

by the methylene blue. It should be noted that leprosy bacilli which are also stained by this method are rather more easily decolourised than the tubercle bacilli.

Formula. Carbol Fuchsin.

Basic fuchsin	1 gram.
Absolute Alcohol	10 c.c.
5 per cent. Carbolic Sol.	100 c.c.

The basic fuchsin is dissolved in the alcohol, and then the carbolic acid solution added.

Acid Alcohol.

70 per cent Alcohol	99 c.c.
Hydrochloric Acid	1 c.c.

Pugh's Stain for Diphtheria Bacilli.

Fix and make smear in the usual manner.

Stain in Pugh's Stain. 10 minutes.

Wash in tap water. Blot and dry.

The bacilli appear as pale blue rods, with darkly staining heads, the so-called "drum stick" appearance.

Formula. Pugh's Stain.

10 per cent. Toluidine blue (dissolved in absolute alcohol), 2 c.c.
5 per cent. Glacial Acetic Acid (in distilled water), 98 c.c.

All of these stains may be obtained from the trade, ready made up, and unless a considerable amount of work is to be carried out, are best purchased in this manner.

Culturing.

Two types of medium are in use, fluid and solid; it is with the latter that the majority of work is done. The fluid medium is always contained in test tubes, but the solid may be in tubes or slopes as they are called, or a "plate" may be made by pouring the medium into a Petri dish.

Test tubes are used when a strain of organisms have been obtained pure, that is to say only one type of bacteria is present and not as is the case with the vast majority of fresh material, containing a mixed infection. The usual scheme is to first "plate" the material, then when distinct colonies can be picked off they are transferred to tubes for further growth. The "plate" method is necessary for spreading the infected material over a wide area so that the various types of bacteria present may be easily sorted out.

Pouring a Plate.

It is undesirable that a large stock of plates be left ready poured as the medium will readily dry. The supply laboratory usually provides the medium in large test tubes called stock tubes, along with the sterile Petri dishes, and when required for use the culture medium in the stock tube is liquefied by placing for some minutes in boiling water and after very carefully flaming the edge of the tube in the Bunsen the liquid medium is poured into the Petri dish, taking care to avoid the production of bubbles. In order that the medium may rapidly set it is stood in a cool place well away from any direct draughts and the lid is slightly raised—this step takes a matter of minutes—and it is then transferred to the 37 c. incubator to dry off, again leaving the lid at an angle in order that moisture may escape.

Inoculating the Plate.

Whether a large or small loop of infected material is taken for inoculating the plate depends on the number of bacteria present, as shown by the direct examination. Hold the now dried plate in one hand, keeping the surface of the medium at an angle so as to minimise the danger of air-borne infection and with the other hand charge the platinum loop with the material for culture. Gently stroke the surface of the medium, taking care to avoid breaking it; do not recharge the loop when apparently all the material has been deposited, but continue stroking until the whole of the surface of the plate has been covered. The best method is to divide the plate into three divisions—stroking each section in turn, that is to say, with the freshly charged loop start at the edge of the plate and cover the whole of the surface in that section by a series of parallel strokes, working towards the centre, then go to the next section, and then the last. The medium may be broken at the edge to show which section was done first, then if a growth is obtained in the last and not the first section the presence of a contamination might reasonably be expected. The plate is incubated overnight and examined next morning, smears being made from each type of colony present.

Culture Medium.

Agar broth, more frequently called nutrient agar, is the usual medium employed for routine work. It may, if the presence of certain bacteria are suspected, have the addition of a thin film of blood. Nutrient broth is used for the fluid cultures. Inspissated serum is used for the cultivation of the diphtheria bacillus, Dorset's egg medium for the tubercle bacillus, but this last is very difficult and is certainly best left for the fully equipped laboratory.

Urines and other fluids require some means of concentrating the solid matter present; this is done by means of a machine called a centrifuge, which may be worked by hand or motor driven.

For the cultivation and differentiation of bacillus coli and bacteria of the dysentery and typhoid group, a special medium is required, and again this is perhaps best left to the large hospital laboratory.

SPEAKS FOR ITSELF.

"Eleven Stages of Man Expressed in Menu Style."

1. Milk.
2. Milk and bread.
3. Milk, eggs, bread, and spinach.
4. Oatmeal, bread and butter, green apples, and "all day suckers."
5. Ice cream soda and hot dog.
6. Minute steak, fried potatoes, coffee and apple pie.
7. Bouillon, roast duck, scalloped potatoes, creamed broccoli, fruit salad, divinity fudge, and demi-tasse.
8. Pate de fois gras, wiener schnitzel, potatoes Parisienne, egg plant a l'opera, demi-tasse, Roquefort cheese.
9. Two soft-boiled eggs, toast and milk.
10. Crackers and milk.
11. Milk.

(Quoted from *The Echo-ette*, School of Nursing, Jewish Hospital, Brooklyn, N.Y., by the American Nurses' Association Bulletin.)

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