Pain Management for Patients Living with End Stage Renal Disease

Amar D. Bansal, MD
Assistant Professor of Medicine
University of Pittsburgh
Renal-Electrolyte Division
Section of Palliative Care and Medical Ethics

Disclosures

- None

Learning Objectives

- Identify tools that could be used for screening and assessment of pain
- Discuss pain medications used for renal patients
- Consider non-medication techniques for managing pain in renal patients

Mr. Smith

Mr. Smith is 55 and has a history of morbid obesity, hypertension, and diabetes. He has ESRD (presumptively) from diabetic nephropathy. He has been on in-center HD for 10 months. He is trying to lose weight to become eligible for transplant.

He frequently asks for treatments to stop after 3.5 hours. He has ongoing hypertension and edema and frequently cannot reach his dry weight target because of cramping.

Pain is Common

- Pain, fatigue, and pruritus are present in a **majority** of hemodialysis patients
- Symptom burden of patients with kidney disease is similar to those living with cancer
- Chronic pain: longer than 3 months and persists after tissue repair/healing

Weisbord et al. NDT 2003.

Symptom Management is Important to Patients

- Evidence suggests symptom management is a top priority for patients
- Clinicians tend to focus on survival and optimizing biochemical parameters

Urquhart-Secord et al. Patient and Caregiver Priorities for Outcomes in Hemodialysis: An International Nominal Group Technique Study. AJKD 2016.

Providers Tend to be Unaware of Many Symptoms

Symptom	Patient-Reported Prevalence (%)	Provider-Reported Prevalence	
		Yes (%)	Don't Know (%)
Feeling tired or lack of energy	68	45	25
Dry skin	65	11	39
Dry mouth	45	5	40
Itching	45	13	36
Trouble staying asleep	45	13	39
Trouble falling asleep	44	13	40
Muscle cramps	39	17	32
Cough	39	9	29
Bone or joint pain	37	15	35
Diarrhea	33	13	29

Weisbord et al. Renal provider recognition of symptoms in patients on maintenance hemodialysis. cJASN. 2007

Non-Pain Symptoms

Concurrent treatment of the following may facilitate reduction in pain symptoms:

- Depression
- Anxiety
- Restless leg syndrome
- Pruritus

Pain Strongly Affects QOL

Among HD patients with chronic pain:

- There is increased prevalence of depression and anxiety
- There is decreased ability to cope with stress
- 40% reported pain as moderate to severe
  - This group was more likely to consider withdrawal from dialysis

Davison SN, Jhangri GS. JPSM 2005.

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Pain Assessment

- Informal
  - Responding to direct complaints
  - Indirect awareness through RN or PCT
  - Pain medications noted during reconciliation
  - Review of systems
- Formal assessment with validated tools

iPOS – Renal

(integrated Palliative care Outcome Scale)

- Can be completed by patient
- Allows patient to prioritize concerns
- Pain is the first symptom on the list

IPOS-Renal Patient Version

www.pos-pal.org

Patient name : .....

Date (dd/mm/yyyy) : .....

Patient number : ..... *(for staff use)*

Q1. What have been your main problems or concerns over the past week??

1. .....
2. .....
3. .....

Q2. Below is a list of symptoms, which you may or may not have experienced. For each symptom, please tick the box that best describes how it has affected you over the past week?

	Not at all	Slightly	Moderately	Severely	Overwhelmingly
Pain	0☐	1☐	2☐	3☐	4☐
Shortness of breath	0☐	1☐	2☐	3☐	4☐
Weakness or lack of energy	0☐	1☐	2☐	3☐	4☐
Nausea (feeling like you are going to be sick)	0☐	1☐	2☐	3☐	4☐
Vomiting (being sick)	0☐	1☐	2☐	3☐	4☐
Poor appetite	0☐	1☐	2☐	3☐	4☐
Constipation	0☐	1☐	2☐	3☐	4☐
Sore or dry mouth	0☐	1☐	2☐	3☐	4☐
Drowsiness	0☐	1☐	2☐	3☐	4☐
Poor mobility	0☐	1☐	2☐	3☐	4☐
Itching	0☐	1☐	2☐	3☐	4☐
Difficulty Sleeping	0☐	1☐	2☐	3☐	4☐
Restless legs or difficulty keeping legs still	0☐	1☐	2☐	3☐	4☐
Changes in skin	0☐	1☐	2☐	3☐	4☐
Diarrhoea	0☐	1☐	2☐	3☐	4☐

Please list any other symptoms not mentioned above, and tick the box to show how they have affected you over the past week?

