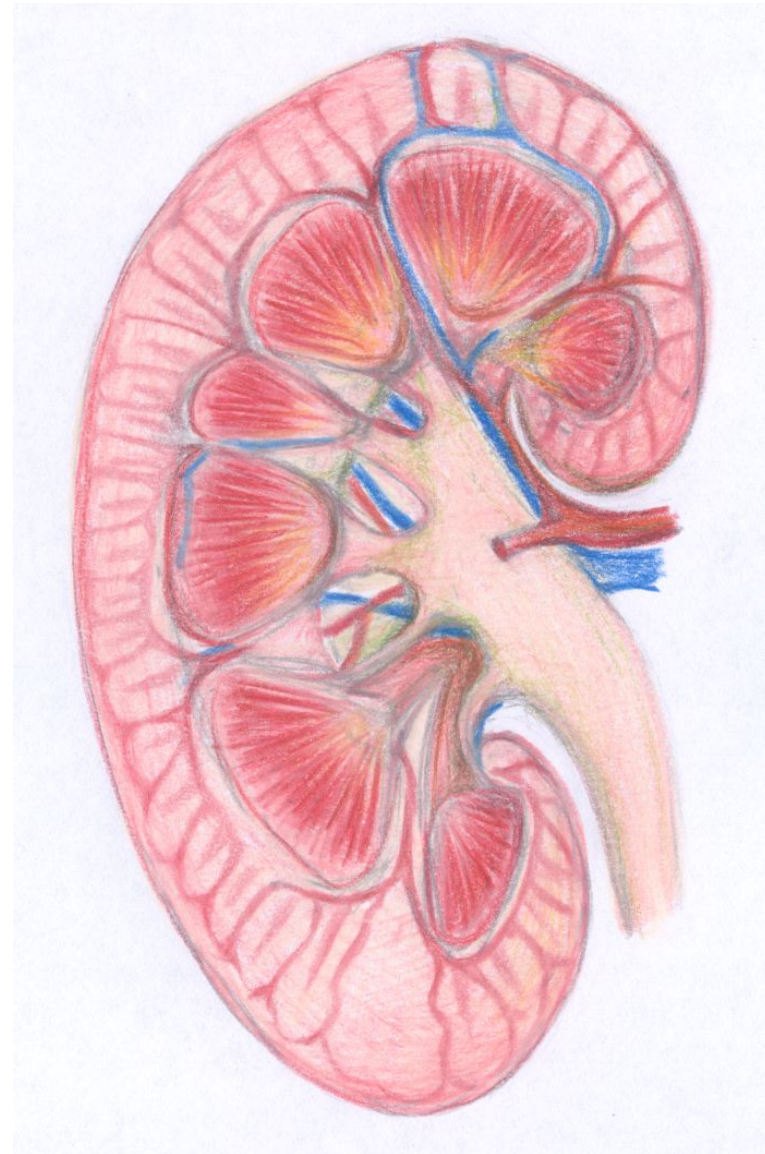


# Das Nierenversagen: Die richtige Definition?

ASDI Meeting 2005  
Sky 7



Andrea Lassnigg  
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# Methods

At the University Hospital of Vienna (AKH)

Based on daily serum concentration:

$\Delta\text{Crea}_{\text{max}}$  within 48 hours of all patients  
undergoing cardiac or thoracic aortic surgery  
was calculated between 1997 and 2001

**Primary outcome: 30 day mortality**

# Methods

First, the relation between  $\Delta\text{Crea}_{\text{max}}$  (in increments of  $0.1 \text{ mg.dL}^{-1}$ ) and mortality, was determined

Then, patients were divided into four groups, according to the following  $\Delta\text{Crea}_{\text{max}}$  values:

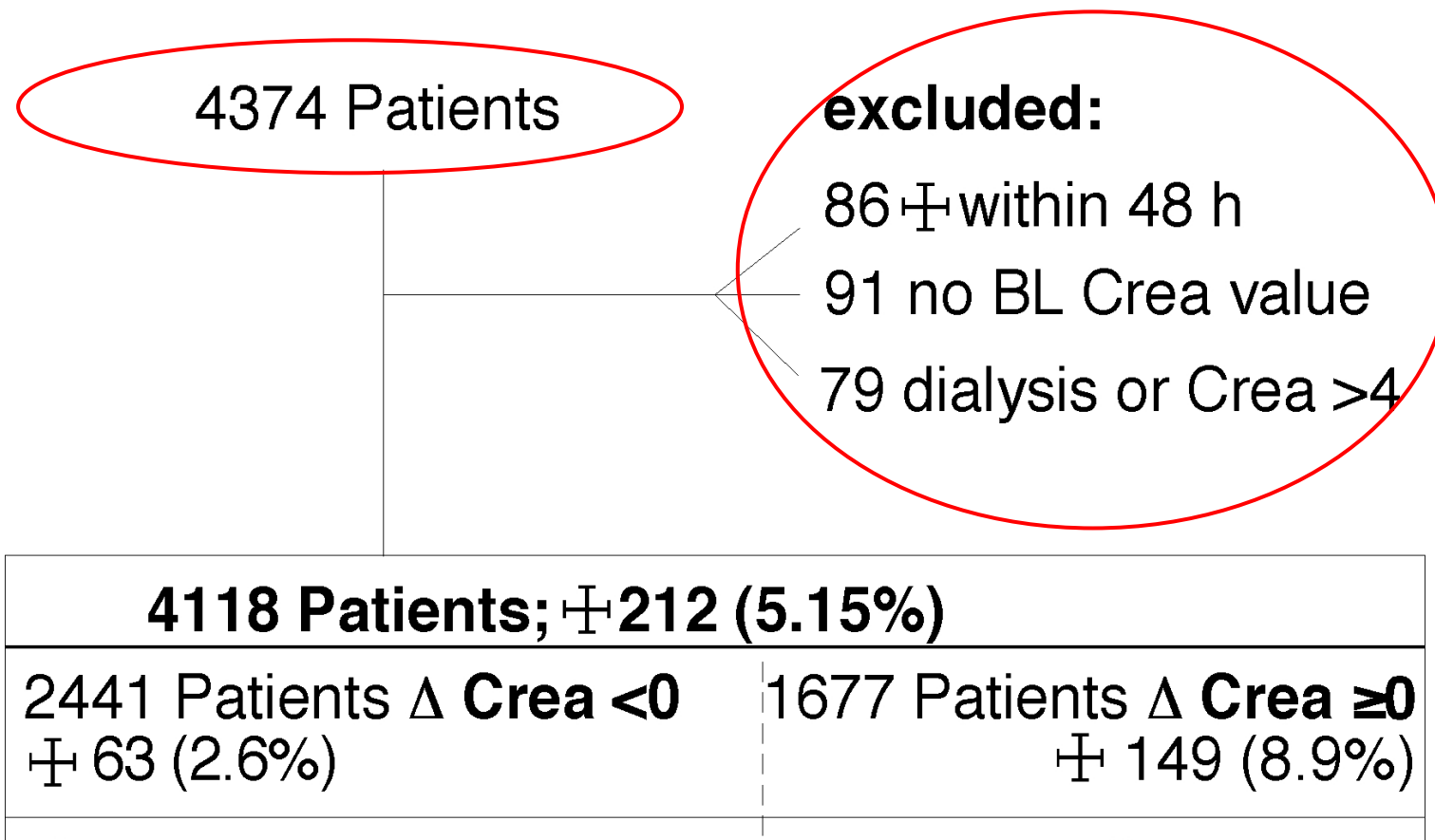
Group  $\Delta$  --      $[\infty, -0.3) \text{ mg.dL}^{-1}$

