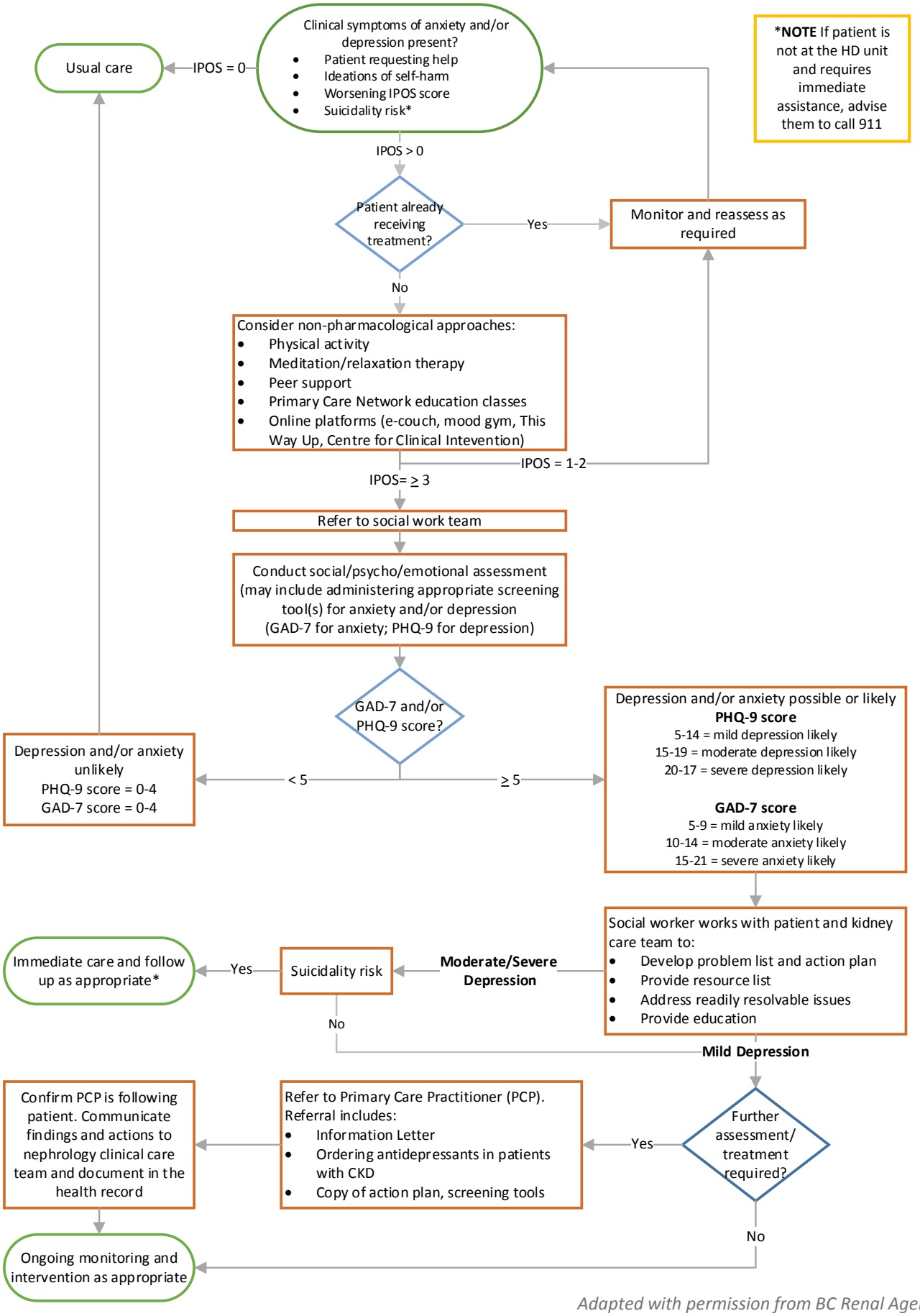
Management of Anxiety & Depression



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Management of Constipation

1. Assessment

Constipation is common in patients with kidney disease. Causes may include:

- Dietary restrictions (e.g. low potassium and phosphorous diets) may result in reduced dietary fiber intake.
- Fluid restrictions.
- Reduced physical activity.
- Some medications used to treat kidney disease can be constipating. e.g. iron, phosphate binders, potassium binding resin, antihistamines for pruritus.

The goal is for regular bowel movements (BM), e.g. every 1 - 2 days. This will also help to minimize the risk of hyperkalemia.

2. Non-pharmacological Management

- Encourage fiber, within allowed diet restrictions. Goal is for 20 - 38 gm per day.
    - See *Tips to Reduce Constipation on your Kidney Diet* resource for more information on how to increase fiber intake or refer to dietitian.
- Optimize fluid intake, within allowed diet restrictions.
- Encourage regular physical activity. If appropriate, suggest the patient bike during dialysis treatment.
- Encourage patient to establish a regular schedule for bowel movements.

