



DIETETICS

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## Chronic Kidney Disease in Aged Care

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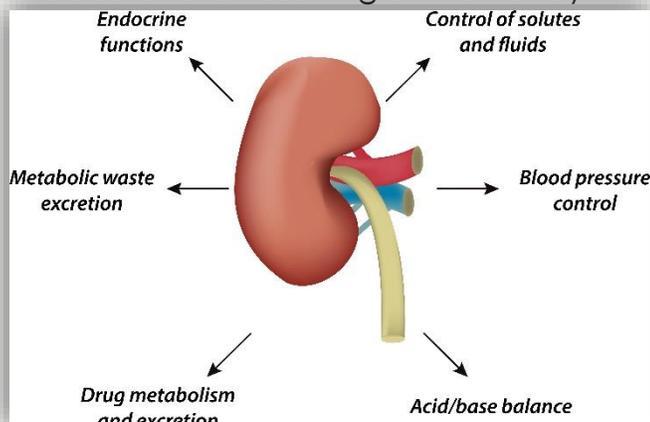
The kidneys are the most underrated organs in the human body. Shaped like a bean, these two organs that sit inside our upper abdominal area are vital for life.

In the elderly population, Chronic Kidney Disease (CKD) is a very common clinical problem and can seriously impact the quality of life and the care that residents of aged care facilities need.

### What is the role of the kidneys?

The role of the kidneys is vast and extremely important. Known primarily for being the body's 'filter', the kidneys work to regulate blood pressure, filter and clean the blood, remove waste and toxic materials, maintain fluid balance, produce urine and help make Vitamin D (important for healthy bones).

If damaged these functions are reduced/delayed & can manifest into symptoms eg having blood or protein in the urine, high levels of waste products in the blood or even scarring of the kidney.



### What is CKD?

CKD is a long-term condition (3 months+) and refers to the damage or reduced function of the kidneys. In Australia, an estimated 10% of adults over the age of 18 show signs of CKD and this increases when over the age of 74. It is common to not present with many symptoms and therefore, it is a condition that is generally unrecognised.

Nearing the end stages, people with CKD can often feel tired, nauseated, low appetite, difficulties sleeping, swelling (oedema), anaemia (low iron), metabolic acidosis (acid build up in the body), an imbalance of electrolytes (including phosphorus, potassium and calcium) and even heart attack/ heart failure.

## 5 Stages Of Kidney Disease

Stage 1	Stage 2	Stage 3A	Stage 3B	Stage 4	Stage 5
GFR ≥ 90	89 ≥ GFR ≥ 60	59 ≥ GFR ≥ 40	44 ≥ GFR ≥ 30	29 ≥ GFR ≥ 15	GFR < 15
					
Normal or high function	Mildly decreased function	Mild to moderately decreased function	Severely decreased function	Kidney failure	

CKD is divided into 5 stages based on the severity of the disease. A person with CKD can move between stages throughout their life from stages 1–4; however, at stage 5 there usually is no turning back as the damage to the kidney has become unrepairable.

Stages are based on eGFR (estimated glomerular filtration rate) which is a measure of kidney function, the structure of the kidney and kidney function biomarkers such as the amount of protein or blood in the urine.

### Treatment of CKD is dependent on the stages of the disease

1. In the early stages (stage 1–3a) the treatment is focused on slowing the progression of the disease. This may be done through medication, diet and lifestyle changes. If you have high blood pressure, diabetes, cardiovascular diseases or are overweight/obese, managing these conditions will help in delaying kidney failure. This is usually managed by your GP and may involve other allied health such as a dietitian for diet therapy and an exercise physiologist or physiotherapist for an exercise plan.
2. In the middle stages (stages 3b–4) the treatment is based not only on delaying disease progression but also on managing complications of CKD which may have occurred (such as anaemia). This will be managed by your GP and a kidney specialist.
3. In the later stages (stage 5) kidney function has declined to a point where a kidney transplant or dialysis is required. Dialysis is a procedure in which a machine that mimics the action of the kidney is used to filter the blood. There are different types of dialysis which can be done in hospital or at home/in a residential aged care facility depending on supports available. Speak with your GP/specialist and health care providers to learn more about dialysis and find out which option is best for you or your family.



## What are the risk factors for CKD?

There are many different risk factors and causes related to CKD development. The following conditions account of two thirds of CKD development.

- Diabetes
- Cardiovascular Disease
- Hypertension (high blood pressure)

In addition, common causes of CKD in the elderly population are related to repeated urine infections/incontinence and frequent use of some medications and antibiotics (aspirin and non-steroid anti-inflammatory drugs) as well as the normal structural changes that happen to the kidneys as we age.

## CKD Risk Factors

**Diabetes**



**Cardiovascular disease**



**Hypertension**



## Nutrition and CKD – what nutrients are involved and what is the role of a dietitian?

Diet can play an important role in helping delay disease progression, prevent complications and encourage and maintain a healthy weight in people with CKD.