**Group  $\Delta$  -      $[-0.3, 0) \text{ mg.dL}^{-1}$  reference group**

Group  $\Delta$  +      $[0, 0.5) \text{ mg.dL}^{-1}$

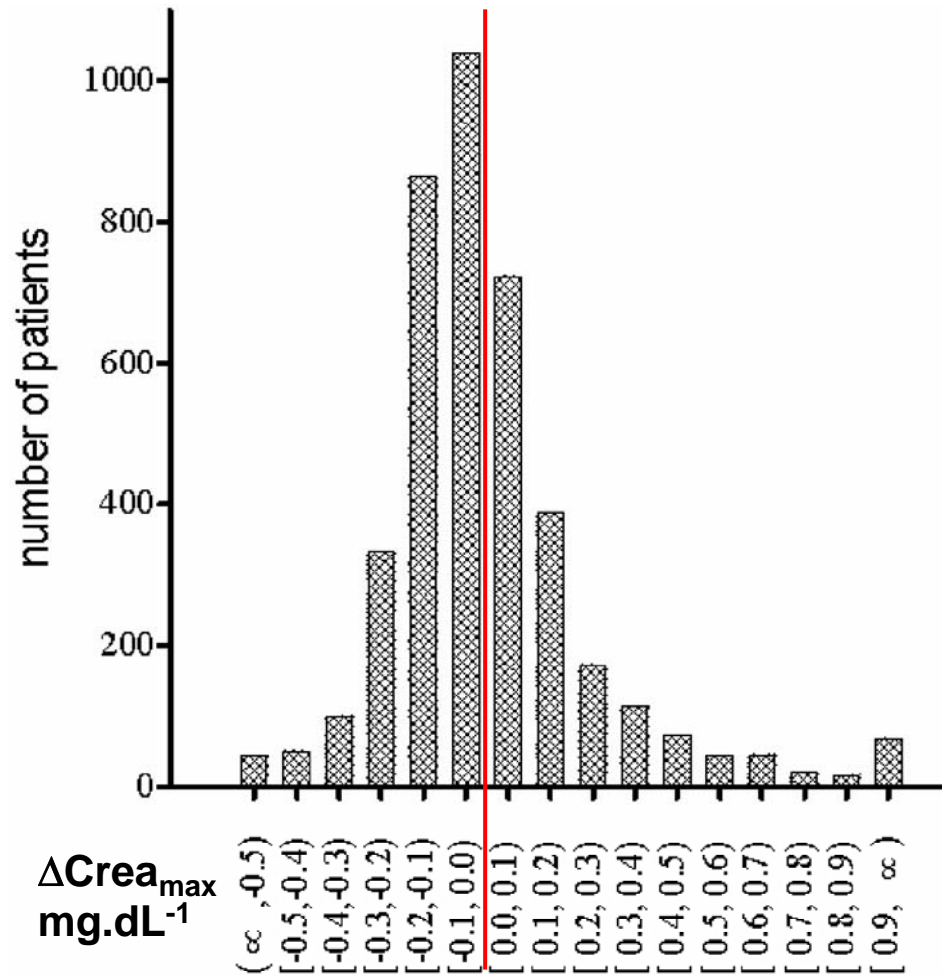
Group  $\Delta$  ++     $[0.5, \infty) \text{ mg.dL}^{-1}$

