

# Removal of Pyrogens from Dialysate of Artificial Kidney

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Pyrogens may be present in the extracorporeal blood compartment, but frequently enter the blood stream from the dialysate across the cuprophane membranes (Gazenfield-Gasit & Eliahou, 1969). Many types of microorganisms may grow in the dialysate (Sherris et al, 1961) and bacterial endotoxins have been demonstrated to reach the blood stream (Gazenfield-Gasit & Eliahou, 1969). This has been confirmed by our *in vitro* experiments which demonstrated also that a PVC cartridge, containing G 100 of activated charcoal (Norit-RB 07), removes pyrogens (including endotoxins) very efficiently (Figure 1). Clinical observations confirm this finding. Indeed, in 200 haemodialyses performed with the charcoal cartridge applied to the dialysate inflow

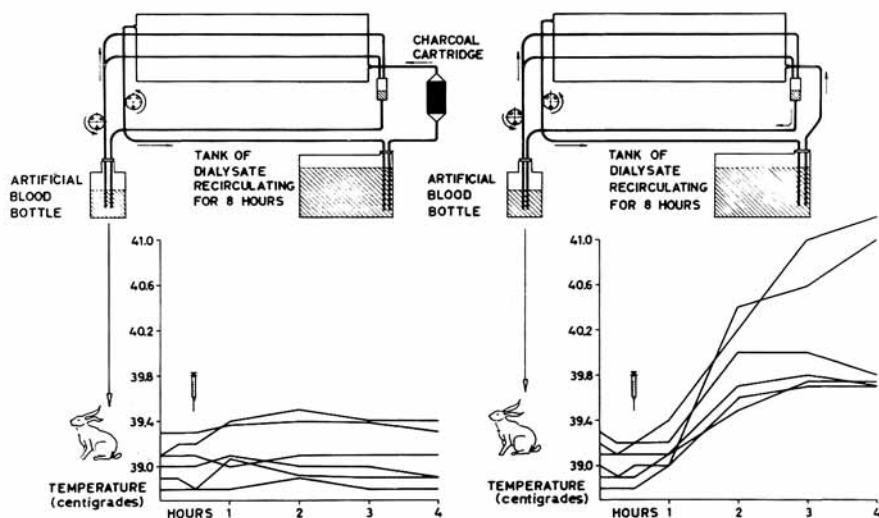


Figure 1

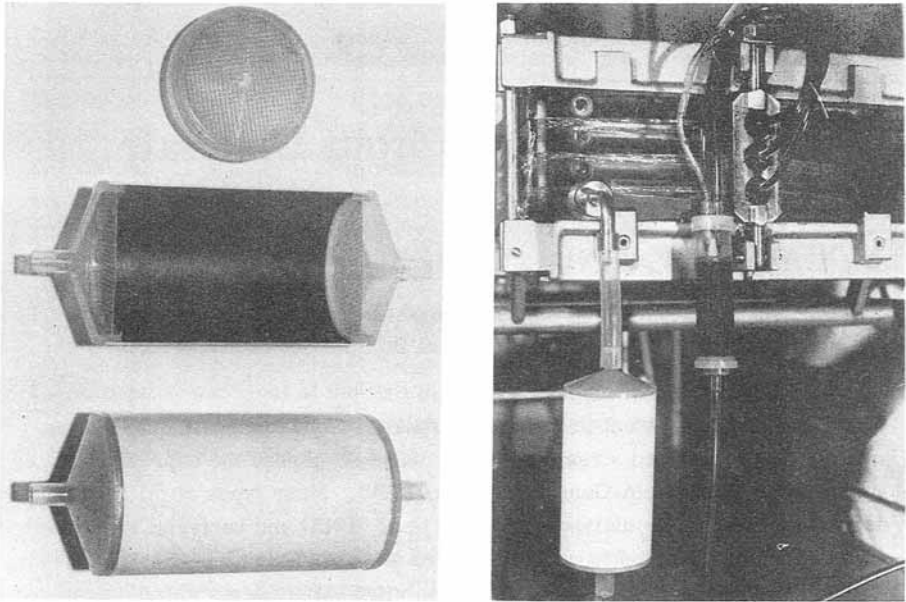


Figure 2

line (Figure 2), no pyrogenic reaction was observed, while, in a control group of 310 haemodialyses, the incidence of pyrogenic reactions was 5.3%.

The low cost and the high efficiency of this technique suggest its extensive practical use.

#### REFERENCES

- Gazenfield-Gasit, E. and Eliahou, H. E. (1969) *Israel Journal of Medical Sciences*, 5, 1032  
Sherris, J. C., Cole, J. J. and Scribner, B. H. (1961) *Transactions. American Society for Artificial Internal Organs*, 7, 37