

# Hospice and Palliative Care for the Patient with Renal Disease

**Christian T Sinclair, MD**

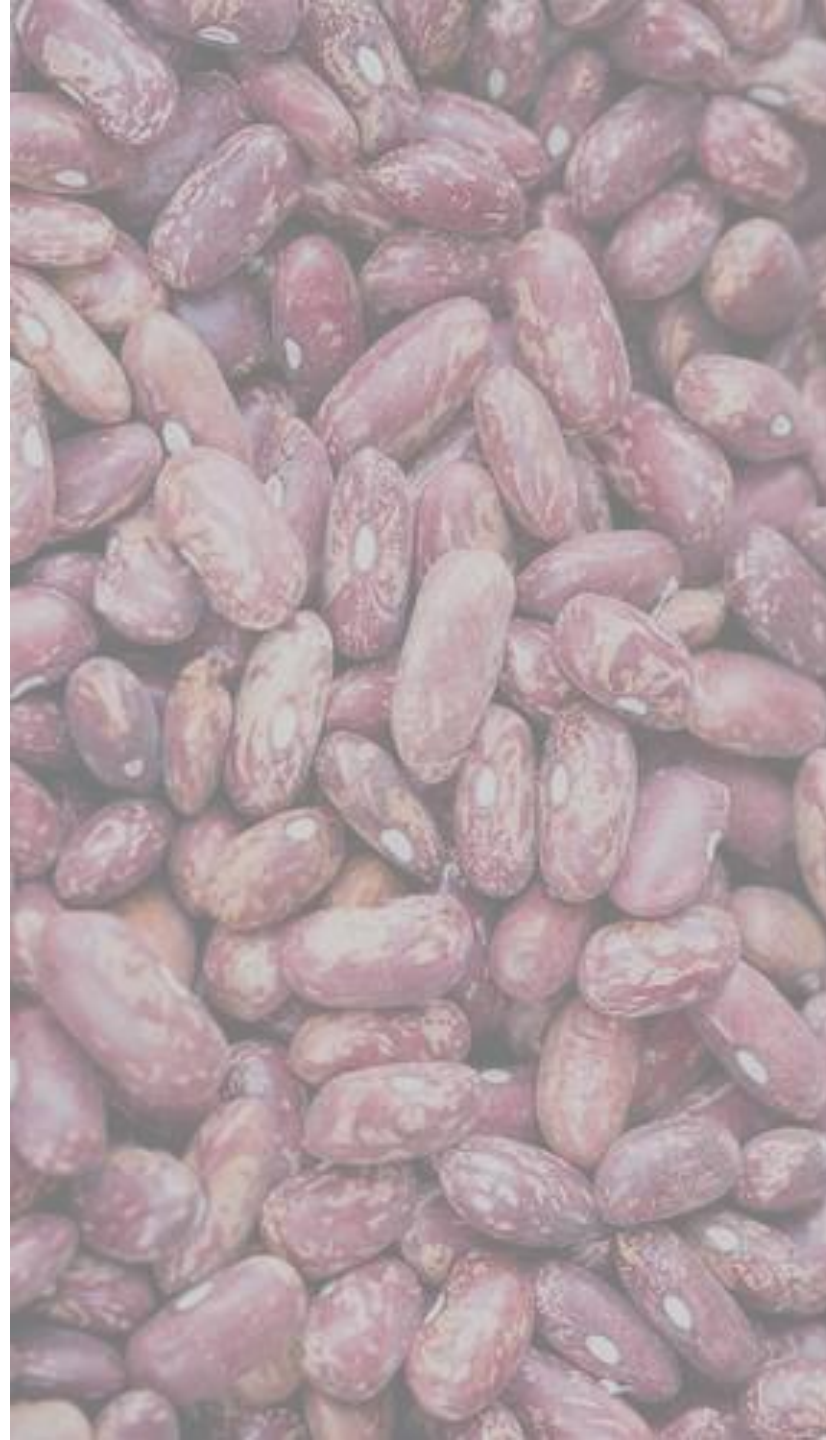
**Associate Medical Director Kansas  
City Hospice & Palliative Care**

*(Talk adapted with permission from Lindy Landzaat, DO)*



***Heartland Kidney Network Webinar Series- July 14, 2011***

**This Session will Begin Momentarily  
The Session is Being Recorded  
and Open Thereafter for Q & A**



# Objectives

1. Understand the broad role for hospice and palliative care services for the patient with renal disease
2. Recognize common symptoms associated with renal failure
3. Identify preferred opioids in renal failure

# Overview of Today's Talk

- Mortality of ESRD
- Prognostication
- Symptom Issues ESRD
- Unique Problems in ESRD
- Opioids in ESRD
- Hospice and Palliative Care Role

# True or False?

Can a patient be on Hospice and  
Chronic Hemodialysis?