# Methods

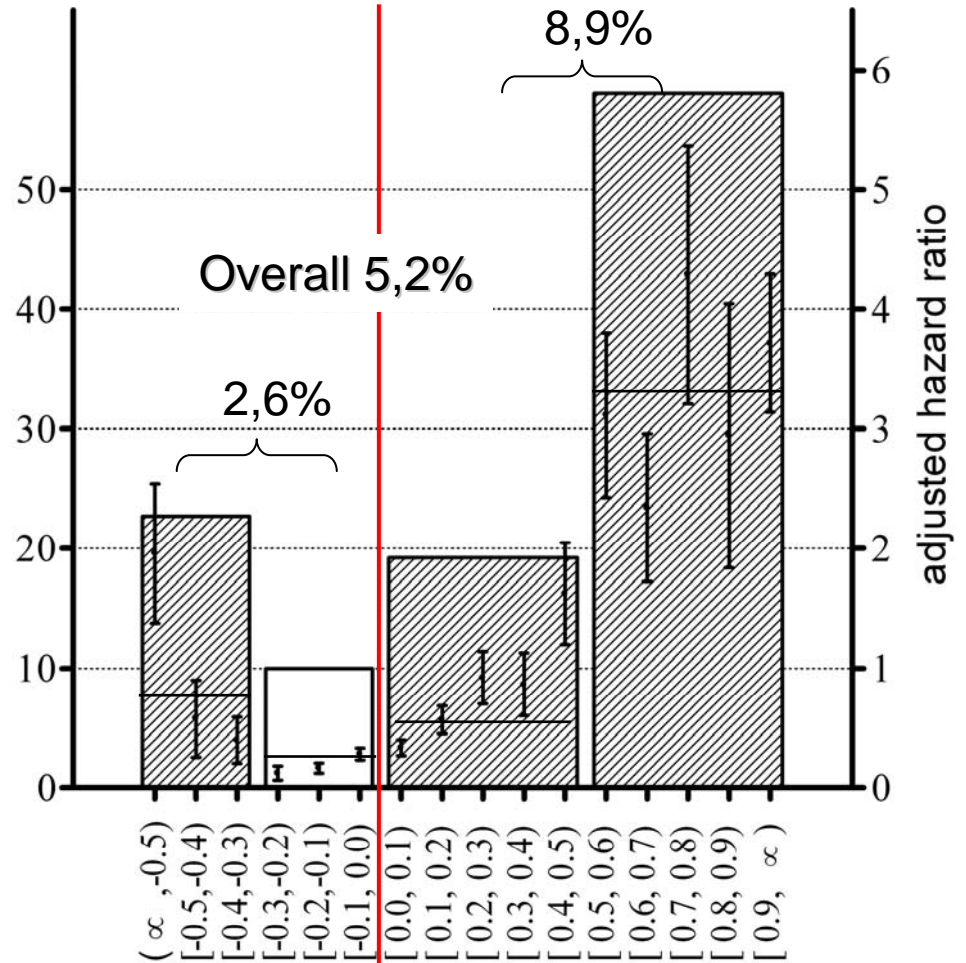


# Large impact of small $\Delta\text{Crea}_{\text{max}}$ -values

Patient Distribution

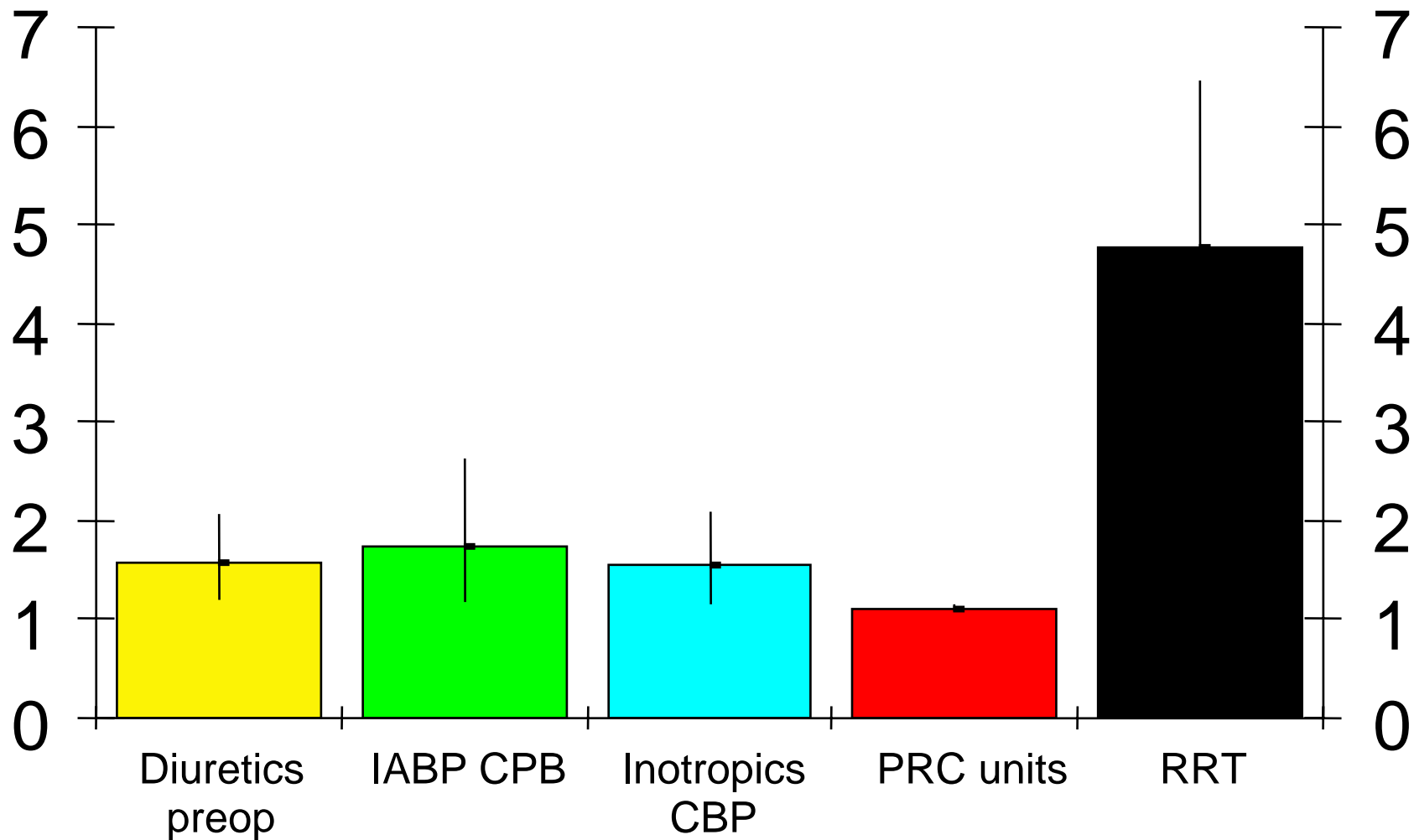


% 30 day mortality



# Results

Independent risk indicators according