

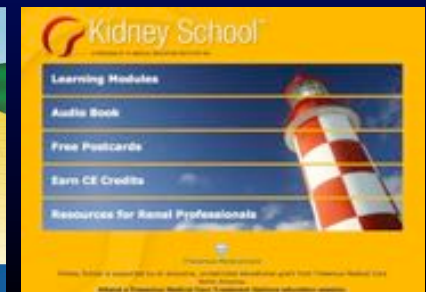
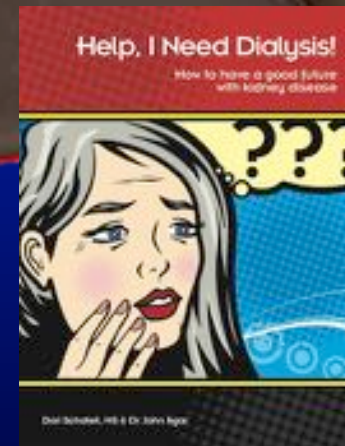
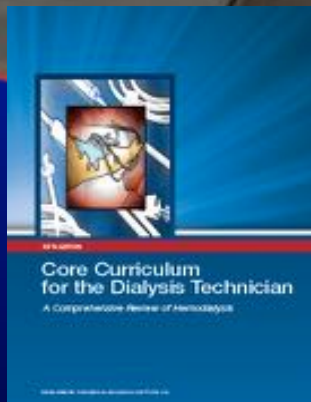


Hemodialysis Modalities: Which is Best for Your Patient?

Dori Schatell, MS

Medical Education Institute 3/23/2016

✦ MEI Mission: *Help people with chronic disease learn to manage and improve their health.*



Key points about home HD:

- * More than **110,000** people start dialysis each year
- * You do **NOT** have to worry about your job!
- * Medicare **requires** clinics to teach patients options



Dialyzer Perspectives



Kidney failure is like a personal tsunami



Strong emotions are normal

TERROR, ANGER, DEPRESSION ARE COMMON



Unlike desserts, there are no *good* choices



Dialysis choice affects *every* aspect of lifestyle

CHOICE OF A TREATMENT NEEDS TO REFLECT THIS



A lot of the fear is about a life not worth living



There *are* choices that support lifestyle

Hope can help patients cope

N=103 UK adults on dialysis¹

Higher levels of hope predicted:

- * Less anxiety
- * Less depression
- * Reduced burden of kidney disease
- * Better mental functioning



“Hopefulness could serve to lessen the emotional impact of ESRF and treatment by empowering the individual to reframe threats as challenges”

¹Billington E et al. 2008 *Br J Health Psychol.* 13:683-99

Help your patients “reframe”

LIFE GAVE YOU LEMONS?



MAKE LEMONADE



PERCEPTION IS REALITY

Reframing changes perspective



“Oh, he didn’t lose any weight. He just bought bigger pants.”

Life & Death Committees



Just 60 years ago, *no one* survived chronic kidney failure

Our story so far...

- * Dialysis is an **emotional tsunami**
- * All of the options sound bad (some are better)
- * Patients need **HOPE** for a good life
- * **You** can help them “**reframe**”



HD Modalities

There are 5 HD modalities

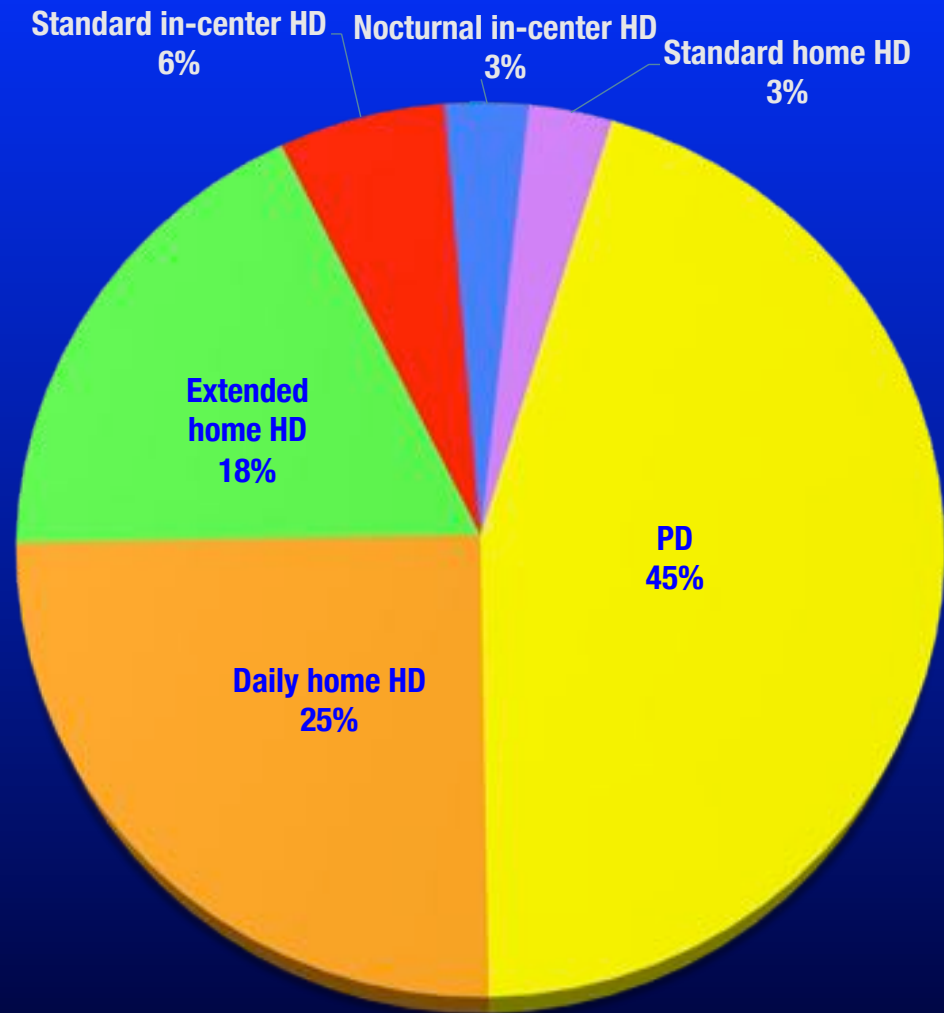
* IN-CENTER:

1. Standard (3x4)
2. Nocturnal (3x8)

* HOME:

