CKM Restless Legs Guideline for Healthcare Professionals

Guiding Principle: Treat the patient's restless legs syndrome (RLS) **if it is affecting** their sleep or quality of life.

Step 1: Address contributing factors:

- Correct anemia and iron deficiency (See: Anemia Guideline)
- Correct hyperphosphatemia (See: Calcium/Phosphorous Guideline)
- **Remove drugs** which may contribute to or cause RLS:
  - **Dopamine antagonists:**
    - antipsychotics: pimozide, haloperidol (Haldol), olanzapine (Zyrexa), risperidone, quetiapine (Seroquel), methotrimeprazine (Nozinan)
    - other: metoclopramide (Metonia), promethazine
  - **Antidepressants**
    - Mirtazapine (Remeron)
    - SSRIs: e.g. citalopram, escitalopram, fluoxetine (Prozac), paroxetine (Paxil), sertraline (Zoloft)
    - SNRIs: e.g. duloxetine (Cymbalta), venlafaxine (Effexor)
    - Others: TCA's, carbamazepine (Tegretol), lithium, calcium channel blockers; opioids may also exacerbate RLS in this population

Step 2: Consider non-pharmacological management:

- A trial of **abstinence from stimulants** such as alcohol, caffeine and nicotine.
- A trial of **mental alerting activities**, such as video games or crossword puzzles, to reduce symptoms at times of boredom.
- The promotion of good sleep hygiene:
  - Wake up at the same time every morning.
  - Do not go to bed until you feel sleepy.
  - Do not "try" to fall asleep.
  - Avoid napping during the day.
  - Avoid caffeine in the evening.
  - Save your bedroom for sleep (and sex) only.
  - Leave your day's dilemmas at the door.
  - Incorporate relaxation techniques.
- If realistic for the patient, encourage **aerobic exercise, walking, and/or stretching.**
- See: Fatigue and Sleep Disturbances Guideline
- See: Restless Legs Patient Handout

Step 3: If the patient continues to report restless legs syndrome, consider pharmacological options:

Many of the following medications have been dose-adjusted for the ESKD patient and some are being used off-label for RLS. Medications such as gabapentin and pregabalin should be tapered down as kidney function deteriorates. *Note that gabapentin is not commercially available in 50 mg capsules, but can be compounded for patients if the lower starting dose is desired.

- **Gabapentin:** A recommended **starting dose is 50-100 mg* nightly**. If not effective, it can be further titrated by 100 mg every 7 nights to a maximum of 300 mg PO qhs. It should be taken **2-3 hours before bedtime due to delay of peak onset.** The most common side effects are drowsiness, dizziness, confusion and fatigue. Peripheral edema may also be a side effect.
- **Pregabalin:** Similar to gabapentin, but more expensive and **not covered** by the Seniors' or Basic Alberta Blue Cross plans. Other private plans may cover the cost. Pregabalin can be initiated at 25 mg PO nightly and titrated by 25 mg every 7 nights to a maximum of 75 mg PO qhs. It should be taken 2 hours before bedtime. Potential side effects are similar to those of gabapentin.
- **Non-ergot derived dopamine agonists:** These have shown success in reducing RLS symptoms in idiopathic RLS and there are a few limited studies that have examined their role in uremic RLS.
  - Pramipexole 0.125 mg PO 2 hours prior to HS; may increase by 0.125 mg PO Q7days to effect up to a maximum of 0.75 mg/day.
  - Rotigotine transdermal patch 1 mg/24 h applied once daily, may increase by 1 mg/24 h weekly up to a maximum 3 mg/24 h. Requires tapering if discontinuing.
  - Ropinirole 0.25 mg PO 2 hours prior to HS; may increase by 0.25 mg PO Q5-7 days to effect up to a maximum of 2 mg/day.

Note that **all dopamine agonists should be taken 2 hours before sleep due to delay of onset.** Side effects might include headache, insomnia, and nausea; augmentation may occur with long-time usage.

Considerations at End of Life:

- **Benzodiazepines** are not a first line treatment for RLS but there is some limited evidence for their use. Benzodiazepines can carry significant risks including an increased risk of falls/fractures and decreased cognition. If the patient is experiencing refractory RLS causing significant sleep disturbance, or if benzodiazepines may potentially treat concurrent symptoms (eg. anxiety), they could be considered. They may also be the only option for a patient who is no longer able to swallow.
- **Prescribers could consider initiating midazolam 1 mg SC q4h PRN.**
- Some drugs commonly prescribed at end of life, such as haloperidol and opioids, may potentially contribute to RLS.

Conservative Kidney Management Acronym Legend

Acronym:	Intended Meaning:
ATC	Around the Clock
BID	Twice Daily
CKD	Chronic Kidney Disease
CKM	Conservative Kidney Management
COPD	Chronic Obstructive Pulmonary Disease
CO2	Carbon Dioxide
EOL	End of Life
ESA	Erythropoietin Stimulating Agent
ESKD	End Stage Kidney Disease
GFR	Glomerular Filtration Rate
GI	Gastrointestinal
g/L	Grams per litre
HgB	Hemoglobin
IN	Intranasal
IU	International Units
IV	Intravenous
kg	Kilogram
mcg	Microgram
mg	Milligram
mL	Millilitre

Acronym:	Intended Meaning:
mmol/L	Millimoles per Litre
OTC	Over the Counter
PO	By Mouth
PRN	As Needed
NSAID	Non-steroidal Anti-inflammatory Drugs
q(1-8)d	Every (Time Eg, 2) Days
q(1-8)h	Every (Time Eg, 4) Hours
q(1-8)weeks	Every (Time Eg. 2) Weeks
QHS	At Bedtime
RLS	Restless Leg Syndrome
SC	Subcutaneous
SL	Sublingual
SNRI	Serotonin and Norepinephrine Reuptake Inhibitors
SSRI	Selective Serotonin Reuptake Inhibitors
TCA	Tricyclic Antidepressant
TID	Three Times a Day
>	Greater Than
≥	Greater Than or Equal To
<	Less Than
≤	Less Than or Equal To