Course: Clinical Microbiology

Collection and transport specimen

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Quality specimens are needed for reliable microbiological diagnosis.

Aim of clinical microbiology laboratory

- ✓ To provide accurate information of microorganisms involved in patient's disease.
- ✓ To provide information on the antimicrobial susceptibility of microorganisms isolated.

Identification – 3 main categories

a) Identification of microorganisms by isolation and culture.

b) Identification of specific microbial product (non-cultural technique) and extracellular product (E.g. toxins).

c) Detection of specific antibodies (Immune response).

Specimen collection

a) Sample must be collected without contamination with commensals or from external sources.

b) Always use sterile containers.

c) Each specimen should be clearly labeled and should be accompanied by request form.

d) Good quality and adequate quantity of samples are required.

e) Specimen should be collected before antimicrobial therapy is commenced.

f) Specimens

- Fluid → swab but sometimes large quantity is needed
- Tissue

g) All clinical specimens should be considered to be potentially infectious.

Transport of specimen

Transport of specimens as quickly as possible because

1. Urine and sputum provides good medium for overgrowth of non-fastidious bacteria and others.

2. *Neisseria sp*. (delicate) survives poor.

3. Swab may dry.

A. Transport media

- To avoid the above, transport media may be used with charcoal or other absorbent substances to remove toxic agents such as fatty acids.

- Samples for anaerobic forms, specimens must be collected in a syringe and remove the needle after collection to avoid oxygen.

B. Boric acid

- Add boric acid to vials at 1.8% (v/w) will stop bacterial multiplication.

✓Low concentration – Ineffective

✓High concentration – May kill

C. Dip slides

Small plastic spoons or strips with thin layer of agar dipped into urine and transport in a sterile screw capped tubes.

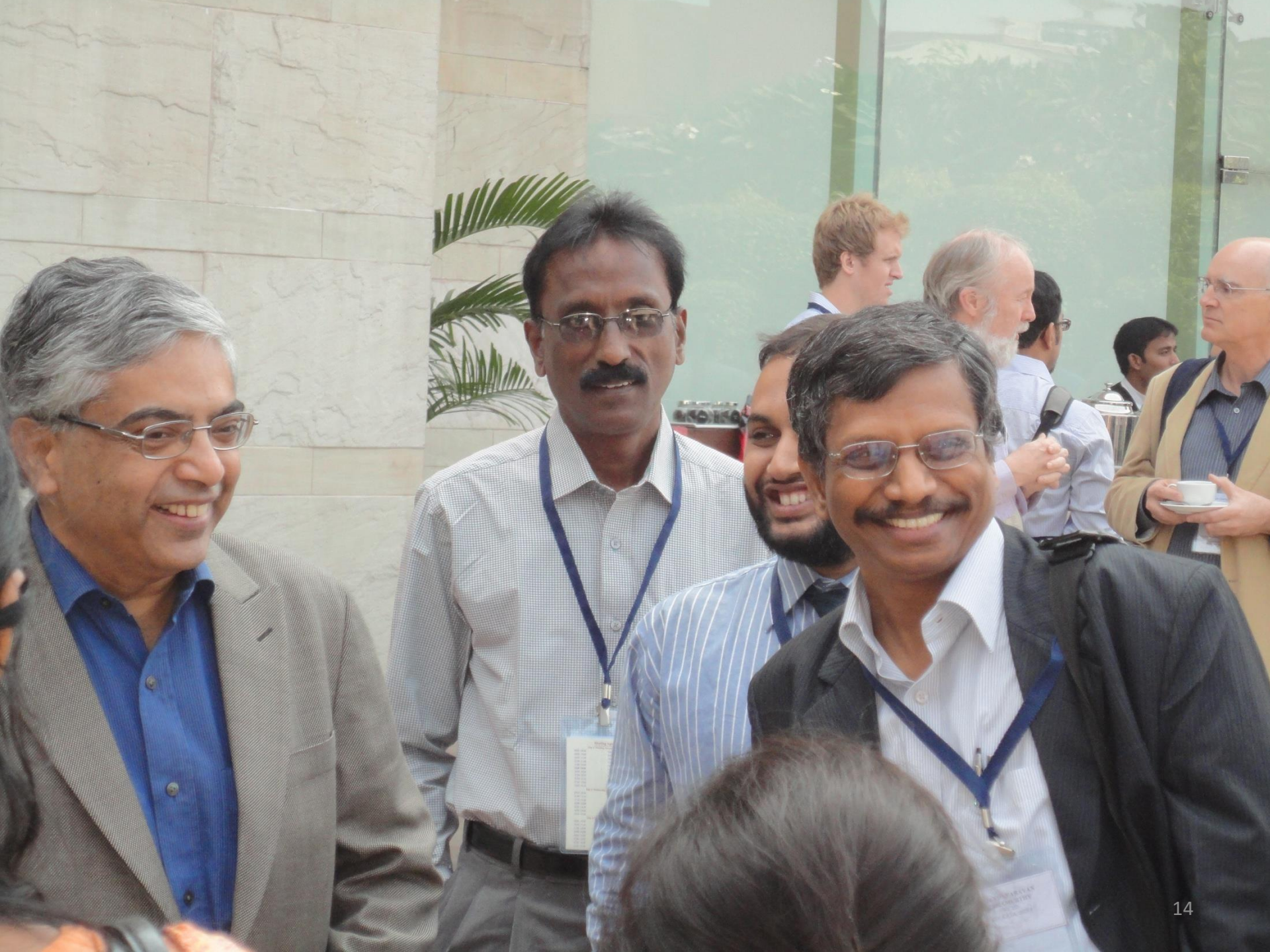
The agar absorbs a fixed volume of urine.

