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CHRONIC KIDNEY DISEASE · STAGE 4

Stage 4: what to eat and what to avoid

4
eGFR 15–29 mL/min

Severely reduced kidney function. Your diet becomes personalised and it is time to prepare treatment options.

🔎 What does it mean?

Your kidneys filter 15% to 30% of normal (eGFR 15–29 mL/min). Changes in potassium, phosphorus, bicarbonate and anaemia are common, and some medicines can no longer be used. Diet rules depend on your tests — support from a dietitian is recommended.

✅ The most important things

🧂 **Salt < 5 g/day, always; potassium and phosphorus** according to your tests — follow the lists.

🍽️ **Eat enough**: low-protein diets only with a dietitian.

🗓️ **Plan ahead**: learn about treatment options in good time.

💊 **Medicines: take extra care.** Many need a dose change or can no longer be used. Do not use anti-inflammatories or natural products; ask your doctor before any new medicine.

🍽️ Your nutrients at this stage

Nutrient	Level	What to do
🧂 Salt	Limit	Less than 5 g of salt a day. Helps control blood pressure, swelling and thirst.
🍗 Protein	Reduce with support	≈ 0.8 g/kg/day. Your doctor may suggest a very low-protein diet with supplements (keto-analogues), always with a dietitian. Never diet on your own: risk of malnutrition.
🍌 Potassium	Often limit	If potassium is high: limit potassium-rich foods (list below), use the cooking techniques and never use "light" salt.
🧀 Phosphorus	Limit	Avoid processed foods, cola, cured cheeses and cured meats. If you take phosphate binders, take them **with meals**.
💧 Fluids	Individual	As advised: there may be a daily limit if you have swelling or breathlessness.
⚡ Energy	Eat enough	Losing weight without trying or a poor appetite is a warning sign — tell your doctor.

🚦 Food traffic lights

● Choose

- Lower-potassium vegetables (lettuce, cucumber, carrot, cauliflower, green beans), boiled in 2 changes of water
- Lower-potassium fruit: apple, pear, pineapple, blueberries
- Fresh fish or egg, in the advised amounts
- Rice, pasta, low-salt bread
- Olive oil, herbs, garlic, lemon
- Water (within your limit, if you have one)

● In moderation

- Meat: small portions, preferably white meat
- Milk and plain yoghurt: small portions, depending on phosphorus
- Fresh cheese or requeijão (instead of cured cheese)
- Vegetable soup: small bowl; no blended potato if potassium is high
- Pulses: small portions, well soaked and boiled
- Banana, orange, kiwi: occasionally, half a piece

● Avoid / rarely

- Cured and smoked meats, sliced ham, sausages
- Cured and processed cheeses; cola drinks
- Chips/crisps, instant mash, salty snacks
- Nuts, dried figs, carob (alfarroba), chocolate
- Fruit juices, tomato paste/concentrate
- "Light" salt; stock cubes; ready meals

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🍲 **To reduce potassium in vegetables and potatoes:** peel, cut small, soak and **boil in 2 changes of water** (throw the first water away halfway and finish in fresh water). Don't use it for soup or sauces.

🗓️ Planning ahead

- Learn about the options: **kidney transplant** (including living donor), **peritoneal dialysis** (at home), **haemodialysis** (at a unit or at home) or **conservative care** without dialysis.
- **Protect the veins** of your non-dominant arm: avoid needles and drips in that arm (they may be needed for a fistula).
- Ask about the **hepatitis B vaccine** and keep flu and pneumococcal vaccines up to date.

🏃 Lifestyle

🚭 Smoking
One of the most effective measures. Ask for help to quit.

🍷 Alcohol
The less the better: < 100 g a week (≈ 8 small glasses of wine).

🚶 Exercise
≥ 150 min/week of moderate activity, adapted to you. Avoid long sitting.

⚖️ Weight
Aim for a healthy weight; if overweight, losing weight helps.

🩺 Blood pressure
Measure at home. Usual target: systolic 120–130 mmHg, if tolerated.

