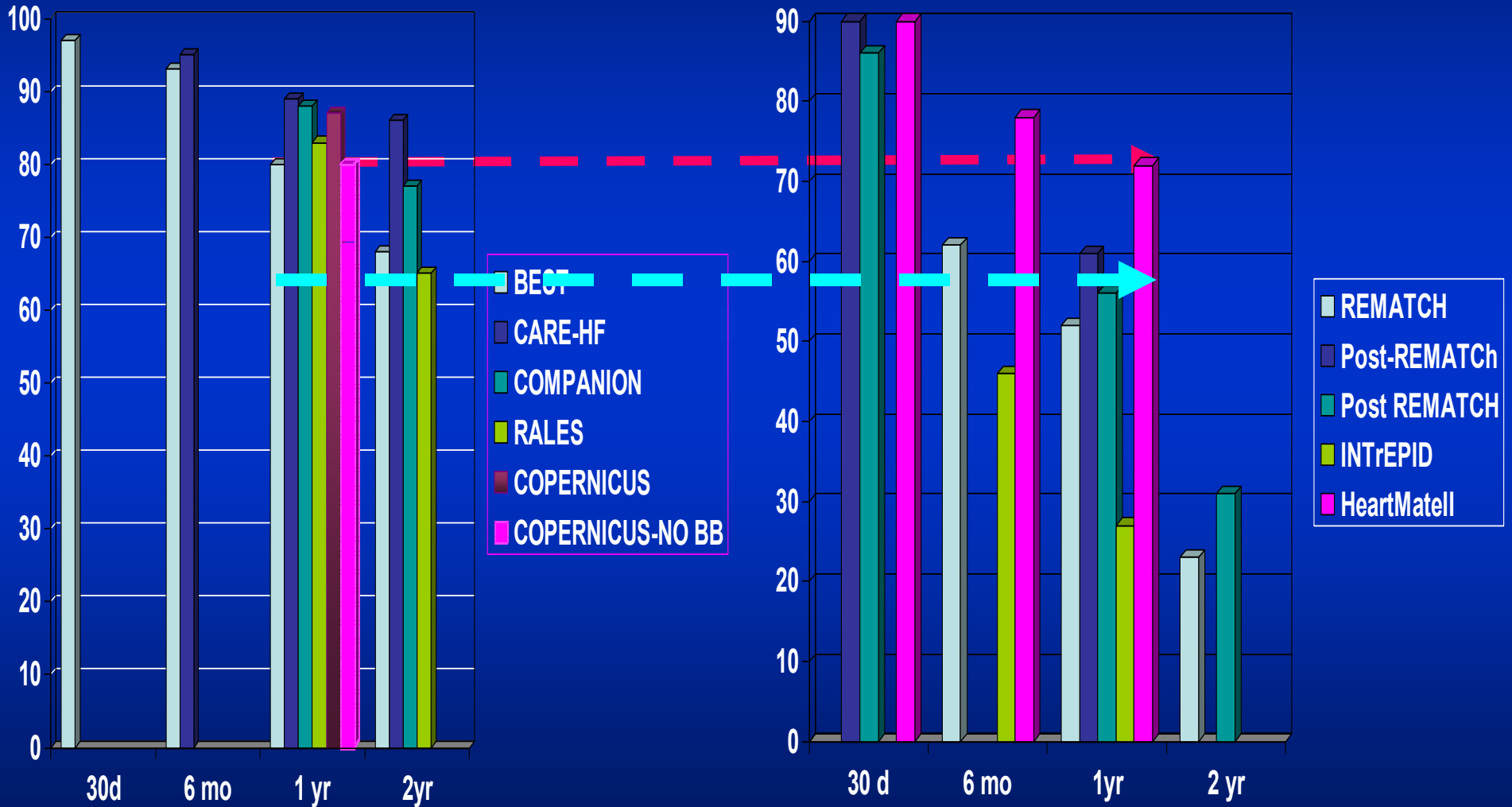


Lietz, K. et al. *Circulation* 2007;116:497-505

Survival for LVAD



Big Gap in Mortality



Big Gap in Stroke Risk

- Heart failure 1.8% first year after dx
 5.0% at five years
 0.8% per year in chronic HF
 (*Witt RJ et al J Cardiac Failure 2007;13:489*)

- LVAD 19% to 5.2% year
 Post REMATCH (*Lietz K et al Circulation 2007;116; 497*)