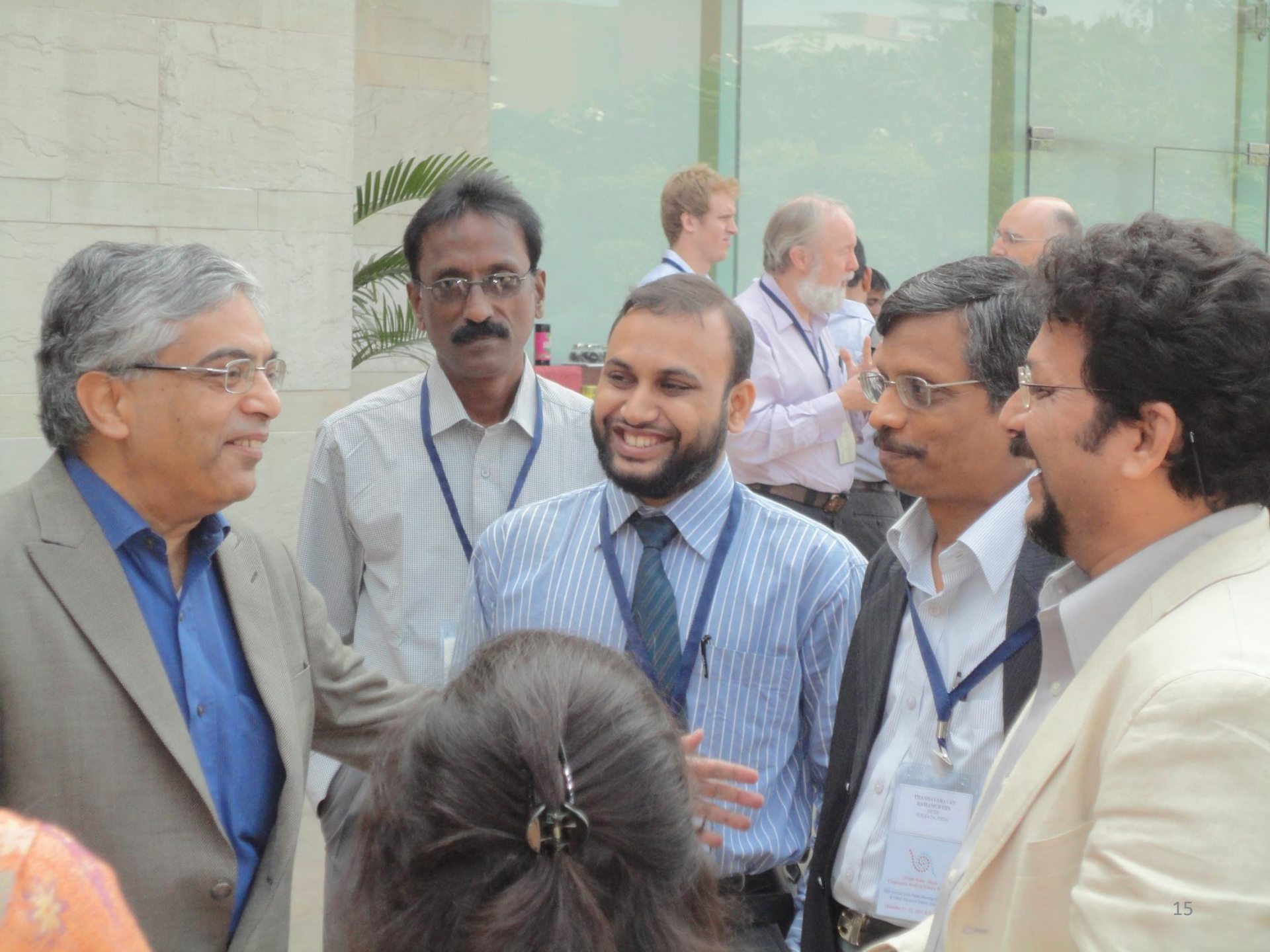
D. Refrigeration

Will prevent multiplication (except *Neisseria*)

E. Freezing

At -70°C or below with liquid N_2 and stabilizing fluid such as serum and glycerol will preserve many microbes.





Thank you