Home Dialysis & Beyond: A Patient Experience

Rich Berkowitz President/Founder Home Dialyzors United

Njurmedicinskt Vårmöte 14 May 2012

Please excuse me for my poor English!

It's just a little better than my unintelligible Swedish!

Itâ 's bara lite bättre än min obegripliga svenska!

Not Going to Preach to the Choir



 I'll just tell it like it was...and is!

• Well, maybe a little!

My Story on Dialysis

Renal History

Adult Hypertension and Obesity ✤ 1998 — RCC, Nephrectomy ✤ 2003 — Started In-Center Dialysis, 3 x 4 ◆ 2006 — Began Short Daily @ home, 6 x $2^{1/2}$ 2007 — Founded NxStageUsers 2008 — Began Nightly Dialysis @ home, $5x7^{1/2}$

Informed Consent: What are the options?

Do nothing and die!

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- Transplant have a donor or get on "The List"

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- Peritoneal with my body? No Way!

Informed Consent: What are the options?

- Do nothing and die!
- Transplant have a donor or get on "The List"
- Peritoneal with my body? No Way!
- Hemo looks like the best bet!

OK, Hemo. Now what?

• You can do it in-center!

- Have professionals to take care of you.
- Can socialize with others as you get treated.
- No need for equipment or supplies at home.

OK, Hemo. Now what?

• You can do it in-center!

- Have professionals to take care of you.
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- No need for equipment or supplies at home.

• You can do it at home!

- Comfort of own home.
- More flexible schedule.
- Better outcomes.

Decision Time! What to Do?

Seems like a no brainer. Let's do it at home!

Um well, the program hasn't been approved yet — maybe in two months!

Fast Forward Three Years

Finally on Home Dialysis

You really don't want to know what took so long!

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Finally on Home Dialysis

You really don't want to know what took so long!

Actually, you do want to know!

Flash Back Three Years!

Meet the Dietician

• What do mean I have to minimize my fluids?

I mean — like — I drink a ton!

Flash Back Three Years!

Meet the Dietician

What do mean I have to minimize my fluids?

I mean — like — I drink a ton!

What are these things called phosphorus and potassium?

You mean I've got to cut down on foods that contain them? You've got to be kidding!

Waiting for Home

Administrators and Attorneys dilly dally
Decisions put off
Waiting for home becomes more distant
Continue in-center and feeling the effects

In-center Conventional Hemo

Professionals not exactly professional!
Socializing — only with a very few!
Cramps, Nausea, BP Crashes
Wasted after therapy – slept rest of day
Brrr! So much snow and bitter cold!

Home Dialysis Again

This time dialysis center to start home program
I'm the first
Should happen soon

Well think again!!!!!!

Continue In-center

More BP crashes
Interdialytic weight gain less, but can't handle as much UF as before

Continue In-center

More BP crashes
 Interdialytic weight gain less, but can't handle as much UF as before

Have heart attack driving home from therapy — not my idea of going home

Insurance Changes: New Center

• Try in-center nocturnal — bad experiment

Go back to conventional

3rd Chance the Charm?

 Meet home staff and see machine one week before training

• Last minute decision by VP — scrub it!

More Conventional

• Can't handle fluid

Start going an extra day

Getting more and more depressed

Demand Home

 A break through — newspaper article on other hospital's home program • I write and demand home treatment Message Chairman of Board, Hospital President and every VP that mattered. Not going to play nice guy anymore Still took another couple of months and additional efforts.

Finally, I'm in charge of my life again!
 My schedule is my own!

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I can travel too!!!!

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I've got my life back — Hooray!!!!!!

NHHD: Even A Better Place

More Freedom — have "normal" day
Much more energy
Fewer meds — no binders, no cinacalcet
More optimal outcomes — Kt/V, Phosphorus, Potassium, PTH
EF% even increases

Home is where the heart is — I'm where I should be

Dialysis doesn't have to mean the end of life



But with home dialysis, it can be a new beginning!

Please Raise Your Hands

If necessary, would you do conventional dialysis 3 times per week in a hospital setting?



In the United States

 90% of nephrologists prescribe conventional hemodialysis therapy which they would not do themselves.

In the United States

 90% of nephrologists prescribe conventional hemodialysis therapy which they would not do themselves.

 Only 9% of dialysis patients dialyze at home — outside of the center.

Problems with Center Dialysis

Fluid Overload



Fluid Overload

Anemia



Fluid OverloadAnemiaDepression



Fluid Overload
Anemia
Depression
Dietary Restrictions



Fluid Overload
Anemia
Depression
Dietary Restrictions
Too Many Meds



Fluid Overload
Anemia
Depression
Dietary Restrictions
Too Many Meds
Transportation



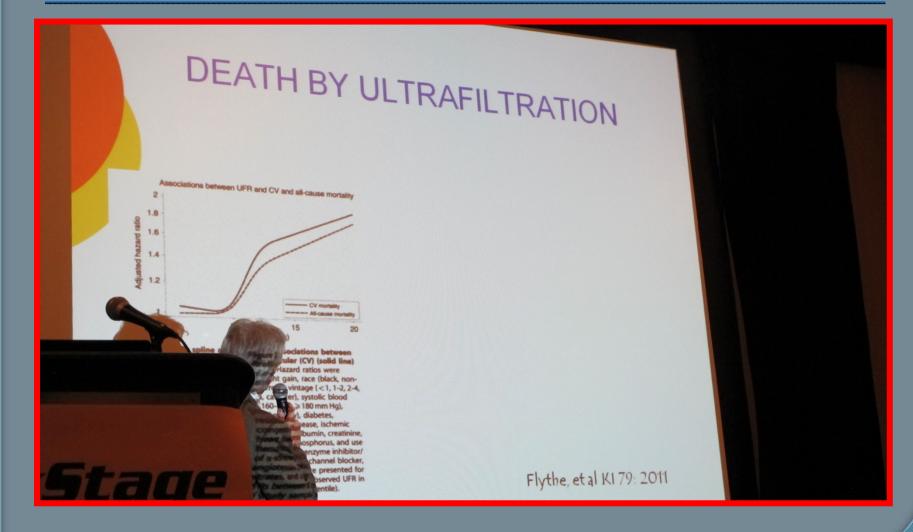
Fluid Overload *Anemia Depression Dietary Restrictions Too Many Meds Transportation Poor Quality of Life



