# Point of Care Device for Albumin and Creatinine


**Problem Statement:** Chronic kidney disease, pre-eclampsia (a complication during pregnancy) and acute kidney disease are prominent renal (relating to the kidney) diseases. Serum albumin and creatinine, which are indicators of renal health, need to be monitored in patients with these diseases. Medications for the treatment of cardiovascular ailments have a deteriorating effect on the kidney. Fifty-five million individuals suffer from cardiovascular ailments, and more than 10 million cases of chronic kidney disease are diagnosed each year in India. Many of these cases result in kidney failure, leading to a high mortality rate. Hence these patients also need a constant monitoring system for albumin and creatinine levels in the blood. These diseases can be avoided if diagnosed and treated early. Therefore, establishing a point-of-care device for detecting albumin and creatinine levels in the blood is the need of the hour. The researchers have addressed this requirement with a novel, compact and affordable device.

**Uniqueness of the Solution:** This point-of-care device has a metal-based detection for creatinine. It is a novel method for the detection of albumin and creatinine levels. It is more affordable than competitors' products and is also a compact solution.

**Current Status of Technology:** The researchers have completed designing the prototype and tested this product with small numbers of clinical samples. The researchers are in discussion with a company to licence this technology.

**Societal Impact:** The proposed point-of-care device for detecting albumin and creatinine levels in the blood is economical compared to the other commercially available devices. Hence, this device can be used in rural areas or as a budget-friendly option in the public health domain. The estimated cost of the meter is around INR 2000, while the strip used for a blood sample is estimated at INR 50 per test.

**Patent(s):** Filed

**Relevant Industries:** Healthcare, Medical Devices.

**Faculty:** Prof. Rohit Srivastava, Biosciences & Bioengineering.