

# **Herzinsuffizienztherapie bei Dialysepatienten: Was ist gesichert?**

# Therapie der Herzinsuffizienz



## Kontrollierte Studien (1985-2005)

	CHF	RAAS	BB
Patienten	66.000	171.000	37.000
<b>Studien</b>	<b>36</b>	<b>31</b>	<b>13</b>
<b>Ausschluss</b>	<b>28</b>	<b>29</b>	<b>7</b>

Niereninsuffizienz

JAMA 2006



# Herzinsuffizienz bei Dialysepatienten

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## 1. Häufig

Prävalenz 40%, Inzidenz 15%

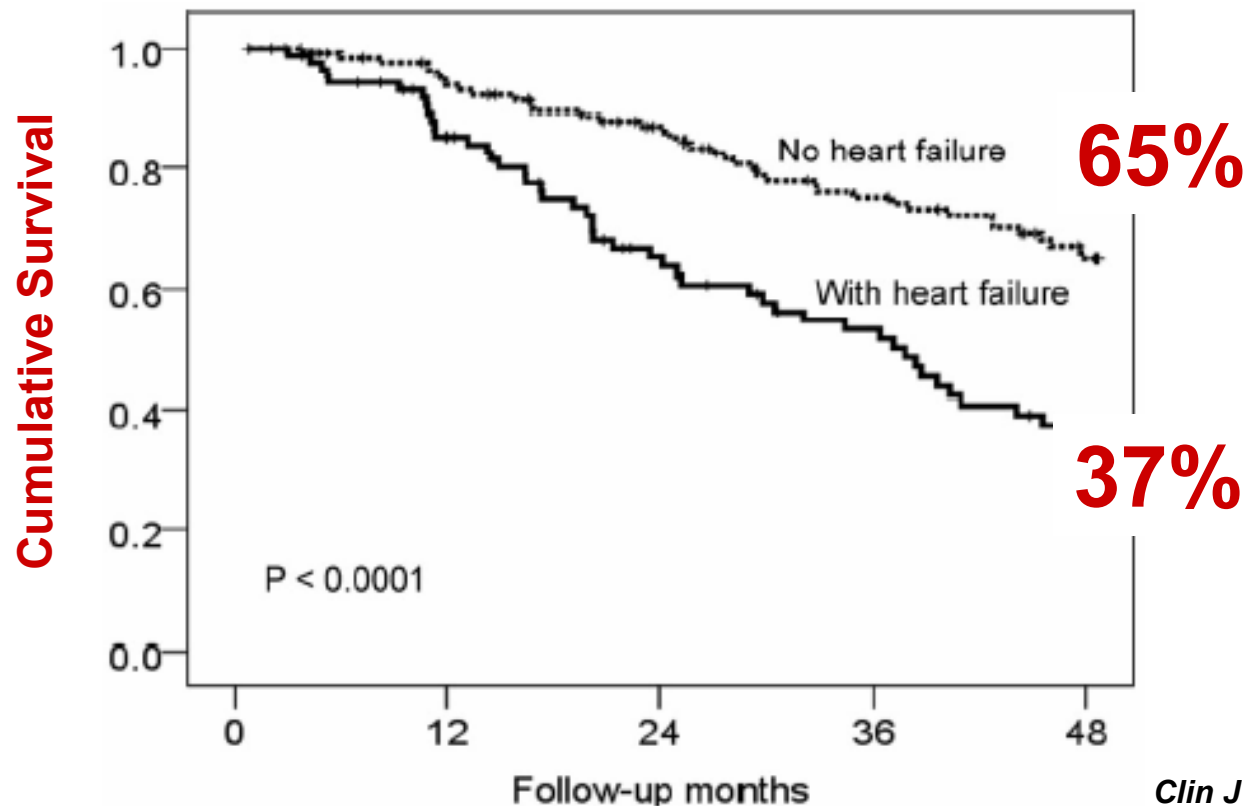