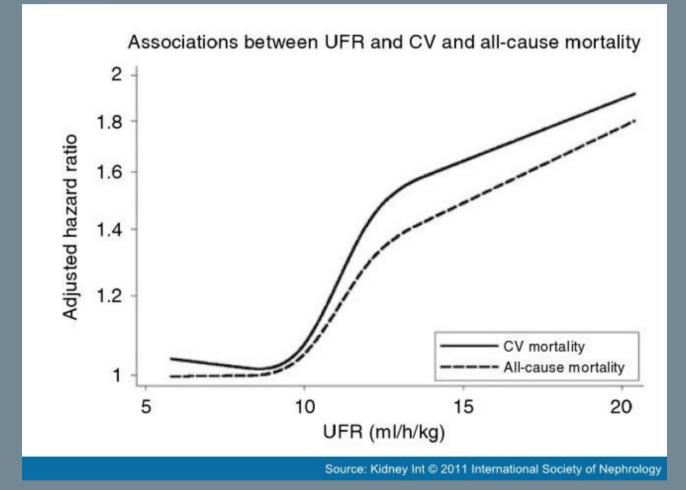
Fluid Overload *Anemia *****Depression Dietary Restrictions Too Many Meds *****Travel Poor Quality of Life The "Long Weekend"



Sucking the Fluid Out



Watch the Fluid Removal



UFR Mortality Risk Factor : In-center UFR 3xWeek – 4 hr therapy: 1.5kg/day for 75kg person

ONE DAY INTERVAL

LONG WEEKEND

- Fluid to remove 3.0
- Weight in Kg 75
- Risk Factor 10.0

- Fluid to remove 4.5
- Therapy in Hours 4 hrs. Therapy in Hours 4 hrs.
 - Weight in Kg 75
 - Risk Factor 15.0

UFR Mortality Risk Factor : HHD– 3 hr therapy: 1.5kg/day for 75kg person

NEXT DAY INTERVAL

TWO DAY INTERVAL

- Weight in Kg 75
- Risk Factor 6.7

- Fluid to remove 1.5
 Fluid to remove 3.0
- Therapy in Hours 3 hrs. Therapy in Hours 3 hrs.
 - Weight in Kg 75
 - Risk Factor 13.3

UFR Mortality Risk Factor : HHD $-7\frac{1}{2}$ hr therapy: 1.5kg/day for 75kg person

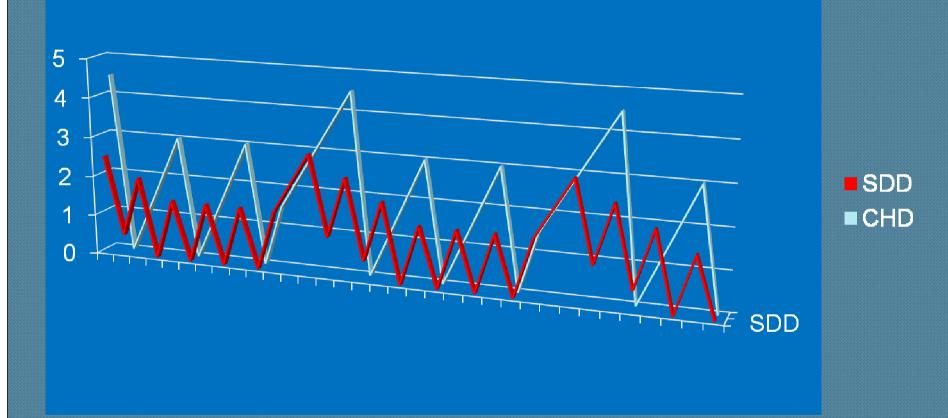
NEXT DAY INTERVAL

TWO DAY INTERVAL

- Weight in Kg 75
- Risk Factor 2.7

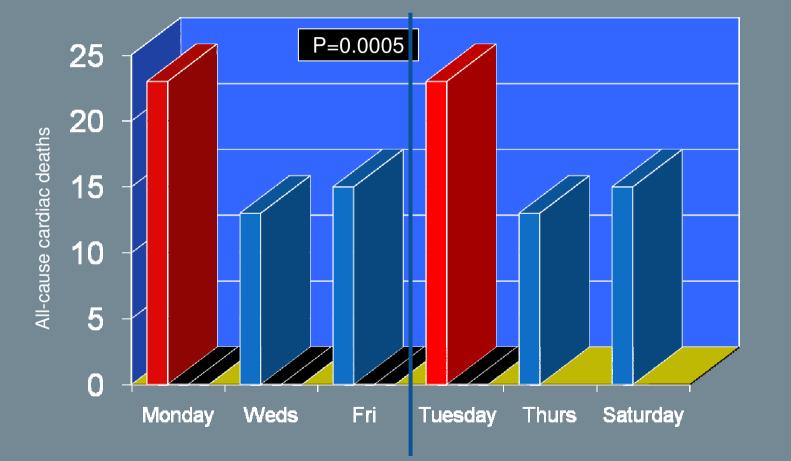
- Fluid to remove 1.5
 Fluid to remove 3.0
- Therapy in Hours $7\frac{1}{2}$ hrs. Therapy in Hours $7\frac{1}{2}$ hrs.
 - Weight in Kg 75
 - Risk Factor 5.3

Why one feels better with 6xWeek SDD vs. 3xWeek CHD



Toxins removed more often Less interdialytic fluid gain Assumes 1.5L gain per day; max 2.0L SDD UF and CHD UF to DW

Standard Hemodialysis: Killer Weekend



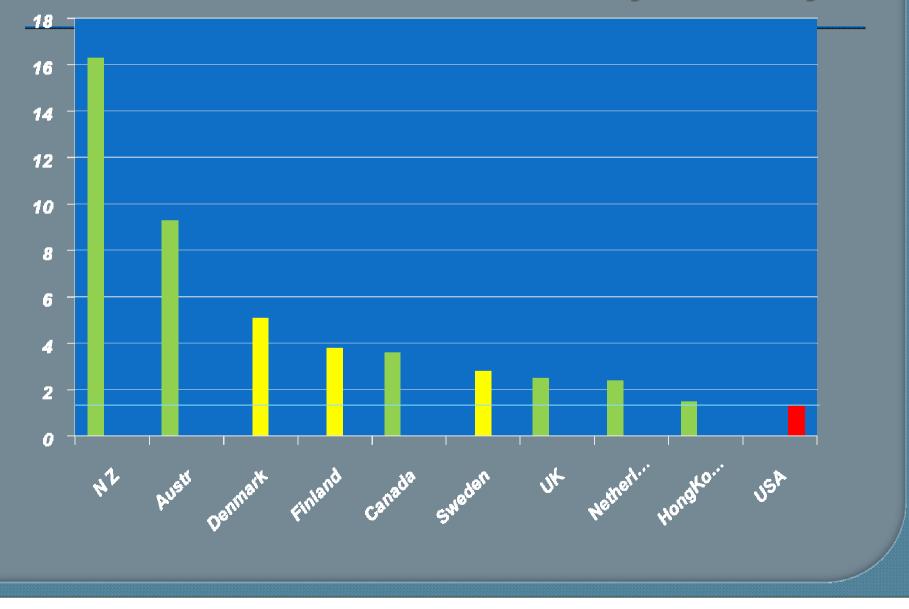
Bleyer AJ, Russell GB, Satko SG. Sudden and cardiac death rates in hemodialysis patients. *Kidney Int*. 1999 55:1553

