

Peritoneal Dialysis—Why not?

Peritoneal Dialysis
B.C. Nephrology Days
October 3, 2008

Objectives

- Review the benefits of PD
- Review the challenges of PD
- Introduce talks on B.C. Catheter insertion experience

Why PD?

- General consensus that home dialysis is better medically, socially and financially
- World wide movement towards independent dialysis and “more” dialysis
- Continuous versus intermittent therapy makes physiological sense
- Proven modality for 30 years

The roundabout



Goal of First RRT Modality

- Rather than look at survival rates of PD vs HD at one point in time, the goal of the first modality selected should be **to attain the best quality of life for the patient throughout the continuum of their care to:**

Optimize the use of each treatment modality

Maximize advantages of each modality

Avoid or minimize the disadvantages of each modality

What are the advantages of PD?

- Medical
- Social
- Financial

Medical advantages of PD

- Early mortality benefit
- Preservation of residual renal function
- Preservation of vascular access
- Blood pressure/hemodynamics
 - Spin off: falls, admissions
- Anemia management
 - Fewer transfusions
- Decreased CHF/infectious morbidity
- Transplantation benefit

Preservation of residual renal function

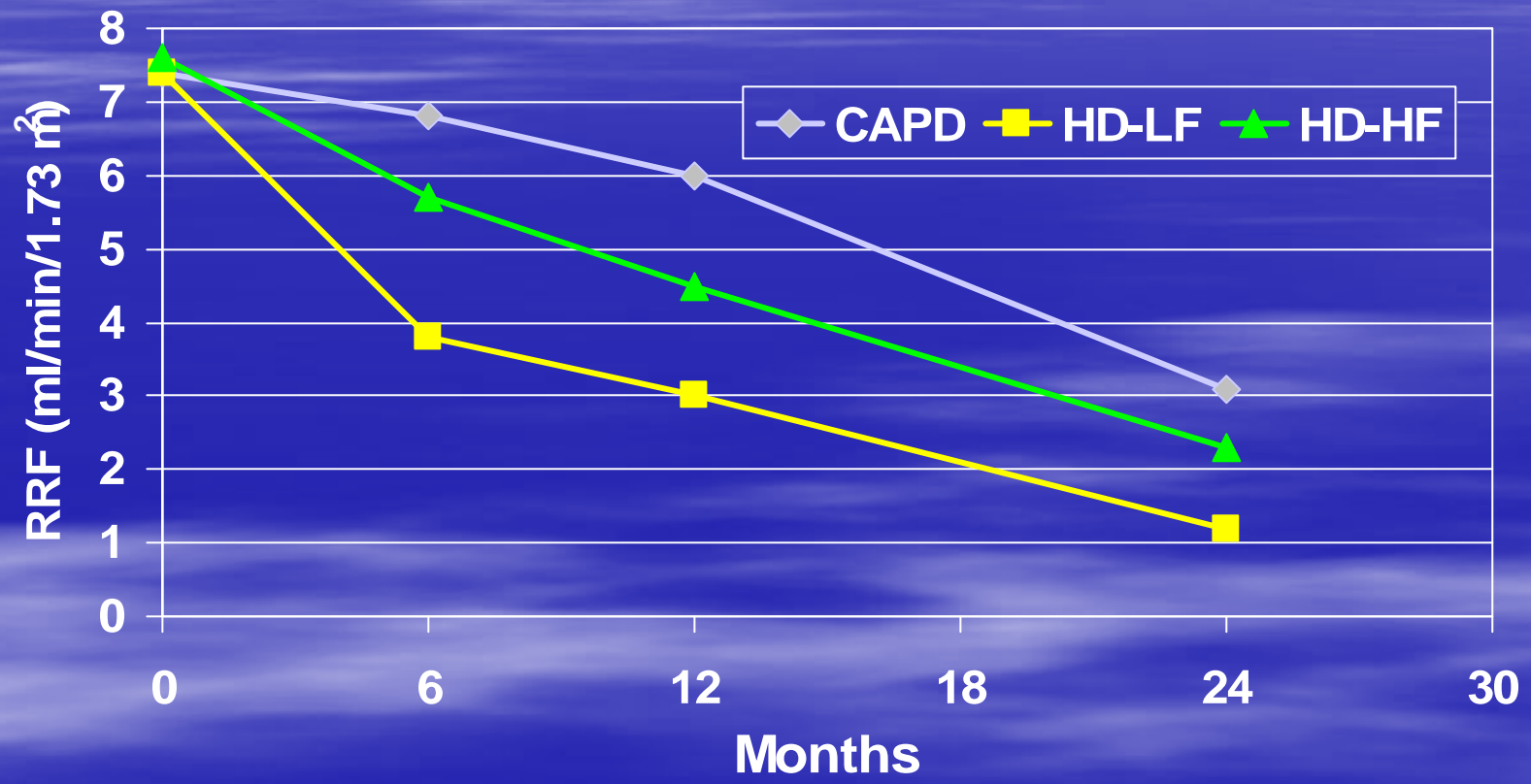
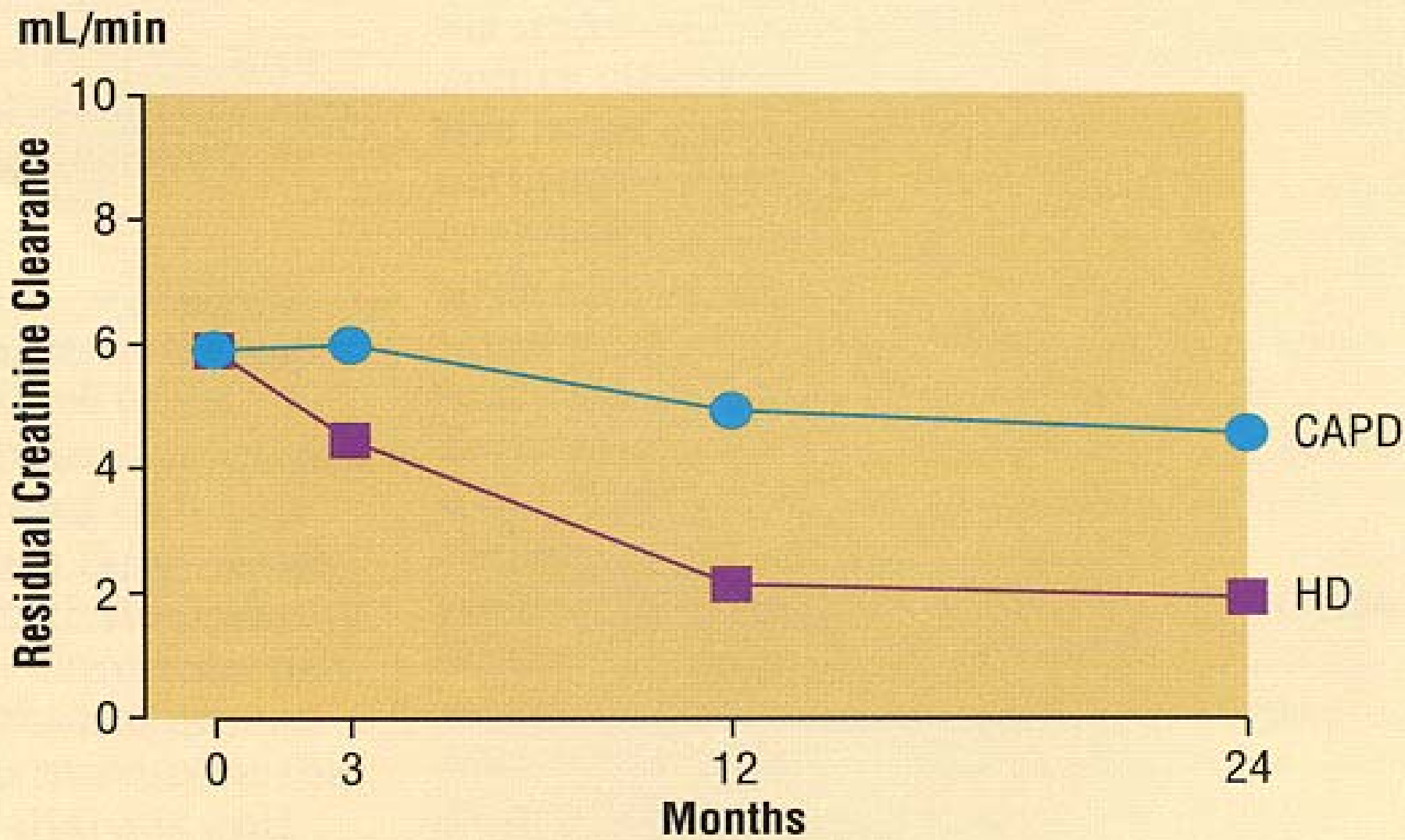
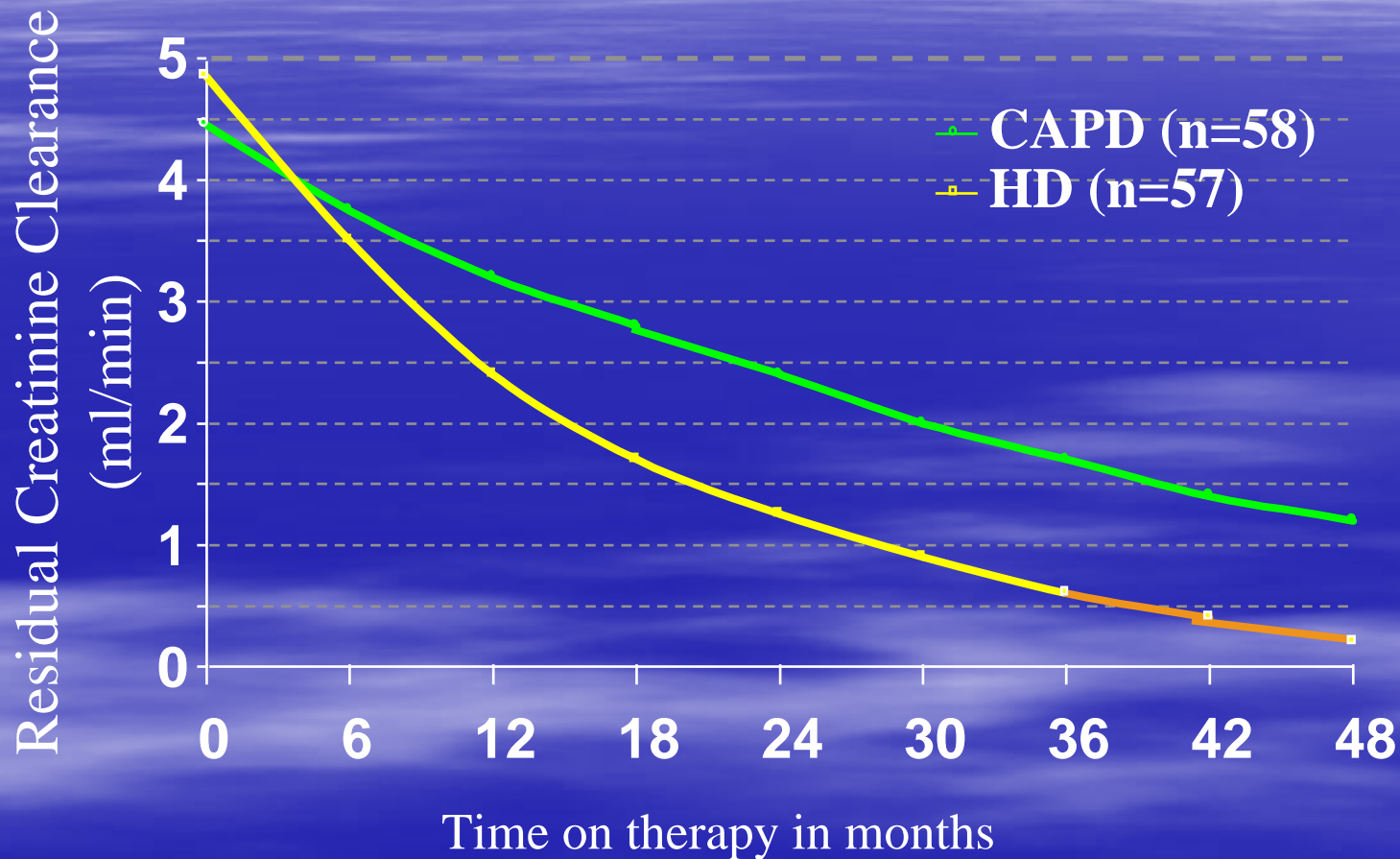


