

# Side Effects of Late-Stage Kidney Disease

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Gopa B. Green, MD

Diane Ruddell, MSW

# Thanks to our speakers!

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Gopa B. Green, M.D.

- Medical Director of the Satellite Healthcare dialysis center in Windsor, California
- Clinical nephrologist and partner of Nephrology Associates in Santa Rosa, California
- Member of the American Society of Nephrology and the Renal Physicians Association

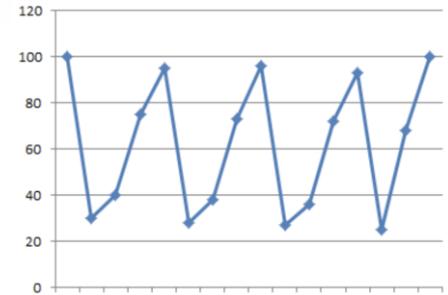


Diane Ruddell, MSW

- Lead Social Worker for Satellite's North and East Bay regions in California
- Medical social worker with Wellbound Santa Rosa

# Common physical side effects

- **Uremic pruritus** – dry & itchy skin
- **Sleep disorders**
  - Insomnia
  - Excessive sleepiness
  - Sleep apnea
  - Restless limbs
- **Fatigue, especially after dialysis**



# Uremic Pruritus

## Dry, itchy skin associated with kidney disease

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- Associated with lower quality of life, depression, poor sleep quality, and increased mortality (death rate)
- Under-recognized by health care providers
- Poorly understood cause
- No agreement on treatment



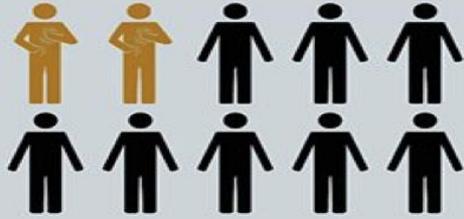
# Factors associated with uremic pruritus

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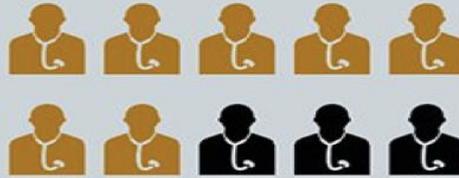
- Dry skin
- High phosphorus
- Not enough dialysis
- Hyperparathyroidism  
(high parathyroid hormone or PTH)



# How common is uremic pruritus?



18% of patients were very much or extremely bothered by itchy skin.



69% of medical directors underestimated the prevalence of pruritus in their facility.



Among patients nearly always or always bothered by itching, 18% used no treatment for pruritus.

## CONCLUSION

Many patients' lives could be improved by increased awareness and treatment of CKD-associated pruritus.

# Dry Skin: Practical Tips



- **Every day use of skin moisturizers** particularly after bathing
- **Use of mild cleansers**
  - Traditional soaps can irritate dry skin
  - Synthetic detergent cleansers (e.g., Dove, Olay®, Cetaphil®) are preferred
- **Avoid washing skin too much or too roughly**



# Treatment of Pruritus

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- 60% of doctors ranked **phosphorus control** as the most important treatment
  - Phosphorus is not effectively removed by dialysis, so it needs to be restricted in the diet – talk to your dietician
  - Phosphorus binders can help eliminate phosphorus – take them with meals
- 15% of doctors ranked **increasing dialysis dose** as the most important treatment

# Medication Treatment



**Anti-histamines** (topical, oral, prescription, over-the-counter) account for > 90% of first-line therapy

Other therapies: **gabapentin**, pregabalin, phototherapy, hemodialysis modifications, and many other systemic and topical treatments

# Sleep Disorders

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Up to 44% of renal patients report problems with sleep