1._____	0☐	1☐	2☐	3☐	4☐
2._____	0☐	1☐	2☐	3☐	4☐
3._____	0☐	1☐	2☐	3☐	4☐

Over the past week:

	Not at all	Occasionally	Sometimes	Most of the time	Always
Q3. Have you been feeling anxious or worried about your illness or treatment?	0☐	1☐	2☐	3☐	4☐
Q4. Have any of your family or friends been anxious or worried about you?	0☐	1☐	2☐	3☐	4☐
Q5. Have you been feeling depressed?	0☐	1☐	2☐	3☐	4☐

	Always	Most of the time	Sometimes	Occasionally	Not at all
Q6. Have you felt at peace?	0☐	1☐	2☐	3☐	4☐
Q7. Have you been able to share how you are feeling with your family or friends as much as you wanted?	0☐	1☐	2☐	3☐	4☐
Q8. Have you had as much information as you wanted?	0☐	1☐	2☐	3☐	4☐

	Problems addressed/ No problems	Problems mostly addressed	Problems partly addressed	Problems hardly addressed	Problems not addressed
Q9. Have any practical problems resulting from your illness been addressed? (such as financial or personal)	0☐	1☐	2☐	3☐	4☐

	None at all	Up to half a day wasted	More than half a day wasted
Q10. How much time do you feel has been wasted on appointments relating to your healthcare, e.g. waiting around for transport or repeating tests	0☐	1☐	2☐

	On my own	With help from a friend or relative	With help from a member of staff
Q11. How did you complete this questionnaire?	☐	☐	☐

If you are worried about any of the issues raised on this questionnaire then please speak to your doctor or nurse

Source: https://pos-pal.org

ESAS-R

(Edmonton Symptom Assessment System – Renal)

- ESAS is widely used in palliative care
- Can be completed by patient
- Very quick to complete (few minutes)

Source: http://www.palliative.org/NewPC/professionals/tools/esas.html

Alberta Health Services | Covenant Health

Edmonton Symptom Assessment System:
(revised version) (ESAS-R)

Please circle the number that best describes how you feel NOW:

No Pain	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Pain
No Tiredness *(Tiredness = lack of energy)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Tiredness
No Drowsiness *(Drowsiness = feeling sleepy)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Drowsiness
No Nausea	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Nausea
No Lack of Appetite	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Lack of Appetite
No Shortness of Breath	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Shortness of Breath
No Depression *(Depression = feeling sad)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Depression
No Anxiety *(Anxiety = feeling nervous)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Anxiety
Best Wellbeing *(Wellbeing = how you feel overall)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Wellbeing
No _____ Other Problem *(for example constipation)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible _____

Patient's Name _____

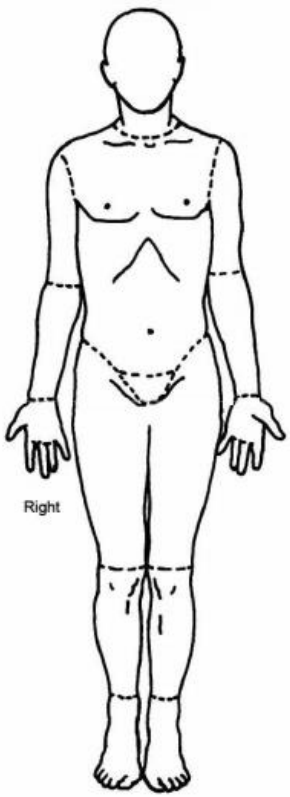
Date _____ Time _____

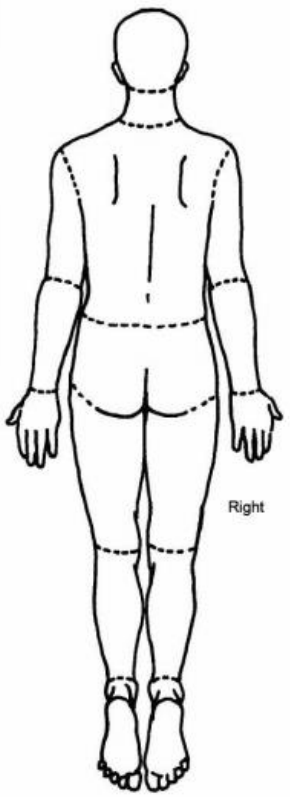
Completed by (check one):
- ☐ Patient
- ☐ Family caregiver
- ☐ Health care professional caregiver
- ☐ Caregiver-assisted

