Clinical Specimen Collection & Packing & Transport

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Coronavirus Disease 2019 (COVID-19)
General Guidelines

- Consider all specimens as **POTENTIALLY HAZARDOUS / INFECTIOUS**
- Handle all specimens with gloves in a secure manner (**universal precaution**)
- Ensure that specimens are **labeled** properly
- Ensure **correct container** is used for collection
- Do not contaminate the **outside** of the specimen container
- Do not handle **laboratory requisition** forms with gloves
- Ensure that no **unauthorized access** to the specimen takes place
- Ensure no **adulteration or tampering** of the specimen takes place
Current testing strategy:

1. All asymptomatic people who have undertaken International travel: They should stay in home quarantine for 14 days. - They should be tested only if they become symptomatic (fever, breathing etc.). If test result is positive, then they should be isolated and treated protocol.

2. All contacts of laboratory confirmed positive cases: They should stay in home quarantine for 14 days. - They should be tested only if they become symptomatic (fever, breathing etc.). - If test result is positive, then they should be isolated and treated protocol.

3. Health care workers managing respiratory distress / Severe illness should be tested when they are symptomatic. Cough, difficulty in as per the standard cough, difficulty in as per the standard Acute Respiratory illness should be tested if they are symptomatic.

4. All symptomatic healthcare workers.

5. All hospitalised patients with SARI”.
Revised COVID19 Testing Strategy in India: 16/03/2020

- There is currently no community transmission of COVID19.
- Disease is primarily reported in individuals with travel history to the affected countries or close contacts of positive cases.
- Therefore all individuals *need not be tested*

**WHOM TO TEST**

- Direct close physical contact of laboratory confirmed positive case
- History of travel in last 14 days to high risk COVID19 affected countries

Home quarantine for 14 days

Symptomatic within 14 days

Laboratory test
   Contact MoH&FW helpline for testing (+91-11-23978046)

No symptoms

No laboratory test

- Throat swab + nasal swabs taken in Viral Transport Medium in one tube in cold chain.
- List of testing facilities: [www.icmr.nic.in/content/covid-19](https://www.icmr.nic.in/content/covid-19)
- Health care workers managing respiratory distress / Severe Acute Respiratory Illness patients should be tested when symptomatic with acute respiratory illness.

*This is an evolving strategy*
Retesting’s strategies for COVID 19 PCR positive patients’ according to ICMR

Keep testing NS/TS sample by RT-PCR of Asymptommatic COVID + cases every Alternate day/48hr ;
Till the 2 sample become negative.
Equipments Required for NS/TS collection, Packing, & Transport

**Trained HCP collecting sample**
- All PPE: Gloves, Gown, Mask, all protective equipments.

**For Sample collection:**
- Requisition form
- Label
- Marker pen,
- Sterile swab sticks
- Vial containing Viral transport medium
- Scissors
- Tissue

**For packaging**
- Vaccine container/ Thermacol box
- Ice packs
- Packing material like cotton, tissue
- Cellotape
Labeling of Specimens

- Specimens for laboratory testing should have labels.

- Label should include:
  - Patient’s name
  - Age & gender
  - Patient’s unique identification number/hospital registration number
  - Hospital/Ward

- Label specimens using markerpen & put a celloptape to protect ink from fading away.

- Tighten the tube cap and may use the tube with cellotape to seal the cap.
Requisition form

- All specimens must be accompanied by a requisition form with the following details:
  - Hospital/Laboratory Name
  - Patient Identification Number
  - Patient Name, Age/Gender
  - Patient Contact Details (phone, email, address)
  - Travel and contact history
  - Date and Time of collection and sending to the laboratory
  - Type, source, and volume of specimen
  - Brief clinical history and relevant investigational results
  - Test Required
  - Sender’s signature
ICMR- National Institute of Virology, Pune  
Specimen Referral Form for 2019 Novel Coronavirus (2019-nCoV)

**INSTRUCTIONS:**  
- Inform the local / district / state health authorities, especially surveillance officer for further guidance.  
- Seek guidance on requirements for the clinical specimen collection and transport from nodal officer.  
- This form may be filled in and shared with the IDSP and also ICMR-NIV nodal officer in advance.