to the multivariate Analysis **HR (95%CI)**

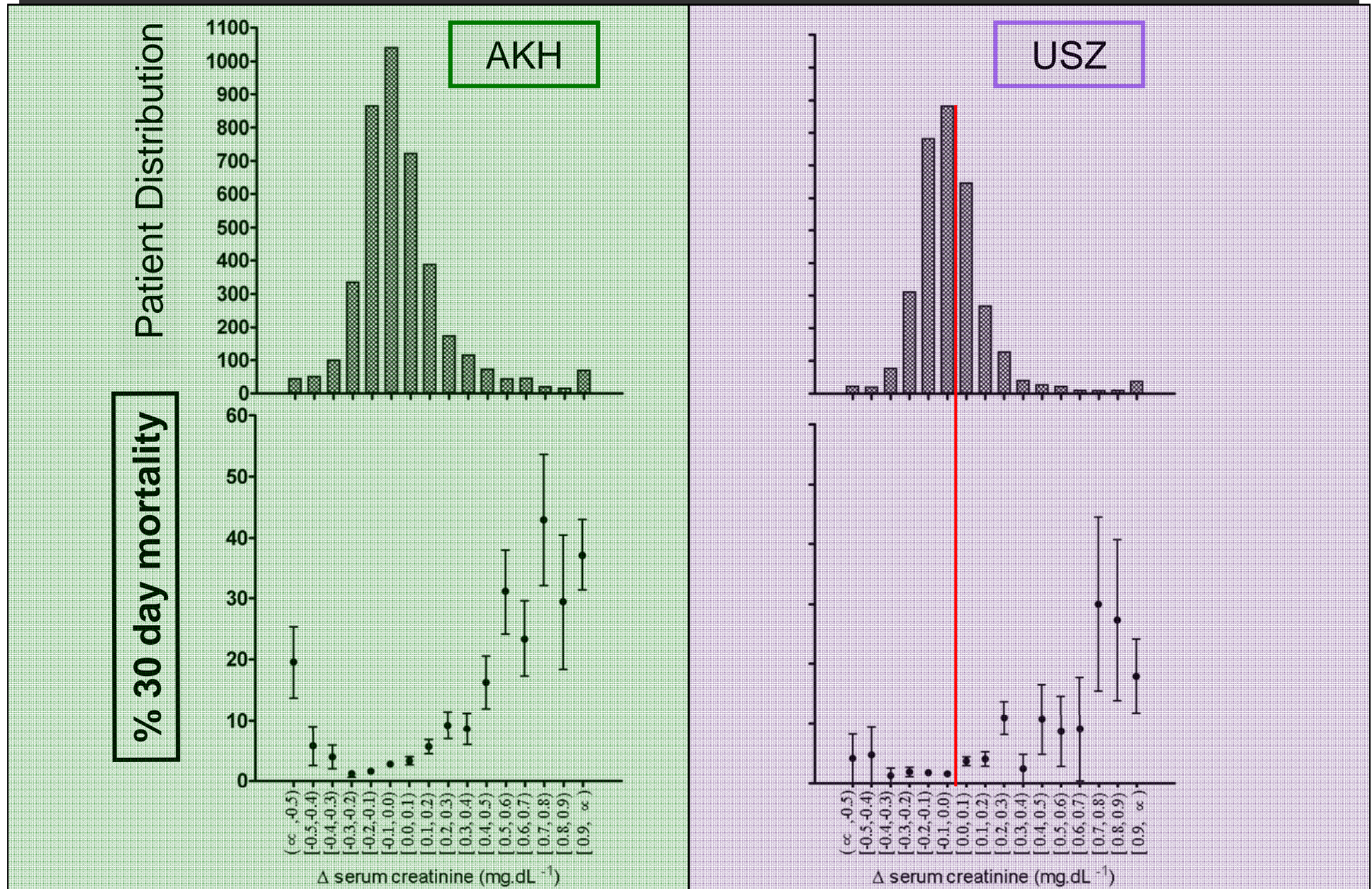


# Validation

Look for equivalence of the  
(previously found) association  
between small serum creatinine  
changes and mortality  
in a second cardiac surgical center