3. Standard (3-3.5x4-5)
4. Short daily (5-6 x 2.5-4)
5. Nocturnal (3.5-6 x 7-8)

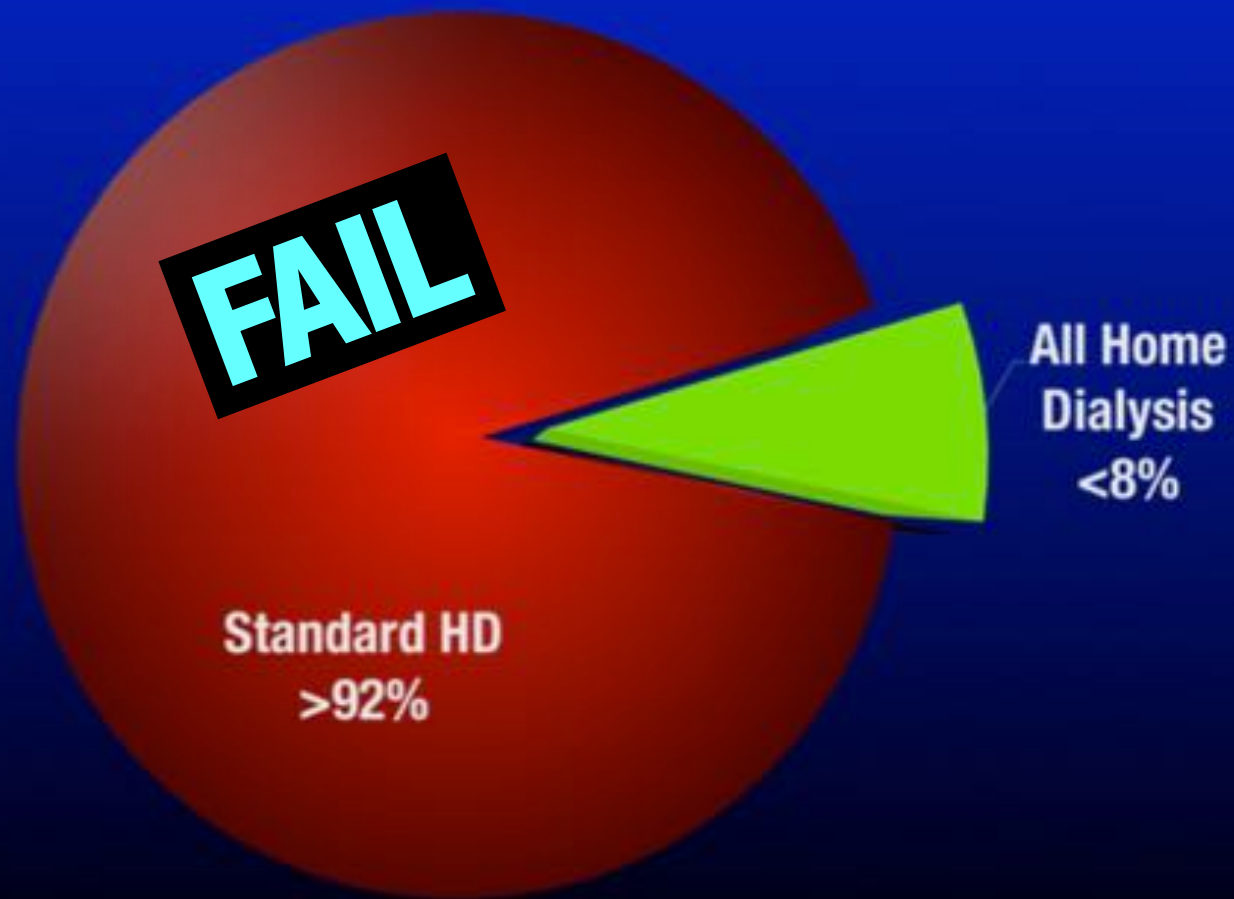




Merighi J et al. *Hemodial Int.* 2012 Apr;16(2):242-51

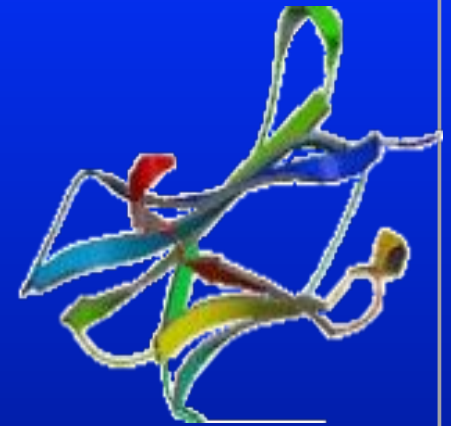
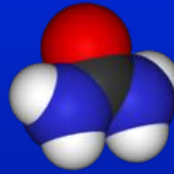
Most US nephs would NOT choose standard HD

Dialysis distribution for US patients



Q: *Why wouldn't* most US nephrologists choose standard in-center HD?