The role of an Accredited Practising Dietitian (APD) or Specialist Renal Dietitian is to ensure patients with CKD are eating a healthy, balanced diet with the right amount of key nutrients to promote good health and disease management.

Goals of nutritional management include:

- To achieve and maintain optimal nutrition status
- To achieve and maintain an ideal body weight and prevent malnutrition/ muscle wasting
- To control CKD related symptoms
- To maintain fluid and electrolyte balance in the body
- Optimal blood sugar control (in people with diabetes)



## Nutrients for managing CKD

- Protein

Protein is an important nutrient needed to build and maintain lean muscle. Protein comes from a variety of foods including animal foods (meats, eggs, dairy), nuts, seeds, legumes and beans. When we eat protein foods, they break down in the body and produce waste products which are filtered out by the kidneys. In CKD, this function is impaired and therefore, these waste products can build up in the blood. It is important that protein intake is controlled to avoid this build up whilst still ensuring nutrition requirements are met. An APD can help determine the right amount for you as ensuring sufficient protein intake according to the stage of CKD is important to prevent weight loss and maintain muscle mass.



- Energy (kJ/cal)

We get energy from all foods; however, some foods are higher in energy than others including fats and oils (butter/margarine, cream, olive oil), avocado, nuts and full cream dairy products. Energy is important to keep our body functioning and feeling well. Elderly people with CKD often have a reduced appetite and their intake is lower than normal due to them feeling unwell. This can result in not enough energy being consumed and can lead to unintentional weight loss and malnutrition. It is important that an APD is involved in management of this and can provide high energy foods through supplements or food fortification.



- Sodium (salt)

Sodium is naturally found in many foods (commonly known as 'salt') which is often added to cooking and packaged foods. In early stages of CKD, a low sodium diet may be advised as it can help reduce blood pressure which is a risk factor for development. In CKD, the kidneys are unable to remove excess salt from the body which can cause a build up of salt and fluid. This can lead to swelling (oedema), high blood pressure and cardiovascular diseases.



- Potassium

Potassium is a mineral found in many different foods – more so in fruits and vegetables and is important for a healthy heart. The kidney works to maintain the right balance of potassium in your body; however, if the kidneys are impaired, they struggle to do so, and potassium can build up which can result in potentially deadly consequences such as heart attack. An APD can help you plan a diet that is low in high potassium foods while still ensuring you are enjoying lots of healthy fruit and vegetables.



- Phosphorus and calcium

Like potassium, phosphorus is another mineral found commonly in dairy products, offal, processed meats and cola drinks. It is an important nutrient for keeping bones healthy and strong. In CKD, phosphorus removal is limited and can result in a build-up. This can cause damage to the body by pulling out calcium from the bones, making them brittle and weak. This is specifically detrimental in the elderly population as there is already a high risk and/or prevalence of bone related disorders such as osteoporosis and osteopenia. Weakened bones leads to higher incidence of falls, fractures and mortality amongst the aged. An APD can help manage your dietary intake of phosphorus to prevent any complications. Your GP may also prescribe phosphate binders for you to take with your meals which help lower the absorption of phosphorus.



- Iron

Iron is a mineral found in red meat, fish, poultry, seafood, leafy green vegetables and fortified cereals. It is important for production of red blood cells and to give energy. Anaemia (iron deficiency) is a common consequence of CKD and an iron supplement may be advised.



- Fluid

If you are experiencing swelling/fluid retention as a result of CKD, a fluid restriction may be advised.



## CKD in Aged Care

Management of CKD in the elderly is highly individualised based on the health status, functionality, life expectancy and wishes of the individual and/or their families. In an aged care setting, it is common for residents to present with more than one illness/disease that can impact medical and dietary management and therefore, assessing the history and health of the resident will help determine what therapy is right for them. It is also important to consider palliative management (care that is focused on symptom relief and comfort) as a treatment option – particularly in the later stages.



In the aged care setting, CKD stages 1–3 will be medically managed by the GP with medications and regular testing and will often have input from an APD for an adequate diet plan. For CKD in later stages and requiring dialysis, it is common for residents to attend off-site centres for treatment (e.g. hospital) as residential aged care facilities may not have the resources or staffing to be able to complete it on site. This can be exhausting for residents and can impact their social and physical health (for example, being away from other residents and missing out on activities/outings etc.).



*For more information about CKD, nutrition and CKD or CKD management in Aged Care, speak to your healthcare professional, APD or management staff at your Aged Care facility or go to:*

- *Kidney Health Australia*
- *My Aged Care*
- *Dietitians Association of Australia*



**Need assistance for a resident with Chronic Kidney Disease?**

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Please call or email via our contact details below.



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