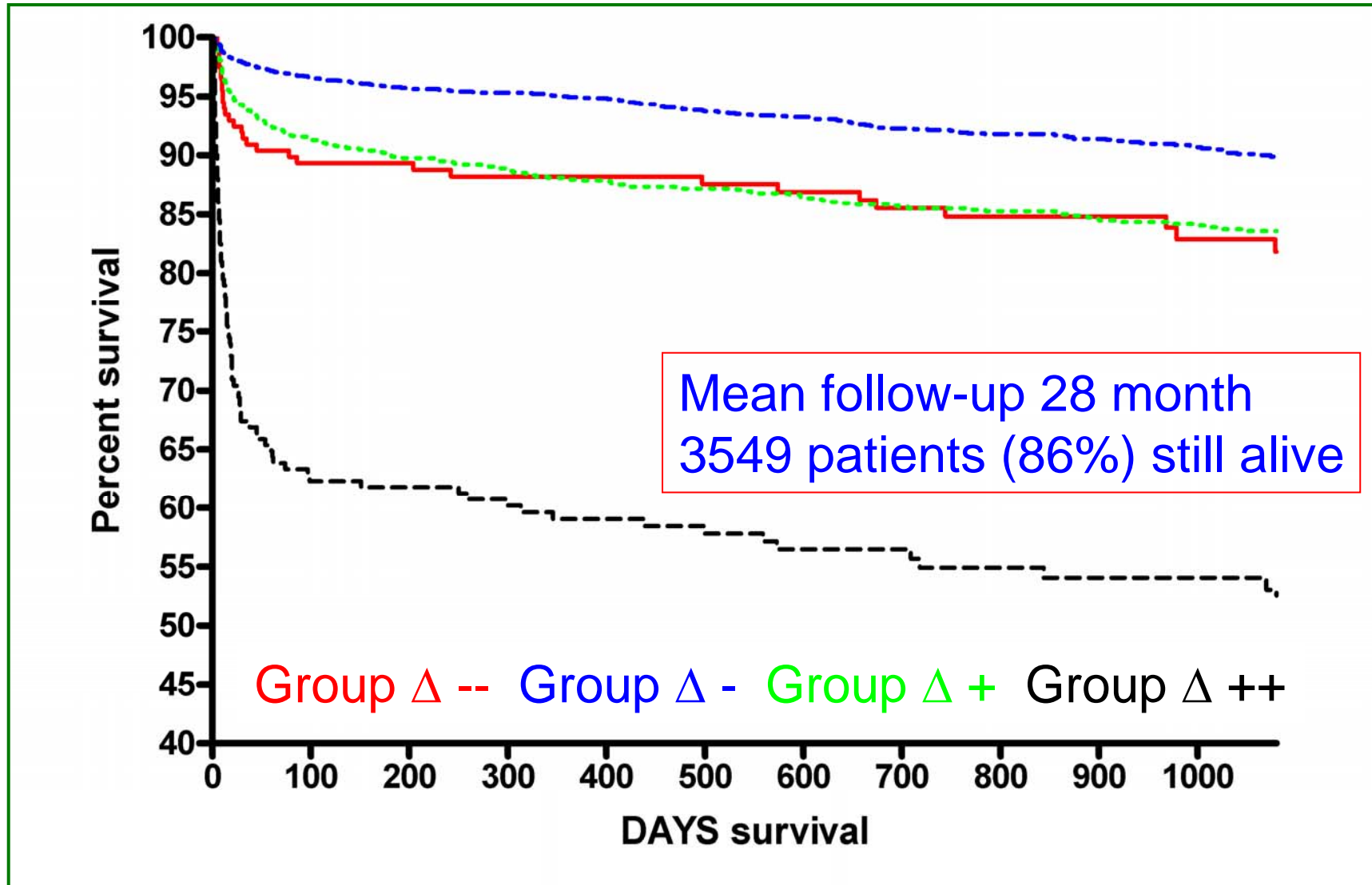


# Results 2 Center - 7241 patients





# Results Long term survival - 4118 patients AKH

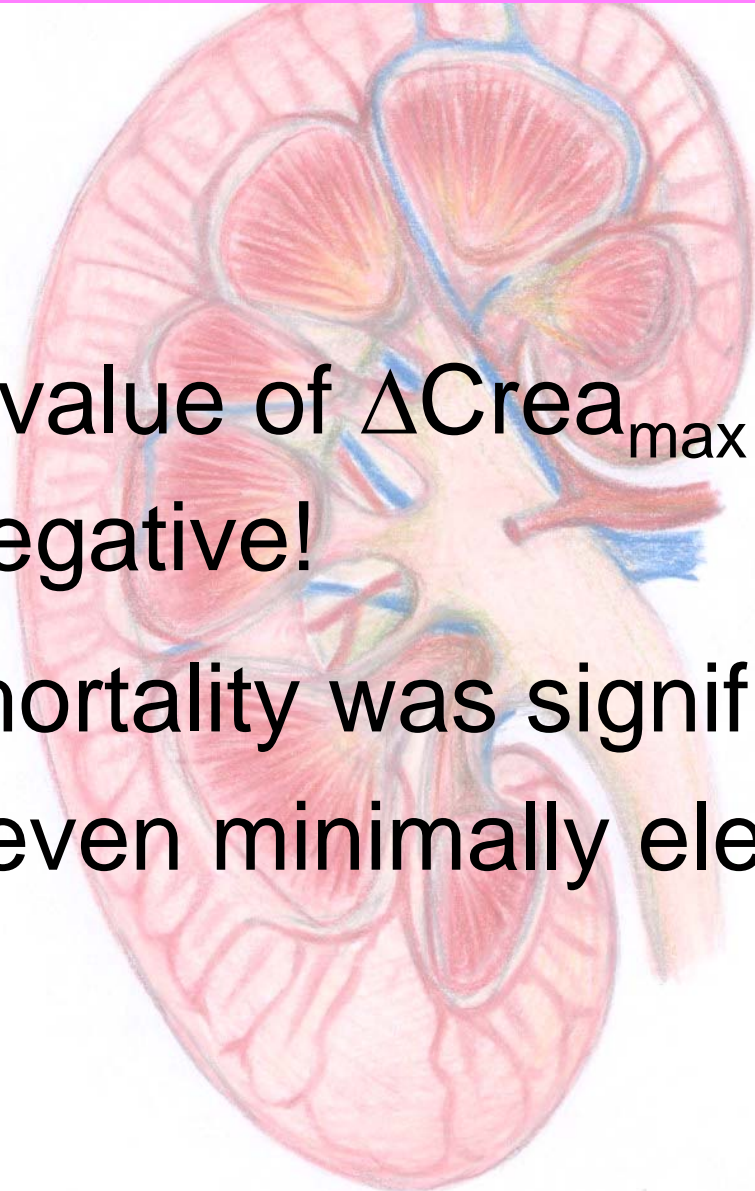


# Conclusion

The normal value of  $\Delta\text{Crea}_{\text{max}}$  after cardiac surgery is negative!