Urea: Small &
easy to remove

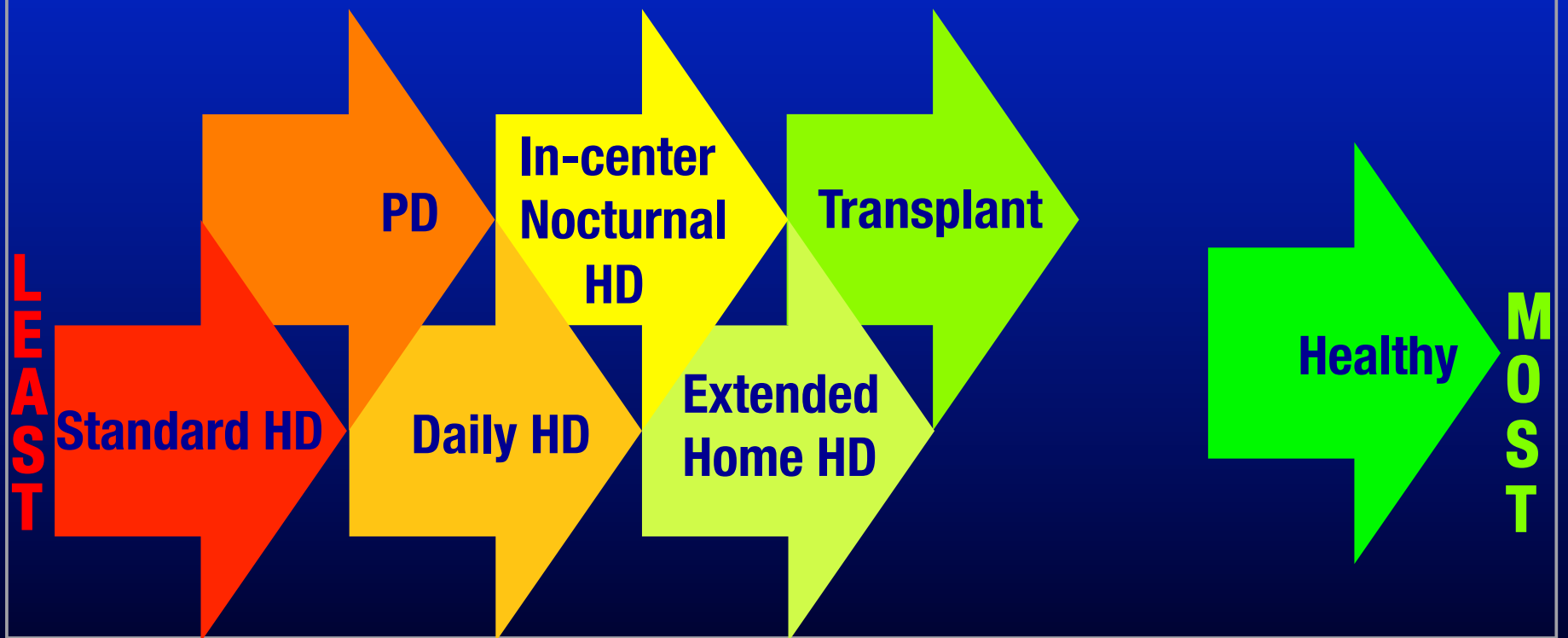


B2m:
Needs TIME!

- * **Kt/V measures only UREA**
- * **Kt/V *doesn't* measure water**
- * **Adequate = “good enough” — not GOOD**

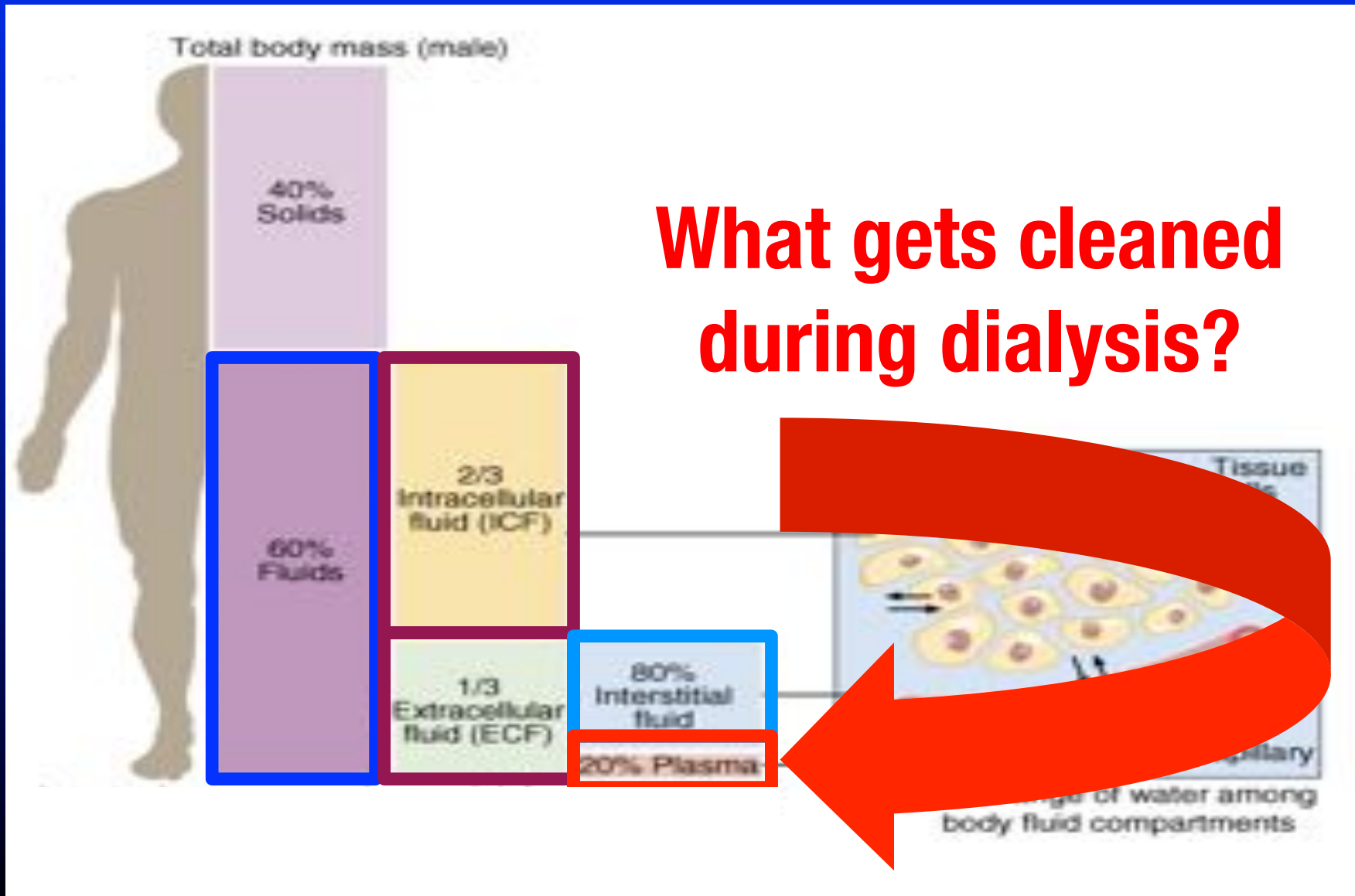
“My Labs are Great! But, I Feel Lousy...”