General Conclusions: In-Center

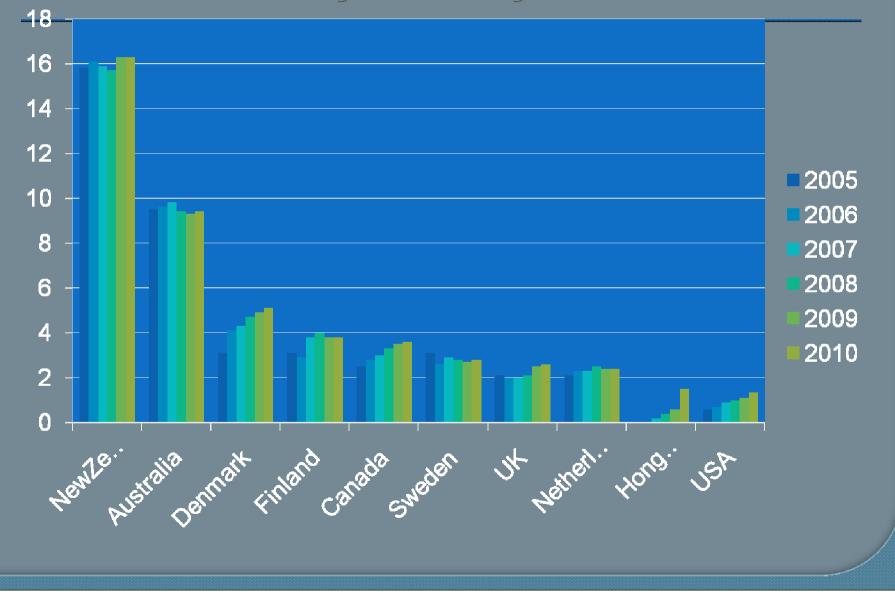
Does not provide rehabilitative dialysis
Does not maintain wellness
Patient loses control of life
Does not treat patient holistically
Mortality rate too high
Long term complications

World View of Home Dialysis

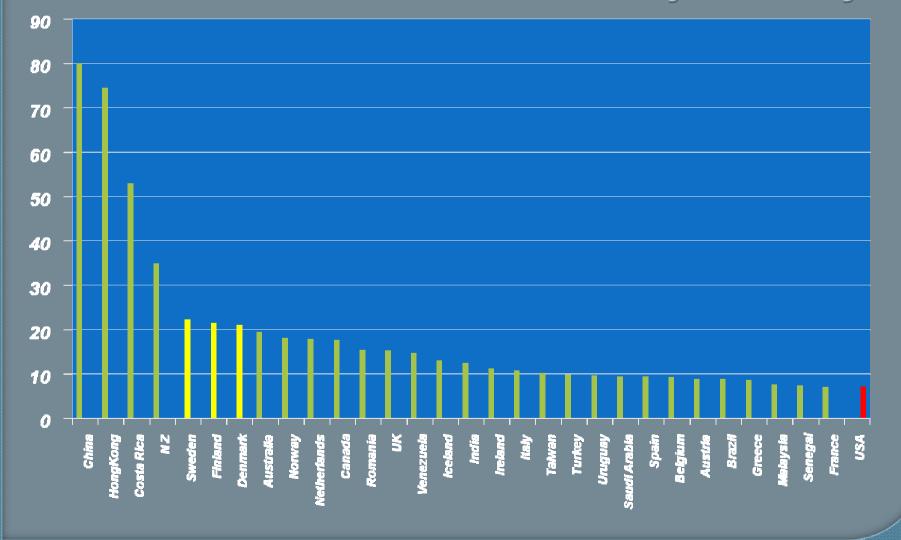
Percentage Home Hemodialysis Patients by Country



Percentage Home Hemodialysis by Country, 2005-2010



Percentage Peritoneal Patients by Country



CKF Prevalence

	Sweden	Denmark	Finland	Norway	Iceland	U.S.
	2010	2010	2009	2010	2009	2009
Total CKF patients	8,501	4,708	4,167	4,193	172	571,414
Transplanted Patients	4,740	2,132	2,427	2,975	102	172,553
Transplants per Year	418	232	176	263	7	17,336
Hemo in- center or hospital	2,823	1,879	1,327	990	61	366,791
PD	841	565	378	220	9	27,559
HHD	97	132	67	8	1	4.511

Dialysis Prevalence

	Sweden	Denmark	Finland	Norway	Iceland	U.S.
	2010	2010	2009	2010	2009	2009
Total CKF patients	8,501	4,708	4,167	4,193	172	571,414
Total Dialysis	3,761	2,576	1,772	1,218	71	298,858
Hemo in- center or hospital	2,823	1,879	1,327	990	61	366,791
% In-center	75.1%	72.9%	74.9%	81.3%	85.9%	92.0%
PD	841	565	378	220	9	27,559
% PD	22.4%	21.9%	21.3%	18.1%	12.7%	6.9%
HHD	97	132	67	8	1	4.511
% HHD	2.6%	5.1%	3.8%	0.7%	1.4%	1.1%

U.S. Lagging Behind World

Why am I lecturing here?

You should be lecturing us

U.S. Lagging Behind World

Why am I lecturing here?

You should be lecturing us

But we are using portable hemodialysis machines

Bit of U.S. History

Social Security Act §1881 Original Intent Clear About Home Dialysis & Rehabilitation

It is the intent of the Congress that the maximum practical number of patients who are medically, socially, and psychologically suitable candidates for home dialysis or transplantation should be so treated and that the maximum practical number of patients who are suitable candidates for vocational rehabilitation services be given access to such services and encouraged to return to gainful employment. The Secretary shall consult with appropriate professional and network organizations and consider available evidence relating to developments in research, treatment methods, and technology for home dialysis and transplantation.