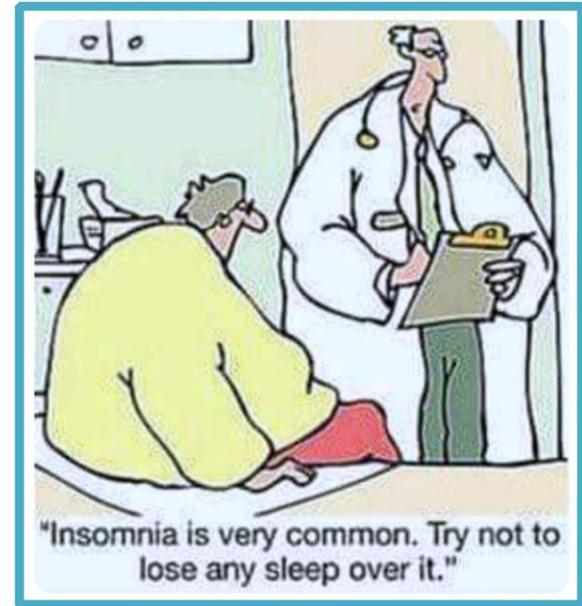
Under-recognized by renal healthcare providers

- **Insomnia**
- **Excessive sleepiness**
- **Sleep apnea**
- **Restless legs syndrome (RLS) and Periodic limb movement disorder (PLM)**



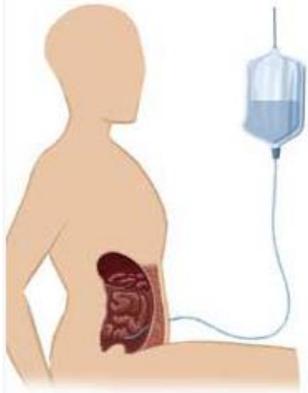
# Insomnia

- Reported in 19%-71% of ESRD patients on hemodialysis (HD) or peritoneal dialysis (PD)
- Significant source of **stress** for patients and associated with increased inflammation and mortality (death rate)
- **Contributors to insomnia:**
  - **Sleep disorders:** RLS/PLM, Sleep apnea
  - **Metabolic factors:** uremia, anemia, hypercalcemia, bone pain, pruritus
  - **Poor sleep habits:** napping during daytime dialysis, medications



# Treatment of Insomnia in ESRD

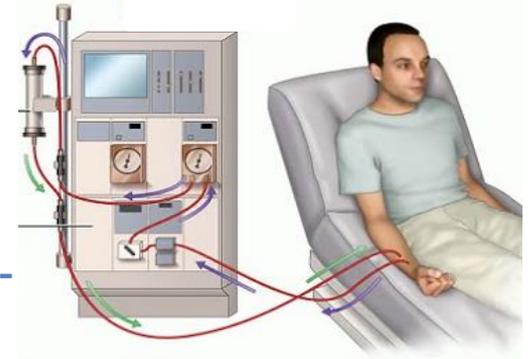
- **Sleep habits** – limit daytime napping, consistent sleep-wake times, exposure to sunlight & darkness, limiting screen-time before bed
- **Medications:** melatonin, sleeping aids (may be habit-forming)



- Trouble sleeping and restless legs were among the most common symptoms in uremic patients and improved notably after starting PD.
- Patients reported less insomnia after kidney transplant compared with waitlisted patients on dialysis.

Novak M et al. *Adv Perit Dial.* 24:46, 2008.

Novak M et al. *Am J Kidney Dis.* 47(4):655, 2006.



# Excessive Sleepiness

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- Reported by more than HALF of all HD and PD patients
- **Factors:** Restless legs/PLM, sleep apnea, undertreated kidney disease or uremia (associated with higher pre-dialysis BUN)
- In one study, daytime sleepiness was reduced by switching to nocturnal HD

Hanly PJ et al. *Am J Kidney Dis* 41(2): 403, 2003.



# Sleep Apnea

- Both **obstructive** (periodic closure of airway) and **central** (periodic loss of drive to breathe) sleep apnea occur in ESRD patients.
- Sleep apnea increases frequency of high blood pressure, coronary artery disease, cerebrovascular disease and inflammatory markers; also may increase risk of mortality in patients with kidney failure
- **Nocturnal HD** may reduce sleep apnea, but may increase sleep fragmentation (waking up during the night)
- **Fluid removal with PD** improves sleep apnea symptoms



Obstructive sleep apnea treated with CPAP mask

# Restless Legs Syndrome (RLS) Periodic Limb Movement Disorder (PLM)

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## RLS

Unpleasant sensation in legs with an urge to move them, worse during inactivity, relieved by movement

Prevalence of RLS in HD patients: 14-57%, compared to 5-15% in general population