Kidney Function



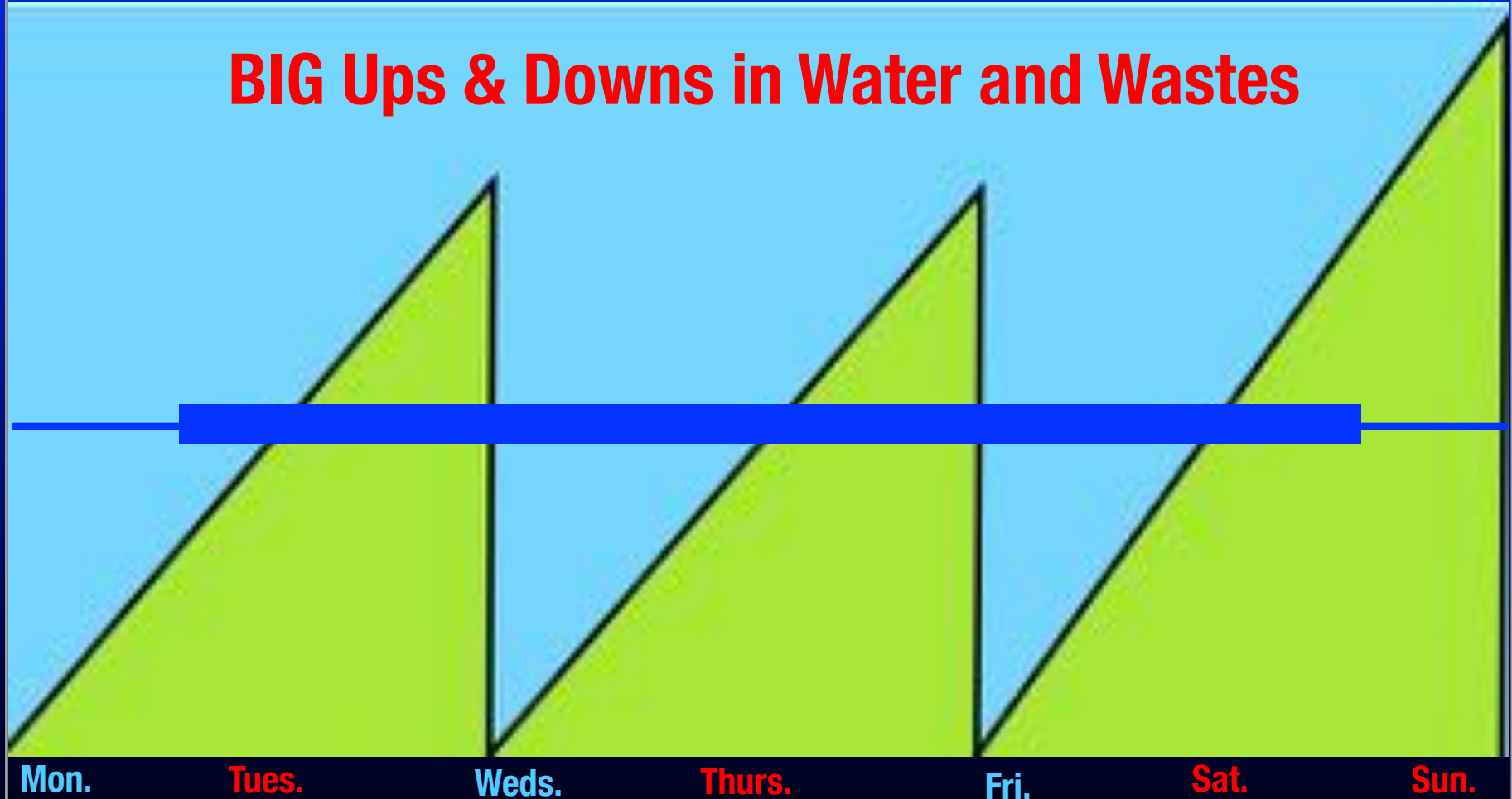
More dialysis feels more like healthy kidneys