## 2. Gefährlich

1-Jahres Sterblichkeit 20 – 50%



# Heart Failure in Long-Term Peritoneal Dialysis Patients: A 4-Year Prospective Analysis

**220 Patients, Heart Failure N=86(40%)**



*Clin J Am Soc Nephrol, 2011*



# Therapie der Herzinsuffizienz bei Dialysepatienten

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**1. Medikation**

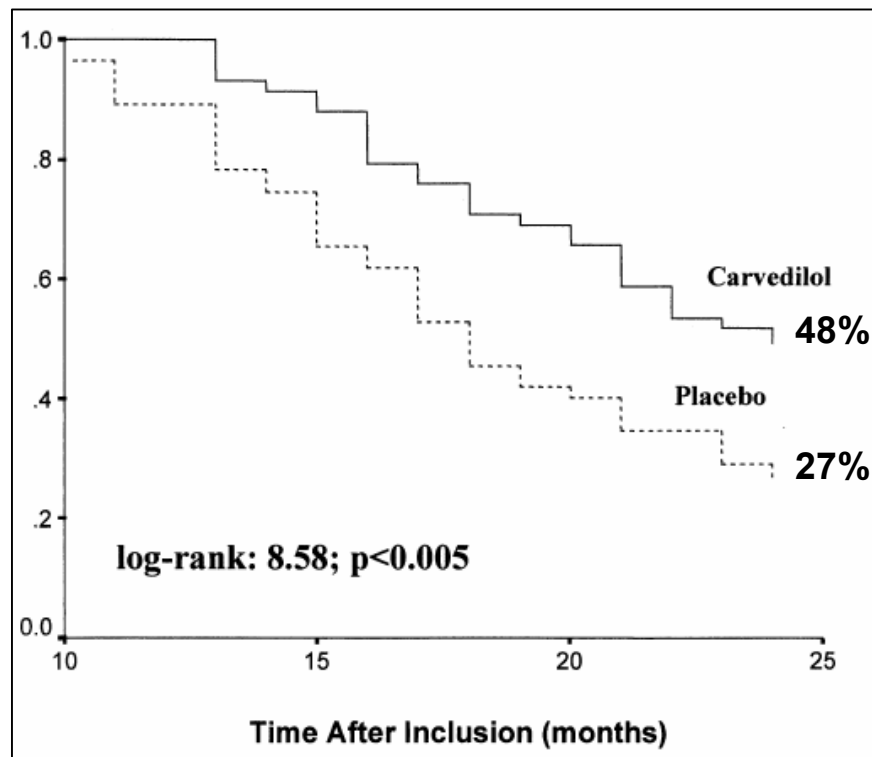
**2. ICD / CRT**



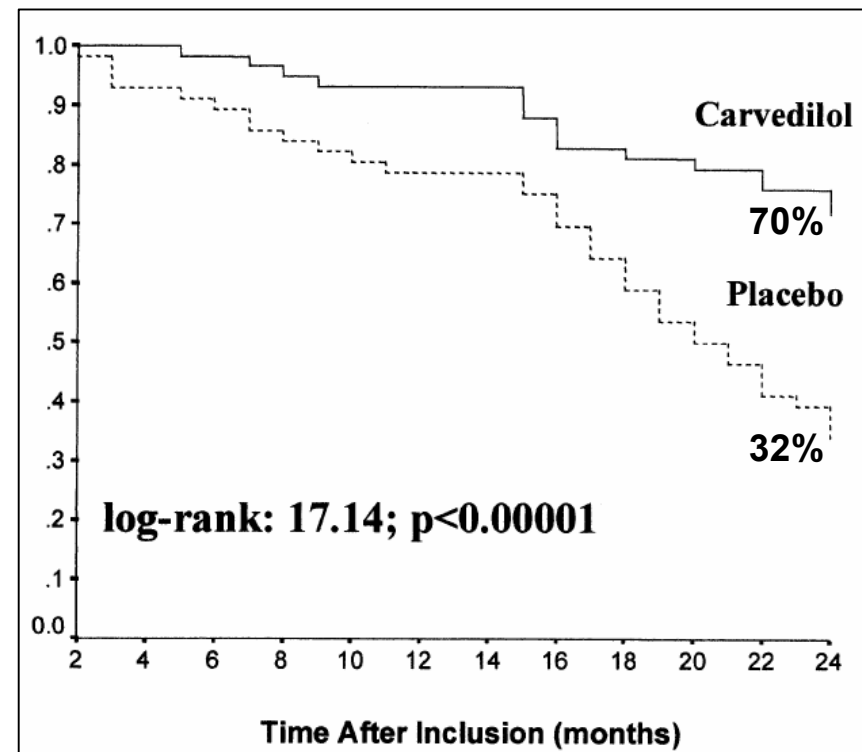
# Betablocker (Carvedilol)

bei Dialysepatienten mit Herzinsuffizienz (N = 114)

