

# Making Kidneys Work



➤ Kidneys remove toxic substances, waste products and excess water from blood and maintain the balance of various salts and acids in blood. When kidneys don't function properly, dialysis will have to be undertaken in order to prevent the accumulation of impurities in the blood.

Dialysis is of two kinds: Haemodialysis and peritoneal dialysis. In the former, blood is purified by the exchange (diffusion) of blood solutes with the dialysis solution (daily sate has a salt composition similar to that of blood but without any waste products) in the dialyser (a semi-permeable membrane which filters water and waste products from blood).

Purified blood is then introduced back into the body through a vein. Haemodialys procedure (in which blood is transported to the dialyser through plastic tubings) takes around five hours.

In the latter, the dialysis solution is introduced into the peritoneal or abdominal cavity through a catheter. This procedure takes between 12 and 24 hours. In both these processes, between 200 and 300 ml of blood is drawn from the body every minute.

Vira 99 is an indigenous, compact and simple equipment for continuous renal replacement therapy. This is found to be efficacious for critically ill patients.

This equipment could continuously filter unwanted substances from the blood at a slow rate of 50 ml a minute and pump back the purified blood into the patient.

D. Mohana Rao,  
Ongole

## Informative

The article **Please Pass The Disease Prevention Dish** (SE, Oct 18) was very interesting. Dr Bruce Watkins found out prevention of disease through natural methods. Indians

suffer more of typhoid and malaria so it would be grateful to him if he found some vegetables that could prevent the above diseases.

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## Toothless PCBs

➤ After having gone through Environmental Pollution on Respiratory System (SE, Oct 18), I personally feel that all leading magazines and journals should carry information on the ill-effects of emissions from diesel vehicles, dumping untreated toxic waste into the factory sewers thereby polluting water in all metropolitan cities in India.

This clearly shows the utter inability of the Government to act in time and ensure substantial reduction in sulphur levels in diesel which is responsible for high particulates.

According to environmentalist Bittu Sahgal, most of the Pollution Control Boards do not have adequate check mechanisms to detect pollution and emissions. It is highly condemnable to note that these Pollution Control Boards have no pro-active attitude to take to task the industry owners for falling short of pollution control norms.

In India pollution is not looked up on as a crime despite the harmful effects of toxic wastes and emissions on humans, environment menace.

Instead of functioning as an enforcing body, the PCBs should encourage new technologies to check pollution. The government should take stringent action against the violators of pollution norms. We should have an environment regulatory authority on the lines of the Telecom Regulatory Authority instead of the toothless pollution control boards.

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INDIAN EXPRESS

9/11/99.

SCIENCE SUPPLEMENT