La VMD nella definizione del rischio CV

F. Vetta
U.O. Cardiologia
Ospedale Israelitico

«Non è perché le cose sono difficili che non osiamo, è perché non osiamo che sono difficili»

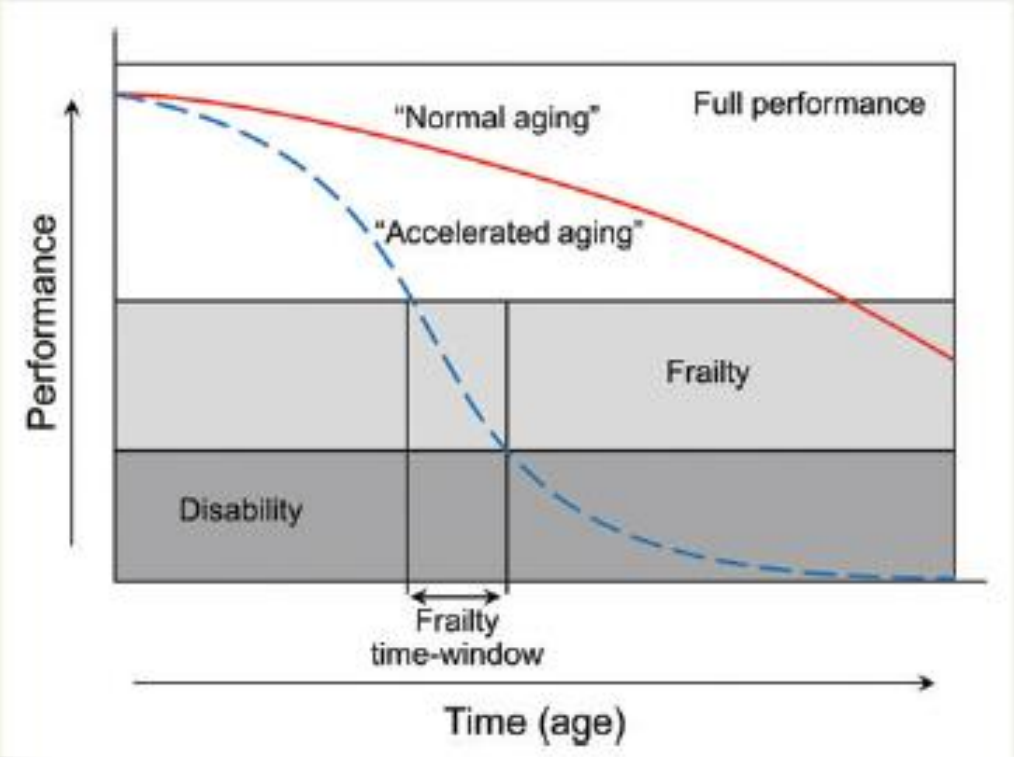
Lucio Anneo Seneca
4 a.C. – 65 d.C.

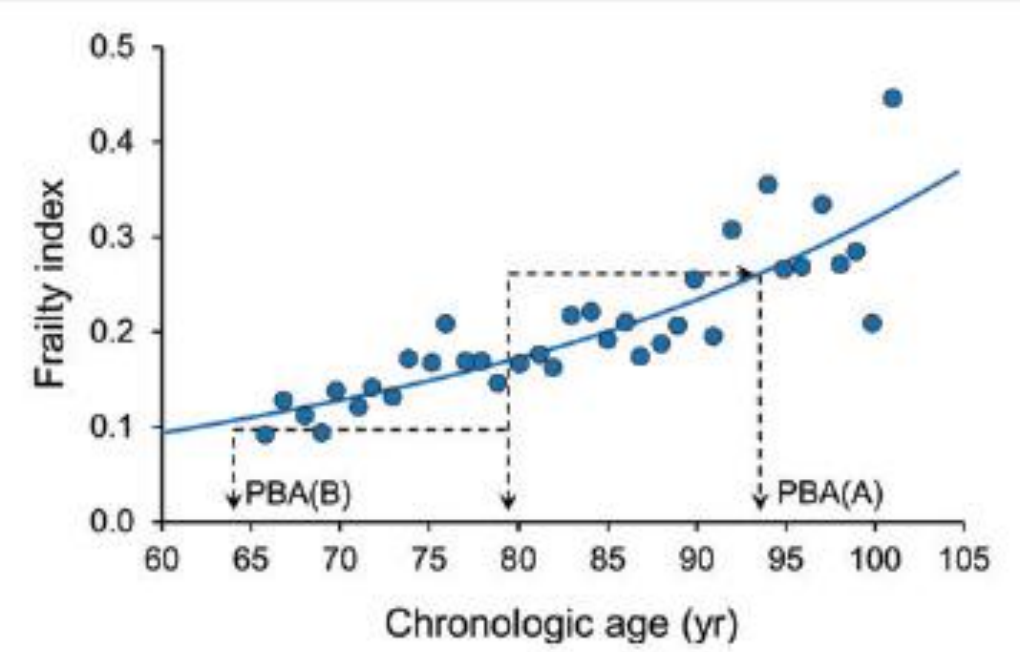
Importance of frailty in patients with cardiovascular disease

Mandeep Singh[1]*, Ralph Stewart[2], and Harvey White[2]

European Heart Journal (2014) **35**, 1726–1731
doi:10.1093/eurheartj/ehu197

The Frailty Era



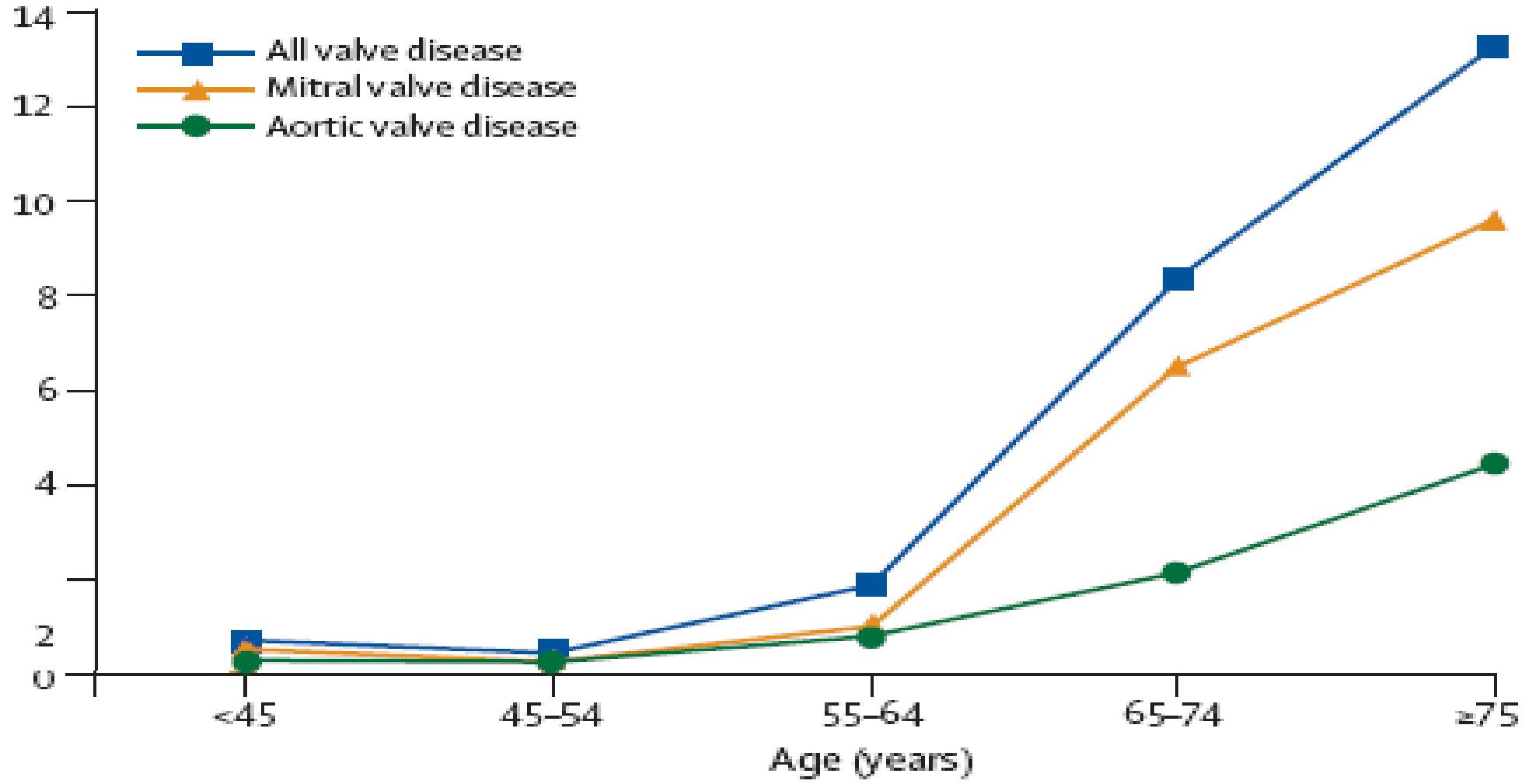


Frailty and CVD

	Frailty	No Frailty
Myocardial infarction	15.4%	7.4%
Angina pectoris	30%	14%
Heart failure	14%	1.8%
Claudicatio int.	4.7%	1.5%
Carotid significant stenosis	1.6%	0.3%

Burden of valvular heart diseases: a population-based study

Vuyisile T Nkomo, Julius M Gardin, Thomas N Skelton, John S Gottdiener, Christopher G Scott, Maurice Enriquez-Sarano