Body water is in compartments

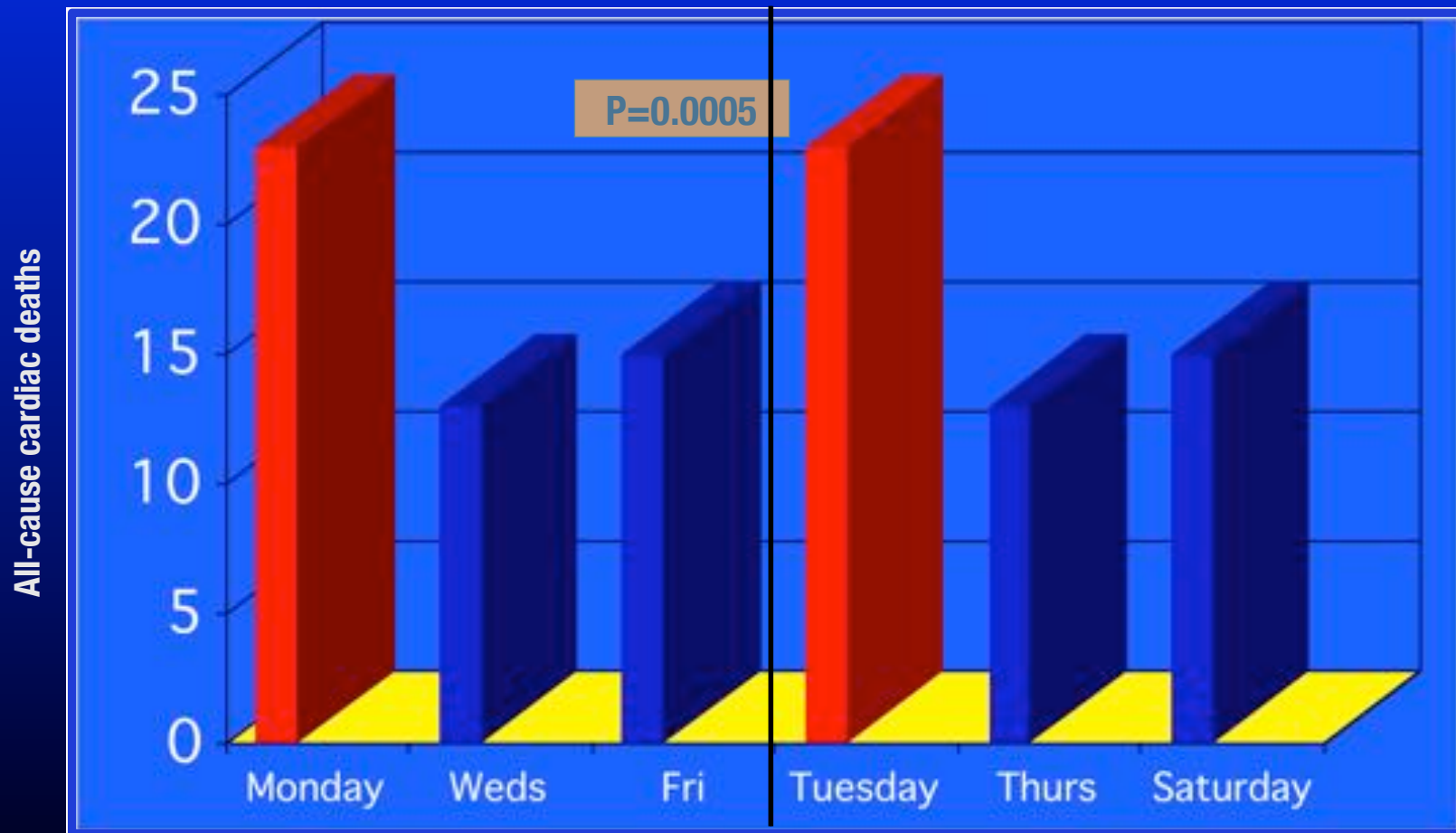


Standard HD: What happens in the body

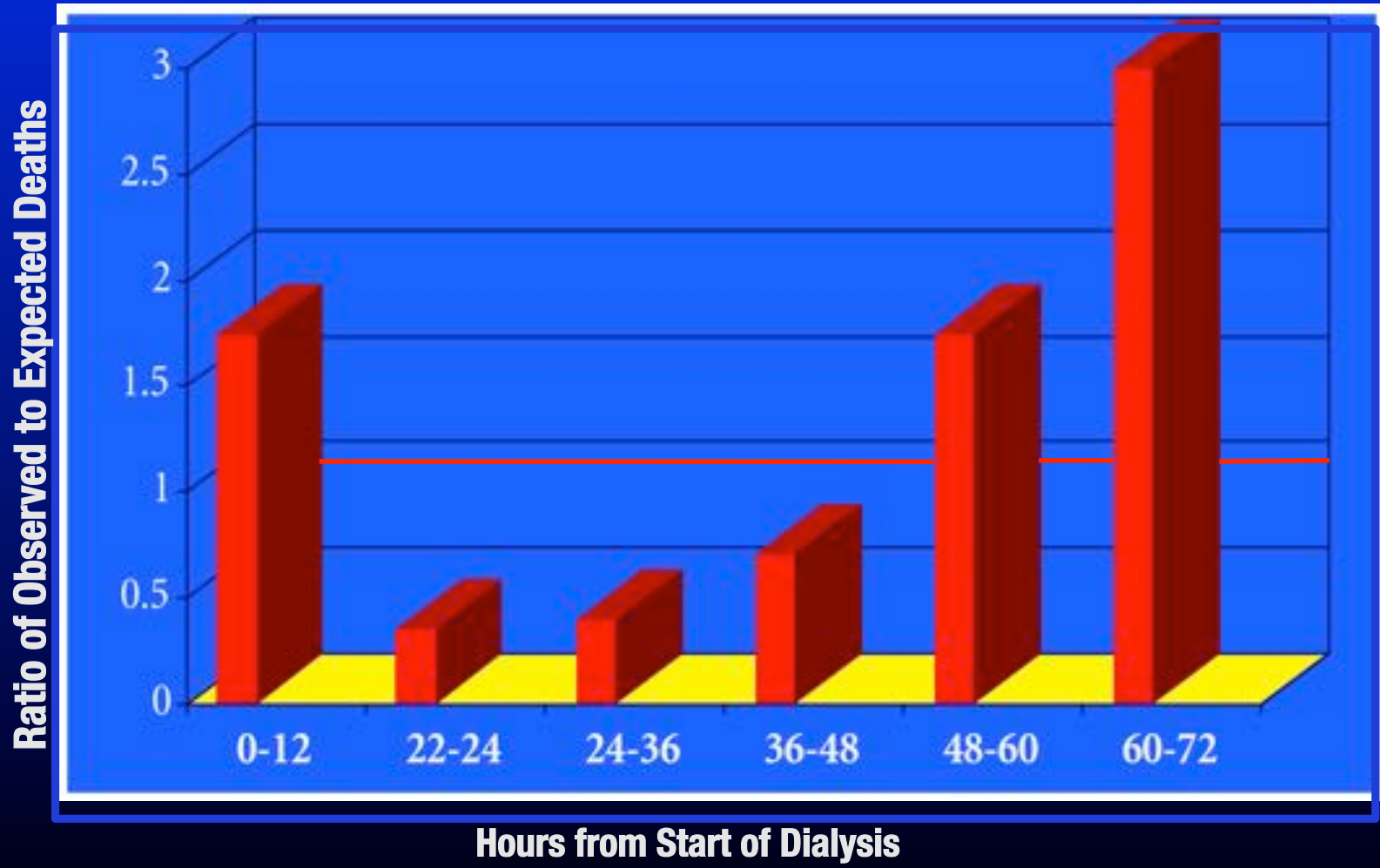
BIG Ups & Downs in Water and Wastes



Standard In-center HD: the 2-day “Killer Gap” (by Day)

