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Letters to the Editor

Assay of chloramphenicol in clinical specimens

We welcome the paper by De Louvois and colleagues (June issue, page 575) and feel strongly that all children receiving chloramphenicol should have levels monitored.

In their comparison of methods for assaying chloramphenicol they dismiss several techniques which were not as sensitive as originally claimed. The methods they recommend, while being simple, have disadvantages in that they are slow and, in the use of relatively large volumes of blood, unsuitable if repeated tests are to be performed on small babies.

The lack of sensitivity they have demonstrated with both *Escherichia coli* and *Clostridium perfringens* can be overcome by the use of more sensitive strains. We have used strains of both of these organisms which are capable of detecting 2.5 mg/l.

We agree that the *Cl. perfringens* assay is tedious, but this can be reduced by using a 21 cm square glass assay plate sealed in a plastic bag with catalyst and Gas-paks. This technique in our hands has given results within 3 to 4 hours using 40 µl of serum per well, thus enabling the use of capillary samples. Interference by metronidazole is seldom a problem in the child with meningitis.

For routine use, however, we favour a strain of *E. coli* which is also capable of detecting 2.5 mg/l although, except for CSF, we use standards ranging from 5 mg/l upwards. An overnight broth culture of the organism is diluted appropriately and surface-seeded on DST agar (Oxoid) and the plate is incubated at 40°C. Capillary samples are collected and wells are filled with 60 µl of serum. Zone diameters can be determined on a 'zone reader'. However, we find that an overhead projector gives clearer margins but zones should be centred around a cross marked on the projector stage to eliminate errors due to

misalignment of projector and screen (the wall). As results are routinely available within 4 hours the dose can be adjusted in the light of samples taken 1 hour after the previous dose. On one occasion it also enabled us to detect excessive levels resulting from the accidental administration of 10 times the prescribed dose.

We feel that other laboratories wishing to assay chloramphenicol should look for a sufficiently sensitive strain of either of these species if, like us, they require a rapid diagnostic method, which is also suitable for use on small volumes of serum.

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Transfusion of patients with leucocyte antibodies using cotton wool filtered blood

We report our preliminary findings in the use of cotton wool filters in the preparation of leucocyte free blood. Techniques used to eliminate leucocytes include Dextran sedimentation, inverted centrifugation, and freezing-thawing-washing red cells. We have most experience with the latter method, which is very effective and can eliminate reactions in transfusions. It is, however, an expensive and time-consuming process. As an alternative we have tested cotton wool filters, which have recently become commercially available.¹ Blood 5 to 9 days old was processed using

the filters. After filtration the blood was packed by centrifugation, and the plasma plus buffy coat was removed. The following results were obtained (Table).

It is important that the small but definite buffy coat be removed to obtain platelet removal figures of this order. These results compare very favourably with those obtained by the frozen, thawed, washed cell technique.

We have now transfused eight patients who have multispecific white cell antibodies and severe transfusion reactions to unprocessed blood. No untoward symptoms or pyrexia have developed during the transfusion of a total of 132 units of filtered blood. We have found the use of cotton wool filters to be easier, less time-consuming, and more economical than any other technique of providing leucocyte-depleted blood.

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Reference

- ¹ Terumo Corporation, Tokyo, Japan.

Addendum

Since this letter was written, 12 patients have now received a total of 260 units of filtered blood with similar results to those shown. No untoward reactions have been seen.

No. of units filtered	Mean removal of:		Mean time for processing 4 units of blood
	White cells %	Platelets %	
132	98	89.2	1 hour