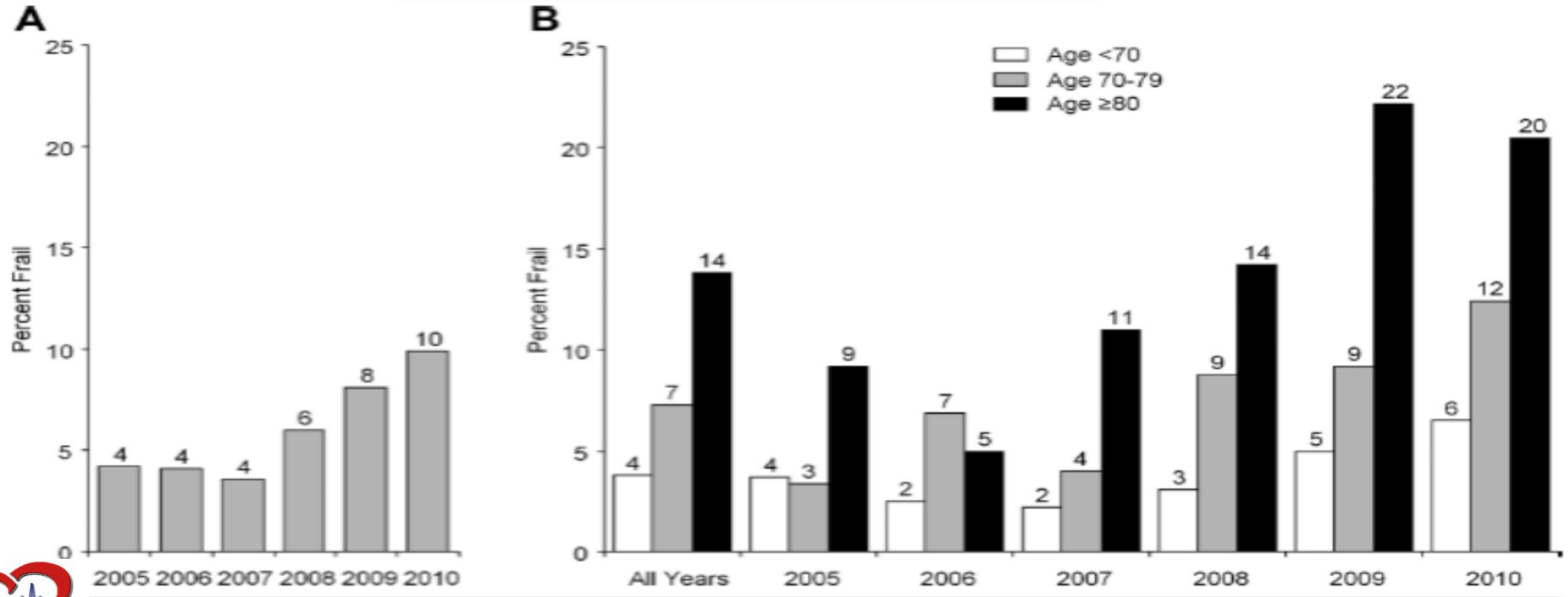
Lancet 2006; 368: 1005–11

Canadian Journal of Cardiology 30 (2014) 224–230

Clinical Research

The Changing Face of Cardiac Surgery: Practice Patterns and Outcomes 2001-2010

Prevalence of frailty (#) over time

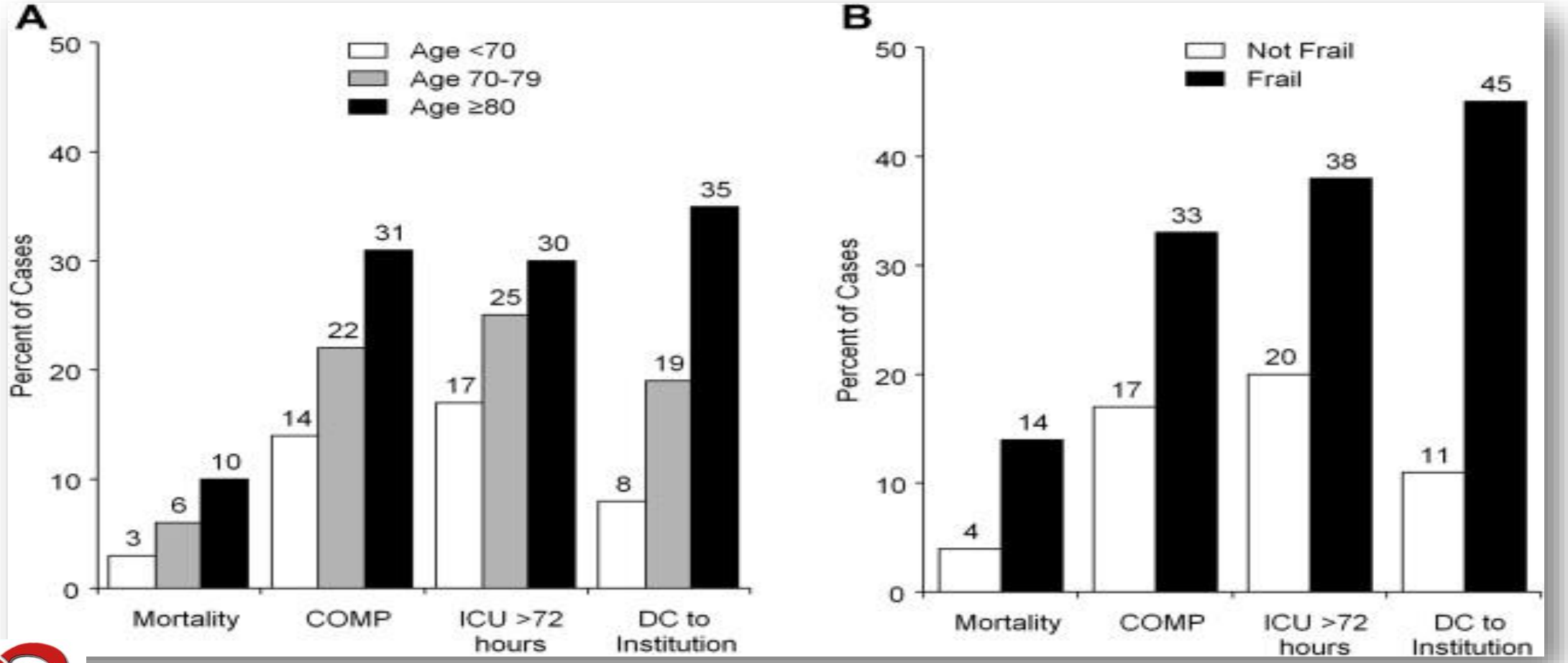


MHC Maritime Heart Center (MHC) score

Canadian Journal of Cardiology 30 (2014) 224–230

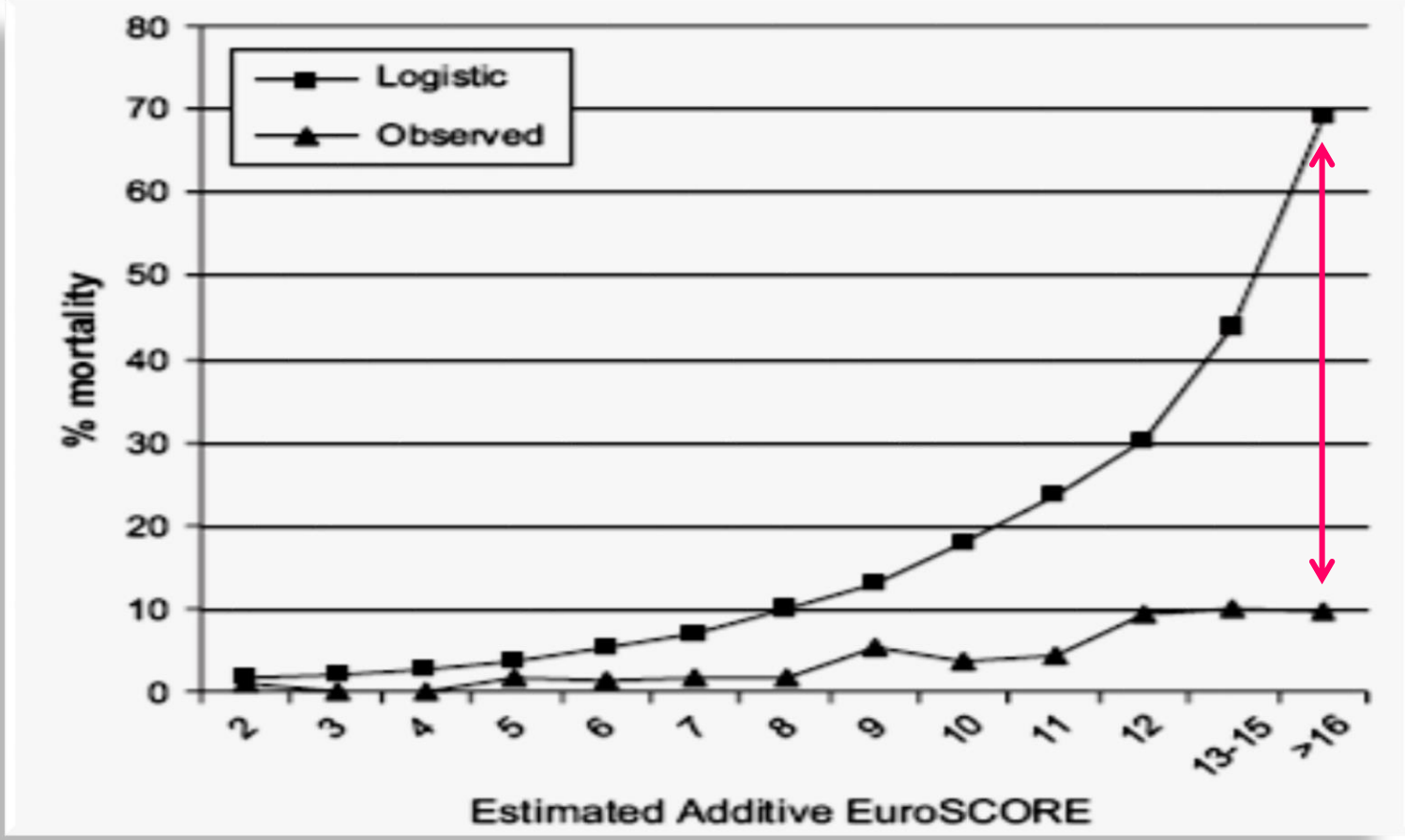
Clinical Research

The Changing Face of Cardiac Surgery: Practice Patterns and Outcomes 2001-2010



Is the European System for Cardiac Operative Risk Evaluation model valid for estimating the operative risk of patients considered for percutaneous aortic valve replacement?

Morgan L. Brown, MD,[a] Hartzell V. Schaff, MD,[a] Maurice E. Sarano, MD,[b] Zhuo Li, MS,[c] Thoralf M. Sundt, MD,[a] Joseph A. Dearani, MD,[a] Charles J. Mullany, MBMS,[a] and Thomas A. Orszulak, MD[a]

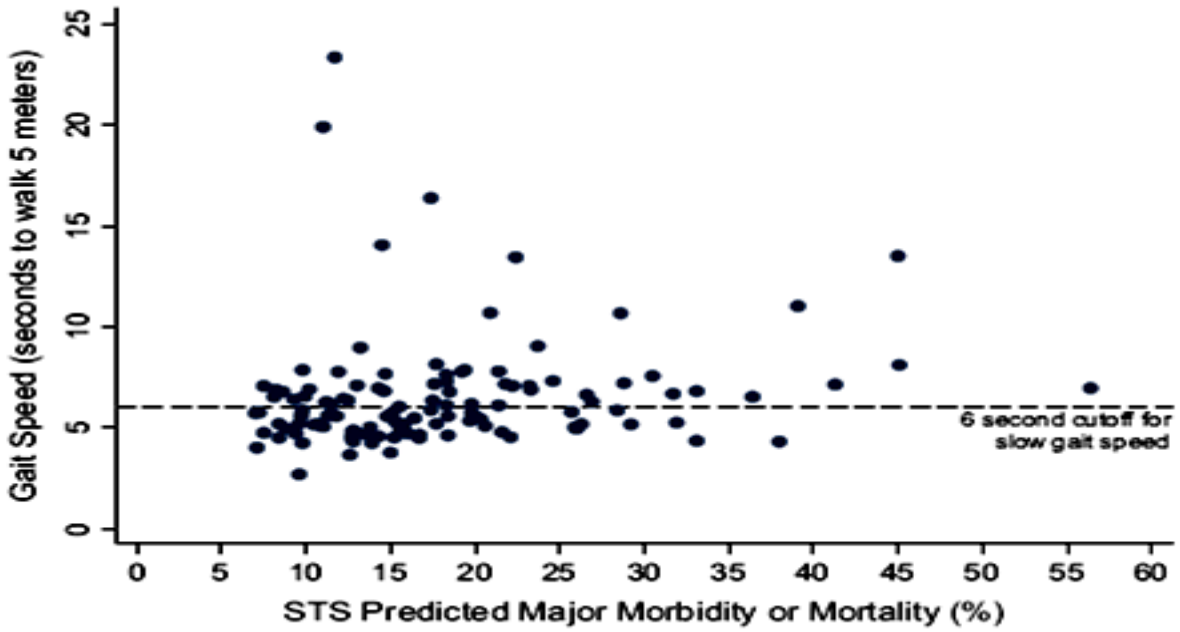


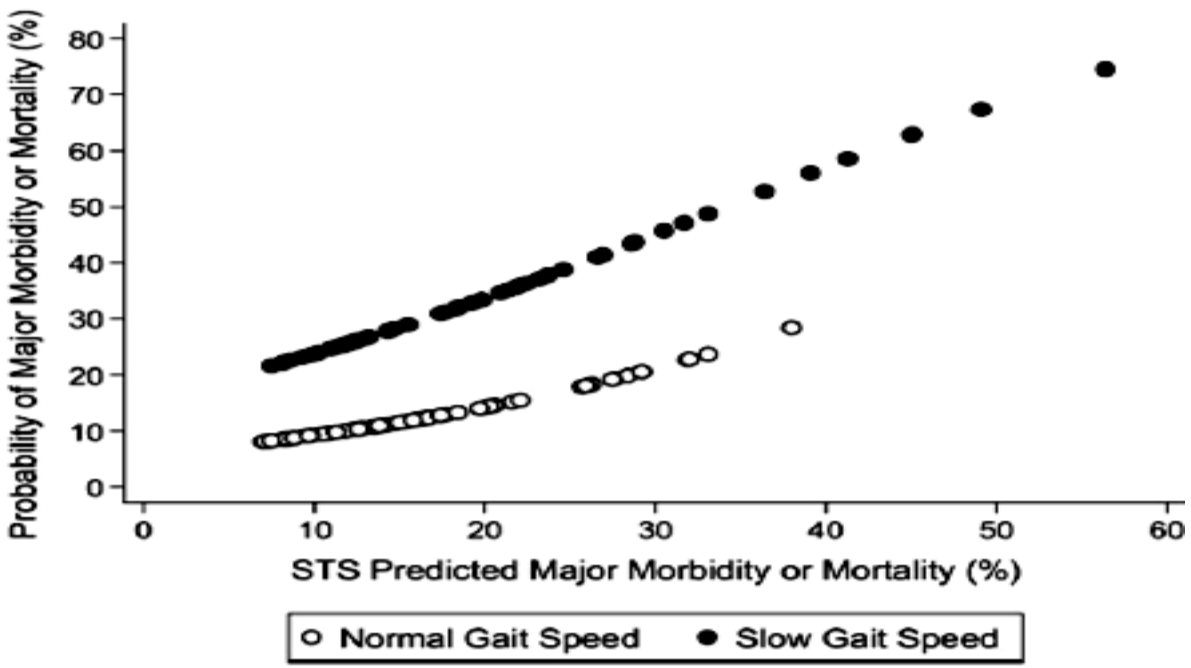
J Thorac Cardiovasc Surg 2008;136:566-71

Gait Speed as an Incremental Predictor of Mortality and Major Morbidity in Elderly Patients Undergoing Cardiac Surgery

Jonathan Afilalo, MD, MSc,*† Mark J. Eisenberg, MD, MPH,*‡ Jean-François Morin, MD,§
Howard Bergman, MD,‡‖¶ Johanne Monette, MD, MSc,‡‖¶ Nicolas Noiseux, MD,#
Louis P. Perrault, MD, PhD,** Karen P. Alexander, MD,†† Yves Langlois, MD,§
Nandini Dendukuri, PhD,† Patrick Chamoun, RRT,§ Georges Kasparian, BSc,‡‡
Sophie Robichaud, RRT,** S. Michael Gharacholou, MD,†† Jean-François Boivin, MD, ScD†‡
Montreal, Quebec, Canada; and Durham, North Carolina

- Age >70 years
- slow gait speed: time ≥ 6 sec taken to walk 5 meters





STS: Society of Thoracic Surgeons score

J Am Coll Cardiol 2010;56:1668–76

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Montreal, Quebec, Canada; and Durham, North Carolina

J Am Coll Cardiol 2010;56:1668–76

Table 4 Incremental Value of Gait Speed Above the STS Risk Score to Predict Mortality or Major Morbidity