*Gesamtsterblichkeit*



*Kardiovaskuläre Sterblichkeit*



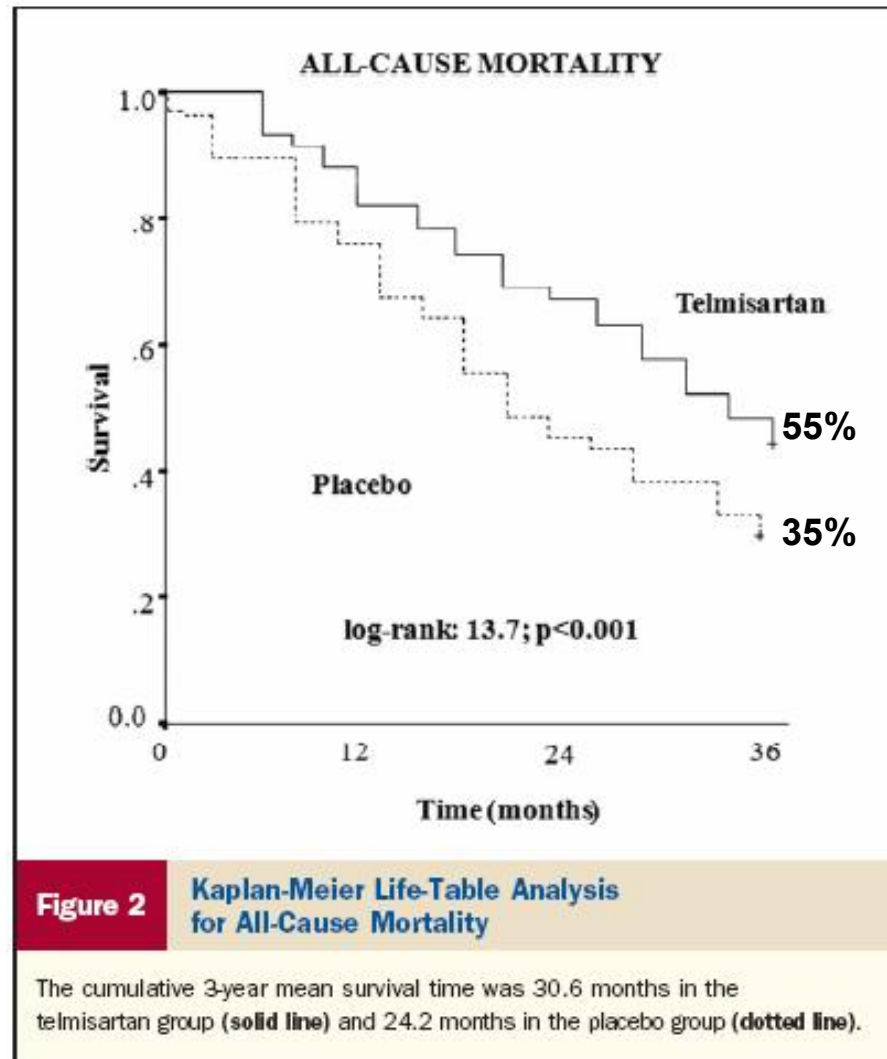
CICE - JACC, 2003

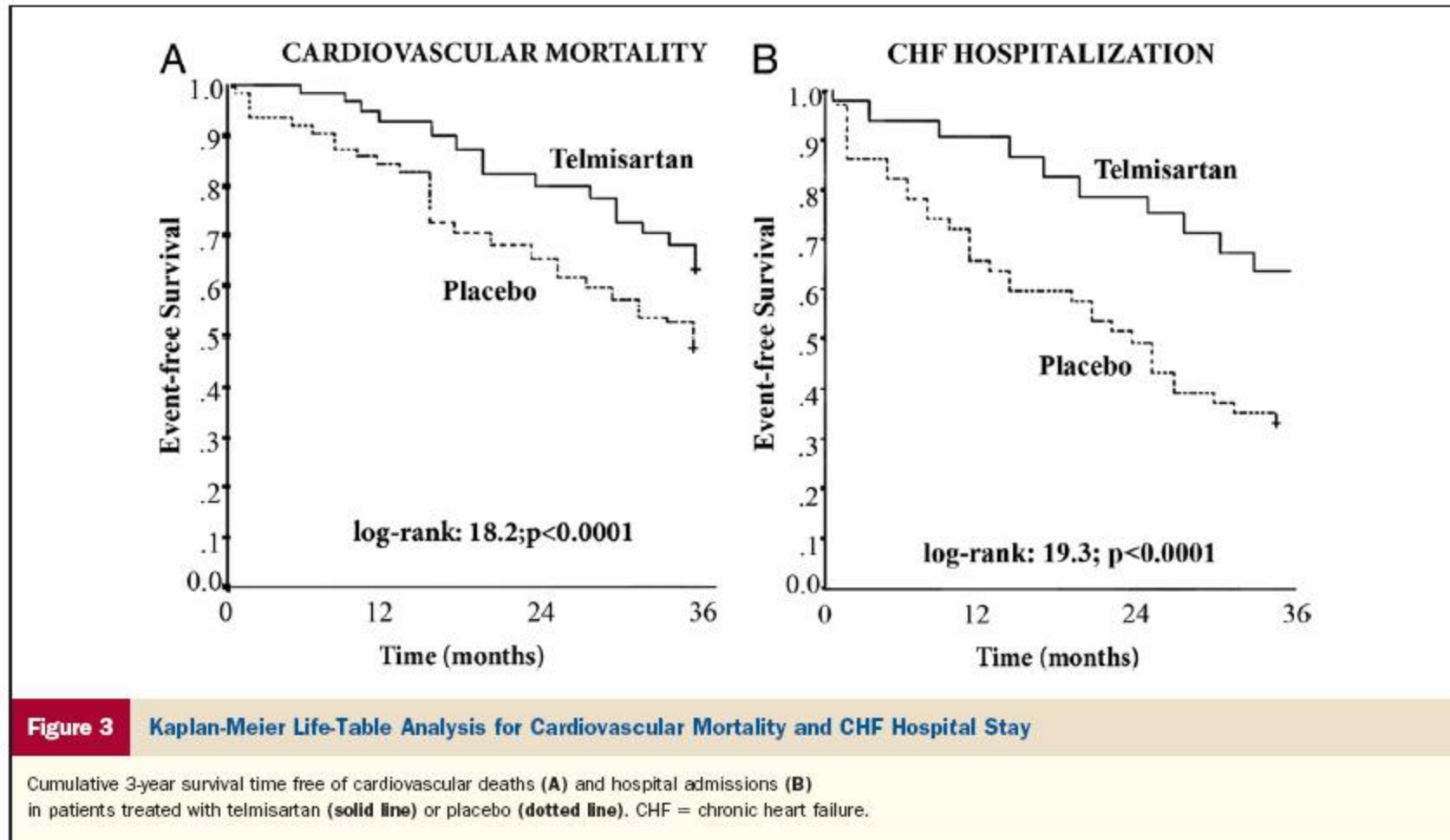


**ACE Hemmer  
+  
Telmisartan  
oder  
Placebo**

bei Dialysepatienten mit  
Herzinsuffizienz (N = 332)