🩸 Diabetes
Individual HbA1c target (usually 6.5%–8%).

💊 Medicines and products: take care!

🚫 **Anti-inflammatories (NSAIDs)** — ibuprofen, diclofenac, naproxen, nimesulide…: avoid. For pain, ask your doctor (paracetamol is generally safer).

🧂 **"Light" salt / salt substitutes**: contain potassium chloride — dangerous if your potassium rises.

🩻 **Contrast dye** (CT, catheter, MRI): say you have kidney disease; if the scan is needed, don't refuse it — for MRI, "group II" gadolinium.

💪 **Protein supplements, gym shakes**: avoid (too much protein overloads the kidneys).

🩸 **Metformin**: not to be used with eGFR < 30 mL/min. Insulin and sulfonylureas: higher risk of hypoglycaemia.

🌿 **Herbal remedies, "detox" teas, supplements**: may harm the kidneys or interact with medicines. Only on medical advice.

🚽 **Phosphate laxatives/enemas** (including some colonoscopy preparations): avoid. **Magnesium-based** ones (milk of magnesia, antacids): not for regular use.

📏 **Doses adjusted to the kidneys**: antibiotics, diabetes medicines, anticoagulants, gabapentin, allopurinol… When you see other doctors, always take your kidney test results with you.

🤒 **Sick days** (vomiting, diarrhoea, fever): contact your doctor — you may need to pause metformin, "-gliflozins", "-prils", "-sartans", diuretics.

🦴 **Calcium, vitamin D, iron, bicarbonate**: only those prescribed, at the prescribed dose.

📞 Contact your doctor if…

- Swollen legs/face or rapid weight gain
- Shortness of breath, especially lying down
- Passing much less urine than usual
- Vomiting, diarrhoea or fever that stop you drinking
- Blood pressure ≥ 180/110 mmHg, or low with dizziness
- Severe muscle weakness or palpitations

🏷️ Hidden salt, potassium and phosphorus on labels

- **Salt** = sodium × 2.5; per 100 g: > 1.5 g is high, ≤ 0.3 g is low.
- **Potassium**: E508, E326, "light"/low-sodium salt.
- **Phosphorus**: E338–E343, E450–E452 (sliced ham, sausages, processed cheese, cola).

References (sources of these recommendations):

1. KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of CKD. Kidney Int. 2024;105(4S):S117–S314.
2. KDIGO 2021 Clinical Practice Guideline for the Management of Blood Pressure in CKD. Kidney Int. 2021;99(3S):S1–S87.
3. KDIGO 2022 Clinical Practice Guideline for Diabetes Management in CKD. Kidney Int. 2022;102(5S):S1–S127.
4. KDIGO 2017 Clinical Practice Guideline Update for CKD–Mineral and Bone Disorder (CKD-MBD). Kidney Int Suppl. 2017;7:1–59.
5. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of CKD (ch. 4: medication safety, phosphate-containing bowel preparations). Kidney Int Suppl. 2013;3:1–150.
6. KDOQI/NKF Clinical Practice Guideline for Nutrition in CKD: 2020 Update. Am J Kidney Dis. 2020;76(3 Suppl 1):S1–S107.
7. 2024 ESC Guidelines for the management of elevated blood pressure and hypertension. Eur Heart J. 2024;45:3912–4018.
8. ESUR Contrast Media Safety Committee Guidelines (v10) / ACR Manual on Contrast Media — as referenced by KDIGO 2024 (4.4).
9. Direção-Geral da Saúde (Portuguese Directorate-General of Health) – PNPAS: Food Wheel and salt reduction recommendations (≤ 5 g/day, WHO).
10. Lok CE et al. KDOQI Clinical Practice Guideline for Vascular Access: 2019 Update (vein preservation). Am J Kidney Dis. 2020;75(4 Suppl 2):S1–S164.

This leaflet is for information only and does not replace individual advice from your doctor or dietitian. Targets should be personalised. Do not change or stop any medicine without talking to your doctor.