Variables Entered in Model	Model Without Gait Speed	Model With Gait Speed
Variables entered in model*		
STS risk score	1.06 (1.02–1.11)	1.05 (1.004–1.10)
Slow gait speed	—	3.05 (1.23–7.54)
Model performance		
AUC‡	0.70 (0.60–0.80)	0.74 (0.64–0.84)

Aspetti epidemiologici

Gait Speed and Operative Mortality in Older Adults Following Cardiac Surgery

JAMA Cardiol. 2016;1(3):314-321. doi:10.1001/jamacardio.2016.0316

Jonathan Afilalo, MD, MSc; Sunghee Kim, PhD; Sean O'Brien, PhD; J. Matthew Brennan, MD, MPH; Fred H. Edwards, MD; Michael J. Mack, MD; James B. McClurken, MD; Joseph C. Cleveland Jr, MD; Peter K. Smith, MD; David M. Shahian, MD; Karen P. Alexander, MD

Outcome	No. (%)			*P* Value
	Slow Tertile (<0.83 m/s) (n = 4588)	Middle Tertile (0.83-1.00 m/s) (n = 5717)	Fast Tertile (>1.00 m/s) (n = 4866)	
Primary end point				
Operative mortality	154 (3.4)	108 (1.9)	52 (1.1)	<.001
Secondary end point and components[a]				
Composite mortality and morbidity	767 (16.7)	685 (12.0)	474 (9.7)	<.001
Reoperation for bleeding	109 (2.4)	144 (2.5)	117 (2.4)	.88
Reoperation for graft occlusion	8 (0.2)	7 (0.1)	9 (0.2)	.68
Reoperation for valve dysfunction	0 (0.0)	2 (0.03)	3 (0.06)	.26
Reoperation for other cardiac cause	26 (0.6)	21 (0.4)	15 (0.3)	.18
Reoperation for noncardiac cause	104 (2.3)	82 (1.4)	51 (1.1)	<.001
Permanent stroke	83 (1.8)	92 (1.6)	74 (1.5)	.52
Acute kidney injury	156 (3.4)	156 (2.7)	79 (1.6)	<.001
Deep sternal wound infection	23 (0.5)	7 (0.1)	8 (0.2)	<.001
Prolonged mechanical ventilation	496 (10.8)	406 (7.1)	246 (5.1)	<.001

Aspetti epidemiologici

Gait Speed and Operative Mortality in Older Adults Following Cardiac Surgery

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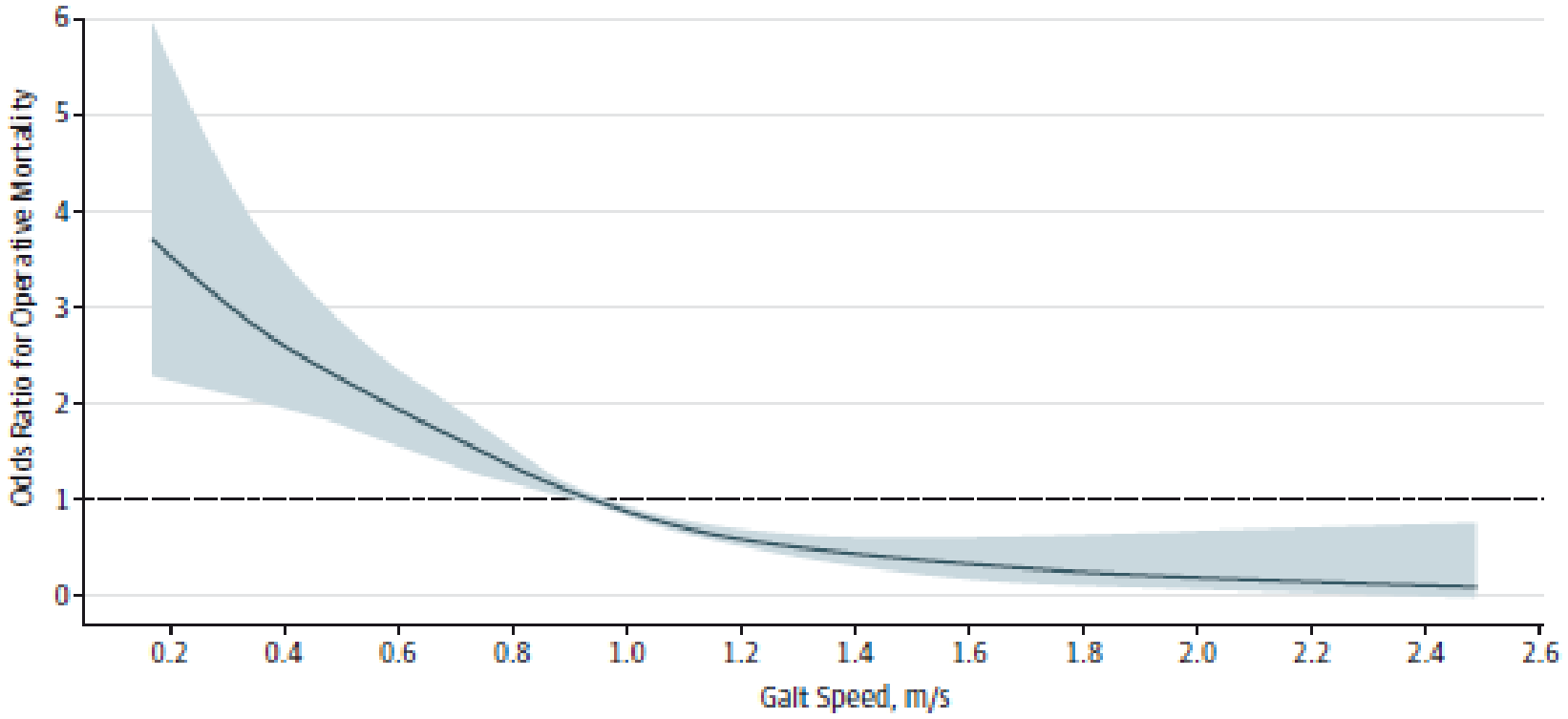
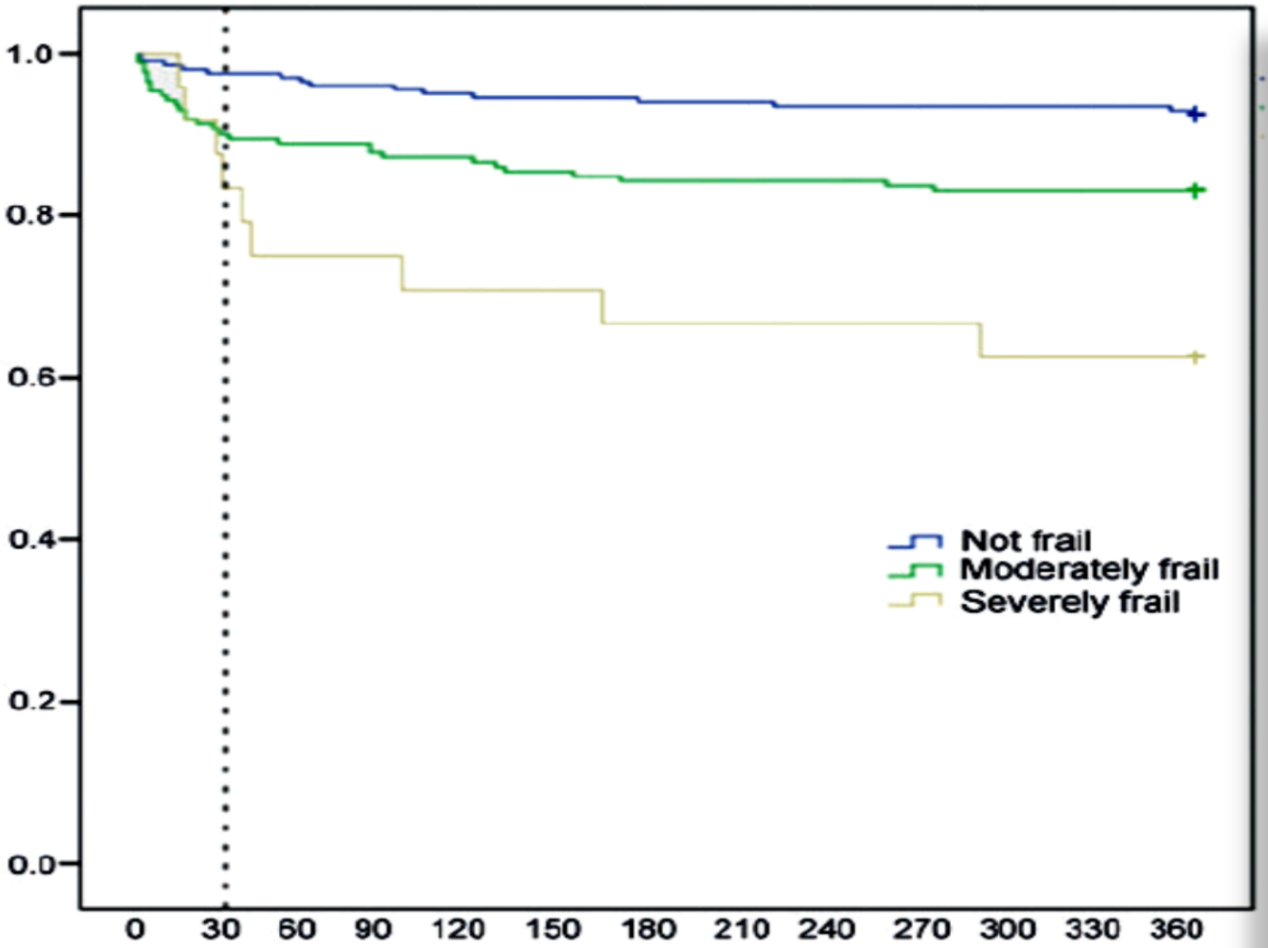
Jonathan Afilalo, MD, MSc; Sunghee Kim, PhD; Sean O'Brien, PhD; J. Matthew Brennan, MD, MPH; Fred H. Edwards, MD; Michael J. Mack, MD; James B. McClurken, MD; Joseph C. Cleveland Jr, MD; Peter K. Smith, MD; David M. Shahian, MD; Karen P. Alexander, MD



Frailty is a predictor of short- and mid-term mortality after elective cardiac surgery independently of age†

Interactive CardioVascular and Thoracic Surgery (2014) 1–6
doi:10.1093/icvts/ivu006

ORIGINAL ARTICLE – ADULT CARDIAC



Days

Table 3: Bivariate logistic regressions for 1-year mortality

	OR	95% CI	*P*-value
CAF	1.089	1.045–1.135	<0.001
EuroSCORE	1.029	1.000–1.060	0.053
FORECAST	1.271	1.141–1.415	<0.001
EuroSCORE	1.029	0.999–1.059	0.056
CAF	1.087	1.037–1.139	0.001
STS score	1.167	1.045–1.304	0.006
FORECAST	1.264	1.116–1.431	<0.001
STS score	1.174	1.052–1.309	0.004
EuroSCORE	1.002	0.962–1.042	0.94
STS score	1.231	1.092–1.387	0.001
CAF	1.091	1.049–1.135	<0.001
Age	1.045	0.975–1.121	0.21
FORECAST	1.265	1.143–1.401	<0.001
Age	1.056	0.985–1.131	0.12

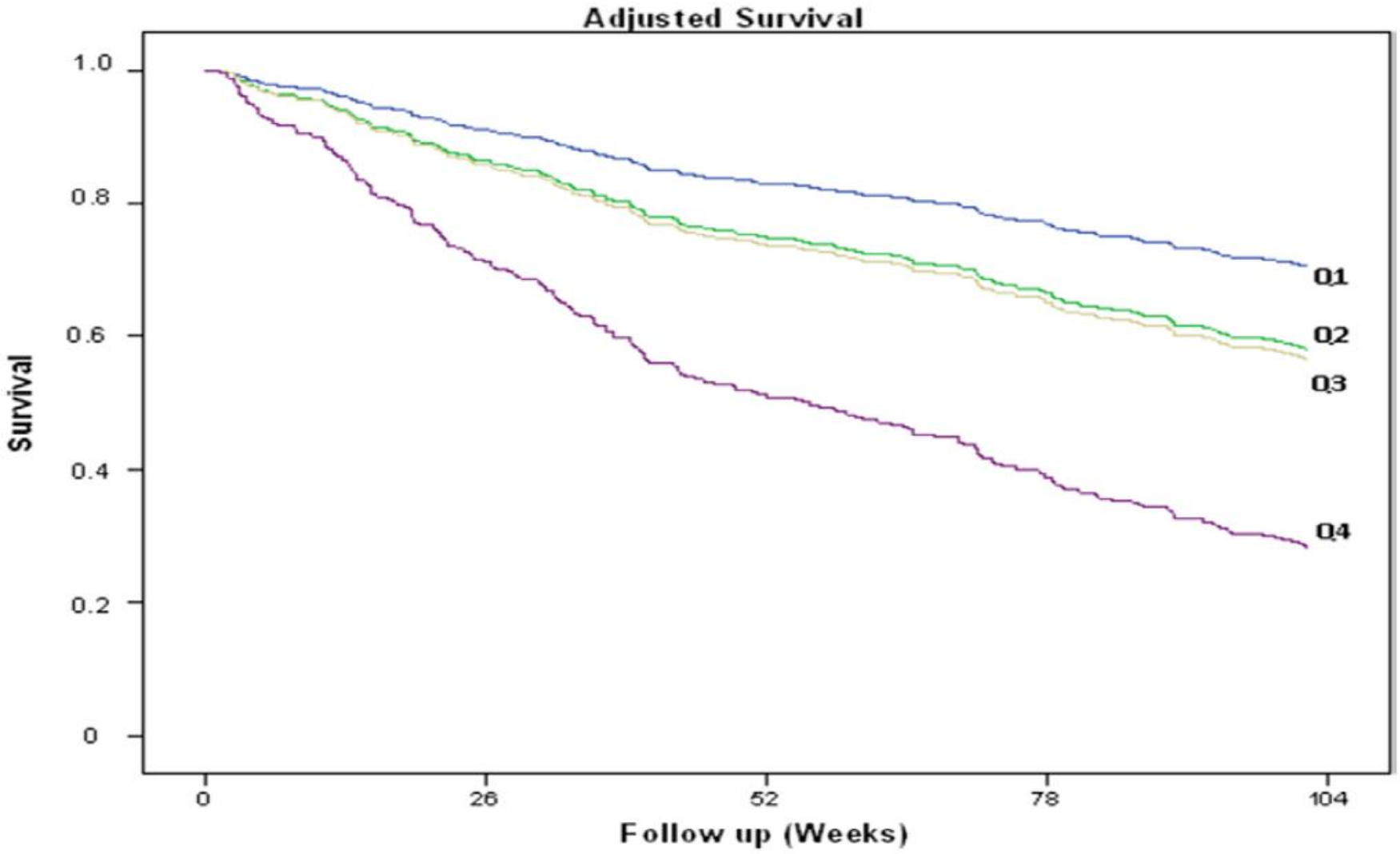
CAF: comprehensive assessment of frailty score; FORECAST: Frailty predicts death One yeaR after Elective CArdiac Surgery Test; OR: odds ratio; CI: confidence interval.