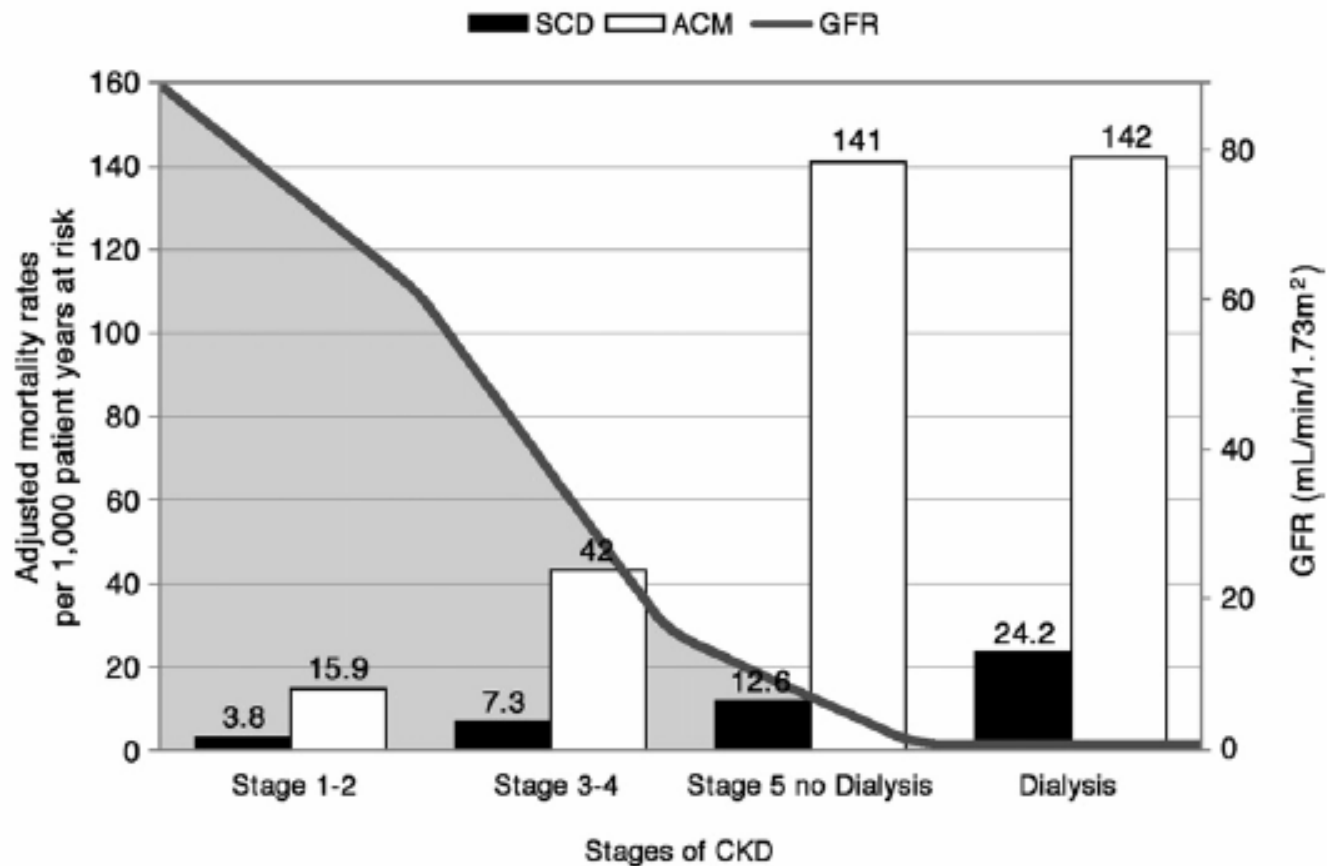
JACC, November 2010







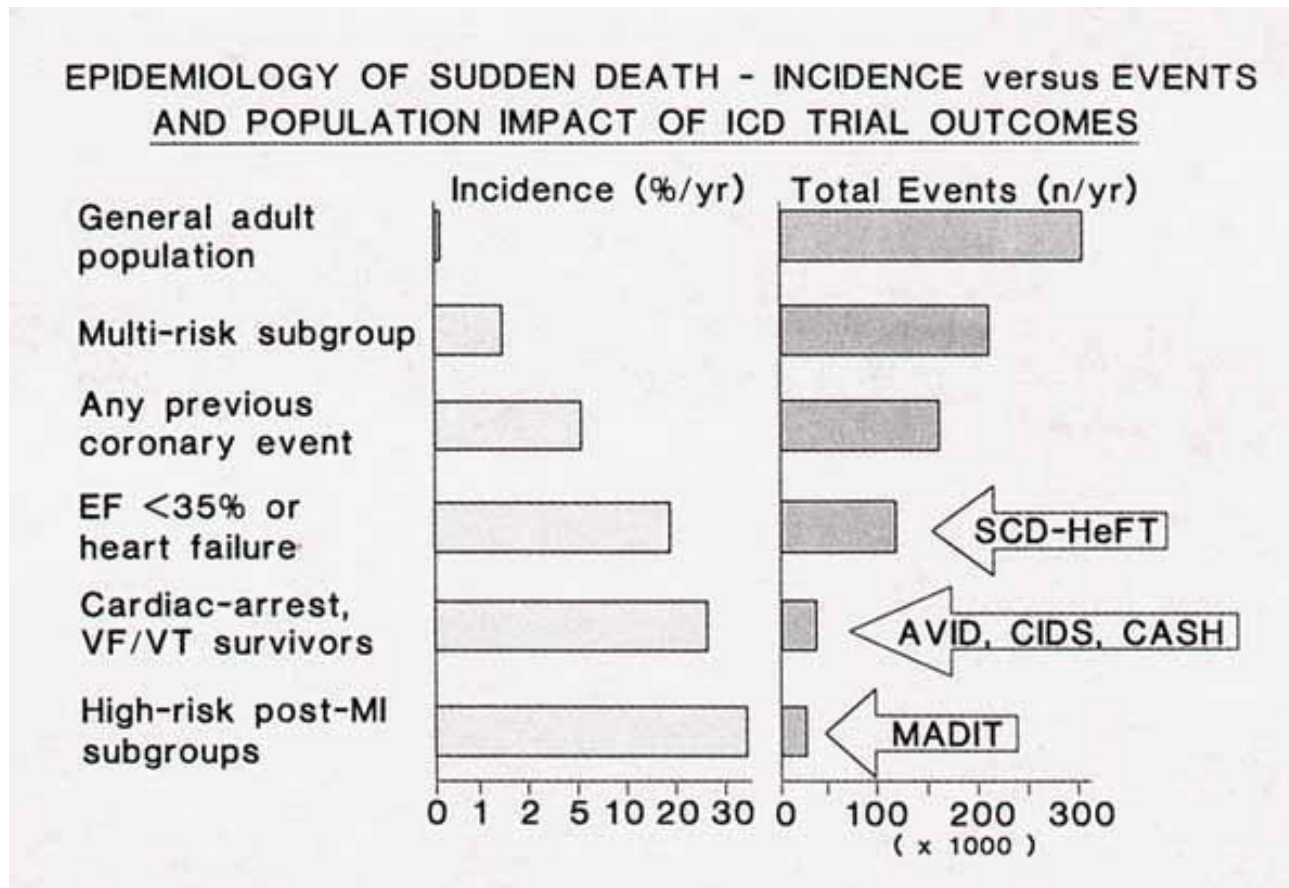
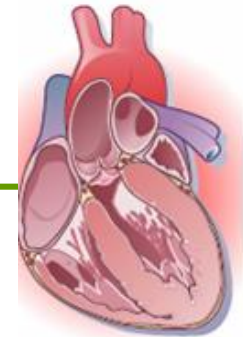
# Plötzlicher Herztod