In 2007, 110,000 patients began dialysis

At end of 2007:

341,246 on HD

26,340 on PD

158,739 transplant patients

71,415 patients on list

5.8% of Medicare = 23.9 BILLION \$

18-23% 1 year mortality rate (Wellman)

20-25% 1 year mortality rate (Davidson)

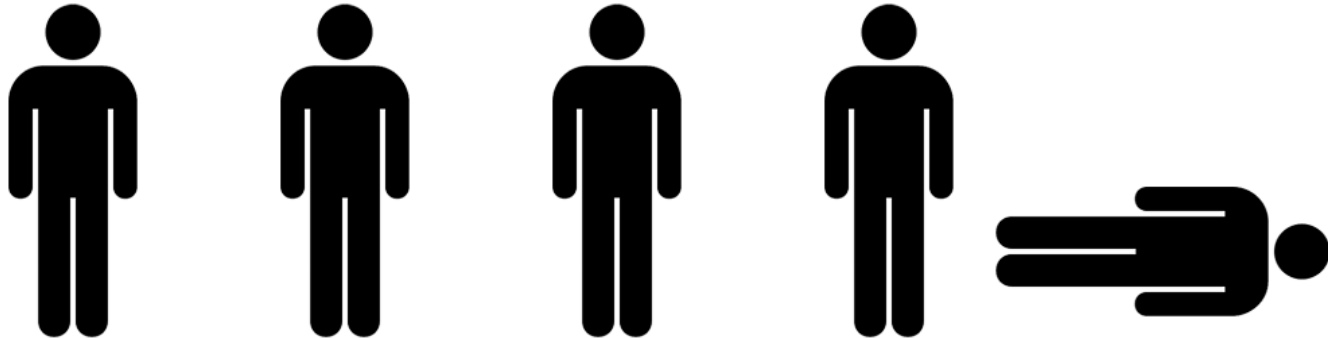
24% 1 year mortality rate (Moss)



18-23% 1 year mortality rate (Wellman)

20-25% 1 year mortality rate (Davidson)

24% 1 year mortality rate (Moss)



6.7 - 8.5 times  
higher  
all-cause  
mortality

(USRDS 09)

Majority die of a non-renal cause (Murtagh 08)

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20% of ESRD patients withdraw from HD  
prior to death (Yong, Moss)

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Less than half used hospice (Moss)

**TABLE 2****Five-year survival rates for stage 5 chronic kidney disease and common cancers**

Condition	Five-year survival (%)
Stage 5 patients on renal replacement therapy age over 65 years	23.2
Stage 5 patients on renal replacement therapy (all ages)	43.5
Stage 5 chronic kidney disease ages 18-64 years	64.1
Testicular cancer	96.5
Melanoma	89.4
Breast cancer	81.0
Prostate cancer	74.4
Colon cancer	49.6

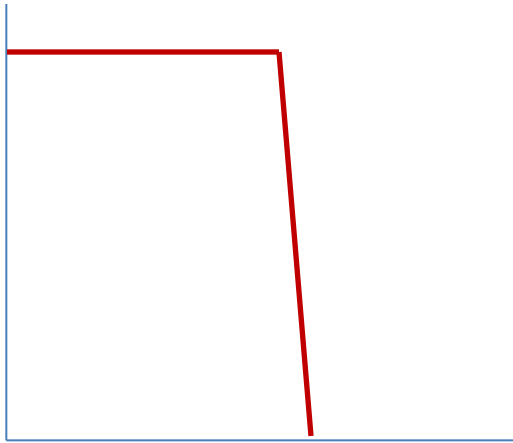
(Ansell *et al* 2007, Westlake 2008)





**A**

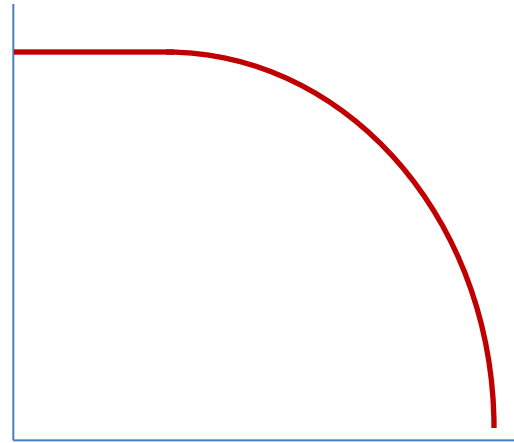
Function



time

**B**

Function



time

**C**

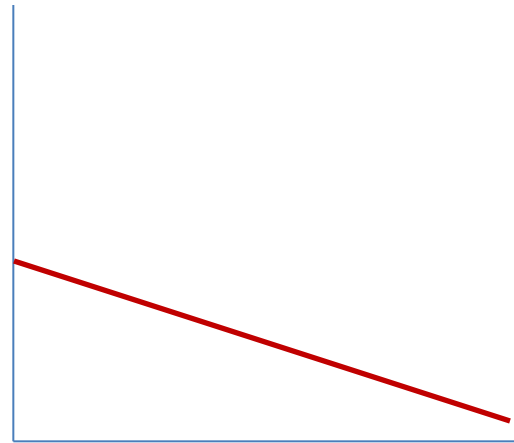
Function



time

**D**

Function



time



“Although dialysis therapy may extend life, it is now increasingly clear that it often fails to restore health and that many patients suffer from distressing symptoms or disability prior to death.”



“Among nursing home residents starting dialysis, we recently demonstrated that dialysis initiation was associated with a substantial and sustained decline in functional status at the start of dialysis in addition to a very high mortality.”