6 fold increase in risk of stroke

Adverse Events in the Post-REMATCH Era

<i>Event</i>	REMATCH (n=68)	Post-RM (n=195)	Hazard Ratio (95% CI)	P (value)
Non-neuro bleeding	0.33	0.13	0.39 (0.28-0.55)	<.001
Neurologic dysfunction	0.21	0.09	0.42 (0.28-0.64)	<.001
Arrythmia	0.21	0.07	0.34 (0.22-0.53)	<.001
Peripheral embolic event	0.05	0.03	0.51 (0.23-1.15)	0.10
Sepsis	0.16	0.20	1.27 (0.89-1.81)	0.17
Local infection	0.37	0.26	0.71 (0.54-0.92)	0.011
Infection of drive-line tract or pocket	0.17	0.11	0.63 (0.42-0.94)	0.02
Right heart failure (Lietz K et al <i>Circulation</i> 2007;116; 497)	0.07	0.05	1.32 (0.73-2.41)	0.35

Big Gap in Days in Hospital Days

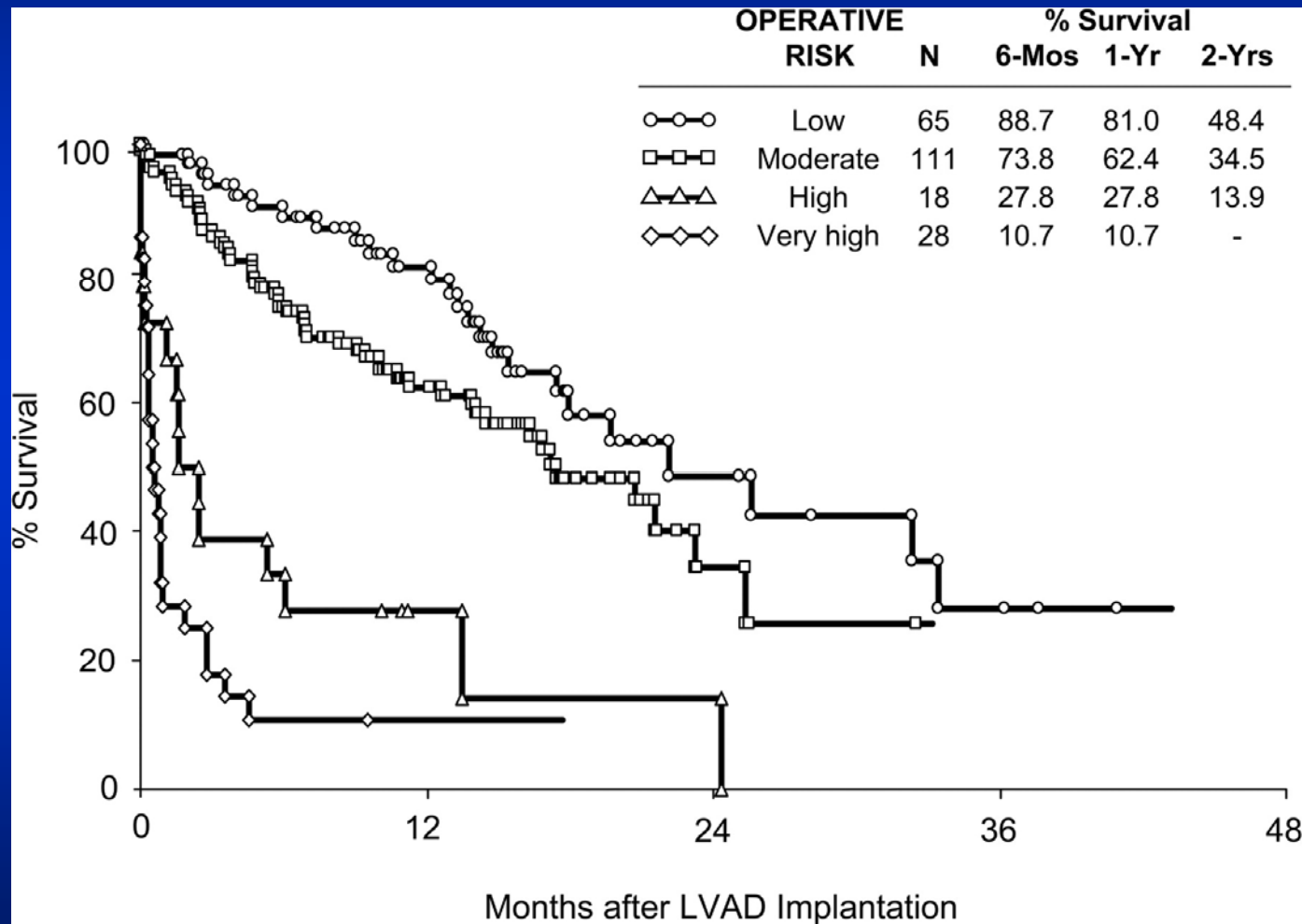
- Heart Failure 1.2 hospitalizations/year
8.6 days/year

