2025

QUICK REFERENCE
FOR HEALTHCARE PROVIDERS

CONSERVATIVE KIDNEY MANAGEMENT FOR ADVANCED CHRONIC KIDNEY DISEASE

MINISTRY OF HEALTH
MALAYSIA

ACADEMY OF MEDICINE
MALAYSIA

KEY MESSAGES

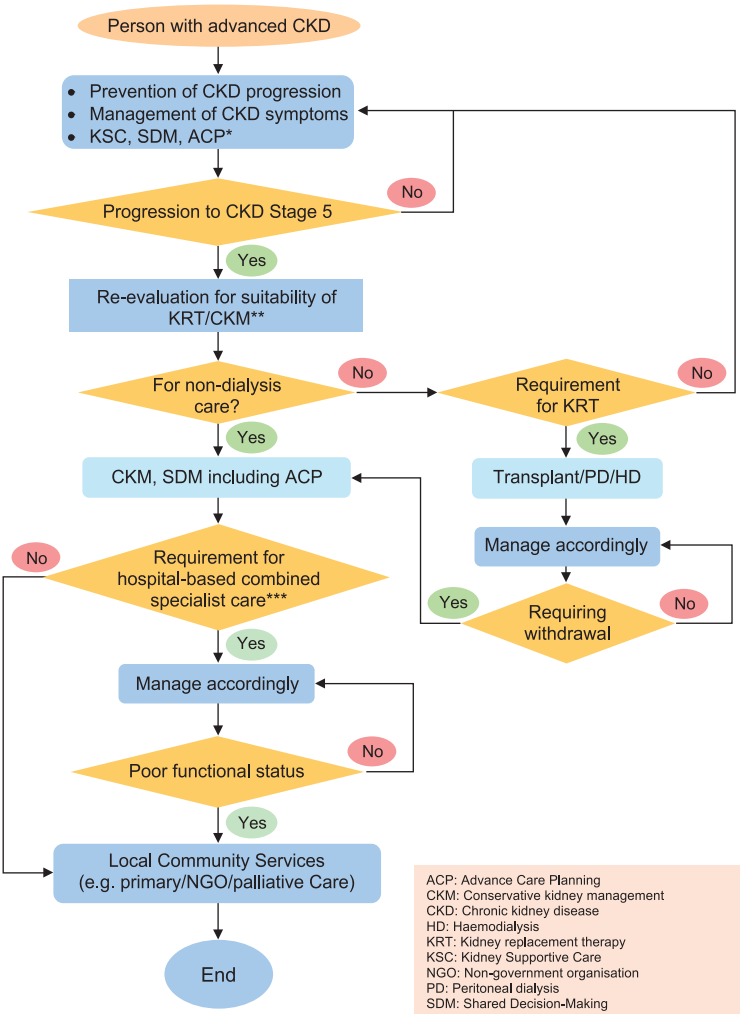
1. Conservative Kidney Management (CKM) is a component of kidney supportive care which is a holistic management of persons with non-dialytic advanced chronic kidney disease (CKD).
2. Planning components in CKM include awareness and education on CKM options. It requires a multidisciplinary approach involving persons with advanced CKD, caregivers and healthcare providers.
3. Shared decision-making (SDM) and advance care planning (ACP) should be incorporated in the management for all persons with advanced CKD.
4. CKM in persons with advanced CKD should be tailored with a focus on identifying and addressing any underlying causes using non-pharmacological and pharmacological approaches.
5. Protein intake of 0.6 - 0.8 g/kg body weight/day is advised for stable persons with advanced CKD receiving CKM.
6. In persons with advanced CKD receiving CKM, the following advice on minerals, fluid and diet intake should be considered:
   - sodium intake should be <2 g/day
   - individualised dietary potassium, phosphorus and fluid intake
   - a balanced diet with a higher proportion of plant-based foods
   - limit consumption of ultra-processed foods
7. The use of dietary or herbal remedies or supplementations in persons with advanced CKD receiving CKM should be limited as it may be harmful.
8. Follow-up plans should be individualised in persons with advanced CKD receiving CKM, taking into consideration the persons' prognosis, values and preferences.
9. In the active dying phase, importance should be given to maintain comfort and dignity of the persons with advanced CKD.
10. Holistic support for family and caregivers should be offered to address caregiver burden.

This Quick Reference provides key messages & a summary of the main recommendations in the Clinical Practice Guidelines (CPG) Conservative Kidney Management for Advanced Chronic Kidney Disease.

