

GenBio CSO Addresses Protecting the Kidneys

Approximately 850 million people worldwide are estimated to have kidney disease

ALISO VIEJO, CA, UNITED STATES, June 2, 2025 /EINPresswire.com/ -- Chronic [kidney disease](#) involves the gradual loss of the ability of the kidney to remove waste products from the body. The build-up of waste products is known as uremia and can be diagnosed by measurement of blood urea nitrogen.



Chronic kidney disease is a major public health problem with an estimated global prevalence of 13.4%, including around 5 to 7 million people needing kidney replacement therapy.

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Despite all those years of abusing your lungs, your kidneys, your liver the only thing you've had removed is your kids.”

Kate Walsh

The disease has high morbidity and mortality, and no cure.

The rate of decrease of kidney function can be slowed by dietary and lifestyle adjustments, especially in people with hypertension or diabetes, as well as by managing cardiovascular risk, reducing the risk of infection, and

preventing acute kidney injury.

Uremia increases urea concentrations in the gastrointestinal tract, which is converted by the gut microbiome into ammonium hydroxide, increasing the pH of the gastrointestinal contents. This increases the growth of bacteria in the gut that can use urea and its metabolites, producing toxic metabolites such as indoxyl sulfate, p-cresyl glucuronide, p-cresyl sulfate, and trimethylamine-N-oxide.

These toxins formed in the gut disrupt the mucosal barrier of the gut allowing leakage of bacteria and metabolites into the vascular system ('leaky gut') producing inflammation and oxidative stress injury to the kidney.

Although there is no cure for chronic kidney disease, the progression can be slowed by controlling risk factors, especially diabetes and hypertension. Lifestyle changes are a key component of treatment, such as cessation of smoking, eating a healthy, balanced diet, regular exercise, and losing weight if overweight. Nutritional interventions such as dietary fibre may be protective in the development of a leaky gut by the production of short-chain fatty acids such as butyrate, while dietary saturated fats may worsen gut function by the production of lipopolysaccharide.

Many nutritional constituents, including [anthocyanins](#), slow down the inflammatory process in chronic kidney disease to potentially delay the progression of the disease. Further, anthocyanins may decrease blood pressure and improve diabetes outcomes, especially in at-risk patient groups. As antioxidants, anthocyanins may protect against atherosclerosis. In addition, polyphenols, including anthocyanins, increase gut microbiota such as *Bifidobacteria* spp. and *Lactobacillus-Enterococcus* spp., leading to protection of the intestinal barrier and decreased colonic inflammation in kidney disease.

"While most studies are in animal models, there is now increasing evidence from human trials of the benefits of chronic anthocyanin intake. Further, plant-dominant low-protein diets are



Kidneys are two bean-shaped organs located in the back of your abdomen. Their primary function is to filter blood, removing waste and balancing your body's fluids.



American actress and businesswoman. She is best known for her role as Dr. Addison Montgomery in the ABC medical drama series *Grey's Anatomy*

recommended to improve patient outcomes in chronic kidney disease." Stated Professor Brown

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9142943/>

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