Figure 2. Effect of Dialysis Modality on Residual Renal Function



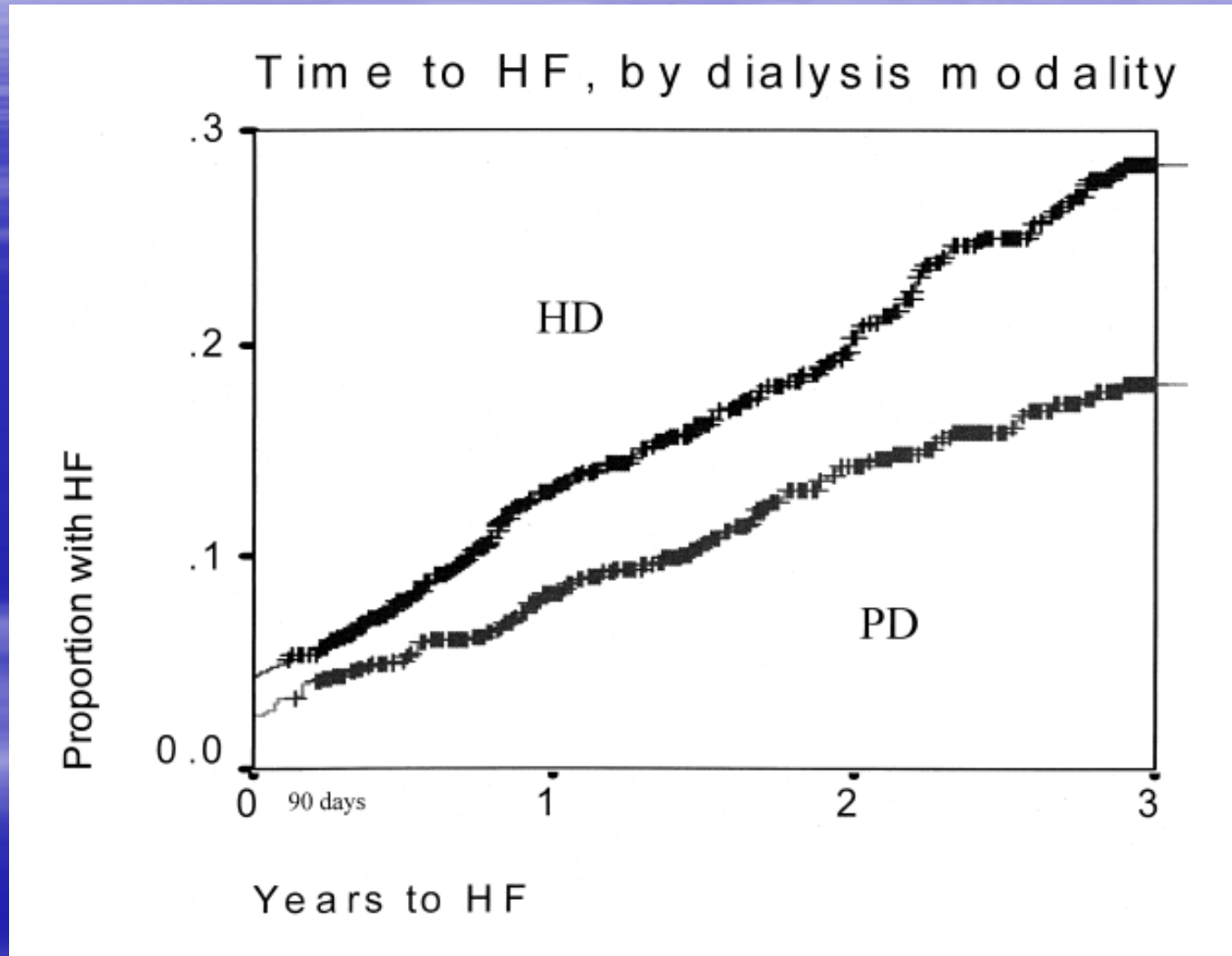
Adapted from Lameire N, Van Biesen W. *Perit Dial Int.* 1997;17(suppl 2):S102-S110.