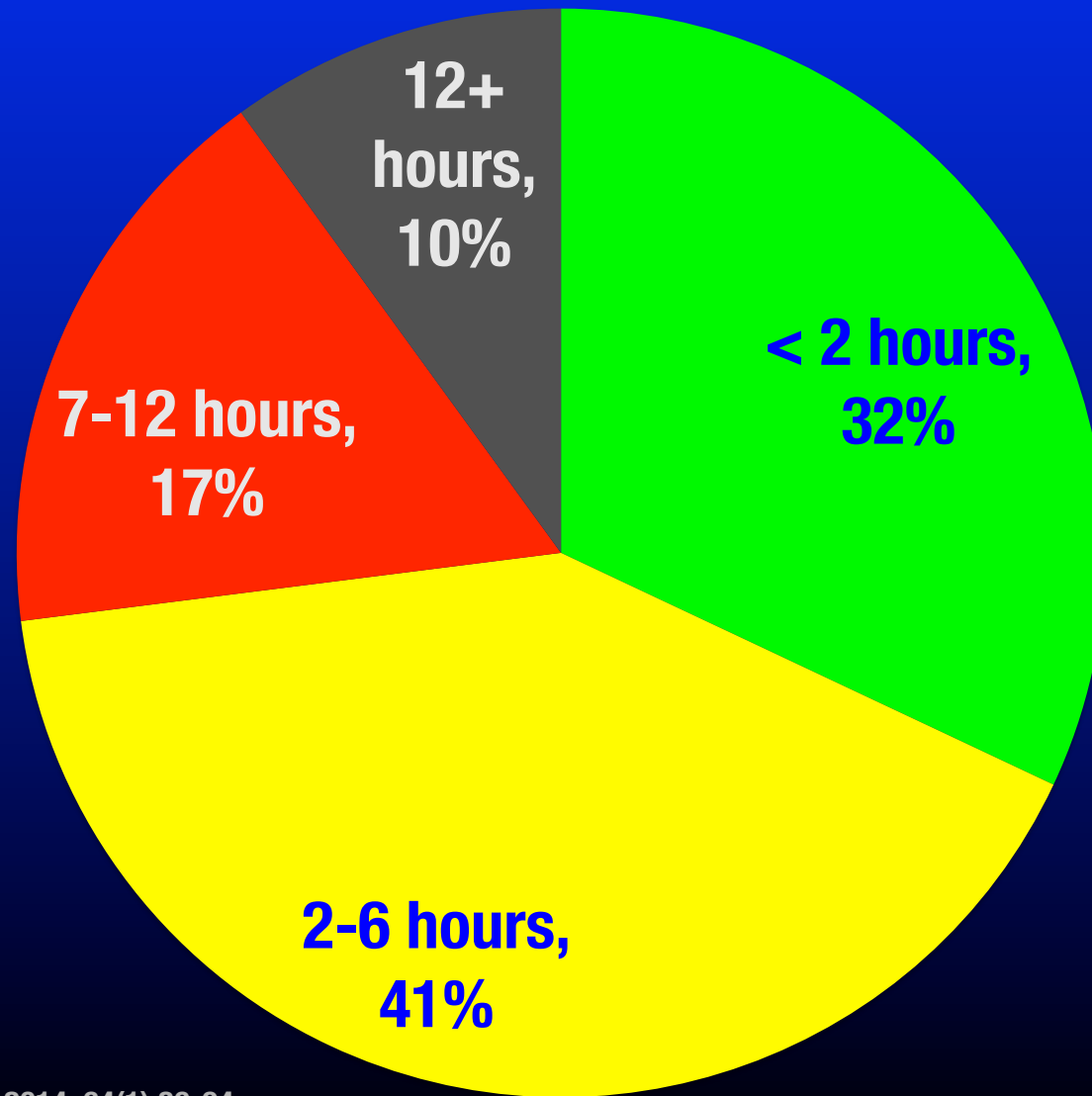


Standard In-Center HD: the 2-day “Killer Gap” (by Hour)



Bleyer AJ et al. *Kidney Int.* 2006, 69:2268-2273

Recovery time after standard HD



Are your patients here?

Why is less recovery time better?

Shorter recovery time (<7 hours) is linked with:

- * Less hospital risk
- * Living longer



What causes long recovery?

- * Taking off too MUCH water
- * Taking off water too QUICKLY
- * Anoxic tissue damage: “Organ Stunning”



Rapid ultrafiltration hurts!



Muscle cramps



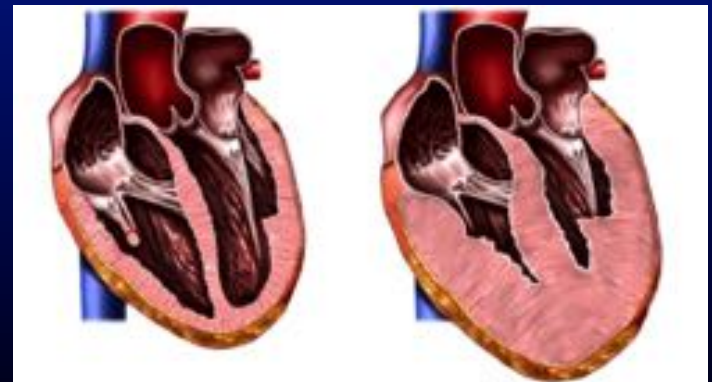
Fire hose dialysis



Lack of blood flow leads to heart & organ "Stunning"



BP crash – feeling washed out



Normal heart

LVH



Organ stunning and depression (from feeling awful after each treatment) are leading causes of death

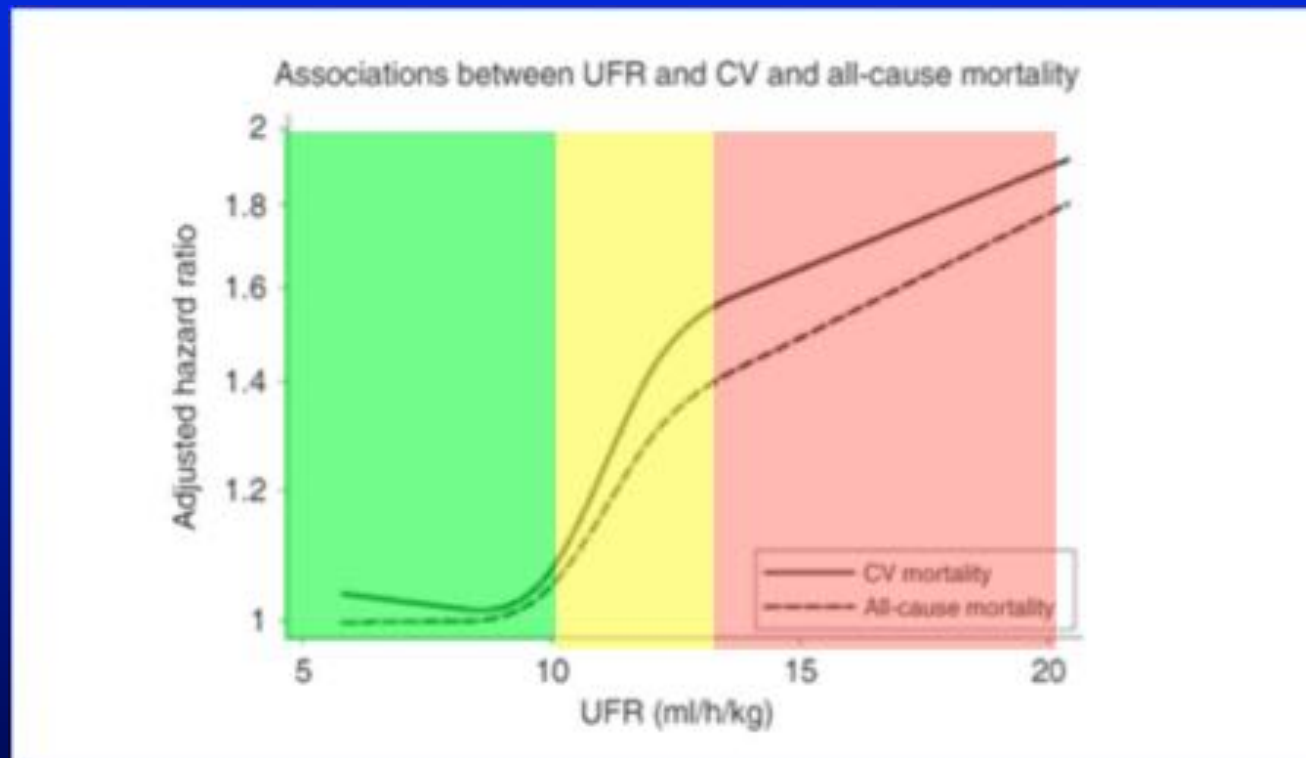
Slow & steady wins the race...