3. Pharmacological Management

See options on the next page

Initial Treatment:

- If no BM after 3 days, add PEG 3350 without electrolytes 17 g orally daily PRN or lactulose 15-30 mL orally daily PRN. Titrate to effect.
- For chronic constipation, consider maintenance therapy with regular lactulose or PEG 3350 without electrolytes

If constipation persists despite the above:

- If no BM for 7 or more days, rule out fecal impaction & bowel obstruction.
- Consider rectal therapies PRN, i.e., suppository, Microlax enema (excluding Fleet enema) or manual disimpaction.
- If no fecal impaction, add senna glycosides or bisacodyl orally PRN. Titrate to effect.
- Titrate the scheduled laxative regimen to regular BM pattern of q1-2 days.

Dietitian Nurse Pharmacist Physician

Laxative Options in Patients with Chronic Kidney Disease

Recommended	
Osmotic Laxatives • Not absorbed – does not affect blood glucose in diabetics	
Lactulose	• Onset: 24 to 48 hours • Usual starting dose: 15-30 mL po daily PRN or regularly • Flatulence more common
Polyethylene glycol 3350 (e.g. Lax-a-day®, Restoralax®)	• Onset: 48 to 96 hours • Usual starting dose: 17g po daily
Stimulants • Onset: 6 to 12 hours • Tolerance may occur with regular use	
Senna glycosides (Senokot®)	• Usual starting dose: 8.6-12mg po HS PRN
Bisacodyl (e.g. Dulcolax®)	• Usual starting dose: 5mg po HS PRN
Suppositories/Enema • For PRN use only; not recommended for chronic use	
Glycerin or bisacodyl suppository	• Onset: 15 to 60 minutes • Usual dose: 1 suppository PR PRN
Microlax® enema	• Onset 2 to 15 minutes • Usual dose: 1 enema PR PRN

Use with Caution	
Fiber (psyllium, guar gum, calcium polycarbophil) e.g. Metamucil®, Prodiem®	• Must be taken with > 250mL if water to prevent fecal impaction; therefore, not the best option for dialysis patients with fluid restrictions • May affect absorption of medications and need to space apart from other medications
Fleet enema	• Contains phosphorus and best to avoid • Occasionally PRN use per rectum will not likely result in significant phosphorus absorption

Do Not Use	
Magnesium containing laxatives e.g. Milk of Magnesia, Mg citrate	• Risk of hypermagnesemia due to the accumulation of Mg^{2+}
Phosphate containing laxatives e.g. oral sodium phosphate	• Risk of hyperphosphatemia due to the accumulation of phosphorus
Mineral oil e.g. Magnolax	• May impair absorption of fat soluble vitamins and increase the risk of aspiration pneumonia
Polyethylene glycol (PEG) with electrolytes	• May cause electrolyte imbalances and high volume water loss
Sorbitol 70%	• May cause intestinal necrosis when used in combination with potassium binding resin
Fruitlax	• Contains K^+; may cause hyperkalemia

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Management of Pruritus

1. Assessment

General History
- Generalized pruritus
- Duration of pruritus
- Character of pruritus (e.g. paroxysmal vs. continuous)
- Exacerbating and relieving factors
- Detailed drug history
- Treatments tried (prescription/ over the counter, topical, oral, etc.)

No primary lesions
- Rule out other causes of pruritus with no primary lesions

Pruritus with no primary lesions – differential diagnosis:
- Renal pruritus
- Liver disease/ cholestatic pruritus
- Hematologic pruritus (Iron deficiency anemia, Polycythemia vera)
- Malignancy (leukemia, Hodgkin and Non-Hodgkin lymphoma)
- Endocrine pruritus (thyroid disease, uncontrolled diabetes)

Primary lesions present
- Consider referral to dermatologist for diagnosis and management

Other considerations in dialysis patients:
- Ensure dialysis adequacy
- Consider heparin allergy (patient could be switched to NS flush or citrasate dialysate/Na cirtrasate lock solution)
- Consider changing dialyzer, tubing, dialysate, (to ultra-pure dialysate fluid), PD solution

2. Non-pharmacological Management

- Bathing recommendations:
  - Fragrance-free sensitive skin bar soap (i.e. Dove sensitive skin bar soap).
  - Limit use of soap to axillae and groin/ perineum.
  - Avoid excessive bathing or bathing with hot water.
  - Pat dry and moisturize skin within two minutes of getting out.
- Avoid wearing rough clothing, such as wool, over itchy areas.
- Use mild detergent for clothes/sheets and rinse well.
- Keep fingernails short and clean. Try not to rub or scratch the itchy areas.
- Keep your house cool and humid, especially in the winter.
- Consider acupuncture.
- Consider dermatology referral for UVB phototherapy.