JACC, August 2011



# Plötzlicher Herztod



**ICD?**

Myerburg RJ. Sudden cardiac death: Structure, function and time-dependence of risk. Circulation 1992



# ICD und CRT bei Dialysepatienten



STATE-OF-THE-ART PAPER

## Device Therapy in Heart Failure Patients With Chronic Kidney Disease



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*Durham, North Carolina*

JACC

*JOURNAL of the AMERICAN COLLEGE of CARDIOLOGY*

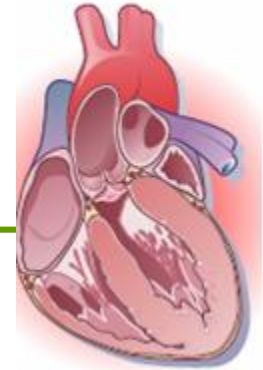
August 2011



Jüdisches Krankenhaus Berlin, Zentrum für Herzinsuffizienz

# ICD / CRT bei Dialysepatienten

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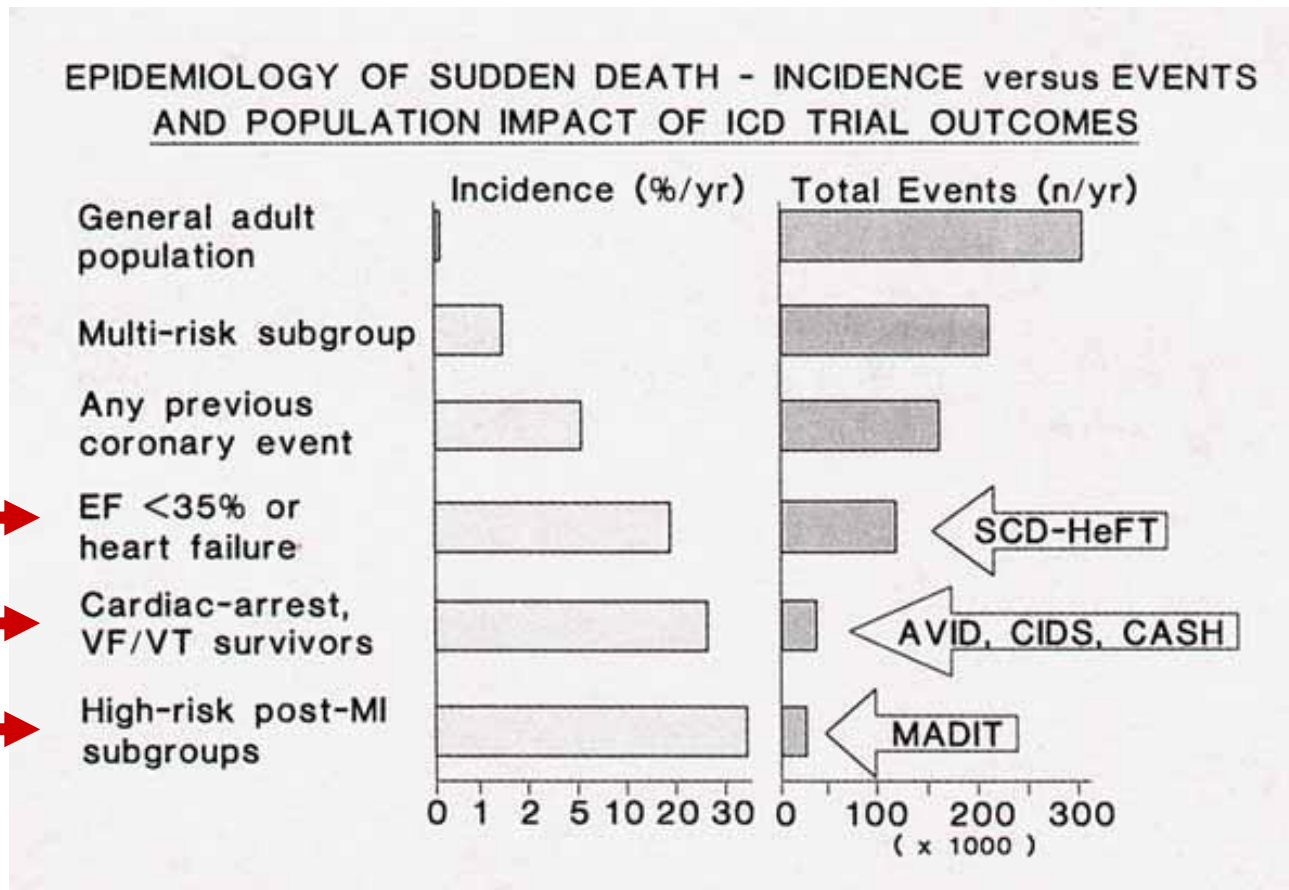


Due to the paucity of evidence, neither the American College of Cardiology/American Heart Association nor the European Society of Cardiology guidelines for HF adequately address this issue (37,38). Until more definitive evidence is available, the management of such patients should follow currently available American College of Cardiology/American Heart Association guidelines for HF.