Study of 3 different rates of water removal (UF):

- * **Less than 10 mL/h/Kg (59% better survival)**
- * **10-13 mL/h/Kg**
- * **13+ mL/h/Kg**



✦ Keep the ultrafiltration rate <10 mL/hr/Kg¹



1 Flythe JE et al. *Kidney Int.* 2011 Jan; 79(2):250-7

Slower UF & longer treatments are safer

Effective CKD Education Changes the Distribution

Study	N=	% Who Chose Home After Education
Schrieber M et al, NN&I 2000	5065	45% (PD)
Goovaerts T et al, NDT 2005	185	60% (PD, HHD, IC-self care)
Prichard SS. KI 1996	150	44.7% (PD)
Gomez CG et al. PDI 1999	304	56% (PD)
Manns BJ et al. KI 2005	70 (RCT)	82.1% (Intent to go home)

Teaching your patients can make a difference

Our story so far...

- * Nephrologists **don't** choose standard HD
- * It's the **least** amount of dialysis
- * **Organ stunning** is a common cause of death
- * **Slow, gentle HD**—and cooler dialysate—help



1 Eldehni MT, Odudu A, McIntyre CW. Randomized Clinical Trial of Dialysate Cooling and Effects on Brain White Matter. *J Am Soc Nephrol*. 2014 Sep 18. [Epub ahead of print].

Matching HD Modalities to Lifestyle

NEVER say these to patients:

- * You *can't* do a home treatment! I'd miss you!!
- * You'd be lonely without us
- * **What if something goes wrong?**