Thirty-day mortality was significantly higher with even minimally elevated

$\Delta\text{Crea}_{\text{max}}$

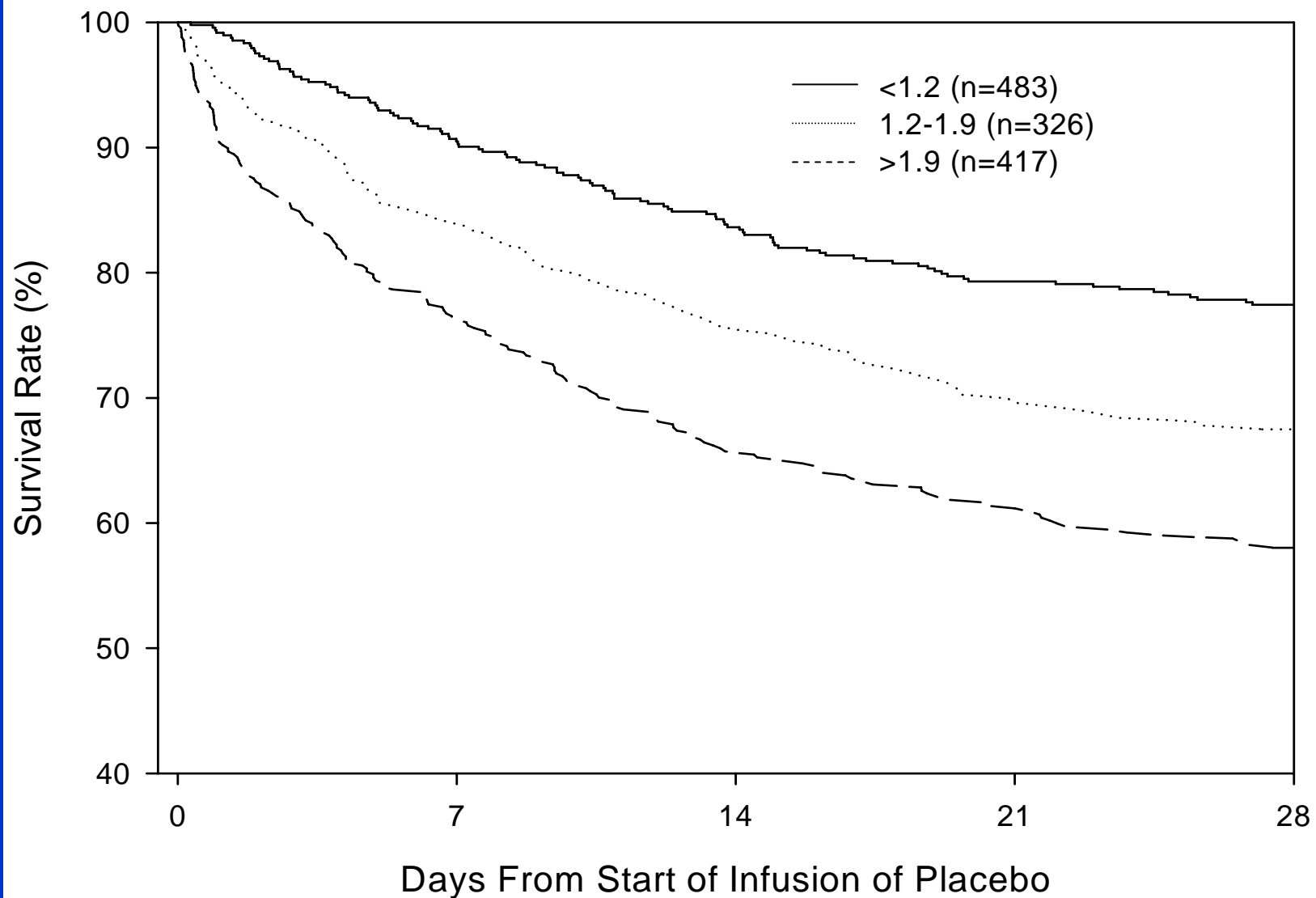


**Alterations In Renal Function Are  
Highly Predictive Of Outcome  
In Severe Sepsis Patients**

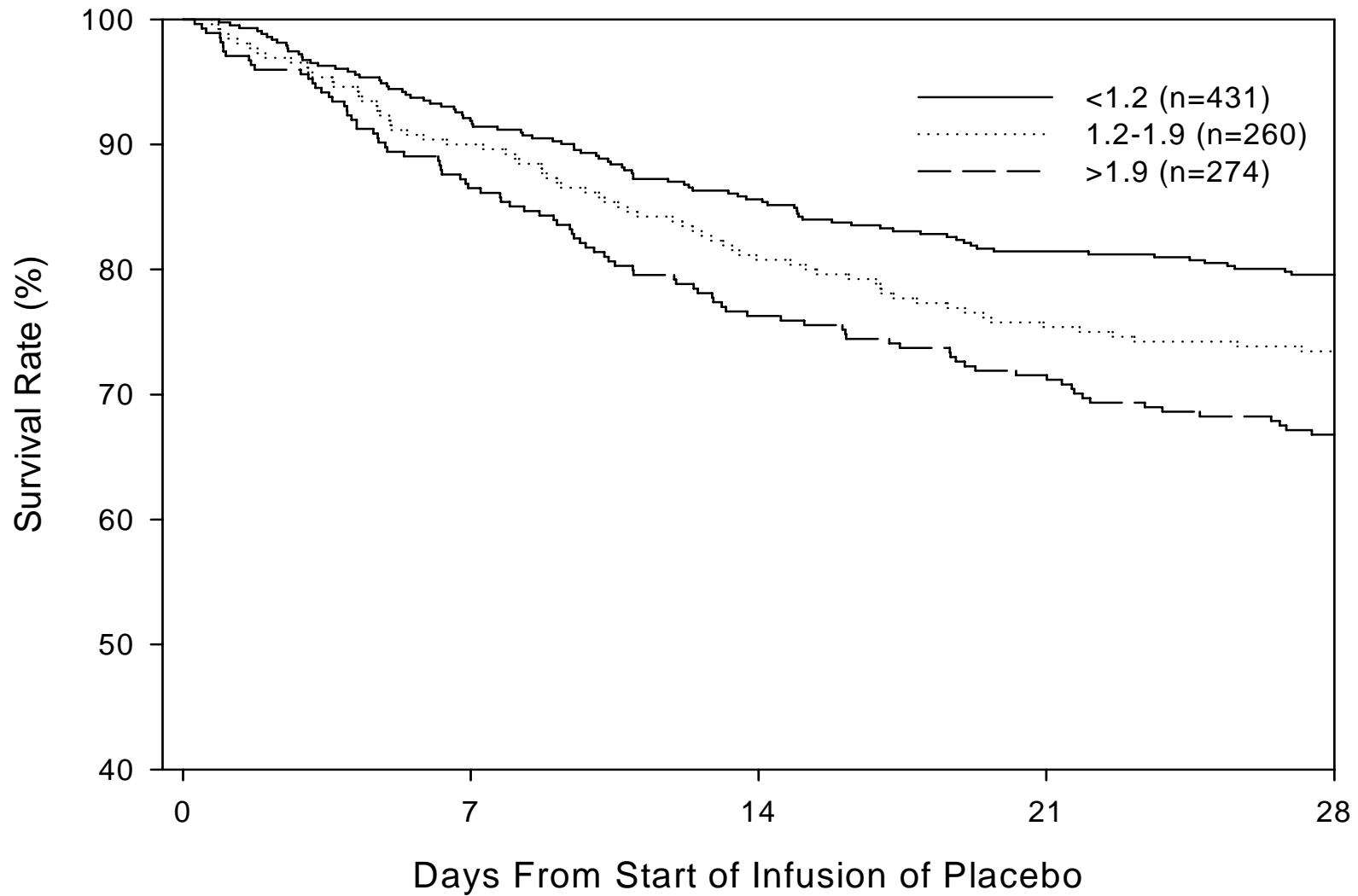