CGA and HF

Comprehensive Geriatric Assessment and 2-Year Mortality in Elderly Patients Hospitalized for Heart Failure

Circ Cardiovasc Qual Outcomes. 2014;7:251-258.

Carlos Rodriguez-Pascual, MD, PhD; Emilio Paredes-Galan, MD; Arturo Vilches-Moraga, MD; Ana Isabel Ferrero-Martinez, NP; Marta Torrente-Carballido, PsyD; Fernando Rodriguez-Artalejo, MD



ICD in the elderly

Implantable cardioverter-defibrillators in the elderly: rationale and specific age-related considerations

Sérgio Barra[1]*, Rui Providência[2], Luís Paiva[3], Patrick Heck[1], and Sharad Agarwal[1]

- 70 years 40%
- > 80 years 25-30% of ICDs

EUROPEAN SOCIETY OF CARDIOLOGY®
Europace (2015) **17**, 174–186
doi:10.1093/europace/euu296

Table I Studies evaluating rates of ICD implantation in the elderly

Study	Study Design	Percentage of elderly patients
United States National ICD Registry[22]	• National registry 2006–08 • 339 076 ICD patients	>70 years old/42% >80 years old/12.4%
Advancements in ICD Therapy Registry[8]	• Prospective 2-year study of largely community-based practice and reporting data from 264 centres in the USA between November 2004 and March 2006 • 4566 ICD/CRT-D patients	70–79 years old/29% ≥80 years old/12%
Ontario ICD Database[23]	• Population-based prospective registry, February 2007–September 2010 • 5399 ICD patients	70–79 years old/31.6% ≥80 years old/8.0%
Italian ICD Registry[24]	• Prospective ICD registry for the years 2005–07 • Number of ICDs per million of inhabitants: 180.6 in the year 2005, 192.5 in the year 2006, and 220.6 in the year 2007	≥75 years old/25%
Papworth Hospital ICD Registry[25]	• Prospective ICD registry, November 1991–May 2012 • 1428 patients admitted for ICD implantation or generator replacement	5.3% octogenarians

ICD, Implantable cardioverter-defibrillator; CRT-D, Cardiac resynchronization therapy defibrillator.

«La teoria delle probabilità non è, in fondo, che il buon senso applicato al calcolo: essa fa apprezzare con precisione ciò che gli spiriti giusti sentono per una sorta di istinto , senza che essi possano, sovente, rendersene conto»

Pierre Simon Laplace
1749 - 1827

EHRA Survey

Europace (2015) **17**, 314–317
doi:10.1093/europace/euv010

Clinical management of arrhythmias in elderly patients: results of the European Heart Rhythm Association survey

Jian Chen[1,2]*, Mélèze Hocini[3], Torben Bjerregaard Larsen[4], Alessandro Proclemer[5], Elena Sciaraffia[6], and Carina Blomström-Lundqvist[6], for the Scientific Initiative Committee, European Heart Rhythm Association

Table 1 Age limits for different therapies in elderly patients (% of centres)

	75 years	80 years	85 years	None
Catheter ablation				
Supraventricular tachycardia	0	2.0	8.2	89.8
Ventricular arrhythmias	2.0	18.4	14.3	65.3
AF	32.6	34.7	14.3	18.4
Device implantation				
Pacemaker	0	0	0	100
CRT	0	8.3	20.8	70.8
ICD for primary prevention	18.4	32.6	30.6	18.4
ICD for secondary prevention	0	12.2	12.2	75.5

CRT, cardiac resynchronization therapy; ICD, implantable cardioverter-defibrillator.

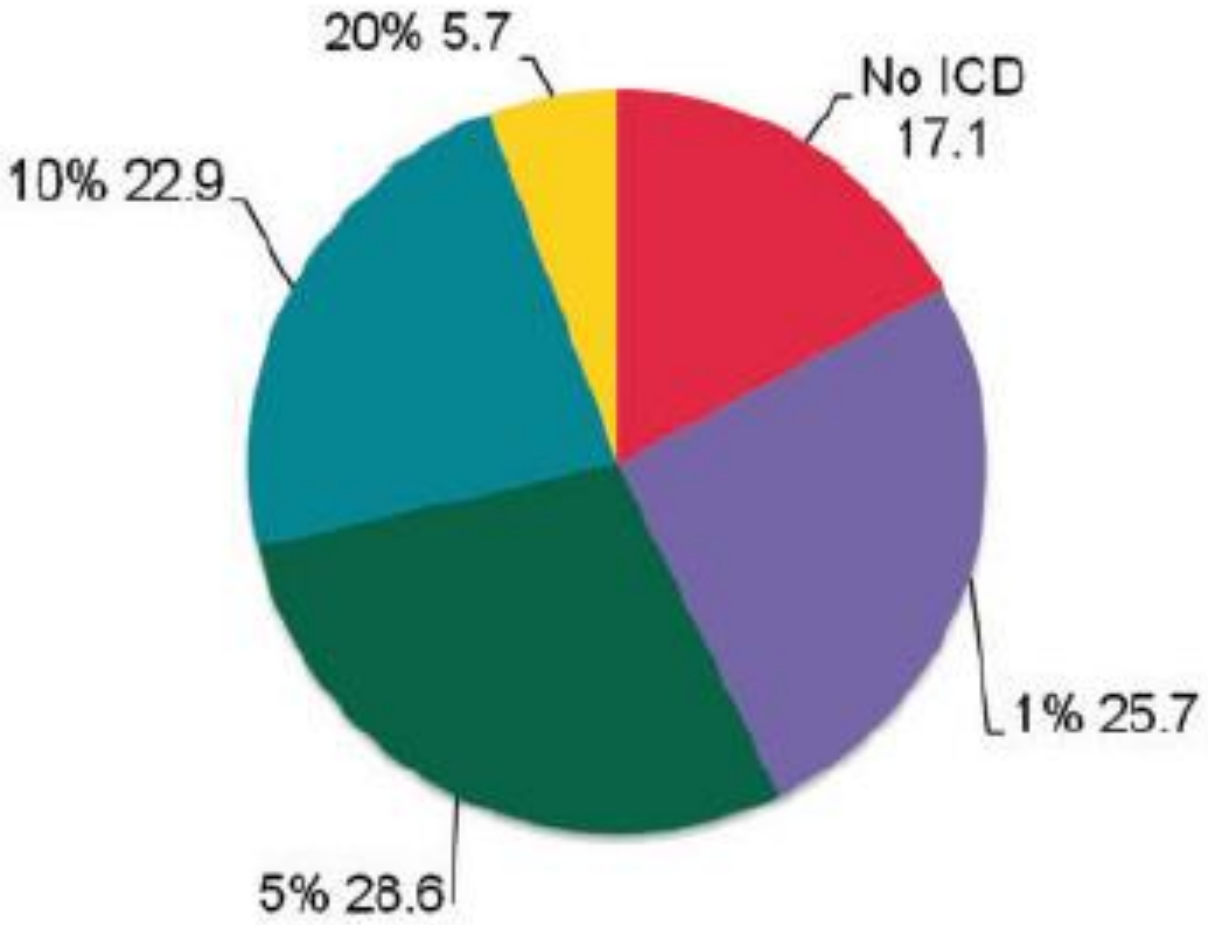
Frailty syndrome: an emerging clinical problem in the everyday management of clinical arrhythmias. The results of the European Heart Rhythm Association survey

Stefano Fumagalli[1]*, Tatjana S. Potpara[2], Torben Bjerregaard Larsen[3], Kristina H. Haugaa[4], Dan Dobreanu[5], Alessandro Proclemer[6], and Nikolaos Dagres[7]

Frail Pts receiving an ICD

ESC European Society of Cardiology

Europace (2017) **19**, 1896–1902
doi:10.1093/europace/eux288



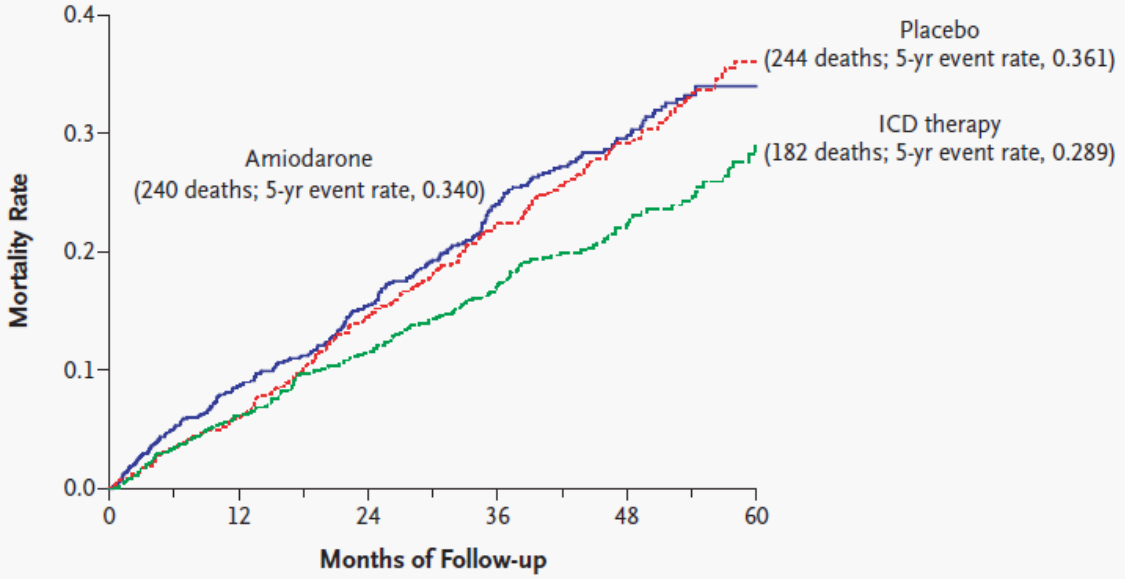
SCD-HeFT

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JANUARY 20, 2005 VOL. 352 NO. 3

Amiodarone or an Implantable Cardioverter–Defibrillator for Congestive Heart Failure

	Hazard Ratio (97.5% CI)	P Value
Amiodarone vs. placebo	1.06 (0.86–1.30)	0.53
ICD therapy vs. placebo	0.77 (0.62–0.96)	0.007



No. at Risk						
Amiodarone	845	772	715	484	280	97
Placebo	847	797	724	505	304	89
ICD therapy	829	778	733	501	304	103

Figure 1. Kaplan–Meier Estimates of Death from Any Cause.

VA and SCD

2017 AHA/ACC/HRS Guideline for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society

Developed in Collaboration With the Heart Failure Society of America

Recommendations for Primary Prevention of SCD in Patients With NICM

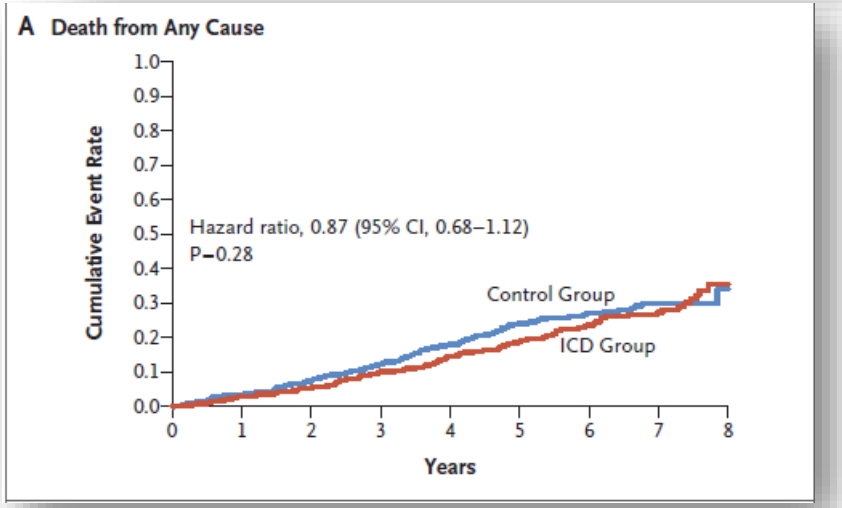
References that support the recommendations are summarized in Online Data Supplement 27 and 28.