BODY DIAGRAM ON REVERSE SIDE

ESAS-r
Revised: November 2010

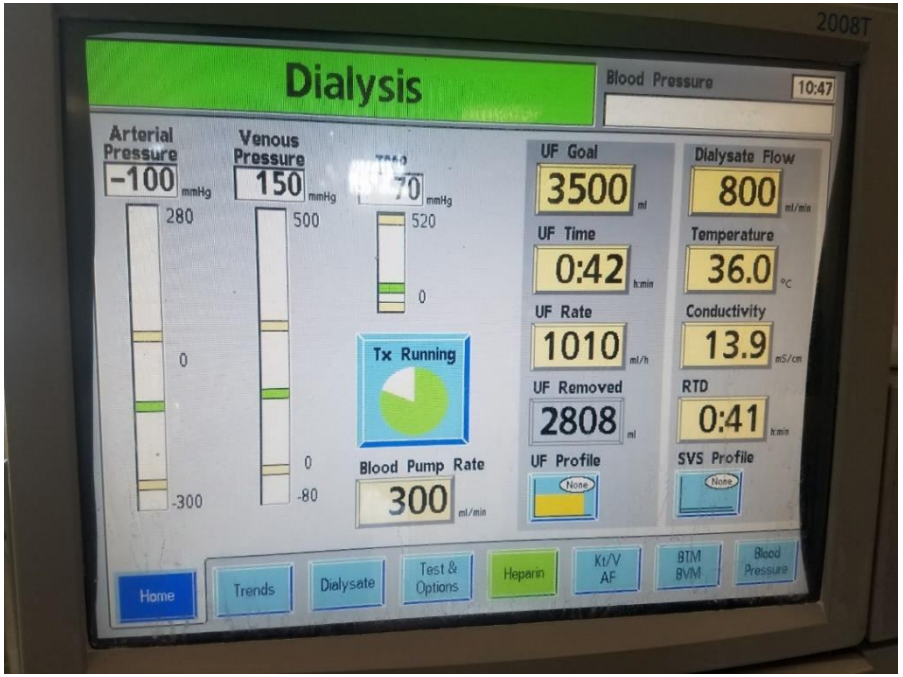
Please mark on these pictures where it is that you hurt:





Back to Mr. Smith

- I asked about cramping
- I explained the relationship between shorter treatments and higher UF rate
- He mentioned that back pain is what prevents him from completing treatment



