Processing of clinical specimen

Processing the sample includes:

1. Collection.
2. Transportation.
3. Processing.

Collection:

1. Universal container: urine, sputum.
2. Bijou bottle: CSF.
3. Container with wide neck: Stool
4. Blood culture bottle: blood.
5. Swabs: throat, wound and skin swab at the site of infection(eye, ear..).

- All the containers should be sterile.

Transportation:

- Sample should be labeled (patient name, medical record number, age).
- Sample should be send to the lab as soon as possible to be processed.

Why?

1. To survive the pathogenic organism in the sample.
2. To prevent contaminants to grow. To prevent false positive results.

Processing:

From the sample we do:

a) Culturing on media: NA, BA, EMB, Mac, CLED.
b) Staining: gram stain, spore, capsule stain.

c) Antibiotic sensitivity: use it for identification of organism.

Ex. **Novobiocin** differentiate between staphepidermidis (sensitive) and staph saprophyticus(resistant).

Bacitracin differentiate between streptococcus gp A (sensitive) from other streptococcus groups(resistant).

d) Biochemical reaction:

(API20E): it's a strip contains 20 tests in one strip, each one in tubules.

We use it for identification of organism.

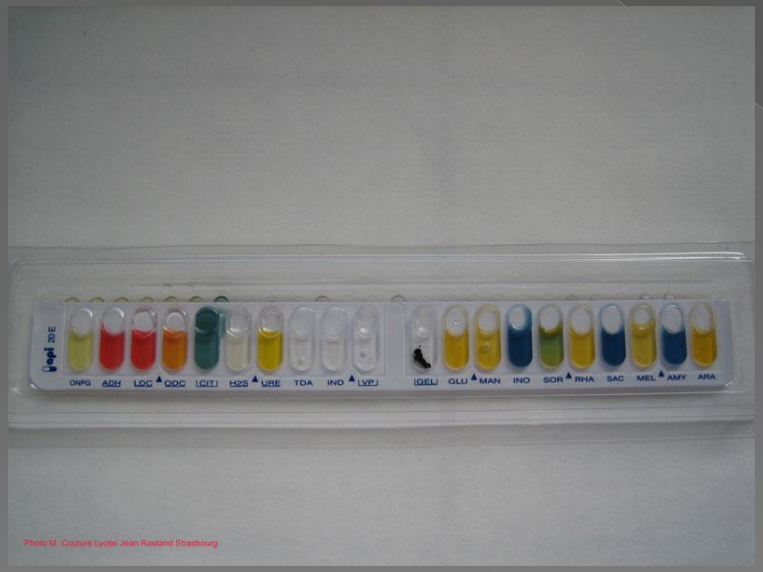
Ex. Catalase test:

Catalase is an enzyme produced by some organism it break down H_2O_2.

H_2O_2 + org. produce catalase ----→ H_2 + O_2 (bubbles)-→ catalase +ve

H_2O_2 + org. not produce catalase ----→ no bubbles -→ catalase -ve

- API20E



- Stool container

- Blood culture bottle

- swab