SSA §1881 (II)(2)(H)

Home Dialysis to be Emphasized

On February 3, 1977 Representative Dan Rostenkowski, chairman of the Health Subcommittee of the Committee on Ways and Means, with Representative Vanik, introduced H. R. 3112. The new bill extended the provision of the earlier one that 50% of renal patients be on home dialysis or in self-dialysis training.

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Rehabilitation: The Name of the Game

Belding Scribner said



"If the treatment of chronic uremia cannot fully rehabilitate the patient, the treatment is inadequate."

Objective of Renal Rehabilitation?

"Chronic patients must be offered support to enable them to make the best of their remaining good health and live as full a life as possible".

Guidelines for the Care of Kidney Patients Riksförbundet för Njursjuka

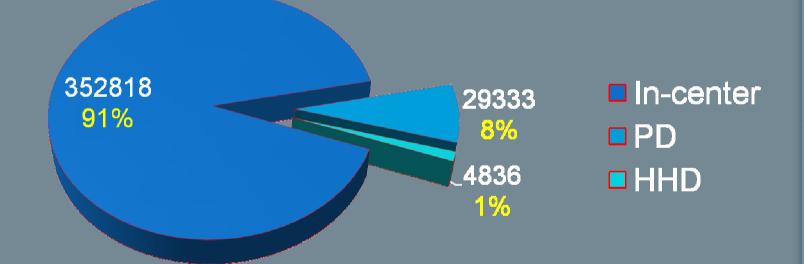
U.S. State of Rehabilitation

Dialysis Patients 18-54 y.o.	121,667	
Employed	25,124	21%
Employed FT/PT through Rehab	2,973	2%
Attending school	3,965	3%
Dialysis facilities	5,591	
Facilities w/dialysis after 5pm	1,332	24%

Source: 2009 Consolidated Network Report, Table 20

Number of Dialysis Patients

By Modality - 2009



Source: 2009 Consolidated Network Report, Tables 12 & 13

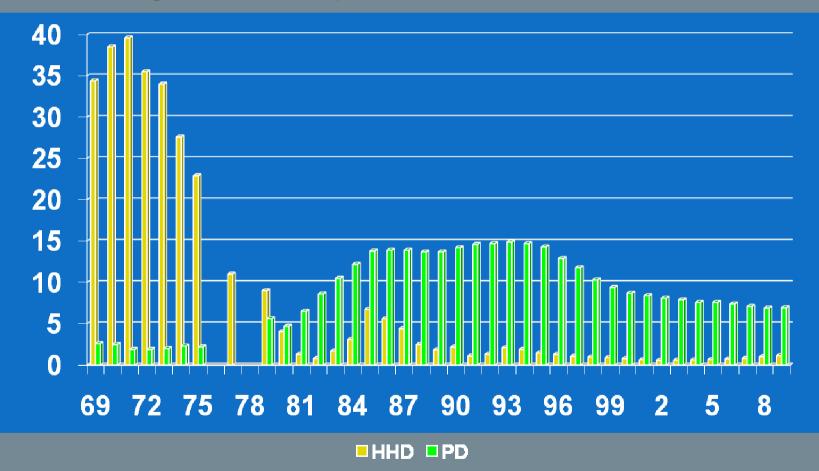
Worth Mentioning Again — Go Figure!

 Approximately 90% of Nephrologists would choose home dialysis for themselves.

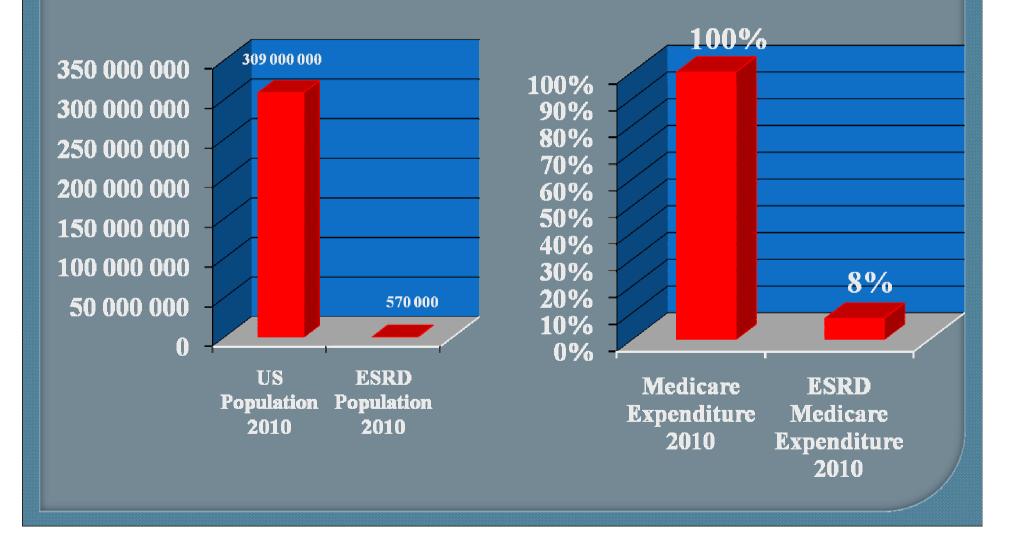
 Yet 91% of their patients are prescribed the therapy they wouldn't do themselves.

Healthcare Research Consulting Group. NxStage Report. July 28, 2009. p. 1-

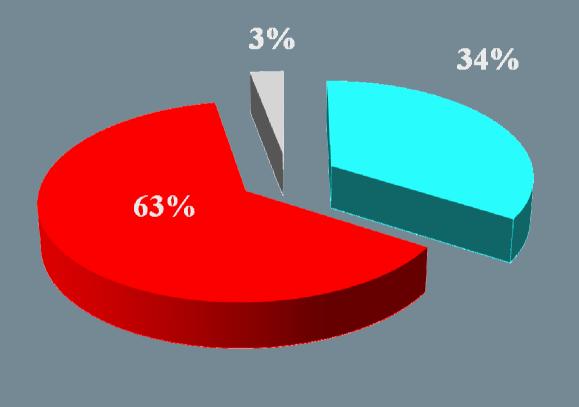
Percent U.S. dialysis patients on home hemodialysis and peritoneal, 1969 to 2009



US population Vs CKF population CKF % of Medicare expenditure 2010



Average estimated dialysis patient cost per year \$82,000



Medicare Part A (hospitalization cost)

Medicare Part B (dialysis bundle, other outpatient procedures and physican cost)
 Medicare Part D (oral medication cost)

