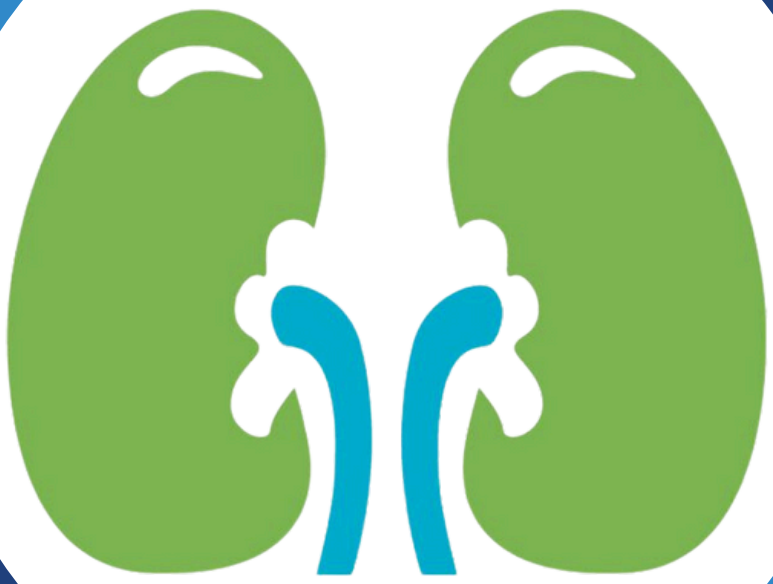
How-to Guide

Sustainable Food for Kidney Health



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How-to Guide: Sustainable Food for Kidney Health

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Although this guide has been developed by experts in sustainability and sustainable kidney care, local teams should use their discretion in its implementation according to local context and requirements

How-to Guide: Sustainable Food for Kidney Health

Introduction

This guide is aimed at clinicians to support in providing information on healthy food choices for patients with kidney disease.

A sustainable, predominantly plant-based diet provides a wealth of health and environmental benefits, particularly for individuals with chronic kidney disease (CKD). Evidence suggests it supports better management of conditions such as hypertension, diabetes, and obesity, and may reduce disease progression (Kalantar-Zadeh et al., 2021; Carrero et al., 2020). Importantly, such diets tend to be more affordable and environmentally sustainable compared to those rich in animal products (Taylor, 2023a).

The term “plant-based diet” (PBD) commonly refers to dietary patterns emphasising the intake of plant-derived foods, with varying degrees of animal product inclusion (Hargreaves et al., 2023; Kent et al., 2022). It is essential to differentiate between wholesome plant-based foods and their ultra-processed counterparts, which may not offer the same health advantages.

Plant-Based Diets in CKD

Recent attention has highlighted the potential of PBDs to prevent CKD onset and progression, and to manage associated complications (Kalantar-Zadeh et al., 2021; Carrero et al., 2020; Zarantonello and Brunori, 2023). The KDIGO 2024 guidelines advocate for diets that are rich in plant foods, low in ultra-processed foods, and include fewer animal products (KDIGO, 2024).

Key dietary considerations include:

- **Protein Sources**: Animal proteins may increase intraglomerular pressure and contribute to kidney stress. Plant proteins offer a less concentrated source of protein and reduce this strain (Zarantonello et al., 2023; KDIGO, 2024).
- **Phosphate Management**: Phosphate from plant sources is less absorbable than that from animal products or additives, which helps reduce serum phosphate levels (Carrero et al., 2020; Cases et al., 2019).
- **Gut Health:** High-fibre PBDs support gut microbiota diversity, reducing uremic toxin production and inflammation through short-chain fatty acid generation (Su et al., 2022; Cases et al., 2019).
- **Potassium:** Though rich in potassium, whole plant foods typically contain potassium in a less bioavailable form. The true concern lies with potassium additives found in processed foods, which are more readily absorbed (Babich et al., 2023; Picard, 2018).
- **Acid-Base Balance**: PBDs may help neutralise dietary acid load through their alkalising nutrients and lower content of sulphur-containing amino acids (Carrero et al., 2020; Cases et al., 2019).

Creating a Kidney-Friendly Plant-Based Plate

Fruits and Vegetables

Encourage at least five portions daily, but restrict high-potassium varieties if advised by a renal dietitian. Star fruit should always be avoided due to its neurotoxicity in CKD (Taylor, 2023a).

Whole Grains and Starches

Prioritise whole grains like oats, quinoa, and wholemeal products for their fibre content and metabolic benefits (Taylor, 2023b).

Plant-Based Proteins

Favour legumes, lentils, tofu, and tempeh, while limiting salt-laden, processed meat alternatives (Taylor, 2023a; KDIGO, 2024).

Dairy Alternatives

Select fortified plant milks such as oat, almond, or soya. Check labels for phosphate additives, often hidden under names containing "phosph" (Kidney Care UK, 2023).

Fats

Use healthy unsaturated fats like olive and rapeseed oils sparingly. Include omega-3 rich seeds like flax and chia (Taylor, 2023a).

Managing Key Nutrients

- **Potassium**: Work with your renal dietitian to manage potassium intake tailored to CKD stage and individual tolerance (Babich et al., 2023).
- **Phosphate**: Prefer plant sources and avoid processed foods with phosphate additives (Carrero et al., 2020).
- **Salt**: Aim for <5g/day by cooking from scratch and avoiding processed products (Kidney Care UK, 2023).

Sustainable Eating Tips

- **Cook from scratch**: Reduces intake of salt and additives.
- **Read labels**: Look for hidden phosphate and potassium additives.
- **Hydration**: Tailor fluid intake to disease stage.
- **Supplementation**: Consider vitamin B12, vitamin D, and iodine supplements if on a fully plant-based diet.

Additional Resources:

Plant-Based Diet Factsheets for CKD and Dialysis

Healthy Eating with CKD - BDA

Plant-Based Health Professionals UK

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