58% mortality

Pre-dialysis functional status maintained in 13%

Tamura NEJM 10.15.09

# Mod. Charlson Comorbidity Index



**1** point each for

CAD, CHF, PVD, CVA, Dementia, COPD,  
Peptic ulcer, Mild liver disease, Diabetes

**1** point for every decade over 40

**2** points each for

hemiplegia, moderate-to-severe renal  
disease (including being on dialysis),  
diabetes with end-organ damage, cancer  
(including leukemia or lymphoma)

**3** points for moderate-to-severe liver disease

**6** points each for metastatic solid tumor or  
AIDS

Modified CCI Score Total	Annual Mortality Rate
Low <3	3%
Moderate 4-5	13%
High 6-7	27%
Very High >8	49%

# “Surprise” Study



“Would you be surprised if this patient died in the next 12 months?”

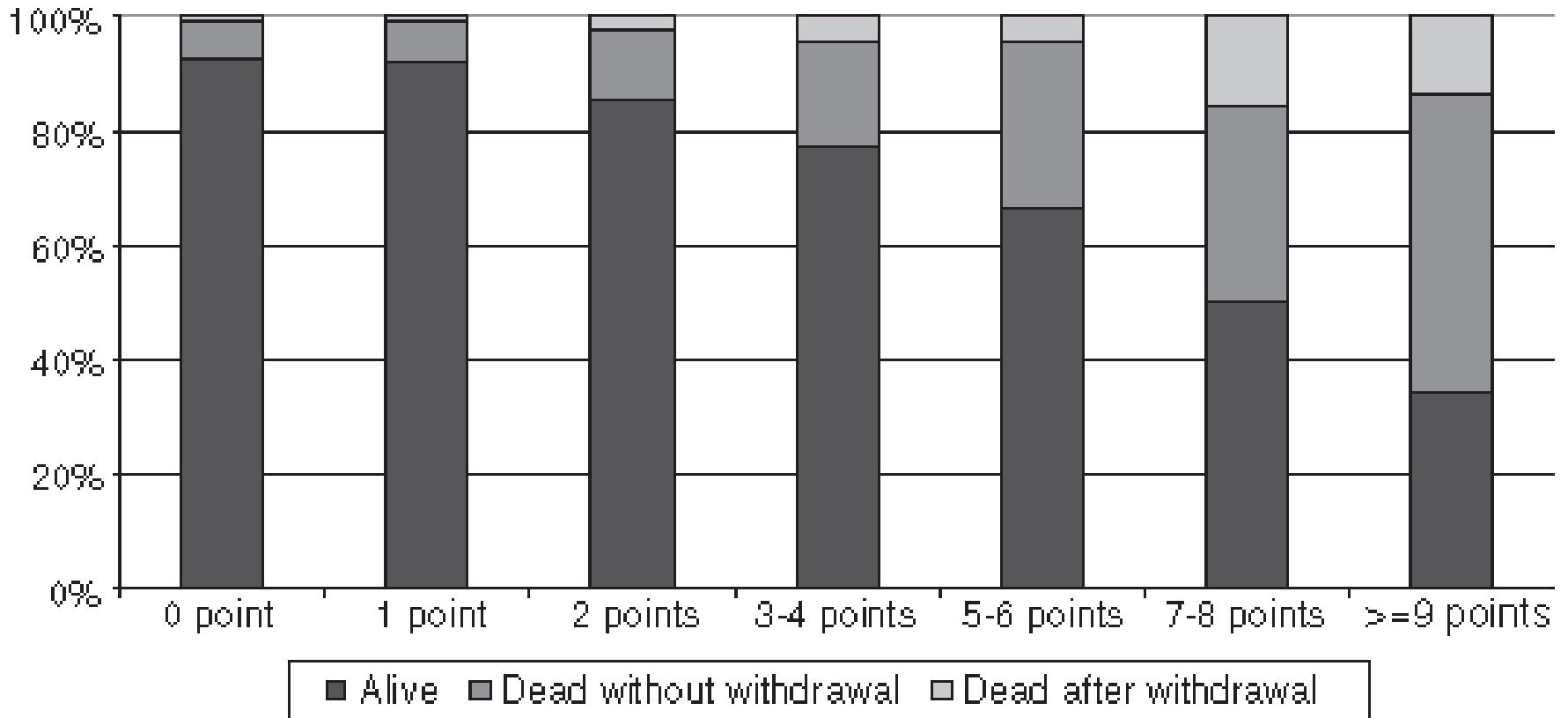
- HD for 3 months
- Followed for 1 year
- N=147
- Overall mortality 15%
- “Yes” 10.6%
- “No” 29.4%
- Odds of dying 3.5 times higher in “No”



# 6 month prognosis in elderly

Risk Factor	Points
BMI less than 18.5	2
Diabetes	1
CHF Stage III or IV	1
PVD Stage III or IV	2
Dysrhythmia	2
Active Malignancy	1
Severe Behavioral Disorder	2
Totally Dependent for transfers	3
RRT initiated unplanned	2

# 6 month prognosis in elderly



Couchard

NHPCO Presentation, May 2007,  
Dr. Perry Fine



Authors	Date	N	Mean Days	Range
Neu & Kjellstand	1986	155	8.1	1-29
Sekkane & Moss	1998	60	12	0-150
Cohen et al	2000	126	8.2	1-46