## PLM

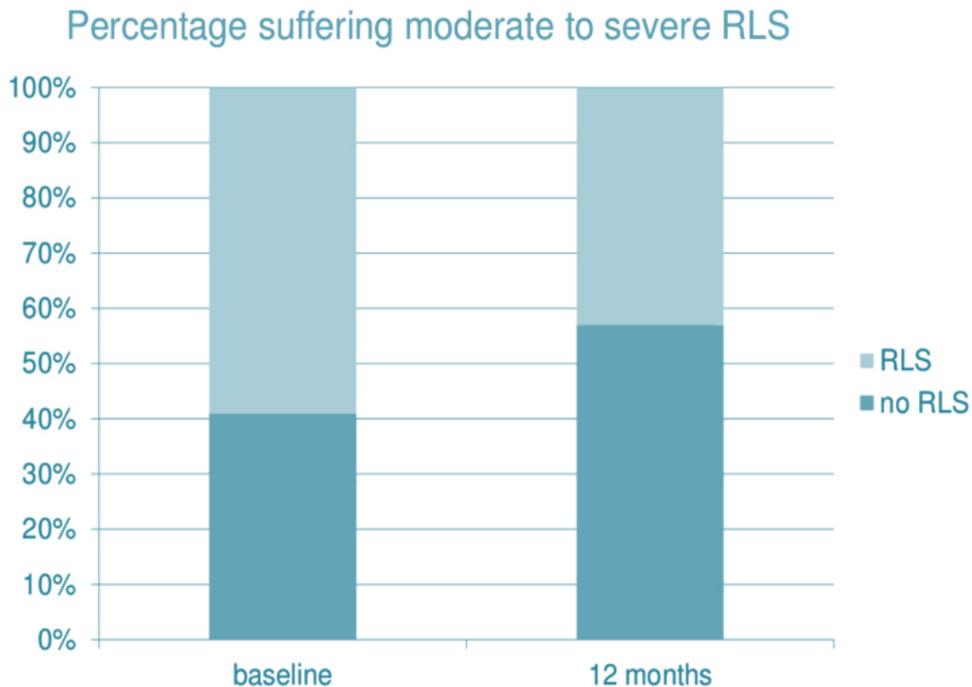
Jerking movement of legs during sleep that can not be controlled (can occur in absence of RLS)

Prevalence in ESRD: >50%, reduced to 5% after kidney transplant (similar to general population)

- Both are related to poor sleep quality, impaired health-related quality of life and depression.
- May improve with kidney transplant, more frequent (short, daily) dialysis, moderate exercise, and fixing iron deficiency