*Acute Kidney Injury Network  
Amsterdam, The Netherlands  
September 29, 2005*

William L. Macias, MD, PhD  
Senior Medical Director  
Lilly Research Laboratories  
Eli Lilly and Company  
Indianapolis, IN

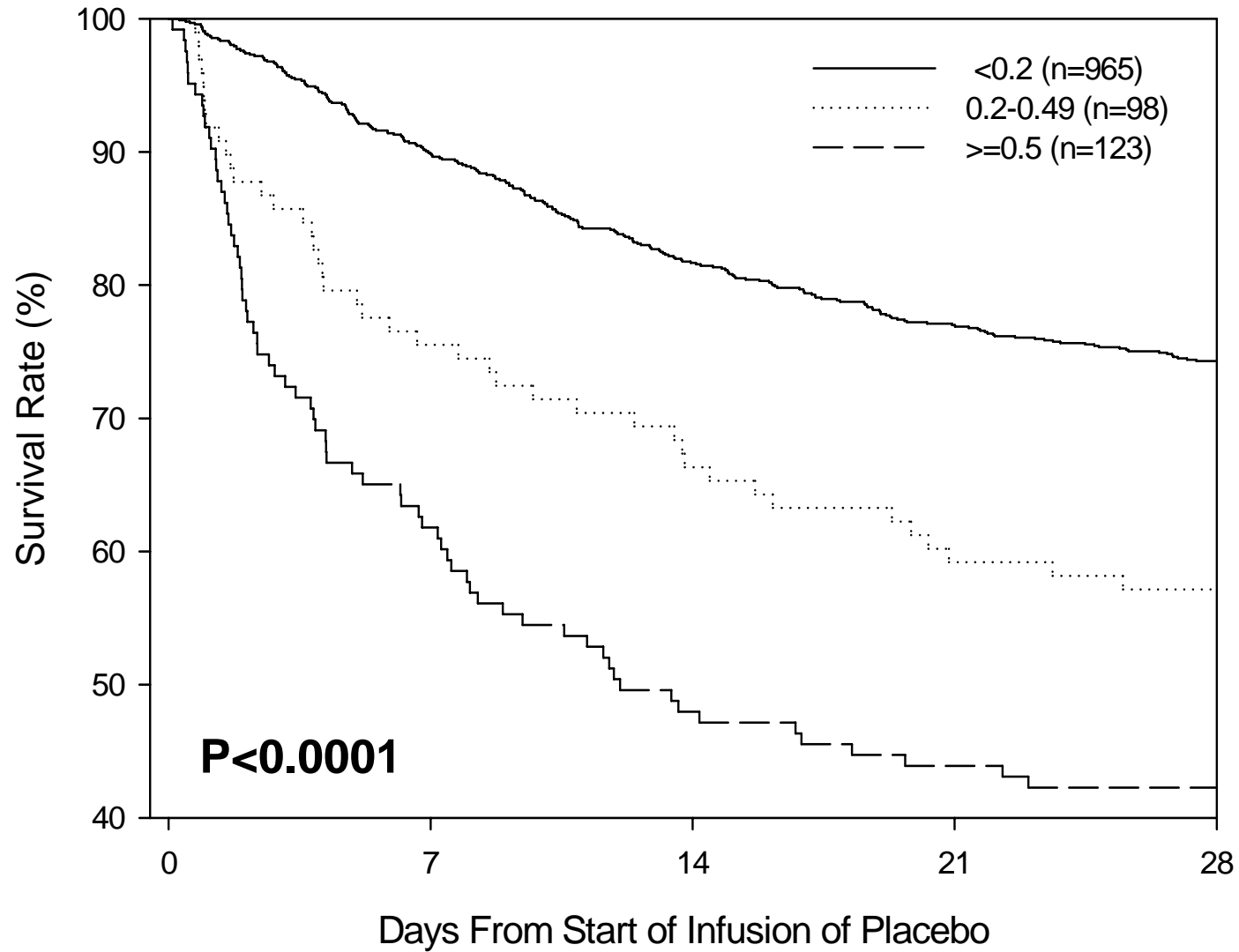
# INDEPTH Placebo: Relationship of Baseline Creatinine with Survival