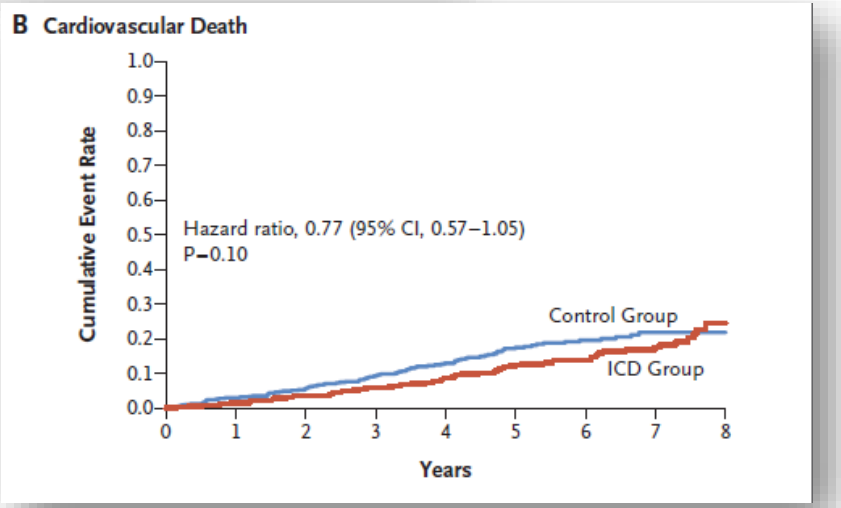
COR	LOE	Recommendations
I	A	1. In patients with NICM, HF with NYHA class II–III symptoms and an LVEF of 35% or less, despite GDMT, an ICD is recommended if meaningful survival of greater than 1 year is expected (1-6).
IIa	B-NR	2. In patients with NICM due to a *Lamin A/C* mutation who have 2 or more risk factors (NSVT, LVEF <45%, nonmissense mutation, and male sex), an ICD can be beneficial if meaningful survival of greater than 1 year is expected (7-10).
IIb	B-R	3. In patients with NICM, HF with NYHA class I symptoms and an LVEF of 35% or less, despite GDMT, an ICD may be considered if meaningful survival of greater than 1 year is expected (5).
III: No Benefit	C-EO	4. In patients with medication-refractory NYHA class IV HF who are not also candidates for cardiac transplantation, an LVAD, or a CRT defibrillator that incorporates both pacing and defibrillation capabilities, an ICD should not be implanted.

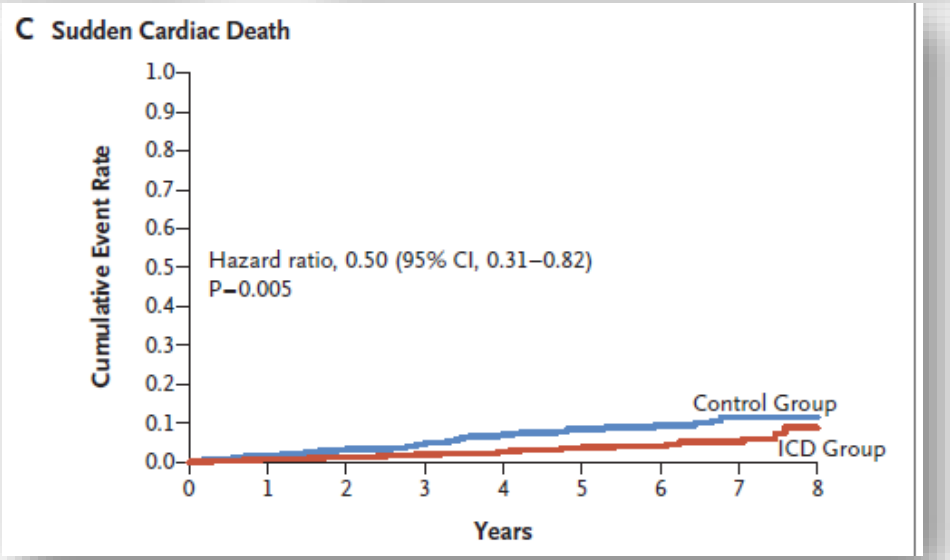
ICD in NICM

ESTABLISHED IN 1812 SEPTEMBER 29, 2016 VOL. 375 NO. 13

Defibrillator Implantation in Patients with Nonischemic Systolic Heart Failure





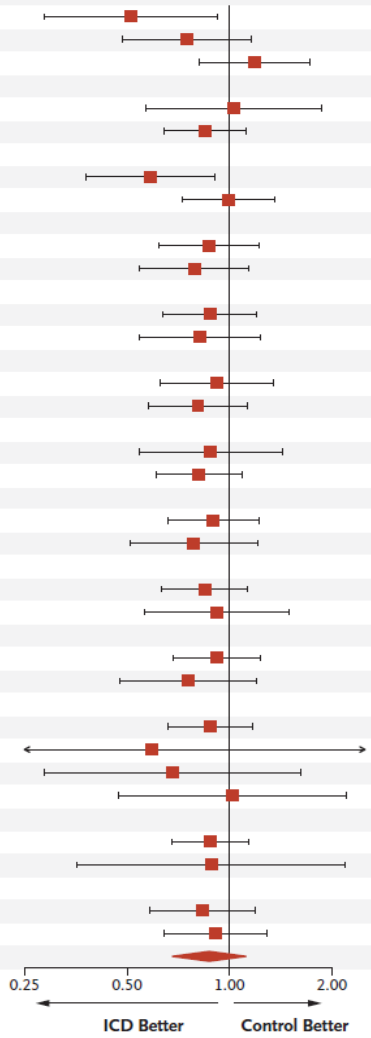


ESTABLISHED IN 1812 SEPTEMBER 29, 2016 VOL. 375 NO. 13

Defibrillator Implantation in Patients with Nonischemic Systolic Heart Failure

ICD in the elderly

Subgroup	ICD Group	Control Group	Hazard Ratio (95% CI)	P Value	P Value for Interaction
	no. of events/total no.				
Age					0.009
<59 yr	17/167	34/181	0.51 (0.29–0.92)	0.02	
≥59 to <68 yr	36/173	50/202	0.75 (0.48–1.16)	0.19	
≥68 yr	67/216	47/177	1.19 (0.81–1.73)	0.38	
Sex					0.66
Female	22/151	23/156	1.03 (0.57–1.87)	0.92	
Male	98/405	108/404	0.85 (0.64–1.12)	0.24	
NT-proBNP					0.06
<1177 pg/ml	32/266	74/268	0.59 (0.38–0.91)	0.02	
≥1177 pg/ml	57/292	88/290	0.99 (0.73–1.36)	0.96	
LV ejection fraction					0.69
<25%	70/264	65/242	0.87 (0.62–1.22)	0.42	
≥25%	50/292	66/318	0.79 (0.54–1.14)	0.21	
Estimated GFR					0.86
<73 ml/min/1.73 m^2	75/272	80/278	0.88 (0.64–1.21)	0.42	
≥73 ml/min/1.73 m^2	45/283	50/280	0.82 (0.55–1.23)	0.33	
NYHA functional class					0.71
II	52/297	54/300	0.92 (0.63–1.35)	0.68	
III–IV	68/259	77/260	0.81 (0.58–1.13)	0.21	
Heart failure duration					0.73
<18 mo	31/254	36/277	0.88 (0.54–1.43)	0.61	
≥18 mo	89/301	95/283	0.81 (0.61–1.09)	0.17	
Hypertension					0.63
No	78/375	87/392	0.90 (0.66–1.22)	0.48	
Yes	42/181	44/167	0.79 (0.51–1.21)	0.27	
Diabetes					0.60
No	87/457	95/448	0.85 (0.63–1.31)	0.26	
Yes	33/99	36/112	0.92 (0.57–1.50)	0.74	
Permanent atrial fibrillation					0.30
No	83/421	91/447	0.92 (0.68–1.24)	0.58	
Yes	37/135	40/113	0.76 (0.48–1.20)	0.24	
Cause of heart failure					0.80
Idiopathic	90/424	100/425	0.88 (0.66–1.17)	0.37	
Valvular	4/20	5/21	0.59 (0.13–2.71)	0.50	
Hypertension	13/62	12/55	0.68 (0.29–1.63)	0.39	
Other	13/50	14/59	1.02 (0.47–2.20)	0.96	
Preexisting pacemaker					0.71
No	108/500	120/514	0.88 (0.68–1.14)	0.34	
Yes	12/56	11/46	0.88 (0.36–2.20)	0.79	
CRT					0.73
No	58/234	65/237	0.83 (0.58–1.19)	0.31	
Yes	62/322	66/323	0.91 (0.64–1.29)	0.59	
Overall			0.87 (0.68–1.12)	0.28	