Details of the evidence supporting these recommendations can be found in the above CPG, available on the following websites:
Ministry of Health Malaysia: www.moh.gov.my
Academy of Medicine Malaysia: www.acadmed.org.my
MaHTAS: https://mymahtas.moh.gov.my
MYBuahPinggang: https://mybuahpinggang.com

CLINICAL PRACTICE GUIDELINES SECRETARIAT
Malaysian Health Technology Assessment Section (MaHTAS)
Medical Development Division, Ministry of Health Malaysia
Level 4, Block E1, Presint 1,
Federal Government Administrative Centre 62590
Putrajaya, Malaysia
Tel: 603-88831229
E-mail: htamalaysia@moh.gov.my

ALGORITHM 1. CARE PLAN FOR PERSONS WITH ADVANCED CHRONIC KIDNEY DISEASE



ACP: Advance Care Planning
CKM: Conservative kidney management
CKD: Chronic kidney disease
HD: Haemodialysis
KRT: Kidney replacement therapy
KSC: Kidney Supportive Care
NGO: Non-government organisation
PD: Peritoneal dialysis
SDM: Shared Decision-Making
*CKD with multiple co-morbidities and/or life-limiting illnesses may require earlier ACP discussions
**Decision on KRT or CKM should be in consultation with nephrologist (CKD stage at referral is subjected to availability of speciality/local resources)
***Carer burnout, uncontrollable symptoms, lack of community support etc.

ALGORITHM 2. MANAGEMENT OF SYMPTOMS FOR PERSONS WITH ADVANCED CHRONIC KIDNEY DISEASE RECEIVING CONSERVATIVE KIDNEY MANAGEMENT

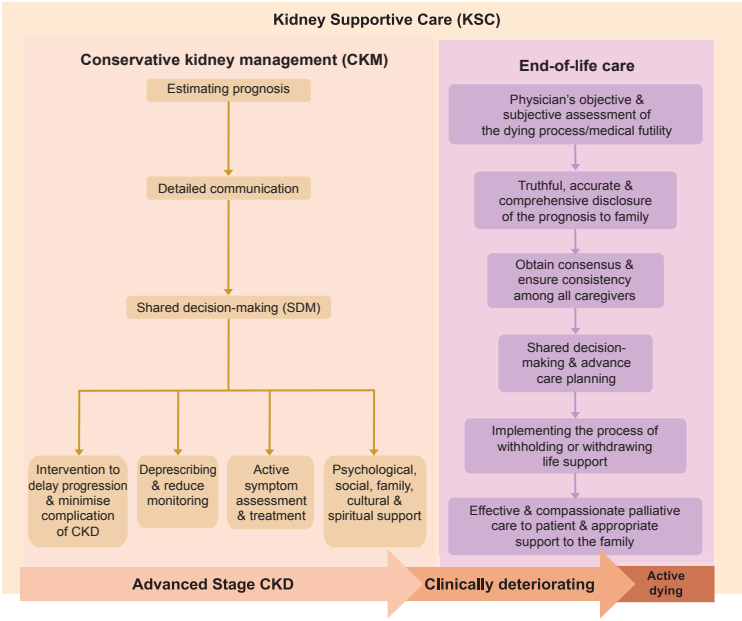
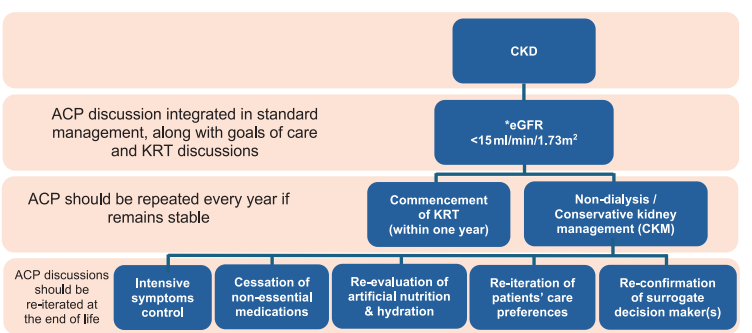


Figure 1: Relationship between kidney supportive care (KSC), conservative kidney management (CKM) and end-of-life care in advanced CKD.

