

# Understanding the importance of monitoring blood urea levels is



# crucial for evaluating kidney function and overall health.

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*Blood urea nitrogen (BUN) is a serum byproduct of protein metabolism. It is one of the oldest prognostic biomarkers in heart failure. Urea is formed by the liver and carried by the blood to the kidneys for excretion. Diseased or damaged kidneys cause BUN to accumulate in the blood as the glomerular filtration rate (GFR) drops. Conditions such as shock, heart failure, a high protein diet, and bleeding into the gastrointestinal tract can cause BUN elevations.*

Proactively monitoring your BUN or blood urea nitrogen levels can uncover potential kidney problems early when treatment can be more effective. Remember, people with early kidney disease may not have symptoms, making the BUN test a valuable tool in your health management. BUN test reveals the amount of urea nitrogen in your blood. Urea nitrogen is a waste product your body produces when it breaks down protein. Your kidneys filter it out of your blood and remove it through urine. The BUN test helps healthcare providers evaluate how well your kidneys are functioning.

Here's how your body typically forms and gets rid of urea nitrogen:

Your liver produces ammonia —nitrogen — after it breaks down proteins used by your body's cells.

Nitrogen combines with other elements, such as carbon, hydrogen, and oxygen, to form urea, a chemical waste product.

The urea travels from your liver to your kidneys through your bloodstream.

Healthy kidneys filter urea and remove other waste products from your blood.

The filtered waste products leave your body through urine.

This test is critical to check yearly if you have diabetes or high blood pressure.

Uraemia is a word we use when there is a buildup of waste products in your blood resulting from untreated kidney failure. Symptoms include nausea, vomiting, weight

loss, difficulty concentrating and fatigue. Treatments include dialysis and kidney transplant surgery.

Urea accumulation in chronic kidney disease (CKD) increases urea influx into the intestinal lumen.

Within the intestinal tract, urea is hydrolysed by microbial urease, forming large quantities of ammonia.

The ammonia is then converted to ammonium hydroxide, a caustic base that can cause cytotoxicity and tissue damage.

High urea concentrations and the subsequent formation of ammonia and ammonium hydroxide disrupt the intestinal epithelial tight junction (TJ) structure and function and damage the intestinal wall.

How can you reduce the level of BUN in your blood in chronic kidney disease?

Reduce your protein intake. A lower protein diet can help reduce the amount of urea produced, the primary contributor to high BUN levels. Eat less processed food and focus more on whole foods, which may help lower creatinine levels, which is also essential in managing chronic kidney disease.

Manage fluid intake: Proper fluid balance is essential, as dehydration can raise BUN levels.

Treat underlying conditions: If high BUN is due to kidney disease, treating the underlying cause is essential. This may involve managing conditions like hypertension or diabetes that can contribute to kidney damage.

Use diuretics: For patients with reduced GFR (glomerular filtration rate), diuretics like furosemide or metolazone can help manage hypertension and hyperkalemia, which are common issues in chronic kidney disease.

Avoid creatine supplements: The search results indicate that creatine supplements can increase creatinine levels, closely related to BUN. Avoiding such supplements may help lower BUN.

By implementing these strategies, individuals with chronic kidney disease may be able to help reduce their BUN levels and improve their overall kidney health.

**Among Sri Lankans, the most common disease that causes kidney damage with elevated BUN is diabetes. Taking medication your doctor prescribes is not the known end of it all. Going on a strict, low-carb, plant-based diet is more important.**

**I hope this article made sense, and adherence to knowledge and discipline is essential for longevity.**

See you again with my next health topic.