96% of patients died within 30 days of stopping HD



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# Uremia

- Lethargy
- Somnolence
- Confusion
- Neuromuscular irritability
- HTN
- CHF
- Nausea
- Vomiting
- Metallic taste
- Pruritis
- Sleep disturbances
- Pericarditis
- Anorexia

# Symptoms in ESRD Patients

- Yong 2009
- Average of 9.1 symptoms/patient
- Fatigue
- Difficulty sleeping
- Cold aversion
- Lower Torso Weakness
- Pruritis
- Sexual Problems
- Pain in 41%

# Symptoms in CRF

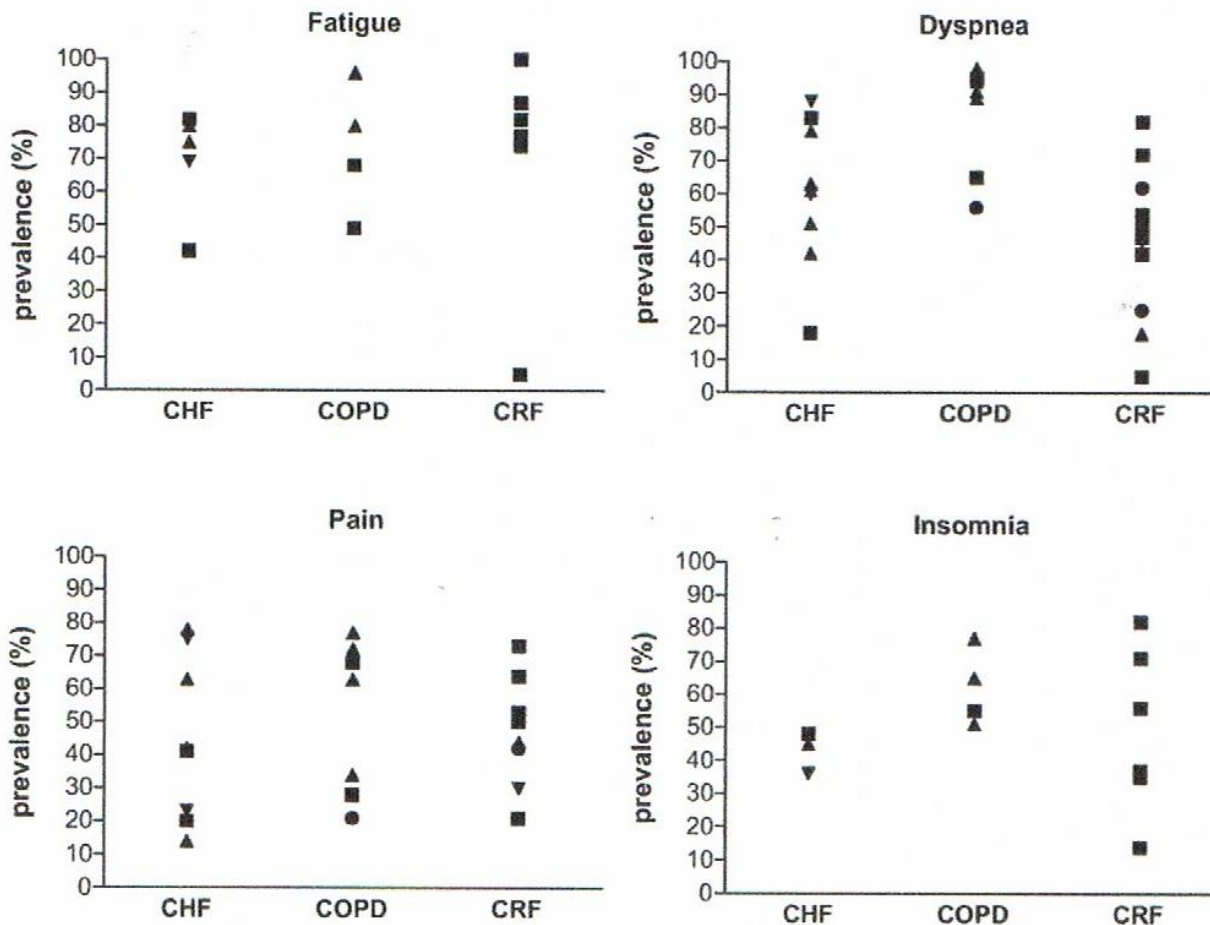
*Palliative Medicine* 2008; 22: 938–948

Daily symptom burden in end-stage chronic organ failure:  
a systematic review

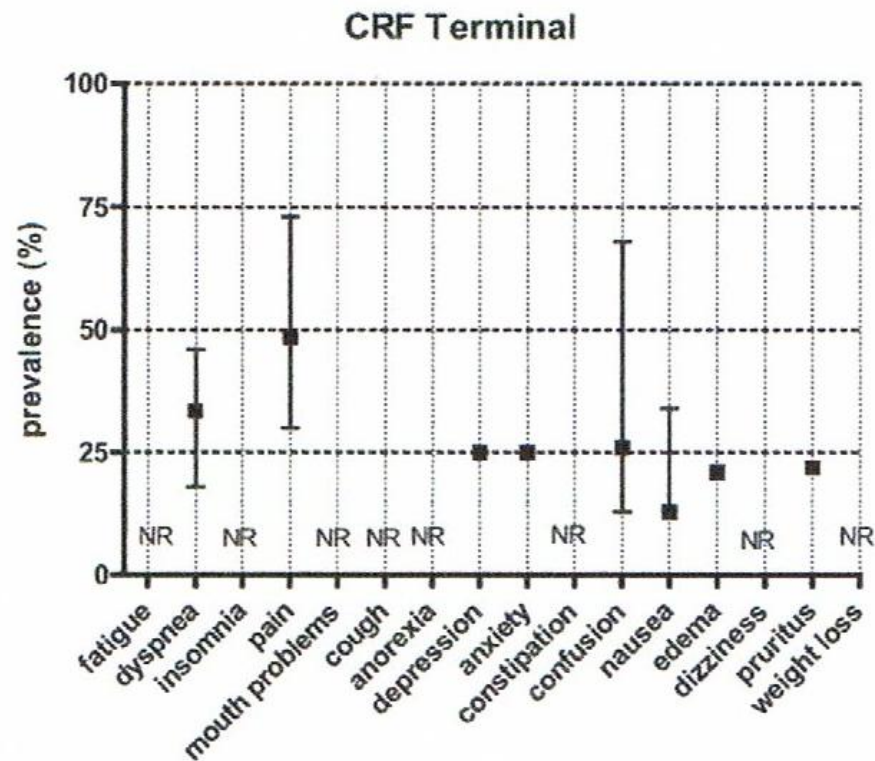
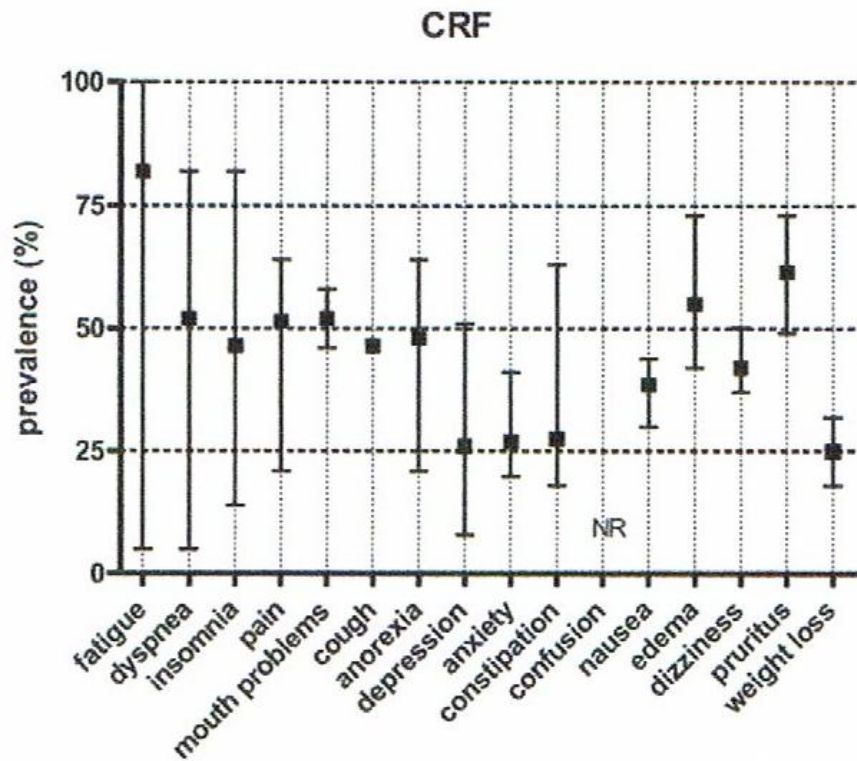
DJA Janssen Central Department of Treatment and Care, Proteion Thuis, Horn, MA Spruit Staff functionary

- Lit search on daily symptom burden in CHF, COPD, CRF at EOL
- 595 articles → 39 included
- 8 CHF, 7 COPD, 2 CHF/COPD, 22 CRF