(Bristow MR NEJM 2004; 350:2140)

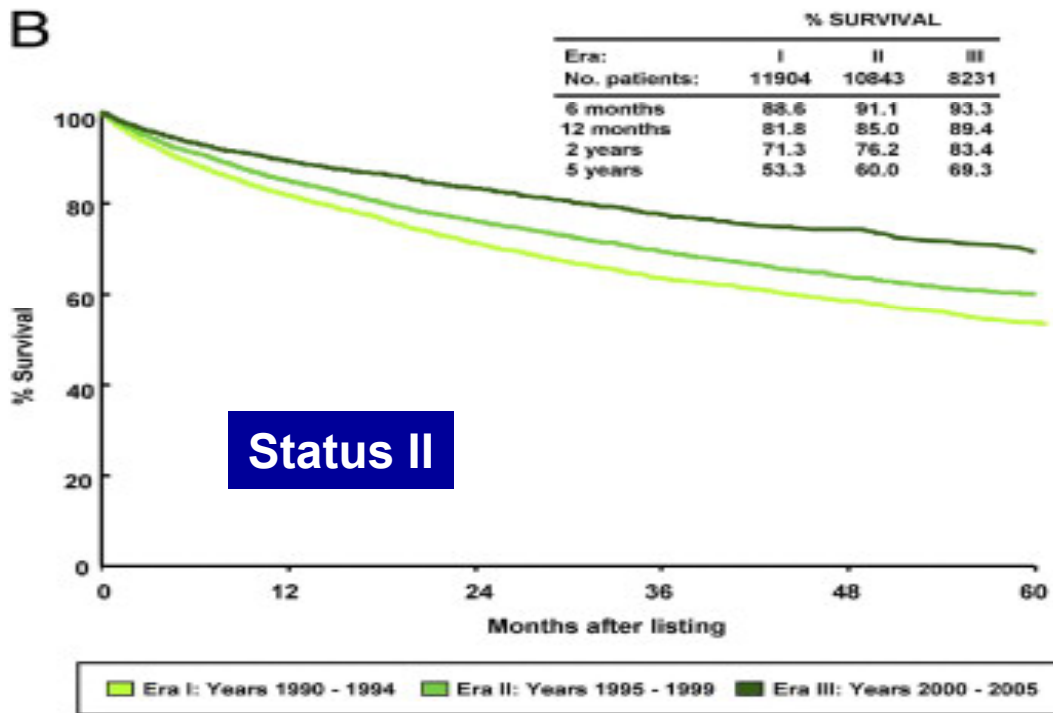
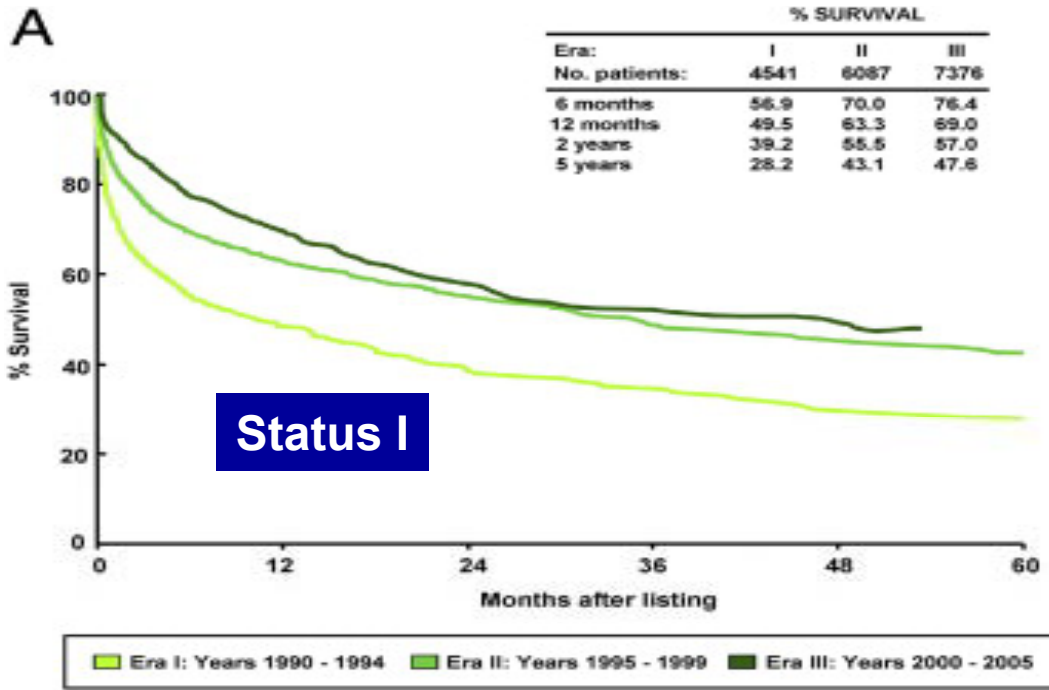
VADs –REMATCH 88 days per patient
if decreased by 50% 44 days per patient