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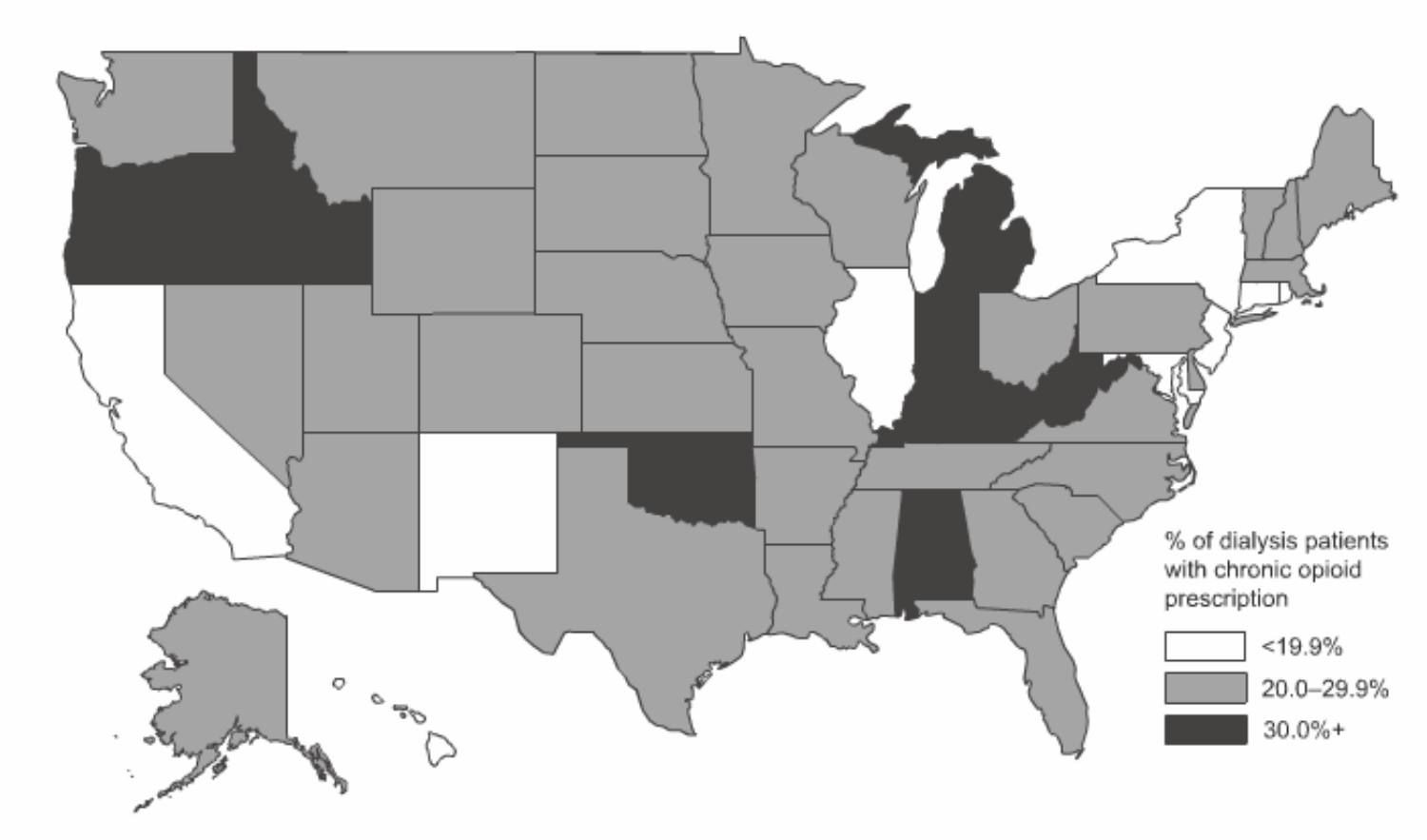
Approach to Pain Management for Patients with ESRD

- Similar to the approach used in general population
- Notable differences
  - –Avoiding accumulation of toxic metabolites
  - –Differentiating pain from intradialytic cramping
- Our focus will not be on access-related pain, headaches, or cramping

There are Two Distinct Problems

- Most patients with pain receive no analgesic prescription
- Among those who did
  - –60% had one opioid Rx per year
  - –20% received ≥ 90 day supply
  - –Opioid prescription associated with hospitalization, dialysis withdrawal, and mortality

Bailie et al. KI. 2004.
Kimmel et al. JASN 2017.



Chronic opioid prescription rates	
Hawaii	9.5%
West Virginia	40.6%
7 states	>30%

Kimmel et al. JASN 2017.

Types of Pain

- **Somatic (nociceptive)**
  - Well-localized
  - Intermittent or constant
  - Responsive to opioids and NSAID's
  - Cancer and bone pain
- **Visceral**
  - Deep, poorly localized or regional
  - Pressure and ischemia
  - Variably responsive to opioids
- **Neuropathic**
  - Burning, paresthesias, "electric"
  - Opioids tend to be ineffective