# End Stage Organ Failure Symptoms Compared



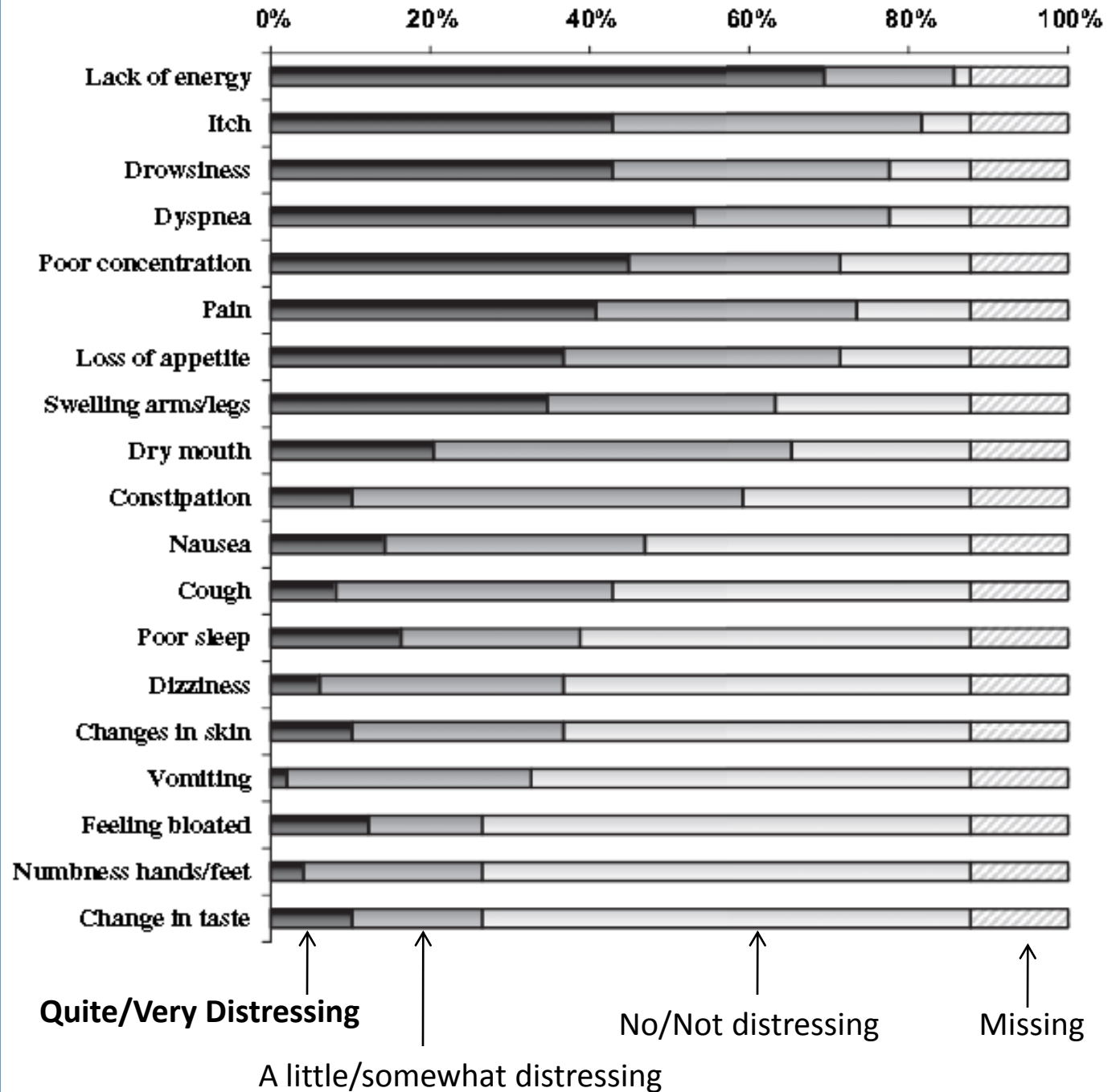
# End Stage Organ Failure Symptoms Compared



# Symptoms of HD Withdrawal

Confusion/Agitation	70%
Pain	55%
Dyspnea	48%
Nausea	36%
Myoclonus/Seizures	27%
Anxiety	27%
Pruritis	24%
Edema	21%

# Symptoms in ESRD without HD



# Overview of Today's Talk

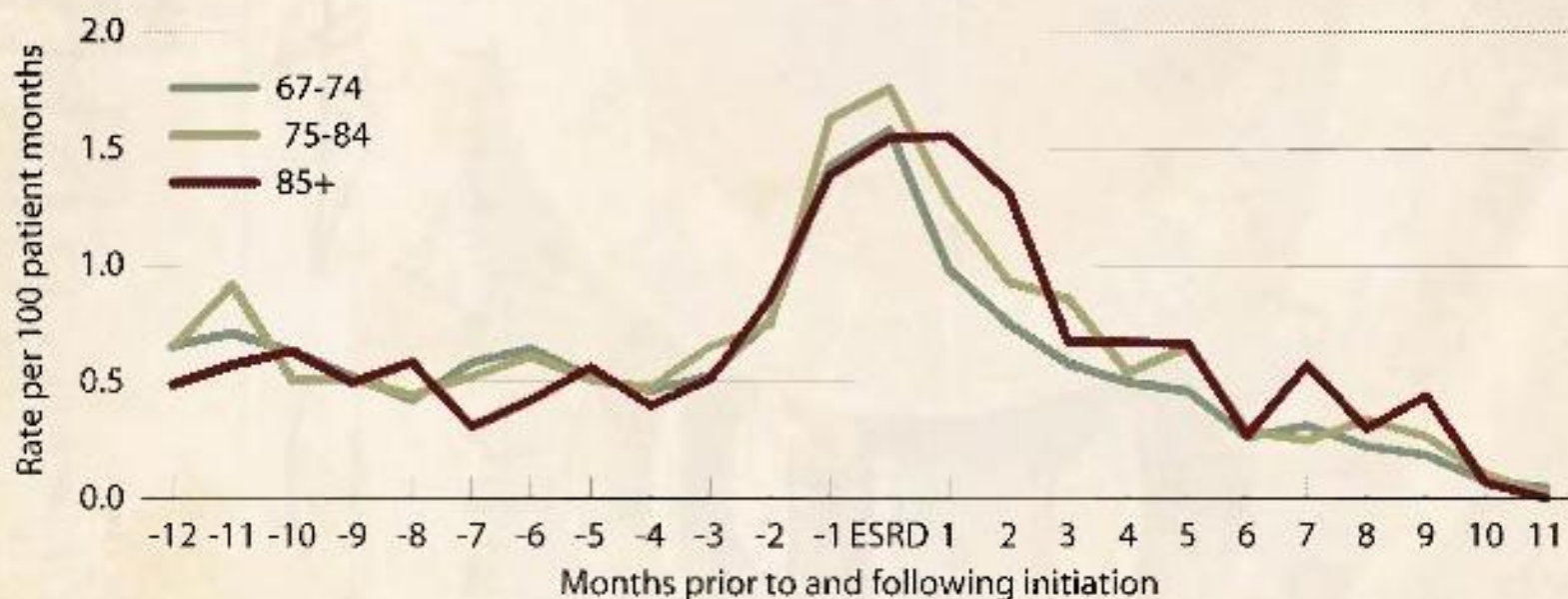
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# ESRD Problems