Adapted: Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. Kidney Int. 2024;105(4S): S117-S314



*CKD with multiple co-morbidities and/or life-limiting illnesses may require earlier ACP discussions

Figure 2. Timeline for ACP discussions

Adapted: Ministry of Health Malaysia. Advance Care Planning A Guide for Healthcare Practitioners in Malaysia. Putrajaya: MoH; 2024.

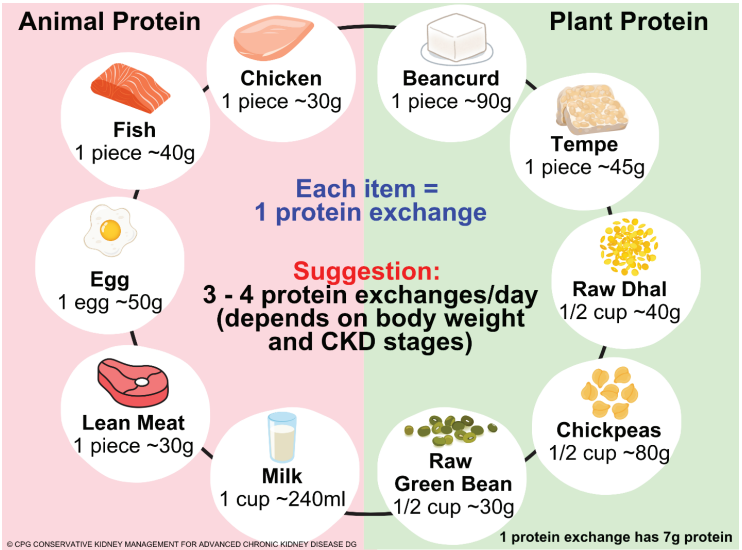
TIPS TO REDUCE SODIUM / NATRIUM INTAKE

Tips	1	2	3	4	5	6	7
Home cooking	Use **fresh ingredients** and limit ultra-processed food 	Enhance flavour with **fresh aromatics** (spices, citrus, shallot oil, vinegar) or **natural umami** (tomato, mushroom)	Enjoy food with lesser or **without sodium condiments** 	If needed, add sodium condiments **only after the food has cooled** 	Prepare **homemade** broth instead of store-bought 	Opt for **rice-based starch** over wheat-based (e.g. yellow noodles) 	Opt for **simple or one-pot** complete meals 
Eating Out	Choose **menu** with **least processed** ingredients 	Choose menu with clear broth or soup but **limit soup volume** intake	**Swap flavoured rice** (chicken rice, *nasi lemak*, etc.) for plain rice	Ask for separation of gravies, sauce or dressing **(on the side), dip instead of pour** 	**Do not add** sodium condiments (soy sauce, etc.) during eating 	**Request for less salty food** and alert waiter if the food served is salty	**Practice mindful eating** 
Groceries	Choose **unsalted options** (butter, margarine, etc.) 	Keep healthy **unsalted snacks** on hand (vegetable sticks, fresh fruits) 	Choose **lower sodium brand when** possible 	Read **sodium or natrium content** in nutrition information panels (food labels)	Avoid foods with **>400 mg** sodium per serving 	Limit snack of **<200 mg sodium** per serving and limit to 1-2 servings/day 	Watch out for **sodium additives** listed as stabilisers, conditioners not just salt (sodium chloride)
Recommendation for daily sodium / natrium intake: **<2000 mg per day**							

- Ultra-processed foods:[1]
  - industrially produced products primarily composed of extracted food substances, derivatives like hydrogenated fats, and synthesised additives.
  - include sugary drinks, snacks, confectionery, packaged baked goods, instant noodles and soups, processed meats, baby food products, and ready-to-eat meals.

Reference: Monteiro, C.A., Cannon, G., Levy, R., et al. 2016. NOVA. The star shines bright. World Nutrition, 7(1-3), pp.28-38.

