

detecting pathological cystinuria and homocystinuria. The experience described with it, however, emphasizes that, like other screening procedures, it should only be used as a guide to consideration and further investigation of positive findings.

#### Reference

Smith, I. (1960). *Chromatographic and Electrophoretic Techniques*, vol. 1, p. 101. Heinemann, London.

## Direct microscopical examination of tube cultures for the detection of trichomonads

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Many laboratories culture suitable material for trichomonads in addition to the microscopical examination of films. Clinical specimens, often genital swabs, are inoculated into trichomonas medium in small bottles which are incubated for several days. At intervals wet films are prepared from these cultures for microscopical examination, and this may involve a considerable amount of work. We describe a simple, quick method which allows direct microscopical examination of tube cultures for trichomonads with the low-power objective without the need to make wet preparations.

#### Procedure

Medium suitable for the cultivation of trichomonads is dispensed into sterile tissue culture or similar tubes (4 in.  $\times$   $\frac{1}{2}$  in.) to within an inch of the top. The tubes are stoppered tightly with white rubber bungs and stored in racks at + 4°C for not longer than three weeks. Alternatively, sterile plastic disposable tissue culture tubes with screw caps (Sterilin) may be used. In this laboratory, a cysteine-peptone-liver infusion-maltose medium similar to that described by Stenton (1957) is used, with the omission of penicillin and streptomycin and the addition of the following reagents to give concentrations in the final medium as indicated: chloramphenicol (100  $\mu$ g/ml), nystatin (50  $\mu$ g/ml), and Oxoid ion agar no. 2 (0.05%). After inoculation of routine culture media and the preparation of both wet and Gram-stained films, the swab is placed in a

tube of trichomonas medium previously warmed to room temperature, and the stopper replaced. The inoculated tubes are incubated upright in racks at 36°C for up to seven days.

Each culture tube is examined daily with the low-power objective of the microscope. Before examination, the tube is inverted to ensure even distribution of any trichomonads and then held on a small cradle made from glass rods placed on the microscope stage. By sliding and rotating the tube in the cradle the whole culture may be quickly examined. With a little experience trichomonads are easily recognized by both their flagellae and their characteristic motility which is often independent of currents within the tube.

#### Comment

This method for the direct microscopy of tube cultures will be familiar to those with experience of routine virus tissue culture techniques. It is quick, simple, saves both time and effort, and thus encourages daily examination. It allows rapid observation of the unopened whole tube of medium in contrast to the drop needed for a wet preparation. Neither a deposit nor the swab itself obscure the recognition of motile trichomonads. This technique, which may be used with other trichomonas media, also permits early detection of trichomonads, not only in cultures which grow well, but also in cultures in which growth is poor.

#### Reference

Stenton, P. (1957). The isolation of *Trichomonas vaginalis*. *J. med. Lab. Technol.*, 14, 228-230.