- Bone disease
- Fractures
- Access pain

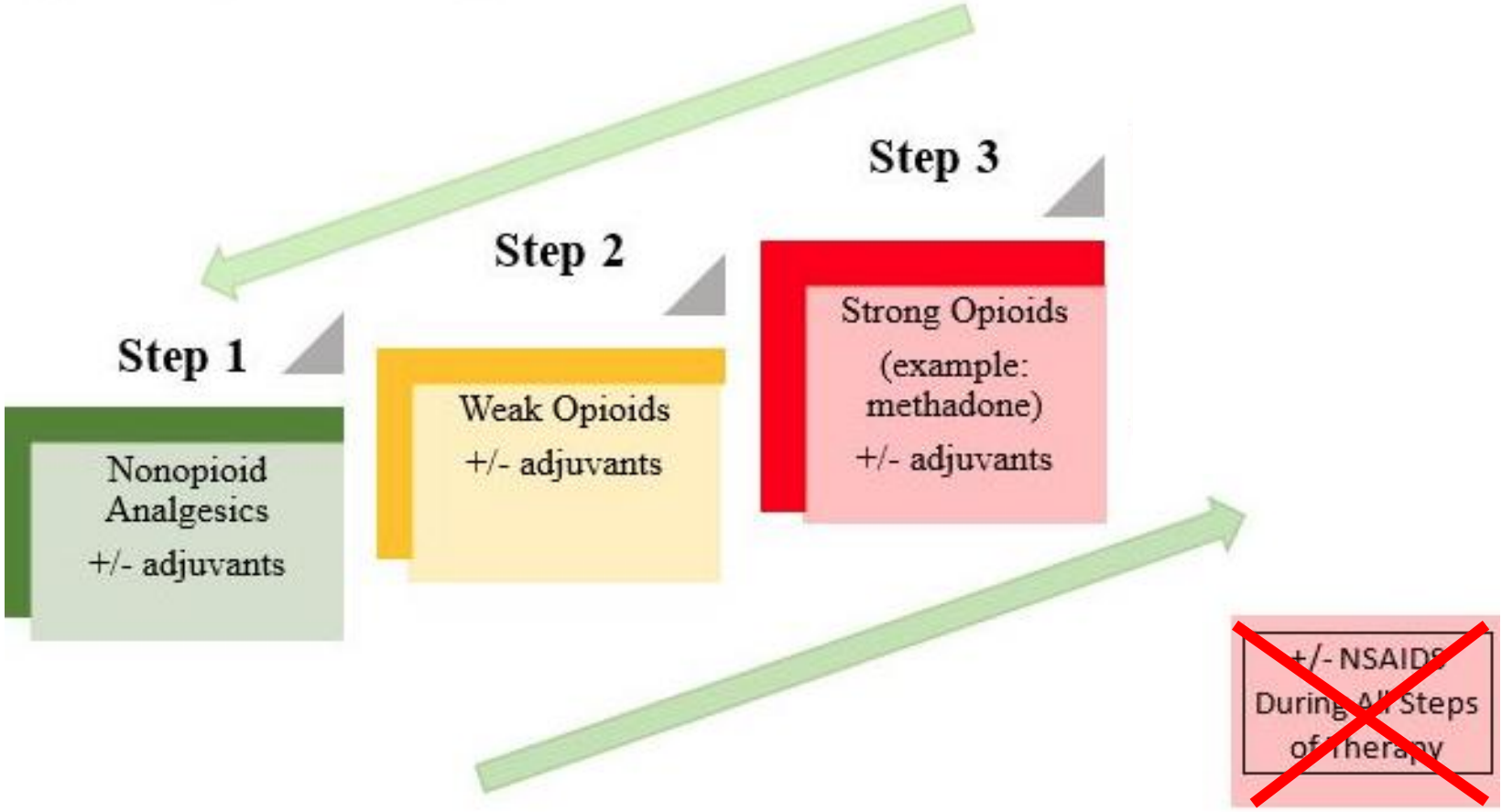
- Cramping (ischemia)
- Angina
- Steal

- Diabetic neuropathy
- Amyloidosis related neuropathy

Mixed Etiologies of Pain in ESRD

- Peripheral vascular disease
- Calcific uremic arteriolopathy (calciphylaxis)
- Phantom limb pain

WHO Pain Ladder



Vargas-Schaffer G. *Can Fam Physician*. 2010;

Adapting the Pain Ladder for ESRD

- NSAIDs
  - –Affect residual renal function
    - Indomethacin worse than naproxen and ibuprofen
  - –extra-renal toxicities
  - –short, specified durations
- Adjuvants
  - –Gabapentin and pregabalin
  - –Exercise
  - –CBT
  - –Treatment of co-morbid conditions

Kurella M et al. AJKD 2003.