DIETARY PROTEIN INTAKE RECOMMENDATION



SUGGESTED MEDICATION DOSAGES AND ADVERSE EFFECTS

Drug	Recommended Dosages	Adverse Events (AEs)
Epoietin alfa and beta	CKD not receiving dialysis: 20 - 50 u/kg every 1 - 2 weeks	Hypertension, headache, pruritus, nausea, vomiting, arthralgia, fever, abdominal pain, diarrhoea, nasopharyngitis
Darbepoietin	CKD not receiving dialysis: 0.45 mcg/kg once every 2 - 4 weeks	
Methyl polyethylene glycol-epoetin beta	CKD not receiving dialysis: 1.2 mcg/kg monthly or 0.6 mcg/kg every 2 weeks	
Ferrous fumarate	Elemental iron of 200 mg/day in up to 3 divided doses	GI AEs (constipation, diarrhoea, nausea and vomiting), dark green stools
Iron dextran 50 mg Fe/ml Injection (Low molecular weight)	20 mg/kg as maximum single dose Administer a 25 mg test dose initially. If tolerated, proceed with the remaining dose	Bradycardia, changes in blood pressure, abdominal pain, injection site reactions (inflammation), pruritus, nausea, headache, muscle cramps, nasopharyngitis
Iron (III) hydroxide sucrose complex 20 mg/mL solution for injection	200 mg as maximum single dose	
Chlorpheniramine	eGFR $\leq$30 mL/min/1.73m^2: no initial dosage adjustment necessary, 4 mg every 4 - 6 hours, maximum dose: 24 mg/day	Drowsiness
Loratadine	eGFR $\leq$30 mL/min/1.73m^2: 10 mg every 48 hours	Headache, dyspepsia, flu-like symptoms

Drug	Recommended Dosages	Adverse Events (AEs)
Gabapentin	CrCl <15 mL/min: Starting dose 100 mg on alternate nights; maximum dose: 300 mg at bedtime	Dizziness, drowsiness, status epilepticus, tremor
Pregabalin	CrCl < 15 mL/min: 50 - 75 mg/day	Dizziness, drowsiness, peripheral oedema, suicidal ideation, weight gain
Diazepam	Seizure: IV: 5 - 10 mg as a single dose Rectal: 10 - 20 mg as a single dose	Drowsiness, vasodilation, diarrhoea
Lorazepam	Oral (sublingual): 0.5 - 1 mg	Drowsiness, hypotension
Midazolam	Seizure: SC: 5 mg stat CSCI: 20 - 30 mg (increase by 5 - 10 mg every 24 hours)	Drowsiness, nausea, vomiting, erythema and pain at injection site
Zolpidem	Insomnia: Oral: 5 mg (max dose: 10 mg/day)	Drowsiness, dizziness, hallucination
Fentanyl	Equianalgesic dose of total 24 hours opioid requirement	Drowsiness, dizziness, nausea, vomiting, constipation
Morphine	Start with IR morphine in low doses and increase dose intervals (1 - 2 mg every 6 hours instead of every 4 hours)	
Oxycodone	Start with IR oxycodone in low doses and increase dose intervals (1 - 2 mg every 6 hours instead of 4 hours)	
Ondansetron	Oral/IV: 4 - 8 mg as a single dose; may repeat 4 - 8 mg every 4 - 8 hours as needed	Constipation, headache, urticaria, prolonged QT internal, bradycardia
Metoclopramide	Oral/IV/SC: Initial: 5 - 10 mg every 4 to 6 hours; if insufficient relief with intermittent dosing, may switch to IV or SC continuous infusion CrCl ≤10 mL/min: Administer ~33% (or less) of usual total daily dose	Drowsiness, fatigue, extrapyramidal symptoms, hyperprolactinaemia
Haloperidol	IV/SC: Oral: 0.75 - 1 mg every 6 - 8 hours CSCI: 1 - 5 mg every 24 hours	Angioedema, extrapyramidal symptoms, drowsiness
Olanzapine	Oral: 5 mg OD (max dose: 20 mg/day)	
Lactulose	15 - 30 mL daily; may increase up to 60 mL daily if necessary	Abdominal distension, bloating, nausea, vomiting, flatulence
Polyetylene glycol 4000	10 - 20 g (1 - 2 sachet)/day	Abdominal pain, diarrhoea
Bisacodyl	Oral: 5 - 15 mg OD Rectal (suppository): 10 mg OD	Abdominal pain, diarrhoea, flatulence, ischaemic colitis
Glycerin enema	Rectal: One adult suppository OD as needed	Abdominal cramps, rectal irritation, tenesmus
Sertraline	Oral: Initial 25 mg OD; may increase dose based on response and tolerability in increments of 25 mg once weekly to max of 200 mg/day	Diarrhoea, nausea, xerostomia, dizziness, insomnia
Duloxetine	Oral: 30 mg OD; titrate slowly, not to exceed 60 mg OD	Weight loss, abdominal pain, decreased appetite, nausea, vomiting, xerostomia, drowsiness