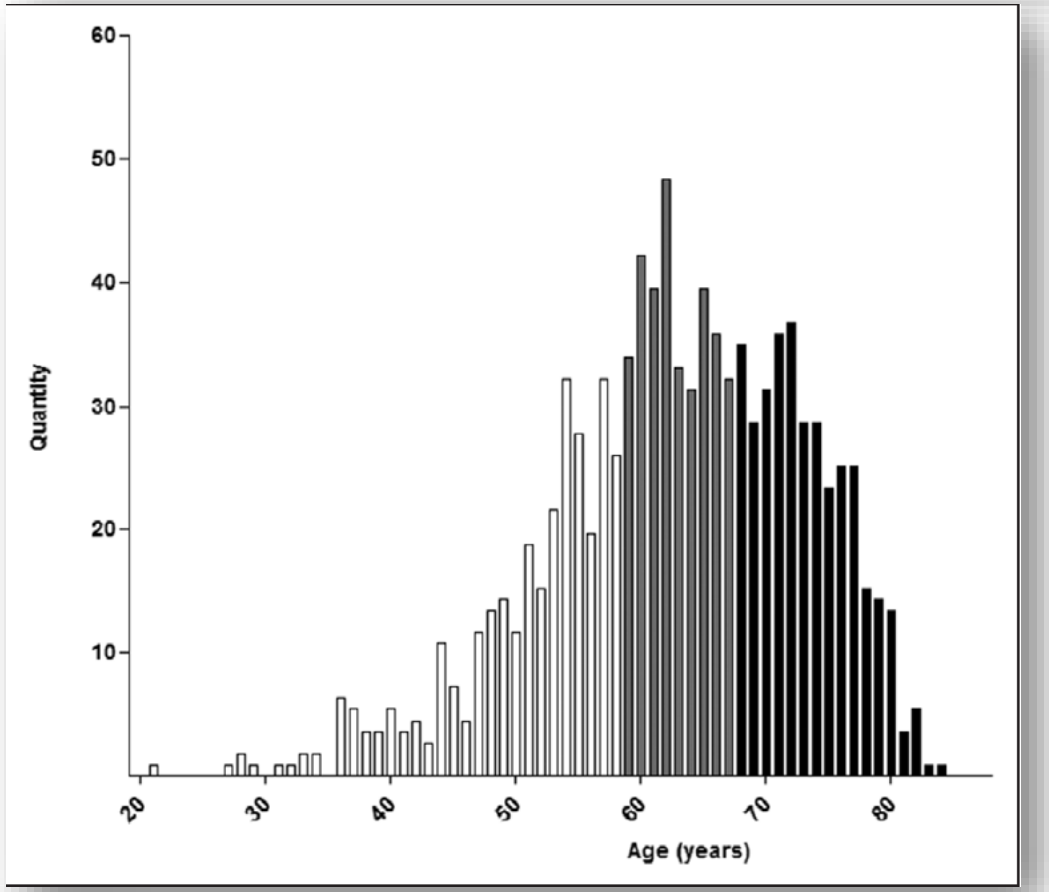


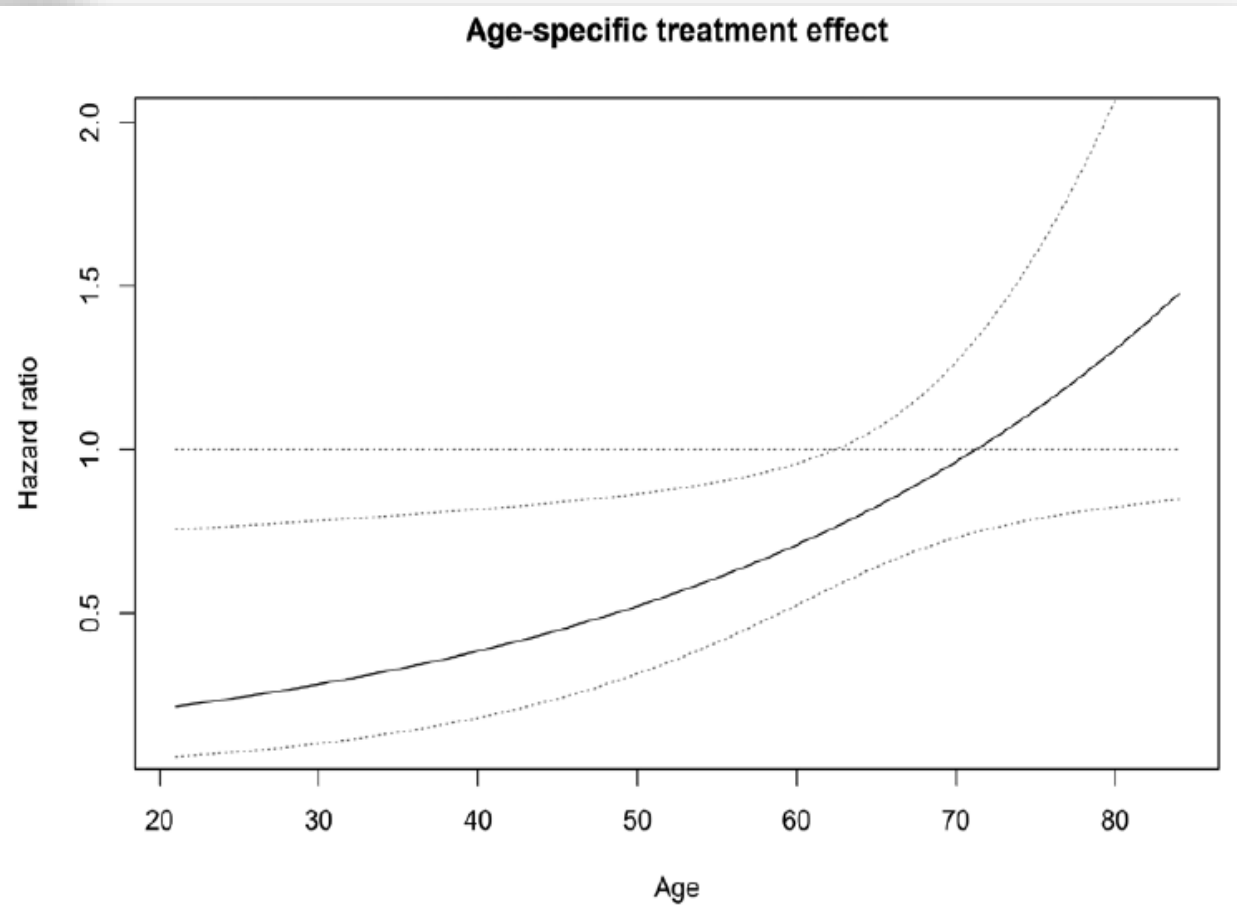
The DANISH Study

Age and Outcomes of Primary Prevention Implantable Cardioverter-Defibrillators in Patients With Nonischemic Systolic Heart Failure

Marie Bayer Elming, MD et al

Circulation. 2017;136:1772–1780.





Sudden cardiac death in nonischemic cardiomyopathy: Refining risk assessment

J Cardiovasc Electrophysiol. 2017;1–6.

Matthew M. Zipse MD | Wendy S. Tzou MD

SCD in NICM

TABLE 1 Randomized trials investigating the role of ICD therapy in patients with nonischemic cardiomyopathy[8]

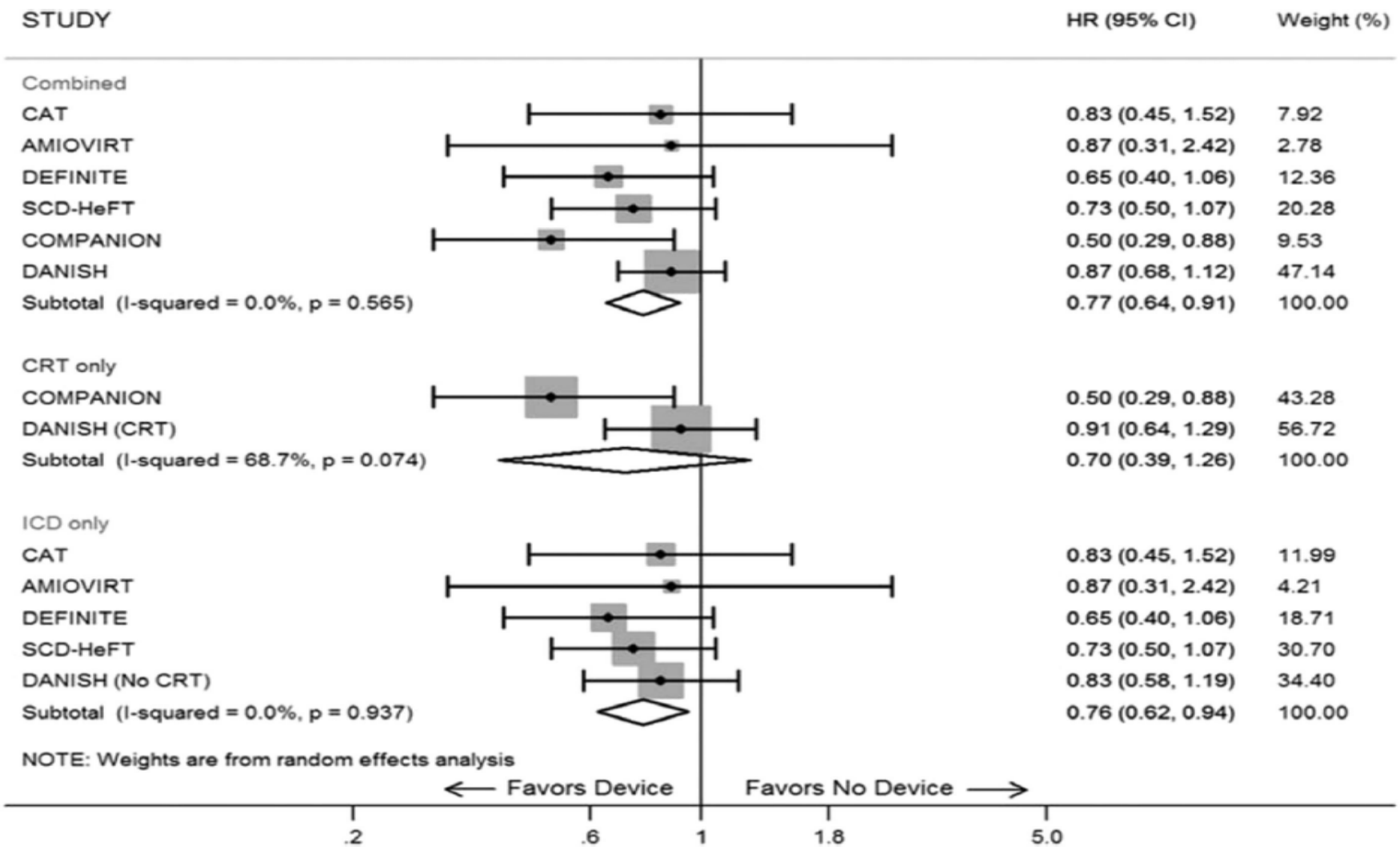
Design	CAT ICD vs. medical therapy	AMIOVIRT ICD vs. amiodarone	DEFINITE ICD vs. medical therapy	SCD-HeFT ICD vs. amio vs. medical therapy	COMPANION CRT-D vs. CRT vs. medical therapy	DANISH ICD vs. medical therapy
No. randomized	104	103	458	1,676*	903†	1,116
Proportion with NICM, %	100	100	100	47	44	100
Follow-up duration, mean ± SD, months	66 ± 26	24 ± 14	26 ± 4	46	15.7 (median)	68 (median)
Clinical characteristics						
Mean, age, years	52	59	58	60	67	64
Female gender, %	20	30	29	23	32	28
NYHA ≥3, %	35	20	21	30	100	46
LVEF, %	24 ± 7	23 ± 9	21 ± 14	25 ± 5	22	25
Medical therapy at randomization						
Beta blocker, %	4	52	85	69	67	92
ACE inhibitor/ARB, %	96	85	97	96	89	97
Internal validity						
Crossover to ICD, %	NR	15.4	10	NR	26	4.8
Crossover to pharmacologic, %	NR	21.6	NR	NR	NR	2.5
Intention-to-treat analysis	Yes	Yes	Yes	Yes	Yes	Yes
Control 1-year mortality, % (No./total)	3.7% (2/54)	9.6% (5/52)	6.2% (14/259)	7.2% (NR)	19% (59/308)	3.6% (20/560)

Sudden cardiac death in nonischemic cardiomyopathy: Refining risk assessment

J Cardiovasc Electrophysiol. 2017;1–6.

Matthew M. Zipse MD | Wendy S. Tzou MD

SCD in NICM



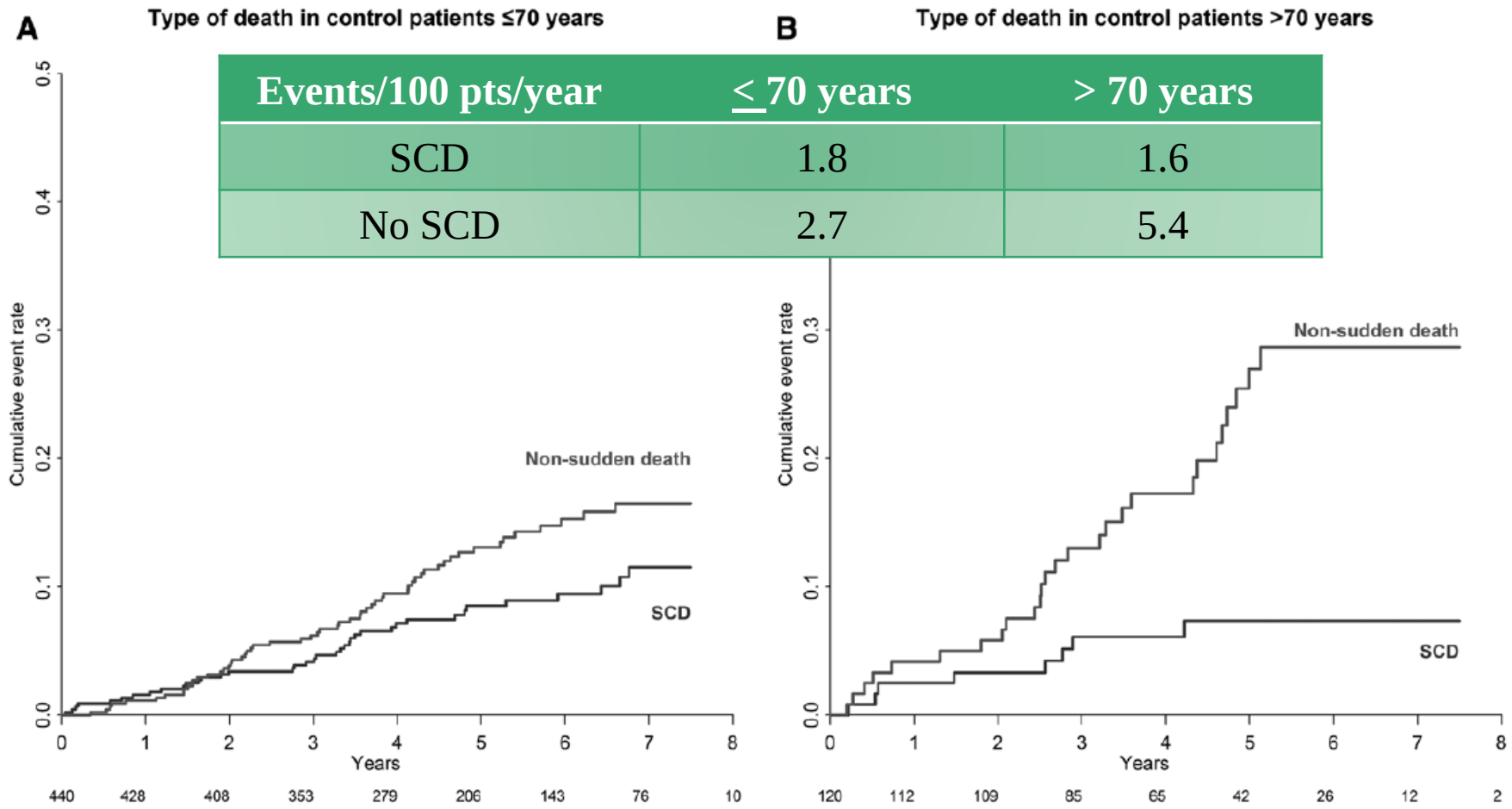
Age and Outcomes of Primary Prevention Implantable Cardioverter-Defibrillators in Patients With Nonischemic Systolic Heart Failure

Marie Bayer Elming, MD et al

Circulation. 2017;136:1772–1780.