**JACC, August 2011**



# Plötzlicher Herztod



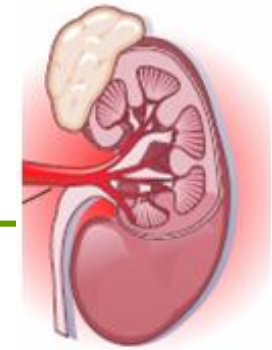
**ICD?**

Myerburg RJ. Sudden cardiac death: Structure, function and time-dependence of risk. Circulation 1992



# ICD bei Dialysepatienten

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## Trends in the Use and Outcomes of Implantable Cardioverter-Defibrillators in Patients Undergoing Dialysis in the United States

*David M. Charytan, MD, MSc,<sup>1</sup> Amanda R. Patrick, MSc,<sup>2</sup> Jun Liu, MD,<sup>2</sup> Soko Setoguchi, MD, DrPH,<sup>2</sup> Charles A. Herzog, MD,<sup>3</sup> M. Alan Brookhart, PhD,<sup>2,4</sup> and Wolfgang C. Winkelmayer, MD, ScD<sup>1,2,5</sup>*

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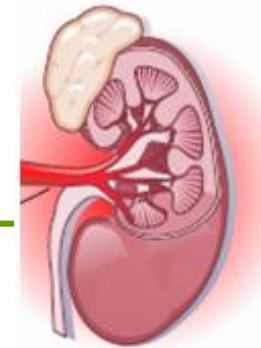


September 2011

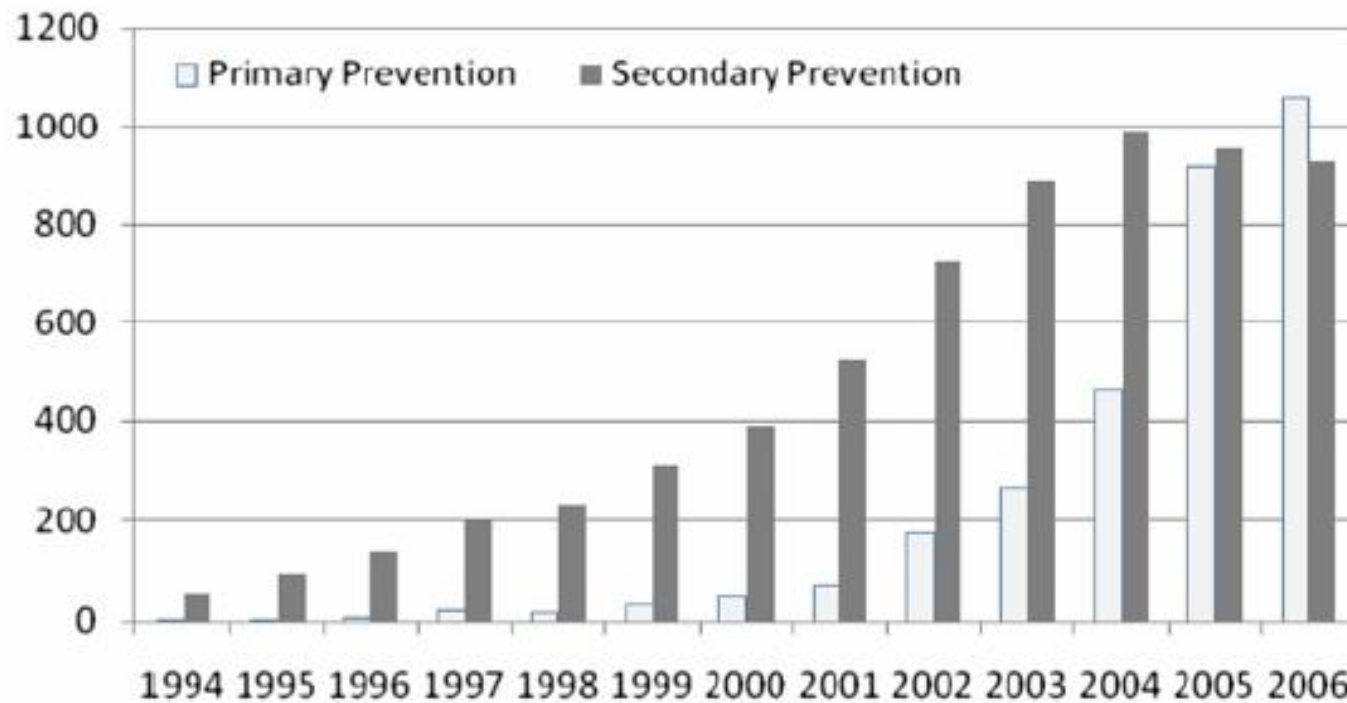


Jüdisches Krankenhaus Berlin, Zentrum für Herzinsuffizienz

# ICD bei Dialysepatienten



N = 9.528 Pat. from US Renal Data System



AJKD, September 2011



# ICD bei Dialysepatienten



Event Type	No. of Patients	Person-Years	No. of Events	Incidence Rate <sup>a</sup>
→ Mortality	9,528	13,224	5,918	448
Cardiovascular death <sup>b</sup>	9,528	13,224	3,506	265