U.S. Cost of Disability

U.S. Dollars

 96,000 patients between ages of 18-54 unemployed

Avg disability payment per month is \$1100

 Yearly cost is \$1,267,200,000

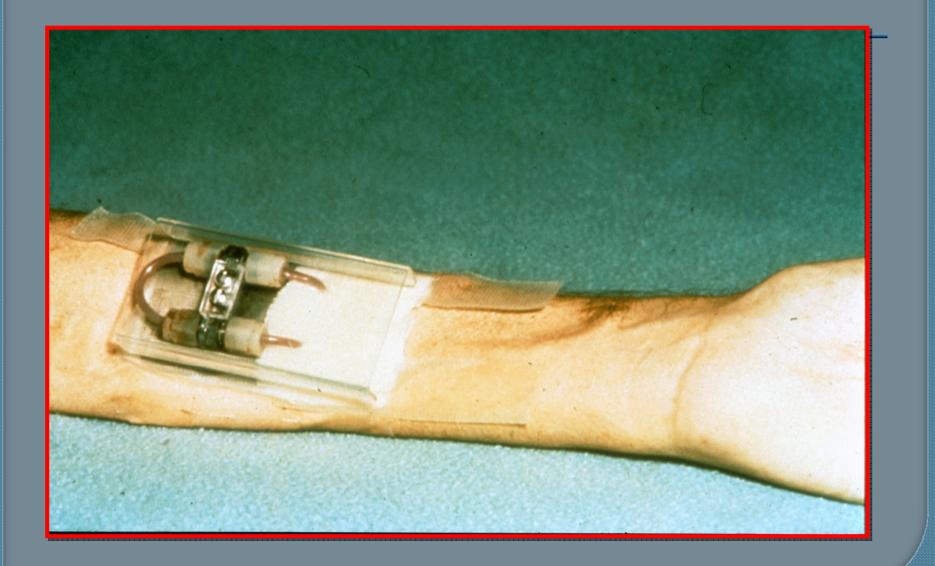
Swedish Krona

- 96.000 patienter mellan åldrarna 18-54 arbetslösa
- Genomsnittligt funktionshinder betalning per månad är 7544 SEK

 Årliga kostnaden är 8,690,688,000 SEK

How Did We Get Here

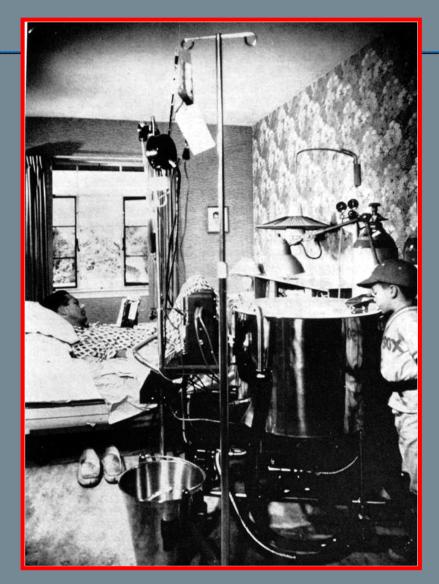
Scribner shunt, March 1960



Seattle Original 3-bed Unit, 1962



Boston, 1964



Home hemodialysis Training, Seattle, June 1964



The First Nocturnal Overnight Unattended Home Hemodialysis, London, October 1964



We've Come a Long Way



Nils Alwall & Holger Crafoord with 1st Gambro Dialysis Machine

We've Come a Long Way



NxStage System One

And We Need to Go Further

Challenges for the Future

Challenges for the Future

Smaller, Lighter & Easier Machines
More Efficient & Healthier Machines
Longer, Slower and Accessible
More Holistic Therapy
Rehabilitation, Rehabilitation and More
Better Quality of Life for All

Challenges for Right Now

 Stop using barriers to home dialysis as an excuse. Thousands have overcome Do more complete informed consents • Give your patients the benefit of doubt Promote peer-to-peer support • Get up to date with current literature Listen and learn from your patients & care partners • Get your colleagues on board

More HHD Machines Coming

Fresenius Baby K@Home Sorbent
Quanta SelfCare+
Baxter HomeChoice Hemo
Fresenius PAK
NxStage System Two

WAKImplantable

Playing it Safe



Sweden's own Redsense Blood Leak Detector

Awarded 2012 Patient Safety Improvement Award — Renal Physician Association

Redefining Terms for a New Day

ESRD vs. CKF

We don't need negative feelings
Many don't get beyond depression
People need hope to move forward

We're not at the end of anything
We can "cure" our kidney failure with optimal dialysis
We haven't failed; just out kidneys have

End Stage Renal Disease: A Negative Spin That Serves No Good Purpose

Just the thought of it can put a person in a downward spiral toward an early grave.

Keep yourself and the message positive.



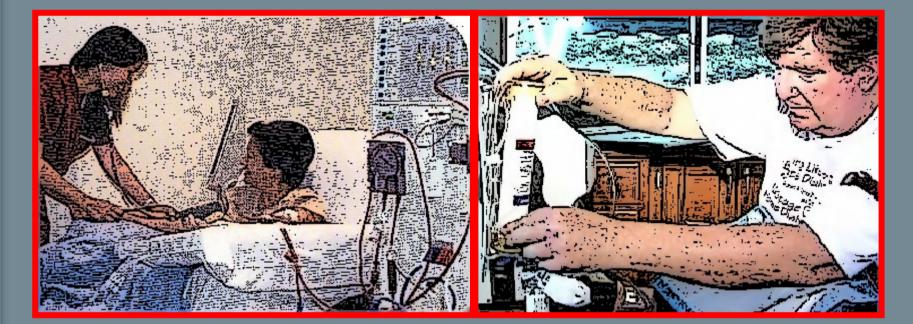
Adequate vs. Optimal

What is adequate?
Is it just enough?
Enough for what? Survival?

What is optimal?
Getting better treatment.
Living a more quality life with fewer side effects.

Quality indicators are different

Which are you?