# FREEDOM Trial:

## Significant decrease in RLS symptoms with short daily HD



# Fatigue or “Why am I so tired?”

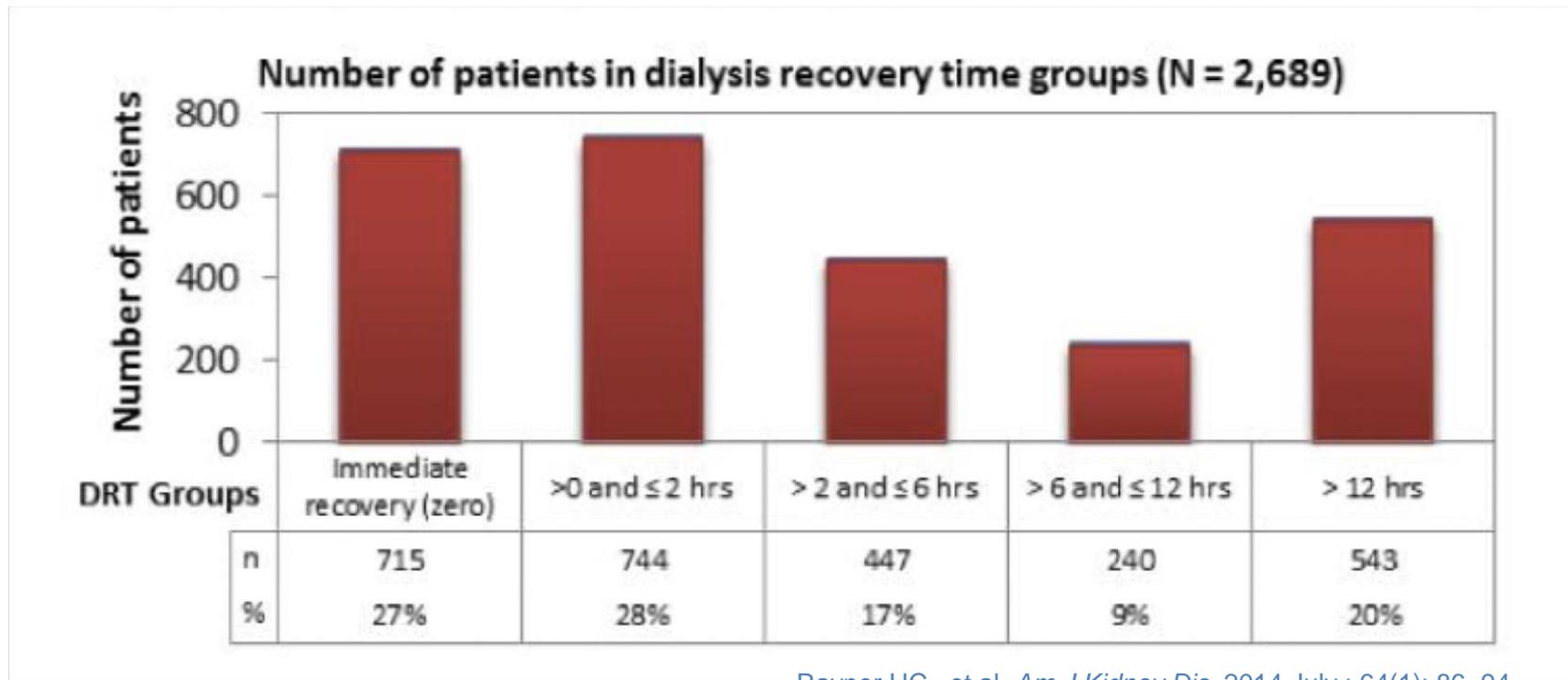
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Fatigue goes by many names:

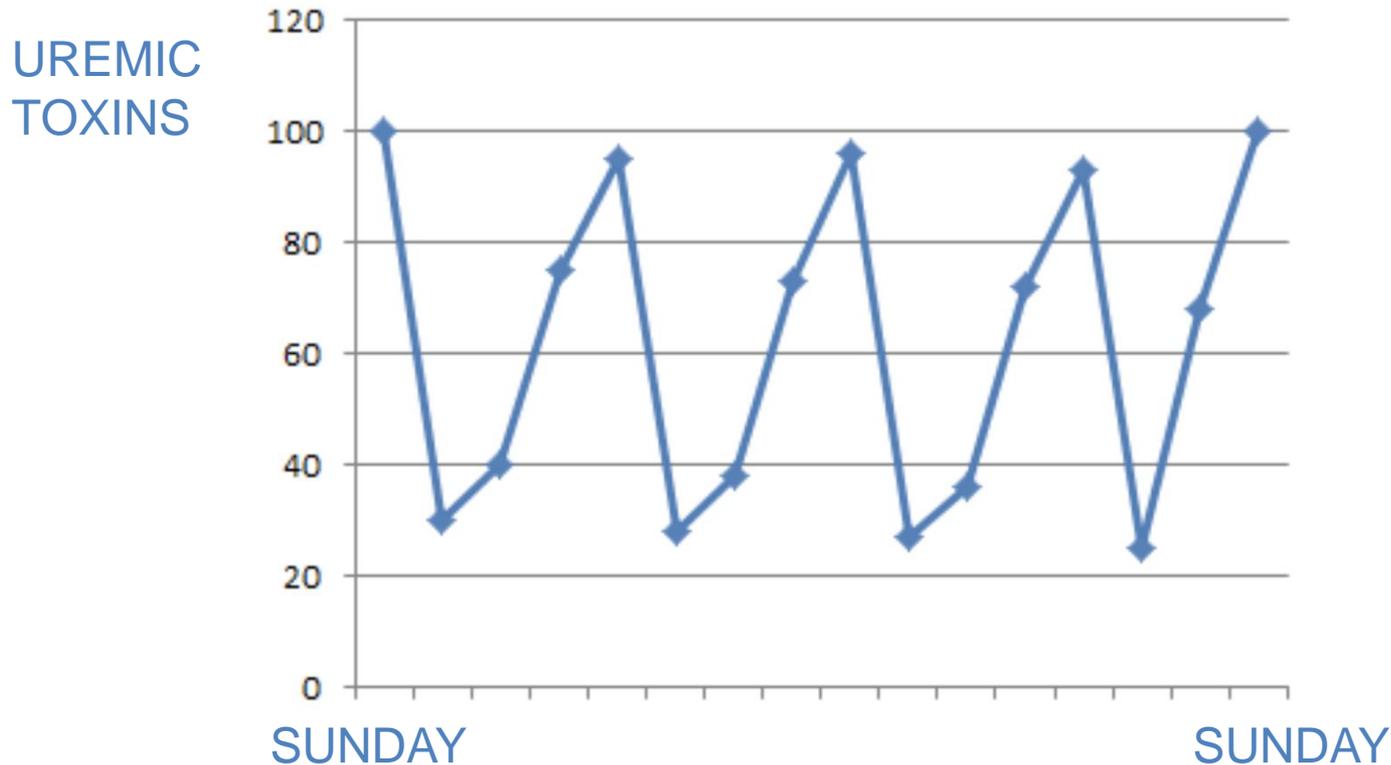
- Feeling tired or feeling sleepy
- Low energy
- Dialysis “kicks my butt”
- Can be confused with or made worse by:
  - Depression
  - Under-dialysis or untreated chronic kidney disease
  - Poor strength/conditioning, physical inactivity
  - Poor sleep
  - Poor diet