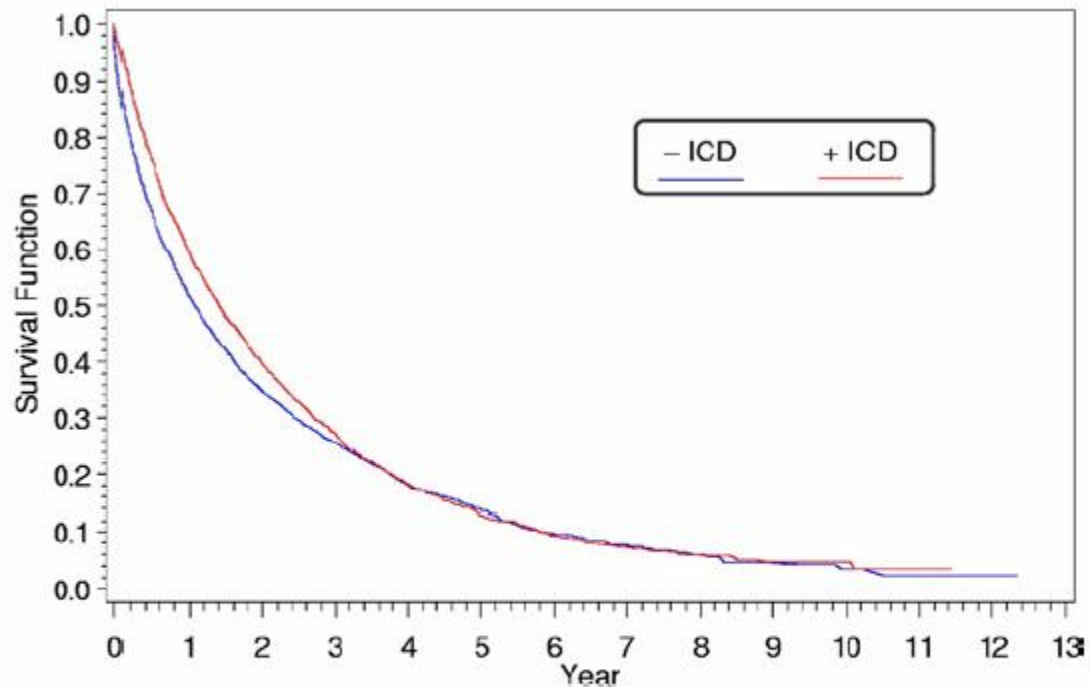
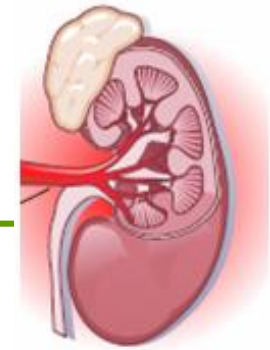
Type of Death	No (%)
Cardiovascular	3,220 (63.2)
→ Arrhythmic death	1,945 (38.2)
Cardiac arrest, cause unknown	1,437 (28.2)
Cardiac arrhythmia	508 (10.0)

AJKD, September 2011





# ICD bei Dialysepatienten



**Figure 2.** Survival of patients who received an implantable cardioverter-defibrillator (ICD) for secondary prevention compared with matched controls.

AJKD, September 2011



# MIRACLE

**M**ulticenter **I**nSync  
**RA**ndomized **CL**inical **E**valuation

**CRT**

453 Patients

- CHF NYHA III-IV
- QRS  $\geq 130$  ms
- EF  $\leq 35$  %

**R**

225 Pts.

**Medical Therapy**

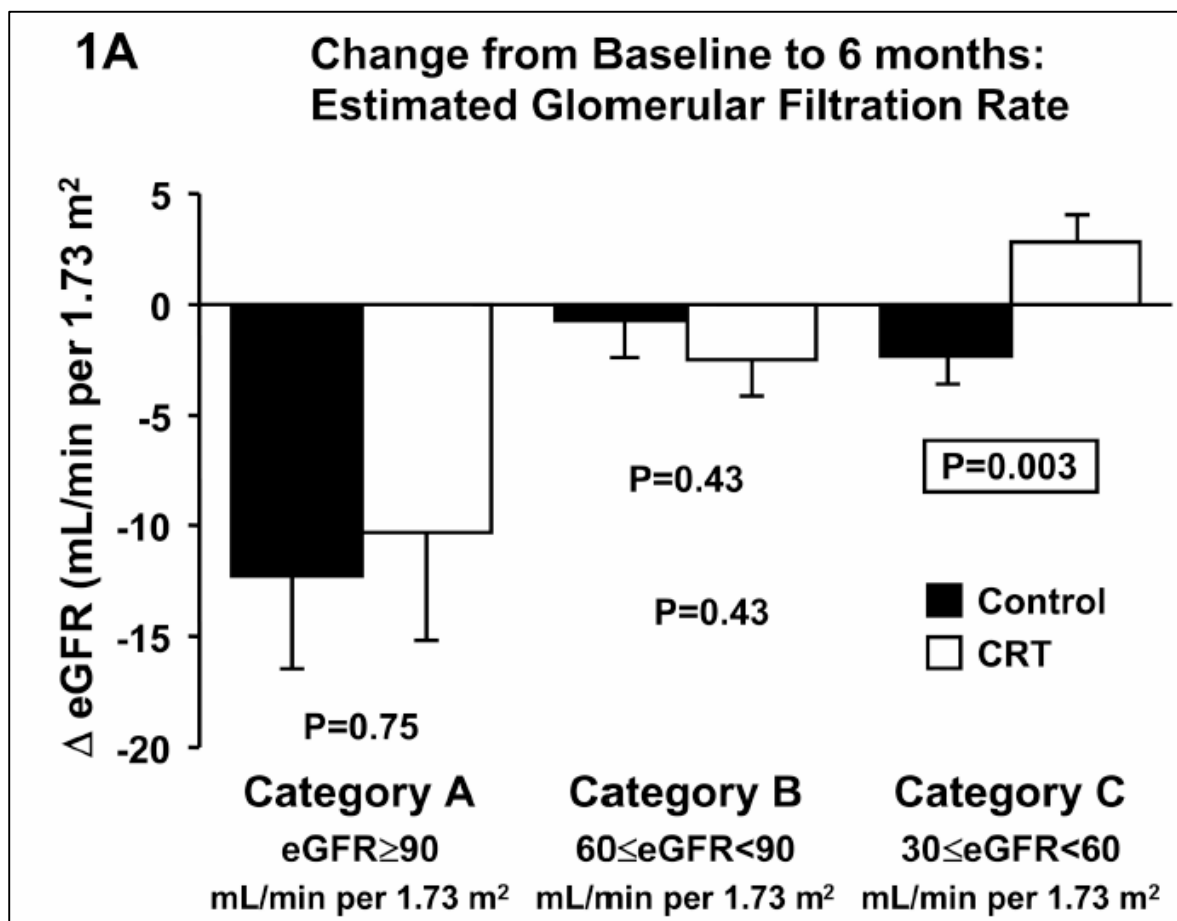
228 Pts.

