GUIDE LINES FOR DESPATCH OF SPECIMENS
FOR LABORATORY INVESTIGATIONS

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Despatch of pathological specimens to laboratories situated away from the
place of collection for investigations is quite a common practice. Often those
despatching the specimens are not aware of the procedures and, specimens are
packed like any other articles sent by post.

There are two important points to be remembered when pathological speci­
mens are sent for investigations. One of them is preservation of the material
so that the specimens reach the laboratory in a condition fit for necessary
investigations. The other is the proper packing of the specimens to prevent
leakage from, or breakage of the containers during transit so that they do not
become hazardous to persons handling them.

Preservation of Material

Preservation of material meant for histopathological examination is not a
problem as they can be sent in a suitable fixative. The problem arises only
with material on which bacteriological or viral investigations have to be
carried out. For this, the majority of the organisms in the specimen should be
in a viable state for isolation in the laboratory. The viability may be
affected by:

1. the decomposition of the material due to growth and multiplication of
   other unwanted organisms in the specimen,

2. transit allowing the specimen to become dry and also affect the viability
   of the organisms,

3. the fragile nature of the organisms.

Despatch of Specimens for Laboratory Investigations for Tuberculosis

Smears for Microscopy

Whenever sputum specimens are to be sent for microscopic examinations the
same procedures have to be followed as for specimens sent for culture purpose.
But, despatch of sputum specimen for the sake of microscopy is quite unnecessary
and it is much safer and easier to send the smears.

A good smear is prepared covering the middle third of the area of the slide.
The smears are air dried and fixed over a flame before packing. The smear
number should be written on one end of the slide in bold types with a grease
pencil or on a small label pasted to the slide. A slip giving name and address
of the sender, the smear number, patient's name, age, sex and the examination
required should accompany the smear. The smear should be rolled-in a strip of
paper broader than the length of the slides and then the edges folded and tied with a string or kept in position by a rubber band. If more than one smear is sent, the smears should be folded in a long strip of paper in such a way that there is a layer of paper between the smears to prevent contact between the slides. The smear bundle should finally be tied with a string or rubber band and kept in a small wooden box or metal container with sufficient cushioning material like cotton or tow all round. The slip to accompany the smears should be kept on the top and the box is closed and nailed if it is made of wood. The box is wrapped with thick paper and the edges pasted. It should be labelled as described later. If a small number of smears are sent, they should be packed as described above and kept in an envelope at one edge and stitched. The stamp should be affixed at the other end of the envelope.

Specimens for Culture

The specimen should always be collected in a sterile container with sterile precautions to exclude to the extent possible contamination with extraneous organisms.

In hot places deterioration in the condition of the specimens will be rapid and in very cold places it may be very slow or nil. The decomposition can be prevented by keeping the specimen at as low a temperature as possible after collection (less than 10°C) which will prevent the growth and multiplication of the organisms present, prevent drying of the specimen and also death of the bacilli which might occur otherwise due to exposure to high temperature. For this, a refrigerator or insulated ice box can be made use of. Specimens can be stored at low temperature till the time of despatch or till requisite number is collected. Whenever large number of specimens are to be transported it is better to send them in an insulated box with ice through a messenger. If only a small number is to be sent and the duration of the journey will not be more than a few days, say 3-4 days, refrigeration during transit may not be essential provided the specimens are collected properly and packed well. If the specimens are to be sent over very long distances, it is advisable to send them by air to reduce the journey time. In cold places specimens can keep well over long periods without refrigeration or the use of ice box.

Diagram on Page 38

Can be represented in

show the parts. The ice tin can be filled with water to 3/4 of its capacity and kept in the freezing chamber of a refrigerator for a few hours till ice is formed inside, after which it can be used. The temperature of the inside of the insulated box can be maintained at about 10°C for 8-10 hours with ice tin inside. The ice tins can be made of brass and the lid should be leak proof i.e. screw type with rubber washer.

Despatch of Cultures

Sometimes bacteriological cultures are required to be sent to a bigger laboratory for other investigations like identification and typing of organisms. The culture to be sent for such investigation should be either recent or subcultures of old cultures. Prior to their packing, water of condensation from

136:
inside the tube must be dried by incubating the tube at 37°C overnight. While drying the culture, lid of the culture tube is kept loose, which is tightened after incubation and then packed carefully.

**Packing and Despatch of Specimens**

The object of proper packing of the specimen is prevention of leakage of infectious material and spread of infection and also, to conform to the postal regulations prescribed with regard to despatch of dangerous materials by post. Leakage of material can take place due to the lid of the container not being leak proof or the lid getting loosened or breakage of the container during transit. The effect of the leakage or breakage will be soiling of the packing material and the outside of the containers with infectious material and persons handling them will run the risk of getting infected.

To prevent leakage the specimen containers should have screw caps with a rubber liner inside. Containers with plain lids (non-screw type) are not suitable for liquid specimens. If they are used for other types of specimens, the lids should be kept in position by fastening with suitable material or even soldered so that they do not get opened accidentally during transit. A metal container of aluminium with a screw cap and rubber washer inside will prove satisfactory for many types of specimens. Though glass containers with metal screw caps and rubber washers are quite ideal, the risk of breakage is rather high. This could be minimised to a great extent by taking extra care while packing.

The specimen container should be labelled on the side giving briefly the nature of the material and the investigation required such as 'Sputum for TB Culture'. The container should be well wrapped with sufficient layers of absorbant material like absorbant cotton to absorb the entire liquid content should it leak out. The wrapping should be much more for glass containers. The wrapped container is placed inside strong metal box with a leak proof lid and the space around the specimen container is also packed with absorbant material to prevent knocking at the sides. The metal box is now wrapped with some cushioning material like tow, sponge, rubber, paper cuttings etc., and kept inside a strong outer metal or wooden box, the space if any around being filled with the same cushioning material. It is better to use a wooden outer box than a metal one as the latter may get heated up when exposed to higher temperature. A slip giving the full particulars of the specimen should be placed inside before closing the outer box. The particulars required at the laboratory are:

1. Name, designation and address of the sender.
2. Type of specimen.
3. Date of collection.
4. Name of patient.
5. Age.
7. Brief history of case and examination required.

A copy of these details should also be sent by post separately as the one accompanying the specimen will not be filled. The outer box is securely closed with a lid, nailed if possible and fastened with a strong thread. The whole...
thing is now wrapped in a thick paper and the edges pasted. The parcel is then labelled with following:

| Contents ......................... |
| Class with care               |
| Handle                        |

| To                            |
|                               |
|                               |
|                               |

| From                          |
|                               |
|                               |
|                               |

It is advantageous to fasten the parcel with a strong thread along the length and breadth all round in the middle after labelling.

The postal authorities should be well informed of the nature of the parcel and their advice sought in case of doubt.

It is advisable to send bulky liquid specimens through a messenger instead of by post or as an unaccompanied parcel. If several specimens are to be sent, it is better to send them through a messenger. In case this is not possible it will be advisable to send them in more than one parcel depending on the numbers to be sent instead of sending all specimens as a single parcel.

DIAGRAM