Management of Pruritus

3. Pharmacological Management

- Topical emollients:
  - Fragrance-free emollient* BID to TID and especially after bathing; OR
  - Baby oil BID to TID; OR
  - Menthol 0.25%/camphor 0.25% in emollient* BID to TID
  - For localized pruritus:
    - Consider Capsaicin 0.025% cream, apply sparingly BID-QID (onset of action 2-4 weeks)
    - Pramoxine 1% in emollient BID-TID PRN (Gold Bond Medicated Anti-Itch products (OTC), Pramox HC)
    - Gamma-Linolenic acid (GLA) 2.2% cream, apply twice daily to dry skin
- Oral antihistamine: Hydroxyzine, 10-25 mg po QID PRN or Diphenhydramine 25 mg po QID PRN (watch for sedation).
- Gabapentin 100 mg po HS, titrate by 100 mg Q7 days. Maximum dose should be adjusted based on renal function and patient tolerance. Consider 50 mg (compound capsule) po HS as a starting dose in frail elderly and/or if eGFR < 15mL/min.
- Others:
  - Pregabalin 25 mg po HS titrate by 25 mg Q7 days. Maximum dose should be adjusted based on renal function and patient tolerance.
  - Sertraline, 25 mg po daily, max dose 75 mg/d (especially if concomitant depression)
  - If no contraindication, consider doxepin 10 mg po hs; titrate by 10 mg Q7 days up to 50 mg po hs (watch for QT prolongation).

***Suggested fragrance-free emollients:**

- Cerave cream
- Cetaphil cream
- Lipikar Baume AP & cream
- Aveeno cream
- Glaxal base cream
- Cliniderm soothing cream
- Aquaphor ointment
- Vaseline ointment

Nurse Pharmacist Physician

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Management of Pain

1. Assessment

- Determine cause for pain and consider appropriate investigations
- Continue monitoring pain to determine effect of pain management

2. Non-pharmacological Management

- Refer patient to family physician for all unmanaged pain
- Encourage patient to engage in self-management techniques like:
  - Regular physical activity. Consult a kinesiologist or refer to Alberta Healthy Living Program
  - Relaxation techniques like meditation or guided imagery. Provide patient *with Patient Relaxation Handout* for instructions and additional information.
  - Pacing. Provide patient with the *Fatigue Patient Handout* for tips on how to conserve energy.
- Encourage patient to attend a self-management class like Better Choices Better Health - Pain®
- Good sleep hygiene
- Encourage patient to keep a pain journal

3. Pharmacological Management

Musculoskeletal/ Nociceptive Pain
Commonly described as aching, dull, gnawing, throbbing, cramping.

Pain score 1-4/10
Non-opioid analgesics are first line of treatment.
Acetaminophen (including acetaminophen extended release formulation): Max 4g/day; caution of Hx of EtOH, viral hepatitis, liver disease or other liver enzyme inducer (e.g. rifampin), and heart failure. Follow GGT & ALT Q3 months if dose >2.6 g/day.
Topical NSAIDs: Apply TID to QID for localized pain (Diclofenac 5 to 25% in Phlogel, diclofenac 1.16% to 2.32% gel (OTC)).
Capsaicin cream 0.025% or 0.075%: Apply BID to QID for localized pain (may take > 2 weeks for onset of action)

Pain is not controlled or initial pain score ≥ 5/10

Consider adding an opioid to non-opioid analgesic and or adjuvant
AVOID MORPINE AND MEPERIDINE
Consider risk of opioid abuse.
Start with low dose, particularly in opioid naïve patients, titrate slowly to see effect – see drug monographs for dosing.
Dosage can be titrated qHD run based on pain assessment and adverse effects.
Hydromorphone IR: 0.25 to 0.5 mg PO q3-4 hours PRN (Note: neurotoxic metabolite H3G accumulates if dialysis D/Ced).

Neuropathic Pain
Defined by ≥ 4 of the following symptoms: burning pain, pain to cold, electric shocks, tingling, pins and needles, numbness, itchy, increase pain with light touch, decrease sensation.

Pain Score 1-4/10
Gabapentin: 50-100 mg PO hs and titrate weekly by 10 mg/day. Maximum dose: 300 mg/day. Adequate trial duration: 4 to 6 weeks.
Capsaicin cream 0.025% or 0.075%: Apply BID to QID for localized pain (may take > 2 weeks for onset of action).