# Fatigue – Dialysis Recovery Times



# The Intermittent Dialysis See-Saw



# How to Beat Fatigue

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- **Consider a change in dialysis schedule or type of dialysis**
- **Discuss anemia management or symptoms of depression with your doctor**
- Eat small, healthy portions of food more often
- Get moving – walking, water exercise, stationary bike
- Get stronger – resistance training using body weight, bands, or small weights
- Get good sleep
- Reduce caffeine, alcohol
- Reduce stress

# Finding Support and Resources

Diane Ruddell, LCSW

# Who is on your team?

## (It's larger than you think)

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- Nephrologist, nurse, dietician, social worker
- Family (biological and other)
- Fellow patients (peer support), faith community
- Mental health professionals, support group



# Be your own advocate!

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- Prepare for visits
- Write questions down ahead of time
- Bring a support person with you
- Keep a notebook (visit notes, track labs, important contacts)

# Emotional Support

## (Getting help when you need it)

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- Depression and anxiety symptoms are common with kidney patients; it's **NORMAL** to be impacted emotionally by your disease
- Physical effects of kidney disease can impact patients emotionally
- Self care – what does it look like for you?
- Getting help – reaching out to “your team” and **ADDING** to your team when needed



# Resources

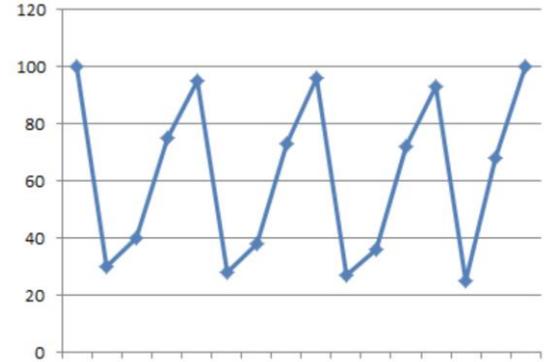
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- [RSNhope.org](https://www.rsnhope.org) (Renal Support Network)
- [kidneyschool.org](https://www.kidneyschool.org) (Interactive learning modules on range of topics)
- [AAKP.org](https://www.aakp.org) (American Association of Kidney patients)
- [Kidneyfund.org](https://www.kidneyfund.org) (American Kidney Fund)
- [Kidney.org](https://www.kidney.org) (National Kidney Foundation)



# LIVE Q & A

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# Join us for our next webinar!

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**Jovonni R. Spinner, MPH, CHES**

## Clinical Trials and Kidney Disease

Wednesday, September 11, 2019 from 1:00 – 2:00 p.m. EDT

### Join us to hear more about:

- What clinical trials are and how participants are protected
- Why diversity in clinical trials participants matters
- The benefits clinical trials offer for science and can offer for your health

Go to [www.KidneyFund.org/webinars](http://www.KidneyFund.org/webinars) to  
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