CKM Breathlessness Guideline for Healthcare Professionals

Guiding Principle: Treat the patient's breathlessness **if it is affecting** their quality of life.

Step 1: Assess for and address any other potential treatable causes *(e.g. anxiety, anemia, infection)*

- Breathlessness is a subjective discomfort involving the patient's perceptions and reaction to feeling breathless. It can often be one of the most distressing symptoms of ESKD.

Step 2: If the patient is intravascularly volume overloaded:

- The most common cause for breathlessness in this patient population is **pulmonary edema**.
- Start or increase dose of furosemide (Lasix) (loop diuretic).
- Watch for hypotension and dehydration with decreasing kidney function.

Step 3: If the patient is still volume overloaded, consider combination therapy (low-dose metolazone and high-dose oral furosemide (Lasix)).

- Metolazone 2.5 - 5 mg PO daily, in addition to individual's furosemide (Lasix) regime up to 120 mg PO BID x 2 - 5 days, then re-evaluate.

Step 4: Consider non-pharmacological management:

- Explore with patient contributing and alleviating factors
- Sit in an upright position (45°)
- Position by an open window
- Have a fan blow air gently across the face (stimulation of the trigeminal nerve V2 branch has central inhibitory effects on dyspnea)
- Maintain humidity in room
- Pursed lip breathing
- Supplemental oxygen: Provide oxygen and titrate to relieve symptoms rather than to achieve a particular oxygen level. Be cautious providing high flow oxygen to patients with COPD, as the drive for breath depends on their carbon dioxide level. (note that the patient must be hypoxic at rest in order to qualify for coverage at home)
- Meditation, mindfulness, music and/or relaxation therapy
- Provide reassurance
- Consider referral to dietitian for consultation on fluid and salt management (See: Sodium/Fluid Statement)
- See: Feeling Short of Breath Patient Handout

Step 5: If the patient is still short of breath, consider opioids:

- **Opioids are the most effective drugs for the treatment of breathlessness at the end of life**.
  They are safe to use in appropriate doses and are most effective when given orally or by parenteral (subcutaneous or IV) routes. Ensure patient has a laxative regime (See: Constipation Guideline). *Always start with a low dose and titrate slowly to effect.*
- **For shortness of breath that is *episodic* and primarily associated with a specific activity, consider**:
  - **Fentanyl 12.5 mcg SC/SL/IV q1h PRN**
    When used for an opioid naïve patient, start with a low dose on a PRN basis. Due to its fast action, fentanyl works well in cases where breathlessness is predictable. It is a preferred opioid for end stage kidney failure.
- **For shortness of breath that is more *constant* in nature, consider**:
  - **Hydromorphone (Dilaudid) 0.5 - 1.0 mg PO (0.2 mg SC) q4h ATC and q1h PRN.**
    Due to the accumulation of metabolites, always start with a low dose and monitor closely for signs of toxicity.
- **If the patient is already taking an opioid for *pain***, educate the patient and family that it can also be used for the management of breathlessness.

Step 6: If the patient requires more than 3 breakthrough doses in 24hrs, consider:

- Increasing the opioid and/or consider a consult to Palliative Care.

NOTE: If the patient is in the **last days** to weeks of life, see the End of Life Breathlessness Algorithm.

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