Dialysis Patient

Dialyzor

Passive vs. Active



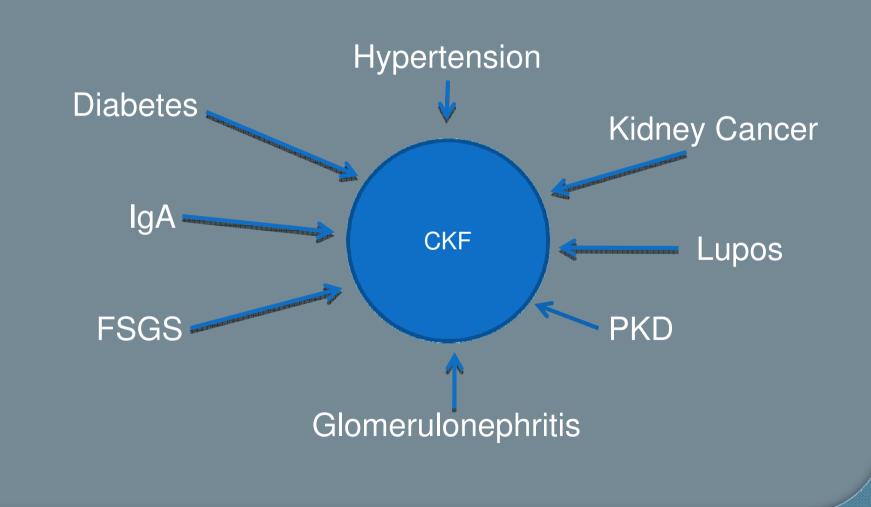


Care Partner vs. Caregiver

 Care giver takes charge and manages patient's treatment and affairs, being practically a nurse and more.

 Care partner shares the responsibilities and management for the dialyzor's treatment and one who work together effectively and respectfully for the long run.

Is Kidney Failure a Disease?



If Not a Disease? Treatment?

• Is dialysis (and transplant) a treatment?

• Or is it a replacement therapy?

Debilitation vs. Rehabilitation

- Sickness
- Withdrawal
- Low self esteem
- Disability
- Lose will to live

- Wellness
- Participation
- Empowered
- Employment
- Active quality life

Redefine Outcomes

Patients aren't concerned about lab results

 Rather care about how they feel and ability to live "normal" life

Focus on wellness — not sickness

Freedom Study on HHD

Study Design & Protocol

Multi-center, prospective matched cohort study. Patients serve as own control.
Enrolling up to 500 patients from up to 70 clinical centers. Minimum of 1 year followup.

 Eligible patients are adult ESRD patients who require dialysis and have Medicare as their primary payer.
 Study sponsored by NxStage Medical, Inc.

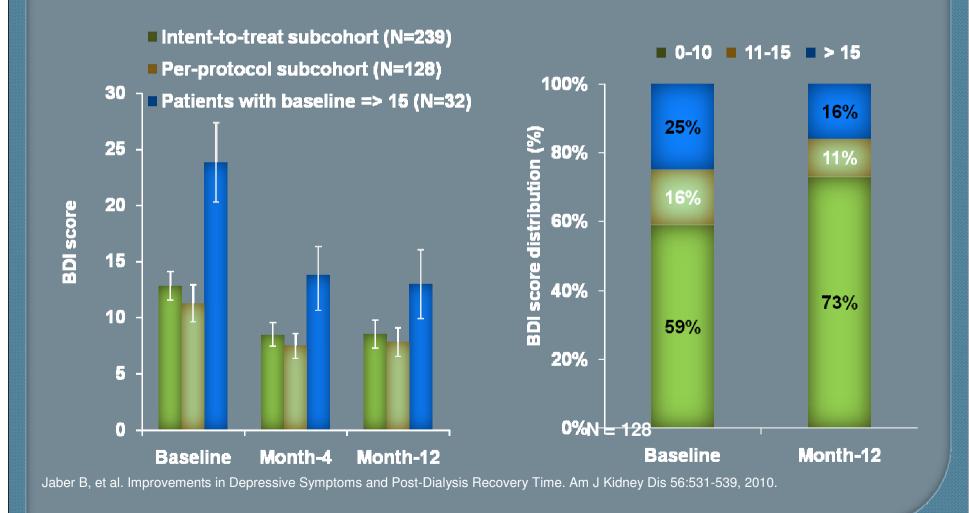
Jaber B, et al. Scope and Design of the Following Rehabilitation, Economics and Everyday-Dialysis Outcome Measurements (FREEDOM) Study. *Am J Kidney Dis* 53:310-320

FREEDOM –12 Month Interim Results

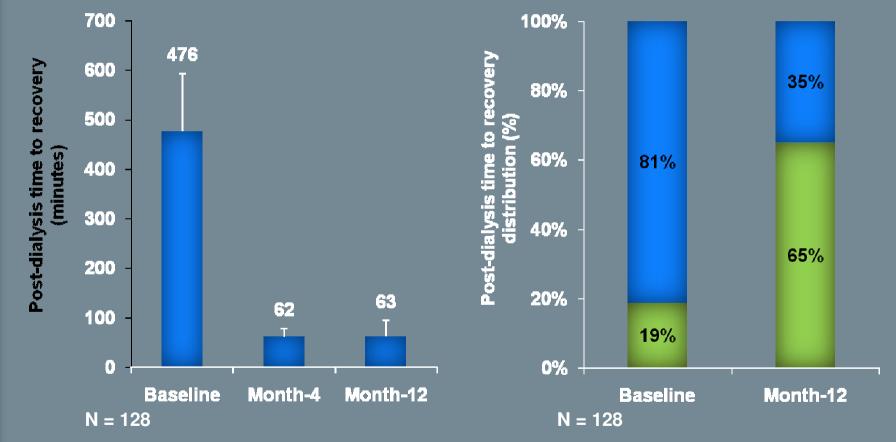
Interim Measure	Baseline	Month 12	P - Value
Beck Depression Inventory Score ¹	11.2	7.8	P < 0.001
Post Dialysis Recovery Time (min) ¹	476	63	P < 0.001
% of Patients Reporting Symptoms of Restless Legs Syndrome ²	36%	26%	P = 0.0495
# of Prescribed Anti-Hypertensive Medications ³	1.7	1.0	P < 0.0001
% of Patients NOT Prescribed Anti-Hypertensive Medication ³	21%	47%	P < 0.002
MOS Sleep Scale - Sleep Problems Index I ²	39	33	P = 0.001
MOS Sleep Scale - Sleep Problems Index II ²	41	34	P < 0.001
SF36 - Physical component scale (PCS) ⁴	34	38	P < 0.0001
SF36 - Mental component scale (MCS) ⁴	50	52	P = 0.01

¹Jaber B, et al. Improvements in Depressive Symptoms and Post-Dialysis Recovery Time. Am J Kidney Dis 56:531-539, 2010. ²Jaber B, et al. Improvements in Restless Legs Symptoms and Sleep Disturbances. Clin J Am Soc Nephrol 6: 1049–1056, 2011. ³Jaber B, et al. Poster presentation. SDHD Reduces The Need for Anti-Hypertensive Medications ASN Renal Week 2009. □ Finkelstein F, et al. SDHD Improves SF-36 Health Survey Domains. Poster presentation ADC 2011

SDHD Reduces Depressive Symptoms (BDI Score)