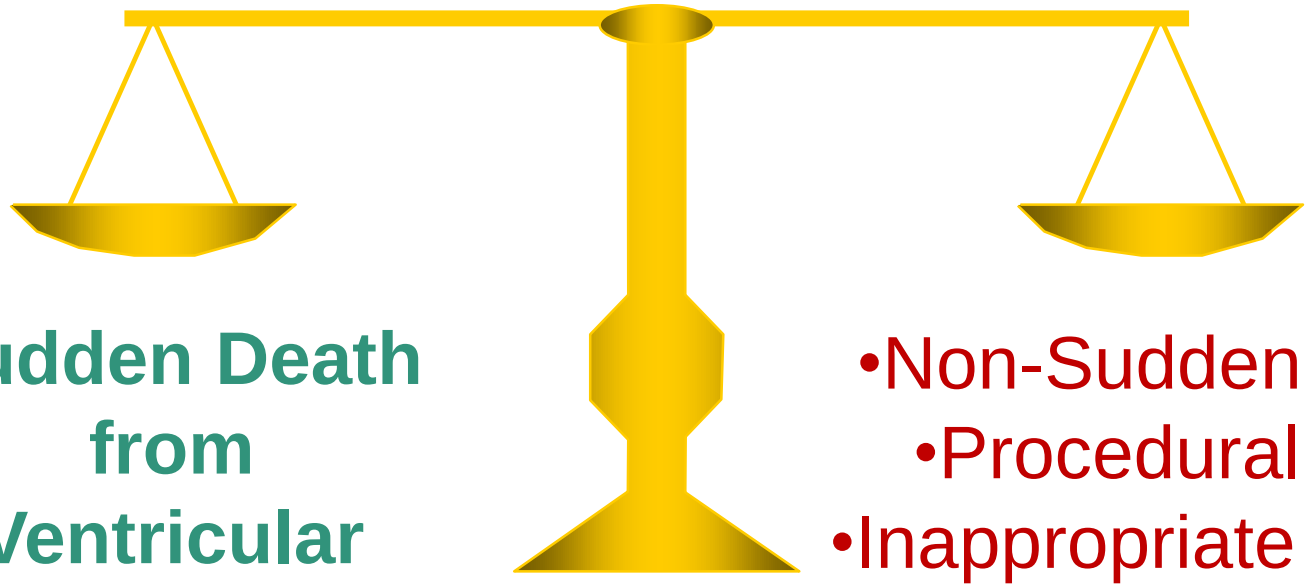
The DANISH Study

Events/100 pts/year	≤ 70 years	> 70 years
SCD	1.8	1.6
No SCD	2.7	5.4



Prediction of degree of benefit from ICD implantation

Balance of Risk vs benefit



Sudden Death from Ventricular Arrhythmia

- Non-Sudden Death
- Procedural Risk
- Inappropriate shocks
- Device infection

RISK STRATIFICATION FOR SCD

Is it too late to establish a role for cardiac MRI?

Markman TM, Nazarian S.

Circulation 2017; 135: 2116-18

LGE in NICM

Late Gadolinium Enhancement on Cardiac Magnetic Resonance Predicts Adverse Cardiovascular Outcomes in Nonischemic Cardiomyopathy

A Systematic Review and Meta-Analysis

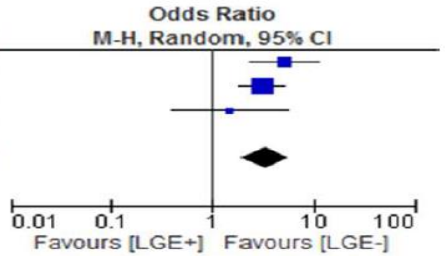
Circ Cardiovasc Imaging. 2014;7:250-258.)

Sujith Kuruvilla, MD*; Nebiyu Adenaw, BA*; Arabindra B. Katwal, MD;
Michael J. Lipinski, MD, PhD; Christopher M. Kramer, MD; Michael Salerno, MD, PhD

A

Study or Subgroup	LGE+ Events	LGE+ Total	LGE- Events	LGE- Total	Weight	Odds Ratio M-H, Random, 95% CI
Cheong BYC 2009	16	37	23	178	31.8%	5.13 [2.34, 11.25]
Gulati A 2013	38	142	35	330	54.1%	3.08 [1.85, 5.13]
Muller KAL 2013	6	94	4	91	14.1%	1.48 [0.40, 5.44]
Total (95% CI)		**273**		**599**	**100.0%**	**3.27 [1.94, 5.51]**
Total events	60		62			

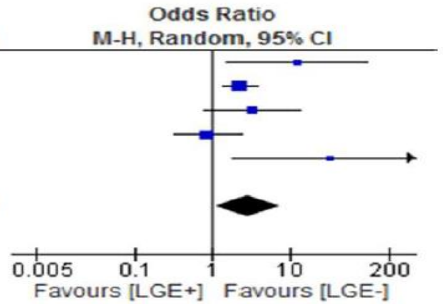
Heterogeneity: Tau² = 0.06; Chi² = 2.76, df = 2 (P = 0.25); I² = 28%
Test for overall effect: Z = 4.45 (P < 0.00001)



B

Study or Subgroup	LGE+ Events	LGE+ Total	LGE- Events	LGE- Total	Weight	Odds Ratio M-H, Random, 95% CI
Cho JR 2010	11	42	1	37	12.7%	12.77 [1.56, 104.60]
Gulati A 2013	30	142	35	330	33.5%	2.26 [1.32, 3.85]
Lehrke S 2011	6	72	3	112	19.8%	3.30 [0.80, 13.65]
Muller KAL 2013	8	94	9	91	26.1%	0.85 [0.31, 2.30]
Wu KC 2008	8	27	0	38	7.9%	33.56 [1.84, 612.28]
Total (95% CI)		**377**		**608**	**100.0%**	**2.91 [1.16, 7.27]**
Total events	63		48			

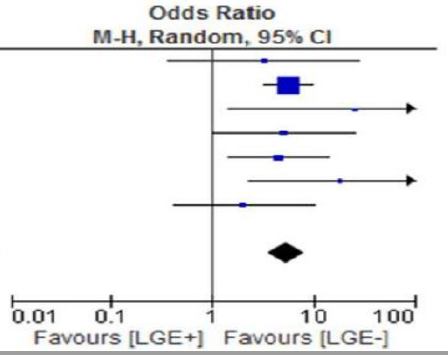
Heterogeneity: Tau² = 0.58; Chi² = 10.24, df = 4 (P = 0.04); I² = 61%
Test for overall effect: Z = 2.28 (P = 0.02)



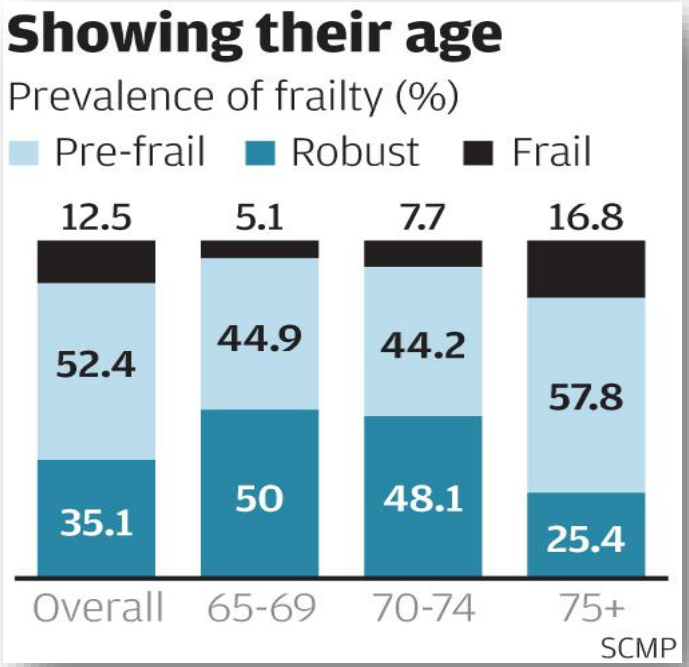
C

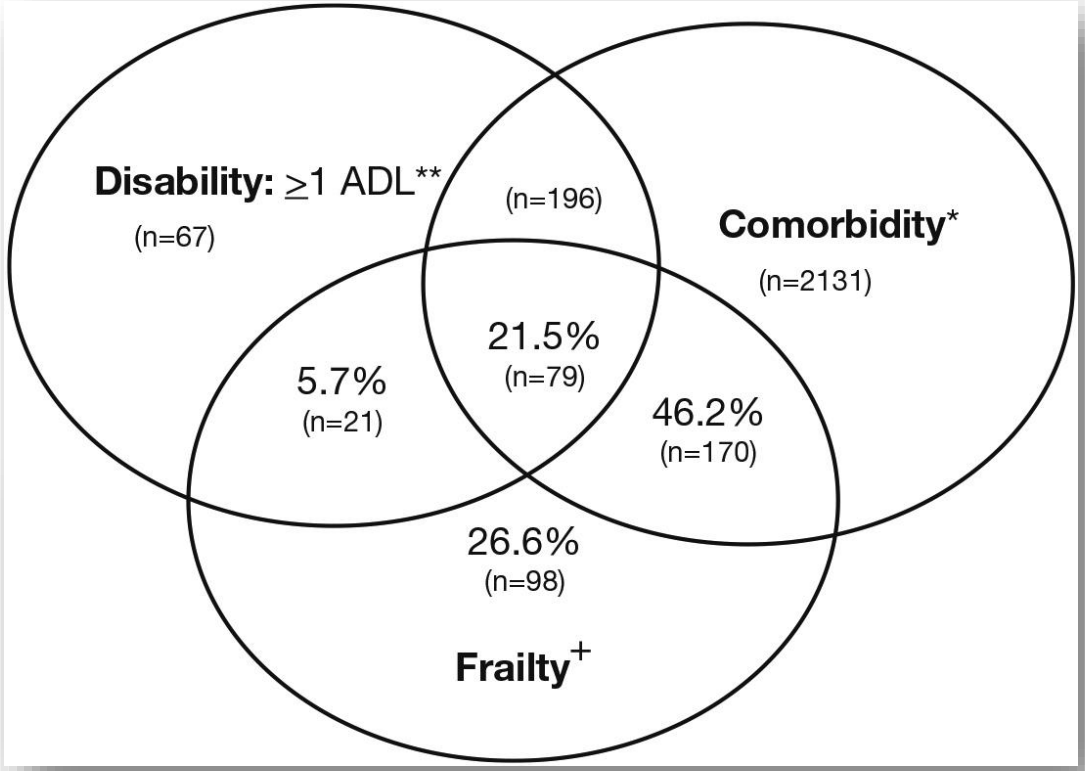
Study or Subgroup	LGE+ Events	LGE+ Total	LGE- Events	LGE- Total	Weight	Odds Ratio M-H, Random, 95% CI
Gao P 2012	7	46	1	19	4.0%	3.23 [0.37, 28.25]
Gulati A 2013	42	142	23	330	60.4%	5.61 [3.21, 9.78]
Iles 2011	9	31	0	30	2.2%	25.76 [1.42, 465.99]
Lehrke S 2011	6	72	2	112	7.0%	5.00 [0.98, 25.50]
Muller KAL 2013	16	94	4	91	14.5%	4.46 [1.43, 13.92]
Neilan TG 2013	15	81	1	81	4.4%	18.18 [2.34, 141.28]
Wu KC 2008	4	27	3	38	7.4%	2.03 [0.42, 9.92]
Total (95% CI)		**493**		**701**	**100.0%**	**5.32 [3.45, 8.20]**
Total events	99		34			

Heterogeneity: Tau² = 0.00; Chi² = 4.38, df = 6 (P = 0.63); I² = 0%
Test for overall effect: Z = 7.58 (P < 0.00001)