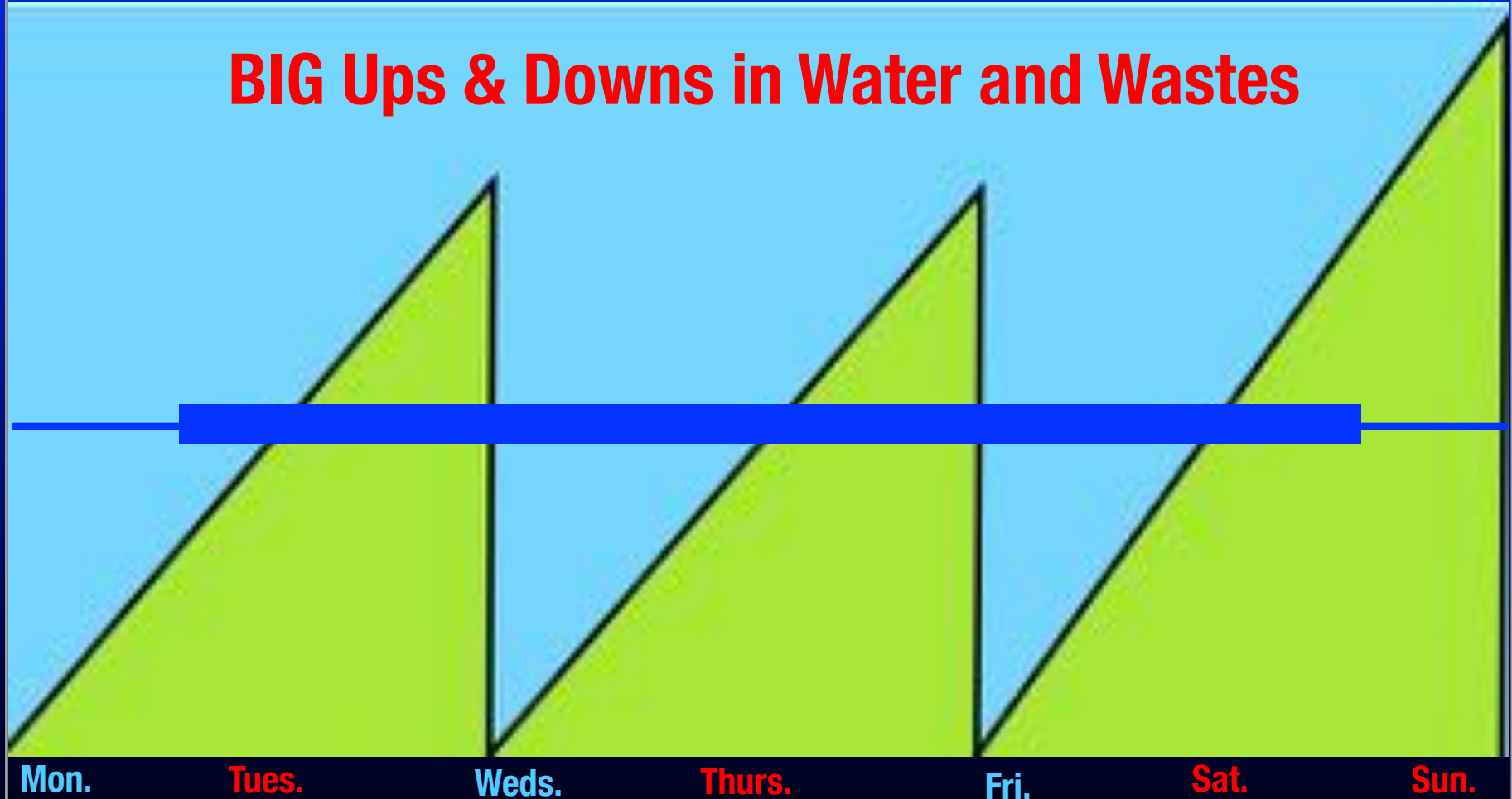
1. Learn your patients' goals



2. Learn the basic differences

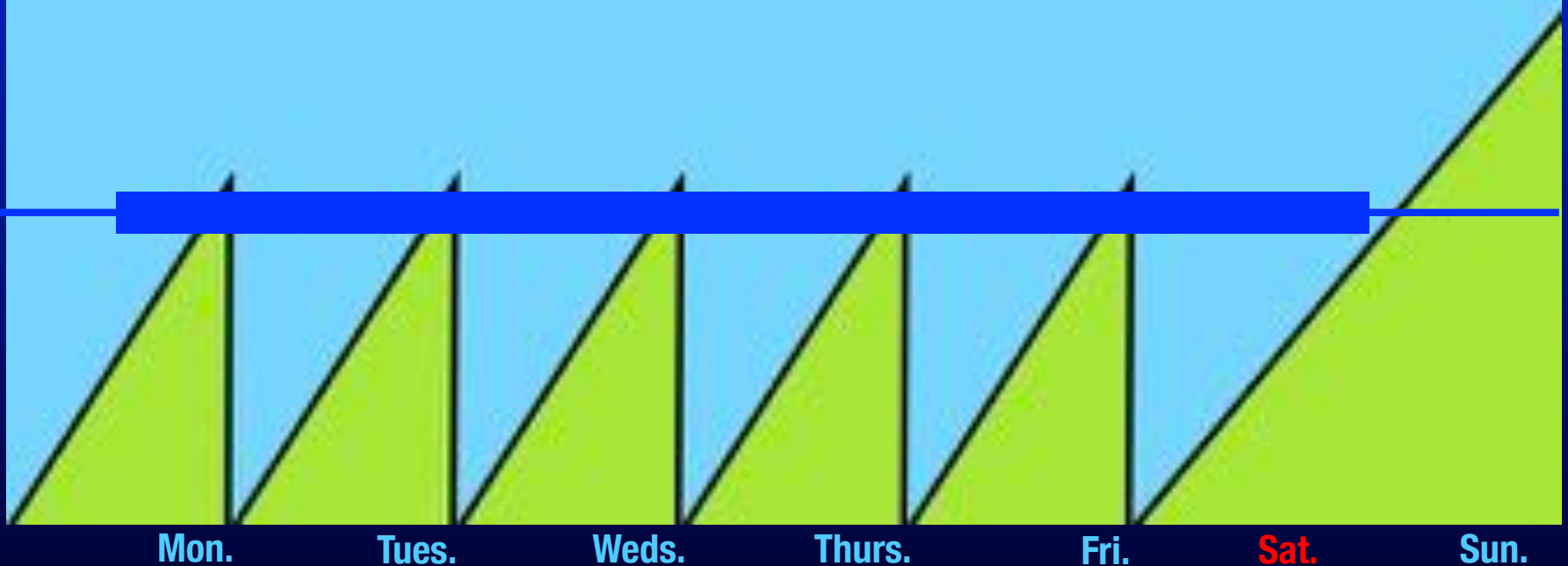
Standard HD: What happens in the body

BIG Ups & Downs in Water and Wastes



Short daily HD: What happens in the body

Small Ups & Downs in Water and Wastes



Recovery time after short daily HD



Lindsay RM et al. *CJASN* 2006 Sep;1(5):952-9

Nocturnal HD: What happens in the body

VERY Small Ups & Downs in Water and Wastes



Mon.

Tues.

Weds.

Thurs.

Fri.

Sat.

Sun.

Recovery time after nocturnal HD



Lindsay RM et al. *CJASN* 2006 Sep;1(5):952-9



Short daily/nocturnal HD: Less thirst



Short daily/nocturnal HD: Fewer limits



Short daily/nocturnal HD: Fewer meds



Short daily/nocturnal HD: Work friendly



Short daily/nocturnal HD: Travel friendly



Short daily/nocturnal HD: Less depression



Nocturnal HD: Best chance for a baby



Some clinics support self-dialysis

My Life, My Dialysis Choice

a program of the non-profit  mei

If your kidneys fail, dialysis
can save your life.

But, dialysis is not just a
medical treatment.

It can also affect every
aspect of your lifestyle.

This tool will help you choose the right treatment
for *you*, so you can feel your best *and* live the way
you want to.

Get Started ▼

or

See How it Works ▶

www.mydialysischoice.org

3. Use our free decision aid



What matters to you?

Check the values that matter **most** to you.
For each value you select, you'll be able to rate how each treatment option fits your life.
We'll show you a summary when you're done.

Lifestyle Values

- I need to be able to work or go to school
- I need to be able to travel
- I want to be able to eat and drink what I like
- I love to swim and/or take tub baths
- I will NOT give up my pets
- I want to feel well from one day to the next
- I worry about how much **dialysis** will cost

Health Values


- I want to be able to sleep as well as I can at night
- I want the best chance for a kidney **transplant**
- I want to avoid taking pills as much as I can
- I want to protect my bones, joints, and nerves
- I want to protect my heart
- I want to stay out of the hospital
- I want to live as long as I can



I want to stay out of the hospital

With longer or more frequent [dialysis](#), you have a better chance of staying out of the hospital. The type of access you have also plays a role. An access infection can land you in the hospital. Heart problems and fluid overload also cause lots of hospital stays.

Rate how well each treatment fits this value

 **Peritoneal Dialysis & Hospital Stays**

rate this: ☆☆☆☆

- Do each [PD](#) exchange just as you are taught to avoid hospital stays

But...

- Average of 11.3 hospital days per year. NOTE: includes those who switch options in a year

 **Standard Hemodialysis & Hospital Stays**

rate this: ☆☆☆☆

- If you follow your treatment plan, you may be able to avoid some hospital stays

But...

- Average of 11 hospital days per year. NOTE: includes those who switch options in a year
- One small study found 1/3 fewer hospital stays for [standard home HD](#) than for in-center


 **Daily Hemodialysis & Hospital Stays**

rate this: ☆☆☆☆

- Daily [dialysis](#) means you can avoid going 2 days with no treatment

But...

- Average of 9.6 hospital days per year

 **Nocturnal Hemodialysis & Hospital Stays**


rate this: ☆☆☆☆

- [Nocturnal home HD](#) is the most [dialysis](#) you can get

But...

- Average of 1-6 hospital days/year for [nocturnal home HD](#)
- Average of 9.6 hospital days per year for [in-center nocturnal HD](#)

My Life, My Dialysis Choice

a program of the non-profit 

Summary

Progress: Summary ▾

Results

My Values	📌 PD	📌 Standard HD	📌 Short Daily HD	📌 Extended HD
Work / School	★★★★		★★	★★★★
Eating/Drinking	★★★		★★★	★★★★
Feeling Well	★★★		★★★	★★★★
Survival			★★★	★★★★
Totals	10	0	11	16

+ Add More Values

Save or send your results

Bookmark this page and come back later to see your chart again. Or, fill in your email address and we will send you the link.

We will only use your email address to send you your link. We will not keep it. Promise!

Send Link



www.mydialysischoice.org

Take Aways

- * Patients have life goals
- * Matching modalities to life goals matters
- * You can help patients do this