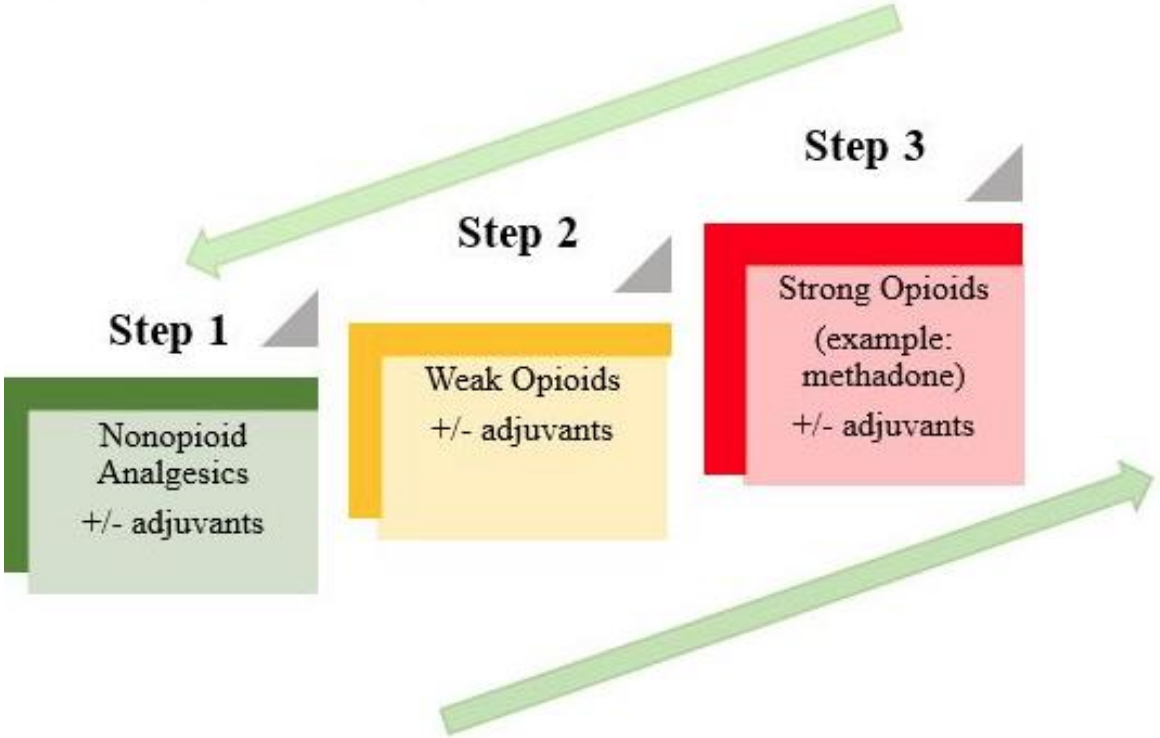
Opioids

- **Always Avoid**
  - Morphine — M6G (metabolite) may accumulate
  - Propoxyphene — main metabolite renally excreted
  - Codeine — 10% converted to morphine
  - Hydrocodone — mainly urinary excretion
  - Tramadol ER — little data

- **Use Caution – "start low and go slow"**
  - Tramadol — can affect seizure threshold
  - Oxycodone — safe but high street value
  - Hydromorphone (Dilaudid) — active metabolite is dialyzable

- **Generally safe**
  - Fentanyl — transdermal patch (or IV)
  - Methadone — fecal excretion and long half life

Adapting the Pain Ladder for ESRD



Tylenol +/-gabapentin	Step 1 + tramadol	Step 1 + hydromorphone (fentanyl patch) (methadone)

Adapted from Sara Davison

Back to Mr. Smith

- Back pain prevented him from completing treatments
- Suggested
  - 1000mg acetaminophen on arrival to HD unit
  - (his own supply)
- Later he had focal back pain after living a heavy object
  - Resolved with 3 days of ibuprofen 400mg TID.

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Non-pharmacologic Options

Data is not the best quality:

- Most studies do not include CKD or ESRD patients
- Chronic back pain
- Rheumatoid arthritis
- Osteoarthritis
- Psychosocial interventions may be resource intense

Allegrante JP. Am J Med 1996.

Non-pharmacologic Options

- Minimal healthcare utilization
  - –Exercise
  - –Heat/cold therapy
  - –Braces
  - –Transcutaneous electrical nerve stimulation
- Psychosocial interventions
  - –Cognitive behavioral therapy
  - –Family and social support
  - –Relaxation techniques
  - –Therapeutic listening

Summary

- Pain is common—ask about it
  - –Validated tools can be helpful for full symptom review
- Treatment of pain in ESRD relies on general principles
  - –Avoiding accumulation of toxic metabolites
  - –Limited to no use of NSAIDs
- Opioids are not first line treatment
- Non-pharmacologic techniques have limited data