**Medical therapy  
+ CRT-PM**

Abraham et al., NEJM 2002



## Cardiac Resynchronization Therapy Improves Renal Function in Human Heart Failure With Reduced Glomerular Filtration Rate



MIRACLE  
N = 453

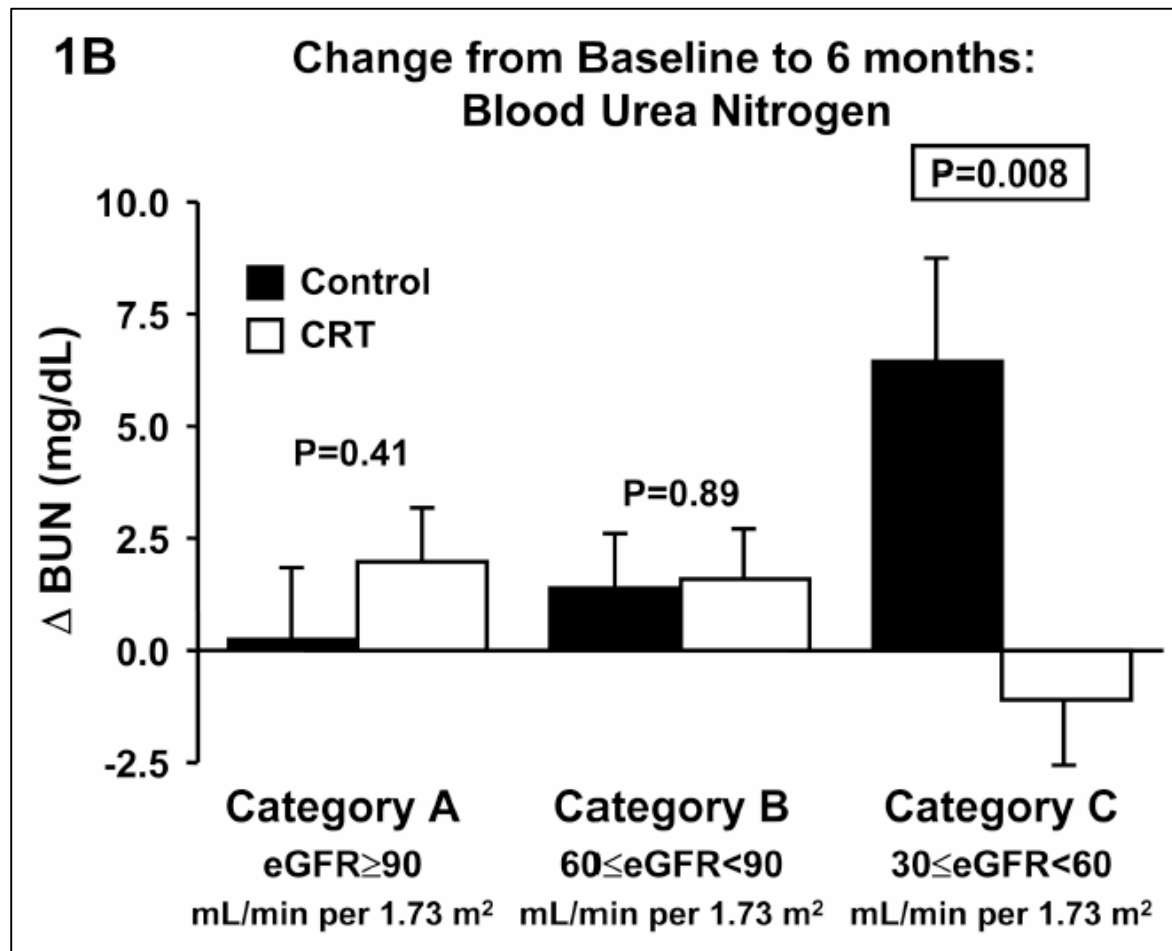
A – 16%  
B – 40%  
C – 39%  
D\* – 5%

\* GFR < 30

*J Card Fail 2008*



## Cardiac Resynchronization Therapy Improves Renal Function in Human Heart Failure With Reduced Glomerular Filtration Rate



MIRACLE  
N = 453

A – 16%  
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D\* – 5%

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*J Card Fail 2008*



# Therapie der Herzinsuffizienz bei Dialysepatienten

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## Zusammenfassung und Empfehlungen

- Medikation:**
- **Betablocker**
  - **ACE Hemmer**
  - **AT1 Blocker**
  - **Digitalis**



# Therapie der Herzinsuffizienz bei Dialysepatienten

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## Zusammenfassung und Empfehlungen

- Devices:**
- ICD Primärprävention ???
  - ICD Sekundärprävention ?
  - CRT ja



