Besides reducing the cost it is the aim of dialyser design to improve efficiency, lower internal resistance and reduce the priming volume. To achieve this we have constructed a disposable coil (Fig. 1), which has a number of cellophane tubes, preferably four, connected in parallel. All tubes are wound concentrically in one plane (Fig. 2), separated by a special netting, which has no knots. By selecting the proper size of mesh one does not need spacers, which simplifies the mounting. A coil of $4 \times 4$ metres of 36/32 inch Visking casing has a filling volume of below 500 ml and a maximum in vitro clearance of 220 ml/min. In some cases it has been used without a blood pump. A blood pump is needed only for boosting low arterial pressure or obtaining a high degree of ultrafiltration, if application of negative pressure in the wash solution is not preferred.

In 7 dialyses on patients using a $4 \times 3$ m. coil blood flow averaged 170 ml/min.; plasma NPN and creatinine levels fell by more than 50% during 6 hours.
A NEW DISPOSABLE COIL SYSTEM

Fig. 2. Diagram of the concentric cellophane tubes (solid) in the wire mesh (dotted).

Fig. 3. In vitro clearance (ml/min) for sodium ions related to flow (ml/min).