Frailty syndrome





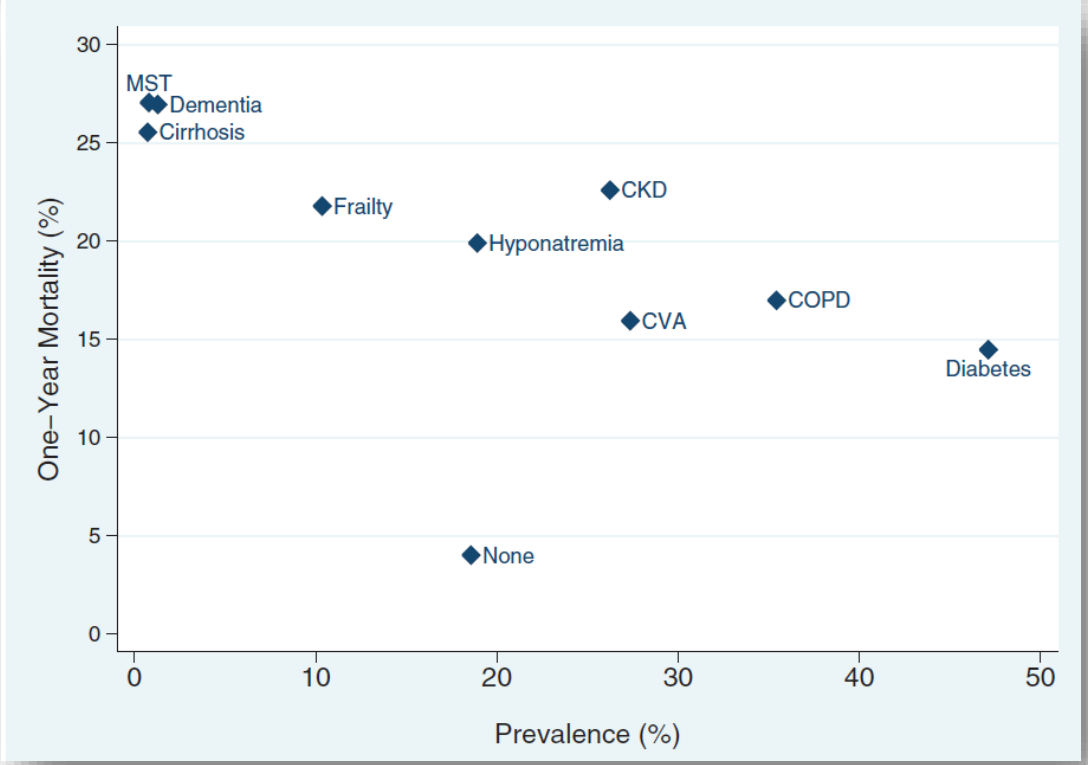
ICD and comorbidities

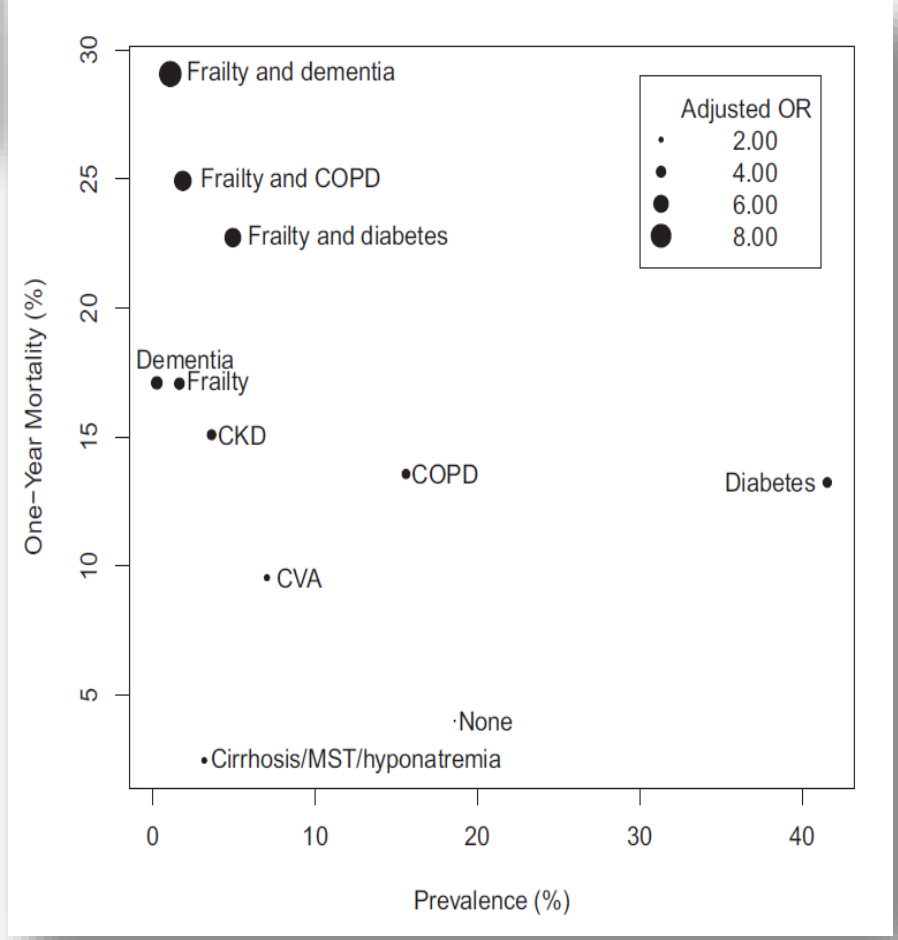
Geriatric Conditions in Patients Undergoing Defibrillator Implantation for Prevention of Sudden Cardiac Death

Prevalence and Impact on Mortality

Circ Cardiovasc Qual Outcomes. 2016;9:23-30

Ariel R. Green, MD, MPH; Bruce Leff, MD; Yongfei Wang, MS; Erica S. Spatz, MD, MHS; Frederick A. Masoudi, MD, MSPH; Pamela N. Peterson, MD, MSPH; Stacie L. Daugherty, MD, MSPH; Daniel D. Matlock, MD, MPH



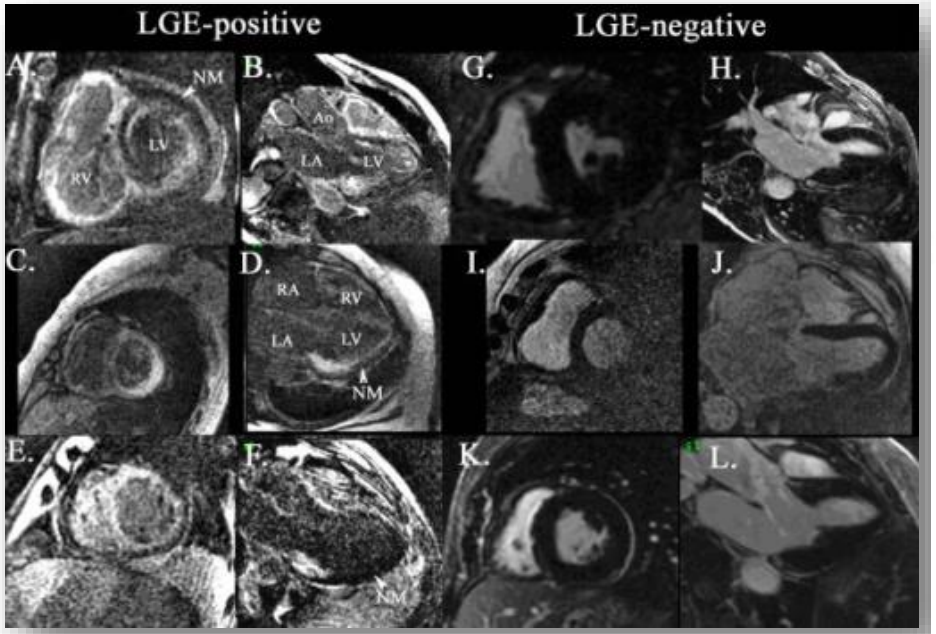


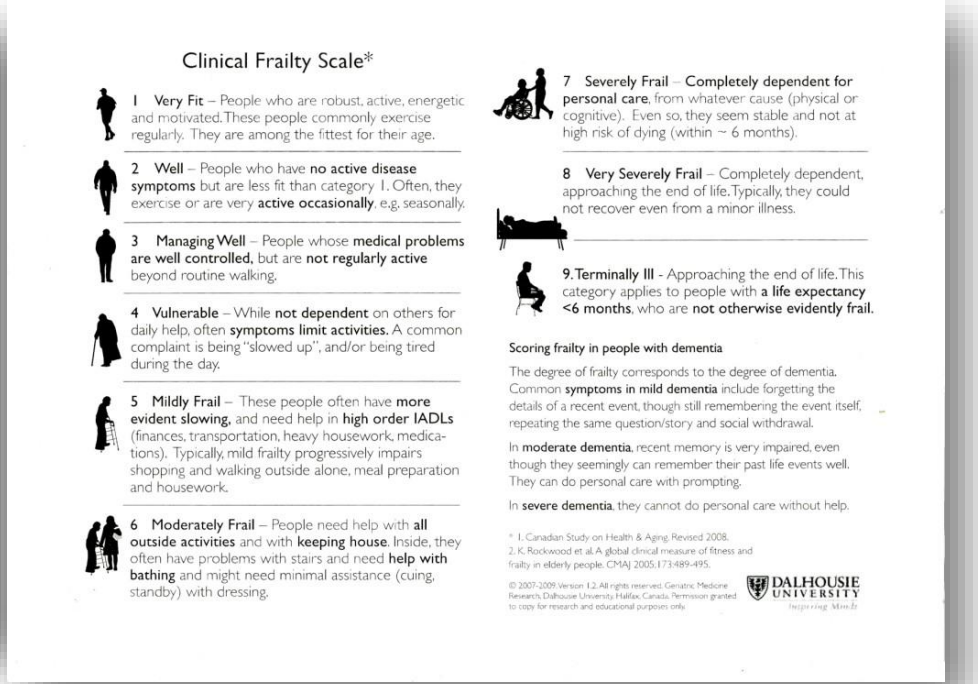
Risk of SCD in NIDCM

≤ 70

EF

> 70 CRT





Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled**, but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

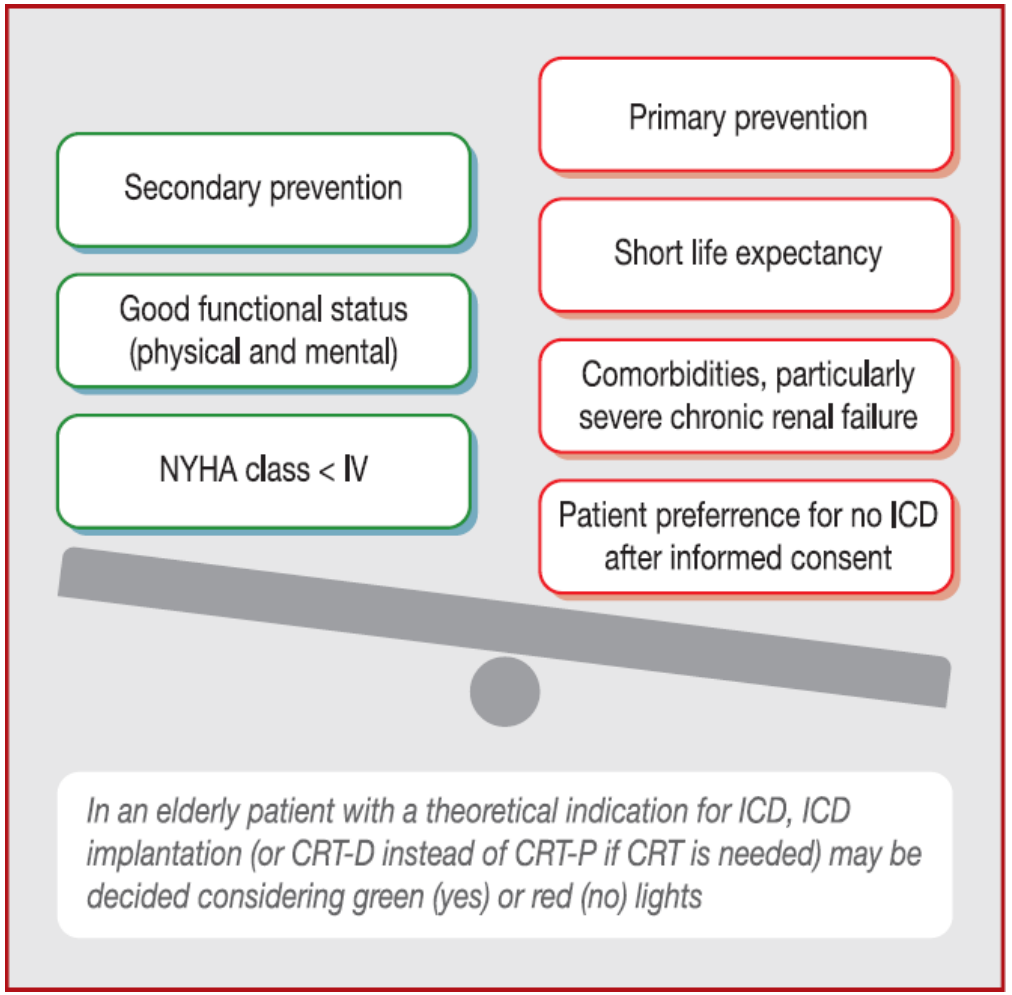
* 1. Canadian Study on Health & Aging. Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

DALHOUSIE UNIVERSITY
Inspiring Minds

Aspetti epidemiologici

GUIDELINES Archives of Cardiovascular Disease (2016) 109, 563–585

Position paper for management of elderly patients with pacemakers and implantable cardiac defibrillators: Groupe de Rythmologie et Stimulation Cardiaque de la Société Française de Cardiologie and Société Française de Gériatrie et Gérontologie



HF in the elderly

Domain Management Approach to Heart Failure in the Geriatric Patient

Present and Future

Eiran Z. Gorodeski, MD, MPH,[a,*] Parag Goyal, MD, MSc,[b,*] Scott L. Hummel, MD,[c,d] Ashok Krishnaswami, MD, MAS,[e] Sarah J. Goodlin, MD,[f,g] Linda L. Hart, DNP, ACNP,[h] Daniel E. Forman, MD,[i,j,k] Nanette K. Wenger, MD,[l] James N. Kirkpatrick, MD,[m] Karen P. Alexander, MD,[n] on behalf of the Geriatric Cardiology Section Leadership Council, American College of Cardiology

JACC VOL. 71, NO. 17, 2018
MAY 1, 2018:1921–36

CENTRAL ILLUSTRATION: Domain Management Approach to HF in the Geriatric Patient

Medical

- Evaluate stage and etiology of HF
- Consider challenges in pharmacological treatment, focus on polypharmacy, consider deprescribing
- Consider impact of comorbidities: sleep apnea, kidney disease, diabetes
- Assess for malnutrition

Mind and Emotion

- Evaluate cognition; if impaired, evaluate impact on self-management skills
- Screen for depression; consider treatment

Discuss Goals of Care

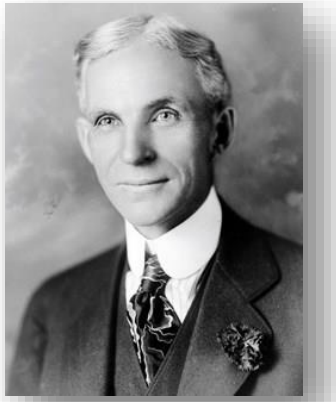
Physical Function

- Screen for frailty: slowness, weakness, shrinking, inactivity, exhaustion
- Evaluate mobility; consider fall risk

Social Environment

- Inquire about extent of social support at home, consider engaging community-based care services
- Inquire about financial resources for prescription medications

Gorodeski, E.Z. et al. J Am Coll Cardiol. 2018;71(17):1921–36.



«Il meglio che possiamo fare è cogliere le opportunità, calcolare i rischi connessi, stimare le nostre abilità di gestirli e fare i nostri progetti con fiducia»

Henry Ford
1749 - 1827

«Se non si rischiasse mai nella vita, Michelangelo avrebbe dipinto Il pavimento della cappella Sistina»

Neil Simon
1927 - 2018