- Vascular Access Issues
- Calciphylaxis
- Mental Status Changes
- Uremic Frost
- Sleep Disorders
- Depression

# Monthly incidence of stroke during the transition to ESRD. 2006

Figure 5.25 (Volume 1)



Incident ESRD patients, 2006, age 67 & older at initiation;  
excludes those with a stroke between 12 & 24 months prior to ESRD

# Calciophylaxis



**B**

Source: Wolff K, Johnson RA: *Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology*, 6th Edition: <http://www.accessmedicine.com>

- Vascular calcification
- Soft Tissue Necrosis
- Ischemic Necrosis of skin
- Extremely painful
- Lower extremities
- Unknown mechanism
- Normalize calcium-phosphage
- Meticulous wound care
- Mortality 80%

# Mental Status Changes

- Mentation slows when GFR < 50% of normal
- Dialysis Dementia due to aluminum accumulation, old problem
- Today's encephalopathy maybe from uremic toxins, dialysis, or other underlying diseases

Stage	eGFR	Description
1	>90 mL/min	Normal
2	60-89 mL/min *	Mildly Reduced
3	30-59 mL/min	Moderately Reduced
4	15-29 mL/min	Severely Reduced
5	<15mL/min	Very Severe/End Stage

# Depression

- Symptoms may overlap
- Focus on feelings of
  - Helplessness
  - Guilt
  - Worthlessness
  - Suicide
- Fluoxetine, sertraline, citalopram, avoid bupropion
- Low employment

# Uremic Pruritis

- Unknown MOA
- Doesn't correlate with BUN
- Chronic > Acute
- Back, symmetric, continuous
- nocturnal, dry, heat
- 17% increase mortality associated

# Uremic Pruritis

- Topical emollients
- Capsaicin
- UV Phototherapy
- Gabapentin start 100mg post HD
- Serotonin antagonists
- Remeron