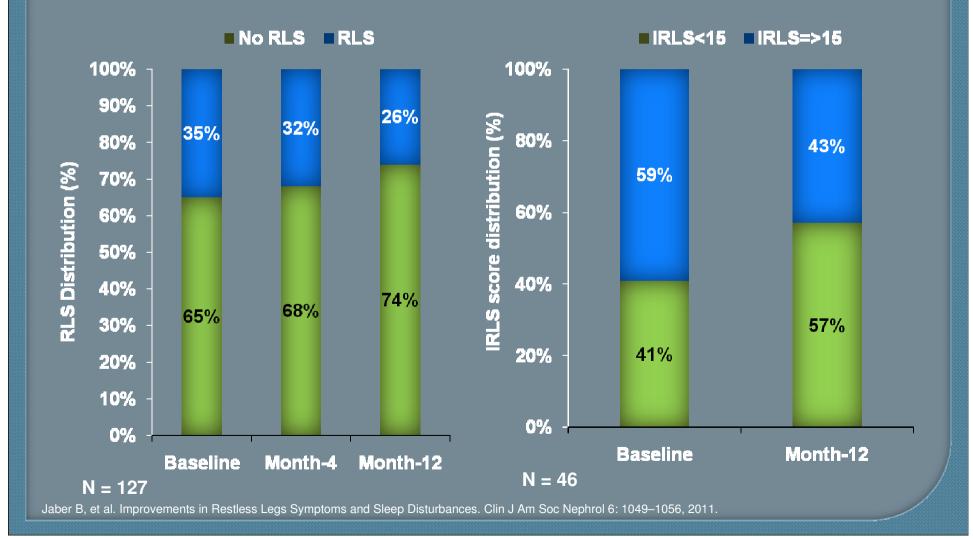


SDHD Reduces "Post-Dialysis Recovery Time"

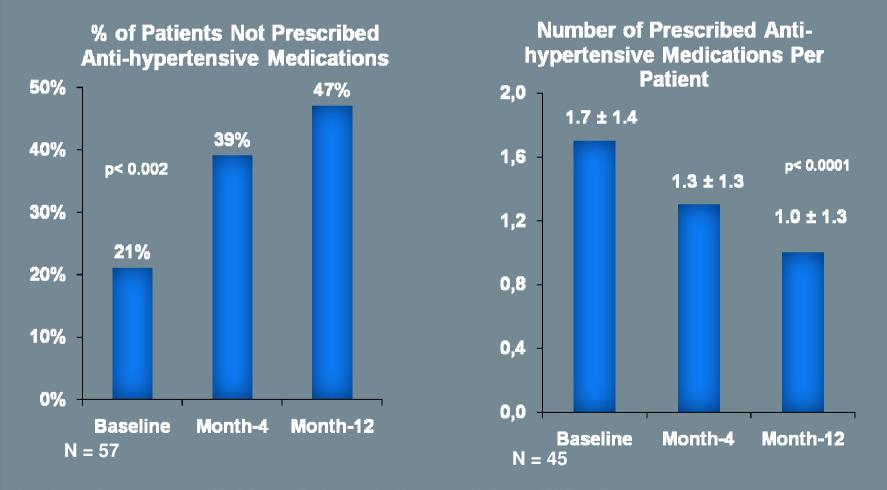


Jaber B, et al. Improvements in Depressive Symptoms and Post-Dialysis Recovery Time. Am J Kidney Dis 56:531-539, 2010.

SDHD Improves Restless Legs Syndrome (IRLSSG scales)



SDHD Reduces the Need for Anti-Hypertensive Medications



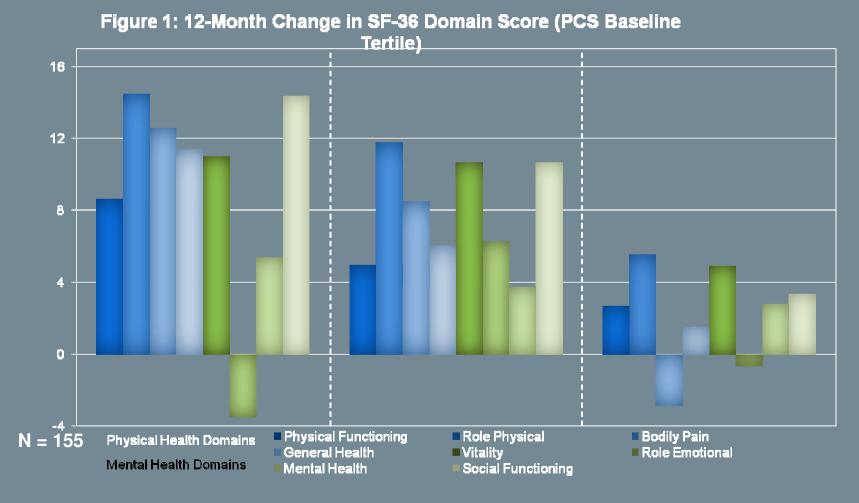
Jaber B, et al. Poster presentation. SDHD Reduces The Need for Anti-Hypertensive Medications ASN Renal Week 2009.

SDHD Improves Sleep Quality (MOS Sleep Survey Scores)

MOS Sleep Scale (N = 127)	Baseline	Month-4	Month-12	P value
Sleep Problems Index I	39 (35, 43)	33 (29, 37)	33 (29, 36)	0.001
Sleep Problems Index II	41 (37, 45)	35 (31, 39)	34 (31, 38)	<0.001
Adequacy of Sleep	49 (44, 54)	52 (47, 57)	53 (49, 58)	0.23
Sleep Disturbances	43 (38, 48)	38 (33, 43)	36 (30, 41)	0.004
Snoring	44 (37, 51)	39 (32, 46)	37 (30, 44)	0.08
Awaken Short of Breath or with a Headache	17 (12, 21)	9 (5, 13)	12 (8, 16)	0.002
Daytime Somnolence	39 (35, 43)	30 (26, 34)	32 (27, 36)	0.0001
Sleep Quantity (hours)	6.5 (6.2, 6.9)	6.6 (6.3, 6.9)	6.6 (6.2, 7.0)	0.9
Optimal Sleep	42 (34, 52)	37 (29, 47)	38 (29, 48)	0.7

Jaber B, et al. Improvements in Restless Legs Symptoms and Sleep Disturbances. Clin J Am Soc Nephrol 6: 1049–1056, 2011.