# INDEPTH Placebo with Day 1 Creatinine Change <math>< 0.2 \text{ mg/dL}</math>: Relationship of Baseline Creatinine with Survival



# INDEPTH Placebo: Relationship of Change in First Day Creatinine with Survival

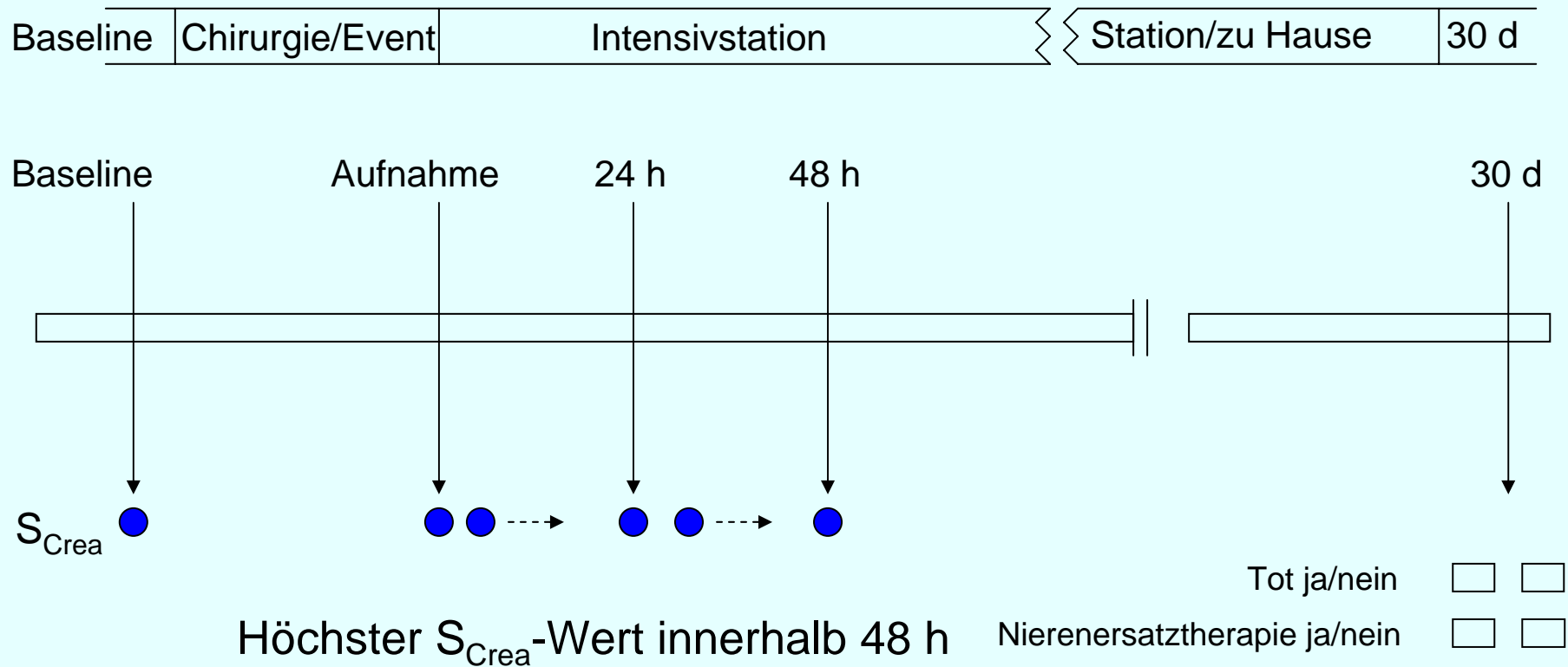


# Summary

- Acute increases in creatinine of  $<0.5$  mg/dL or relative increase  $<25\%$  associated with large increases in mortality
  - Current definition may be too insensitive to detect AKI in patients with severe sepsis
- Mortality penalty associated with increasing creatinine occurs early (within 5 days)
- Mortality penalty associated with increased baseline creatinine but without further increase occurs late (after Day 15)



# Studienschema: Minimaler Datensatz



**Definition: Acute renal injury (ARI) -**

Maximaler Anstieg des Serumkreatinins ( $\Delta\text{Crea}_{\text{max}}$ )  $>0.3$  mg/dL innert 48 h