Pain control in inadequate at target dose for 2-4 weeks or severe pain

Intolerable adverse effects (e.g. sedation, dizziness)

Taper off Gabapentin

Nortriptyline/Desipramine: 10 mg PO daily (give dose at hs for nortriptyline) and titrate weekly by 10 mg/day. Maximum dose: 100 mg/day. Should be used with caution in patients with history of cardiac disease. Combination TCA + Gabapentin can provide better pain control for diabetic poly neuropathy and postherpetic neuralgia.
Nabilone: 0.25 to 0.5 mg PO hs and titrate weekly by 0.25 to 0.5 mg. Maximum dose: 2 mg/day.
Topiramate: 25 mg PO daily and titrate every 1-2 weeks by 25 mg/day. Maximum dose: 200 mg/day (dosed daily or bid).

(continued on next page)

Management of Pain

3. Pharmalogical Management

Oxycodone IR: 1.25 to 2.5 mg PO q3-4 hours PRN
Percocet (acetaminophen 325 mg-oxycodone 5 mg) can be used to reduce pill burden once pain control is optimized.
Regular opioid dosing (e.g. hydromorphone 0.5mh PO q3 hours regularly) should be considered for patient with severe pain (pain score 7 to 10/10).
Once analgesic requirement is stable, consider conversion to long acting opioid agent. Continue providing short acting opioid agent for breakthrough pain (1/10th total daily dose q2 hours PRN).

Hydromorphone CR: PO q12 hours

Oxycodone CR: PO q12 hours (available in 10 mg increments). Note: if pain management not optimal before next scheduled CR dose, consider giving 1/10 total daily dose of oxycodone CR q8 hours

Fentanyl transdermal patch: Initial dose: 12 µg/h patch q3 days, increase dose to next patch size every 5-7 days. Caution in opioid naïve patient.

Alternative Agents:

Tramadol (Ultram®): Option for moderate pain (5-6/10 without opioid) and mixed nociceptive/neuropathic pain. Initial dosage 25 mg PO daily to bid (max. daily dose 100mg PO bid) (Tramadol CR (Zytram XL®) is contraindicated for CrCl < 3- ml/min.

Acetaminophen 325mg & tramadol 37.5mg (Tramacet®): 1 TAB PO bid. Daily max dose: 2 TAB PO bid.

Buprenorphine transdermal patch: Option for moderate pain (5-6/10 without opioid). Minimal renal elimination. Initial dosage: 5 to 10 µg/h q7 days, even for patients not naïve to opioid. Dose can be increased q7 days. Max dose: 20 µg/h q7 days. Acetaminophen should be used for breakthrough pain. Caution for withdrawal symptoms if switching from other opioids.

Methadone: Option for opioid allergy, adverse effects/refractory pain not controlled by other opioids or **if patient is taken off dialysis.** To prescribe methadone for analgesia, physician requires additional education and registration with CPSO and application to Health Canada Consultation with experienced methadone prescriber and/or palliative care physician should be considered. Baseline QTc and repeat EKG if daily dose >60 mg. Many drug interactions (e.g. macrolides, fluroquinolones, fluconazole etc.). Initial dose: 1 or 2 mg PO or SL tid and titrate dose gradually every 2nd HD run.

Venlafaxine: 37.5 mg PO daily, and titrate in 1 week to 75 mg PO daily.

Pregabalin: 25 mg PO hs and titrate weekly by 25 mg/day. Maximum dose: 75 mg/day. Dose to be give post-HD on HD days. No data to support use of pregabalin in gabapentin resistant or intolerant patients. Not covered by Alberta Health.

THC:CBD (Sativex®): 1 spray under tongue or towards inside of cheeks daily to bid. May increase by 1 spray/day q2-4 days. Maximum dose: 12 sprays/day. Limited data in renal failure patients. May worsen orthostatic hypotension.

Additional options (see monographs): clonidine, tizanidine, benzodiazepines, baclofen.

Inadequate response

Opioid Conversion Table (for patients on chronic opioids)*

Drug	Parenteral	Oral
Morphine	10 mg	20 mg to 30 mg
Hydromorphone	2 mg	4 mg
Oxycodone	N/A	20 mg
Codeine	120 mg	200 mg*
Fentanyl	100 µ (0.1 mg)	N/A
Fentanyl Patch	** see below	
Buprenorphine Patch	** see below	
Methadone	N/A	Variable – start at 1/10th morphine dose

*As per PHC/VCH opiod conversion table
** Recommended conversion from PO daily hydromorphone equivalent to fentanyl and buprenorphine:

Hydromorphone (mg/24 hrs)	Fentanyl (µg/hr)	Buprenorphone (µg/hr)
< 6		5
6 – 12		10
12 – 26	25	20
27 – 35	37	
36 – 44	50	
45 – 53	62	
54 – 62	75	
63 – 71	87	
72 – 80	100	

Nurse Pharmacist Physician

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