# Uremic Frost



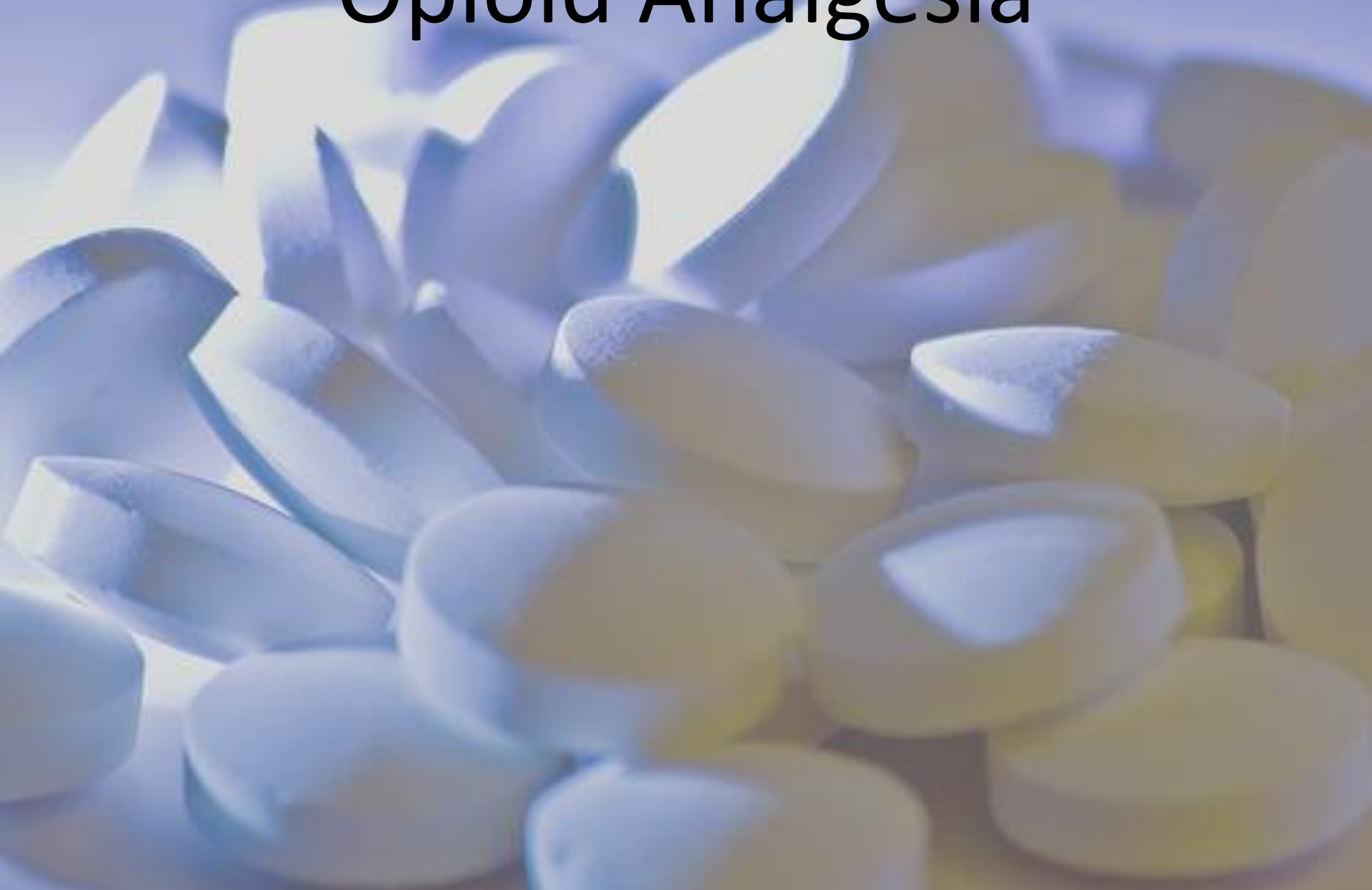
# Sleep disorders

- 75-85% of ESRD patients
- RLS, uremic pruritis, pain, iron def, etc.
- Treat underlying cause (RLS)
- Sleep hygiene
- Mild hypnotics
- Cooler dialysate (36.0-36.5 degrees)

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# Opioid Analgesia



# Fentanyl

- Transdermal absorption may be altered
- No active metabolites
- Dialysis does not remove fentanyl
- Generally safe, dose reduction ? necessary

# Hydromorphone (Dilaudid)

- Accumulation of hydromorphone-3-Glucuronide
  - Increases potential for neurotoxicity
- Better tolerated than morphine
- Subject to dialysis

# Morphine

- Accumulation of Morphine to Glucuronidine
  - Delayed opioid toxicity
- Accumulation of
  - Morphine 3 Glucuronide (55% inactive)
  - Morphine 6 Glucuronide (10% active)
    - Delayed neurotoxicity
- Hemodialysis (not PD) removes metabolites

# Morphine

- Dose reduce
- Extend intervals
- Avoid sustained release
- Hemodialysis related changes in analgesia

# Oxycodone

- More data needed
- Oxycodone + metabolites cleared by kidney
  - Noroxycodone
  - Oxymorphone
- CNS toxicity possible even at normal doses
- Reduce dose
- Avoid SR
- ? dialysis

# Methadone

- Inactive metabolite
- Fecal excretion
- Relatively safe in renal failure
- Multiple cytochrome metabolism
- Not dialyzed

# Opioid Summary

- Long Acting:
  - Fentanyl and Methadone Preferred
- Short Acting:
  - Fentanyl > Dilaudid > oxycodone > morphine

# Hospice and Palliative Care Role

- Similarities
  - Patient and family focused
  - Symptom control
  - Communication and coordination of care
  - Serious illness
  - Access in home, hospital, nursing home
  - Specialists across multiple disciplines

# Hospice and Palliative Care Role

- Hospice care
  - Focused on last 6 months
  - Goals - Primarily comfort only
  - Can be provided in an inpatient facility
  - Bereavement services
  - Medicare benefit
- Palliative care
  - Time-independent
  - Goals – Curative, rehabilitative, comfort, etc.
  - Can be provided in a clinic setting
  - Billed as traditional medical services

# Summary

- 24% of ESRD patients on HD die each year
- Methadone, Fentanyl are preferred in ESRD patients for analgesia
- Fatigue, Dyspnea, Insomnia and Pain are frequent symptoms associated with end stage renal disease
- Some patients qualify for HD and Hospice



# KIDNEY END-OF-LIFE COALITION

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Dedicated to End-of-Life Care for Kidney Patient  
[www.kidneyeol.com](http://www.kidneyeol.com)



Fast Fact #161 “Opioid Use in Renal Failure”

Fast Fact #191 “Prognostication in Patient’s Receiving Dialysis”

Fast Fact #207 “Withdrawl of Dialysis: Decision Making”

Fast Fact #208 “Clinical Care Following Withdrawal of Dialysis”

[www.eperc.mcw.edu](http://www.eperc.mcw.edu)

# References

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# References

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# Photo Reference

- Duncan “Renal Dialysis”  
<http://www.flickr.com/photos/duncan/104321008/>
- Newslighter “Plugged into Dialysis”  
<http://www.flickr.com/photos/newslighter/523392/>
- Dey “Kidney Beans” <http://www.flickr.com/photos/dey/95133323/>
- Mickey “Frosted Marigold”  
<http://www.flickr.com/photos/emzee/266841026/>
- @rild “Just another stair”  
[http://www.flickr.com/photos/arild\\_storaas/2178513745/](http://www.flickr.com/photos/arild_storaas/2178513745/)
- Aldaron “Parliament Clock”  
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- Hitthatswitch “Large vitamin pills and tablets”  
<http://www.flickr.com/photos/ringai/3174655194/>
- Claire\_Sambrook “Kidney pool”  
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**• Questions About the WebEx?**

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