Starting patients initially on HD leads to more rapid loss of residual renal function



Lysaght MJ, et al, *ASAIO Trans*, 1991; 37(4):598-604

Management of Co morbidities: Occurrence of CHF during Rx



Infections

- In a 3 year study rates are the same, but the types of infection differ⁽¹⁾
- HD related infections are often more severe and lead to higher mortality risks⁽²⁾
 - Septicaemia incidence 22%, mortality rate 20%
 - Pneumonia 17%
 - Exit site 37%
- PD related infections have a lower mortality rate
 - Peritonitis incidence 24%, mortality rate 2.3%
 - Pneumonia 3%
 - Exit site 53%
- Krishnan et al, PDI, 1998
- Wang, Piraino, Bernardini et al, JASN 2002

Morbidity of infections

- PD

- Catheter removal <5%
- Endocarditis/Osteomyelitis—unmeasurable

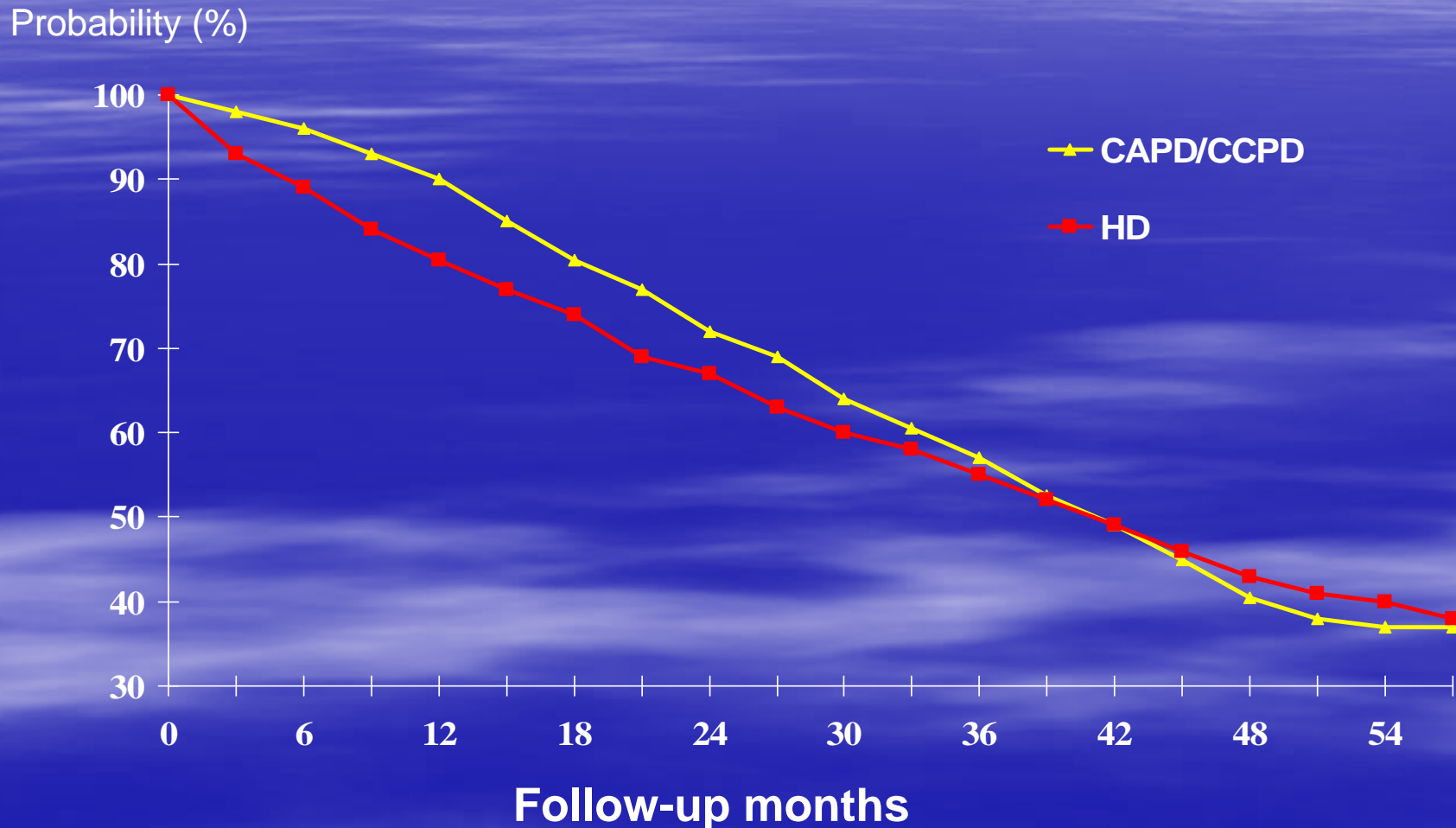
- HD

- Catheter (graft) removal 80%
- Systemic infection—15%

Is there a mortality benefit to PD?

- No RCT—and there won't be
- Large database systems (CORR, USRDS) report early mortality advantages for PD
- Any change in modality confers increased mortality so hard to analyze

Survival Probability for Patients Initiating Dialysis with CAPD/CCPD Compared to HD (1990-94)



Social Advantages of PD

- Flexibility in
 - Travel
 - Diet
 - Timing of dialysis
- Privacy
- Employment

Challenges of PD

- Medical

- Metabolic consequences of sugar
- PD catheter placement and function
- Infections

- Social

- Isolation
- Home care/ facility based care
- Time commitment--respite

Challenges to PD

- CKD team
 - Patient education and patient selection
 - Myths and realities
 - The “girl next door” syndrome
 - Biases
 - Inadequate nurses/physician exposure

So what about PD catheters?

- Perception “out there” of difficulty getting access
 - Is it really that complicated?
- Perception of big infection risk
- Body image concerns by patients
- No fancy flow measurements/interventions makes it less interesting

PD catheter insertion

- In uncomplicated patients, no uniform advantage of any operative technique over the classic “bedside” or ambulatory percutaneous catheter placement is evident. In complex cases, there may well be advantages of laparoscopic insertion. Operator experience is more likely to dictate outcomes.”

BC Initiative on PD Catheter Insertion

Local experience

- Fraser Health: Dr. Victor Chan + others
- Providence Health: Dr. Gary Nussbaumer
- Vancouver Coastal: Dr. Mike Moriarty/ Dr. Suneet Singh
- Interior Health: Dr. Marie Michaud

Non surgical “bedside” PD catheters

- Easy
- Safe
- Equal outcomes to other techniques
- Require little infrastructure but have huge advantages to any renal program
- Allow for timely, planned initiation of PD