5 fold increase in hospital days

Survival after LVAD implantation as DT by the candidate's operative risk



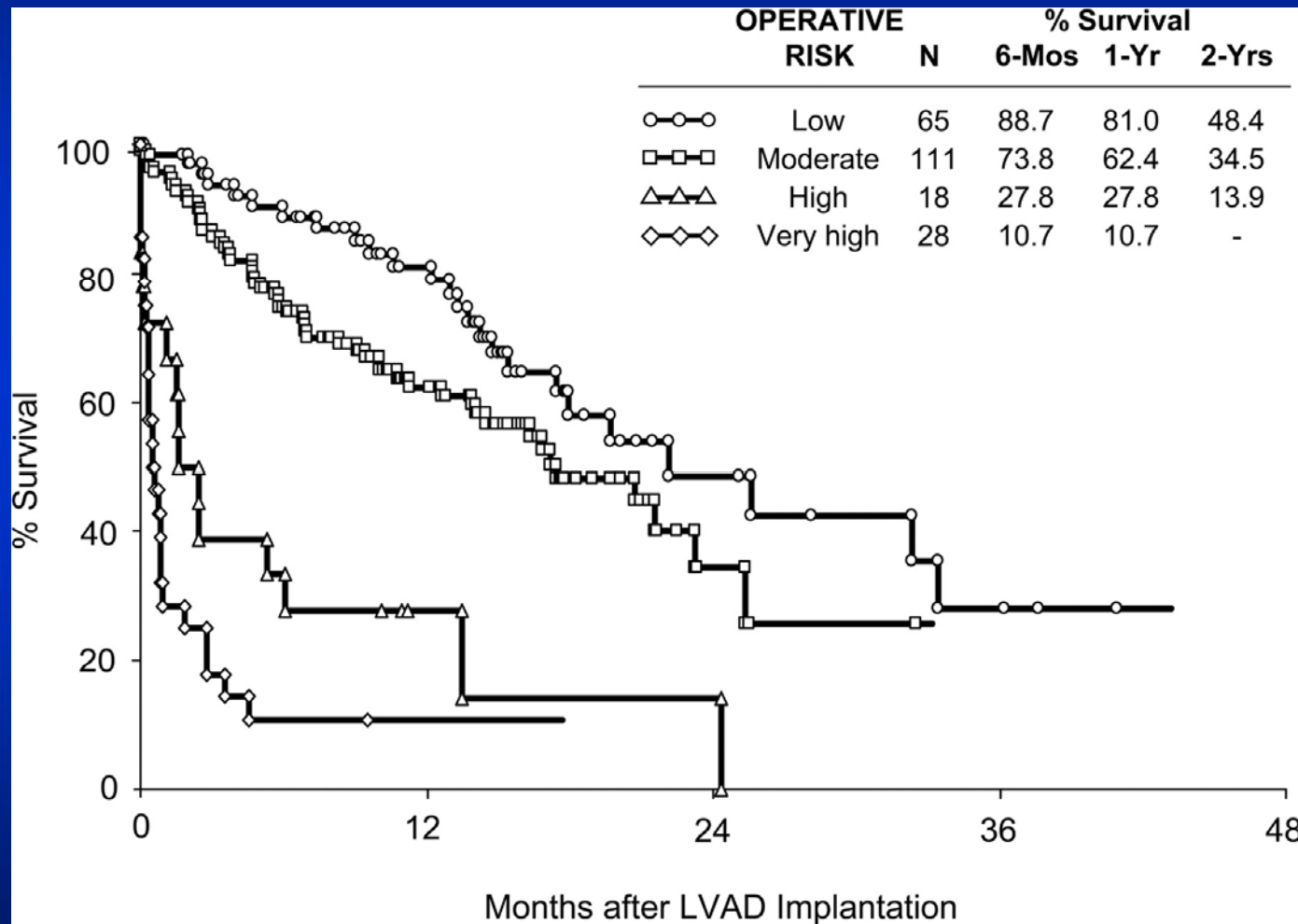
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The
Mortality of
Transplant
Recipients
is
Improving

Lietz K et al JACC
2007;50:1282-90

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