SDHD Improves Mental & Physical Health (SF-36 Scores)



Finkelstein F. et al. SDHD improves SF-36 Health Survey Domains. Poster presentation ADC 2011

A Couple of Wise Men

Robert Lockridge, MD, UVA

• "This is probably the most important thing you" need to understand: Age and comorbidity do not exclude people from home hemodialysis. The people who are retired, in their 70s, with an ejection fraction of 20 percent have a much better chance of doing more frequent short or nocturnal dialysis to prolong their life and improve their quality of life. If you only pick the college graduate that's 35 years of age, you're not going to treat the people who really need this modality, so don't restrict people."

Chris Blagg, MD

Is it difficult to learn to do your own dialysis? Not particularly. Do not be overwhelmed by the complicated looking machine. If you can drive a car safely, you can certainly learn to operate a dialysis machine equally well. In neither case do you need to know the details of what is under the hood or in the machine. Rather, you have to learn how to use the device safely. Remember, most ordinary people can learn to drive with appropriate training and the same applies to dialysis.

Life Can Be Good Life Should Be Good



10 dialyzors, care partners and friends Freedom Cruise, January 2010



Celebrating my birthday Freedom Cruise, January 2010



Renewing wedding vows Freedom Cruise, January 2010

Zipping through the jungle Freedom Cruise, January 2010



Visiting the ancient ruins Freedom Cruise, January 2010



First dive Freedom Cruise, January 2010



Dancing the night away Freedom Cruise, January 2010



Lounging on the beach Freedom Cruise, January 2010



Lazing on the river Freedom Cruise, January 2010



Climbing new heights Freedom Cruise, January 2010



Jumping for joy



Flyfishing in the wilderness



Shooting the rapids



Backwoods hunting

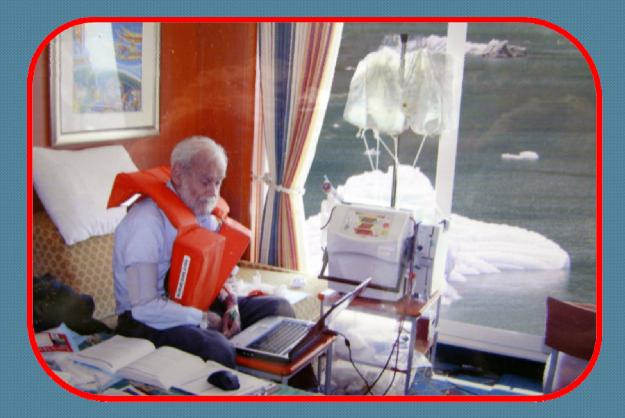


Horsing around



Clowning around and sharing CKF





On an Alaskan ferry

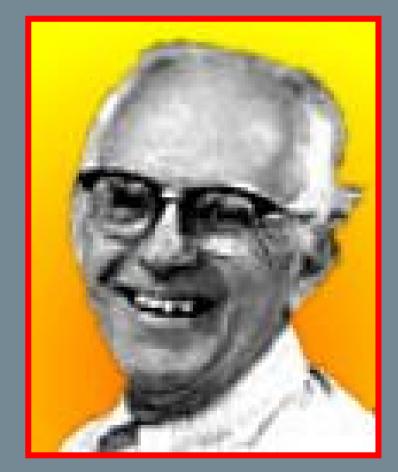


Climbing to New Heights – Mt. Whitney



Rappelling for the fun of it

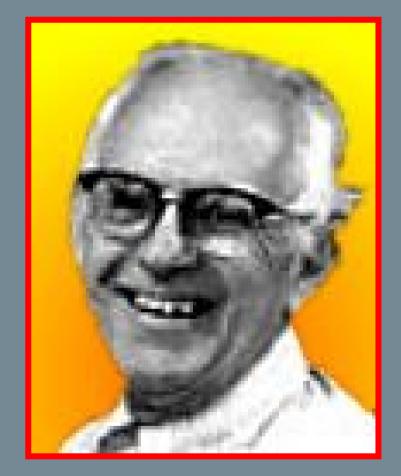
Belding Scribner said



"What started out in 1960 as a noble experiment gradually has degenerated into a highly controversial billion dollar program riddled with cost overruns and enormous profiteering."

Testimony at the Senate Finance Health Subcommittee in 1977

Belding Scribner said



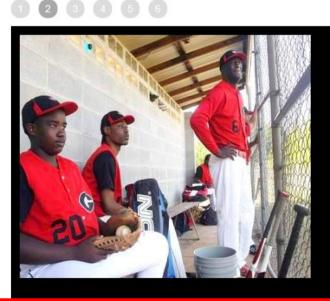
"The annual cost of dialysis will drop. Innovations and automation will make the task of self-dialysis simpler to comprehend and less work for the patient. The resulting healthy, wellnourished, normotensive hemodialysis patients will incur lesser additional health care costs than their sickly, malnourished, hypertensive counterparts on short three times weekly hemodialysis!"

Message sent to the Annual Dialysis Conference in 2003

Home Dialyzors United

Our Website...





Greensboro coach isn't letting kidney disease get the best of him

Ricky Lewis was dead for seven minutes before he came back to life. It was Feb. 17, 2005. The sheet had been pulled over his head, his mother had been contacted and directed to make funeral arrangements. His life had ended, at the age of 33. But then, his heart started beating again. To continue [...]

Continue Reading

NxStageUsers FaceBook



Storytelling for a Better **Quality of Life**

Faces of DialysisReal Stories of Living, Loving, and Leading Beyond Kidney Failure



A wise dialysis patient is known to say:

Dialysis is not a death sentence - it's a life sentence!

How true! NxStageUsers is proud to be sponsoring Faces of Dialysis, where we hope true dialysis patients' stories will be told by pictures and supplemental comments. Each person will illustrate what life on dialysis is for them and could be for you. It doesn't necessarily have to be the debilitating condition many think. People are living "normal" lives with a good guality of life. Please look at the pictures and read the captions, whether you are a high government official or ordinary citizen; on dialysis or have Chronic Kideney Disease and pre-dialysis, or have no kidney problem at all; young or old of any ethnic background, Over 31 million Americans now have CKD. It's growing at epidemic rates. But dialysis, and optimal dialysis, is available to afford people a life which can still be very worth having. There is hope. Better than that, there are solutions.

Dialysis is not the end of life — it's just a new beginning!

Dialysis isn't the end of life; it's just a new beginning

Life is short, Break the rules, Forgive quickly, Kiss slowly, Love truly, Laugh uncontrollably, And never regret anything that made you smile. Life may not be the party we hoped for, but while we're here, we should dance...

By Unknown Author

...or Snorkel



From 2010 Freedom Cruise

Tack Så Mycket

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