**PERSON DETAILS**  
Name of patient: ..................................................  
Address: ..................................................................  
City: ........................................................................  
State: ........................................................................  
Age:......Years.......Month Gender: Male ☐ Female ☐  
Date of birth: ........../........../........... (dd/mm/yyyy)  
Mobile/phone: ..........................................................  
Email: ......................................................................

**EXPOSURE HISTORY [2 WEEKS BEFORE THE ONSET OF SYMPTOMS]**  
Recent stay/travel in area (Wuhan, China): Yes ☐ No ☐  
If yes, stay/travel duration with date: .............................................  
History of visit to wet/seasfood market: Yes ☐ No ☐  
From: /....../...... to: /....../......  
Close contact with confirmed case: Yes ☐ No ☐  
Yes ☐ No ☐ Close contact with animal/birds Yes / N  
Recent travel to any other country: Yes ☐ No ☐  
Travel place: ..................................................................  
Health care worker working in hospital involved in managing patients YES / NO,  
Hospitalization date: ....../....../...... Discharge date: ....../....../......

**CLINICAL SYMPTOMS AND SIGNS**  
Date of onset of symptoms: ....../....../...... First symptom: .............................................  
Symptoms Yes No Symptoms Yes No  
Fever at evaluation ☐ ☐ Cough ☐ ☐  
History of fever ☐ ☐ Breathlessness ☐ ☐  
Sore throat ☐ ☐ Body-ache ☐ ☐  
Chest pain ☐ ☐ Sputum ☐ ☐  
Signs Yes No Sign Yes No  
Wheeze ☐ ☐ Stridor ☐ ☐  
Nasal flaring ☐ ☐ Crepitation ☐ ☐

**UNDERLYING MEDICAL CONDITIONS**  
Condition YES / NO Condition YES / NO Condition YES / NO  
COPD ☐ ☐ Bronchitis ☐ ☐ Diabetes ☐ ☐ Hypertension ☐ ☐  
Chronic renal disease ☐ ☐ Malignancy ☐ ☐ Heart disease ☐ ☐ Asthma ☐ ☐

**IMMUNOCOMPROMISED CONDITION YES / NO**

**HOSPITALIZATION, TREATMENT AND INVESTIGATION**  
Hospitalization date: ....../....../...... Treatment Yes No Treatment Yes No  
Differential Diagnosis: YES / NO Antivirals ☐ ☐ Steroids ☐ ☐  
Atypical Presentation: YES / NO Bronchodilators ☐ ☐ Other ☐ ☐  
Etiology Identified: YES / NO OUTCOME: Discharge / Death: ....../....../......

**INVESTIGATION DETAILS**  
Investigation details: Chest X Ray: Yes ☐ No ☐  
Blood culture findings (if any): .......... Other investigation details: ..........

**SPECIMEN INFORMATION FROM REFERRING AGENCY**  
Specimen type Collection date Label FOR Specimen ID Test performed Result  
1. BAL/ETNA ..................................................  
2. TS/NPS/NS ..................................................  
3. Blood in EDTA ..................................................  
4. Acute sera ..................................................  
5. Convalescent sera ..................................................  

Name of Doctor: .................................................. Hospital Name/address: ..................................................
Phone/mobile number: .................................................. Signature and date: ..................................................
USE Personal Protective Equipments

Wear PPE, before collecting COVID 19 Patient sample

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. GOWN
   - Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
   - Fasten in back of neck and waist

2. MASK OR RESPIRATOR
   - Secure ties or elastic bands at middle of head and neck
   - Fit flexible band to nose bridge
   - Fit snug to face and below chin
   - Fit-check respirator

3. GOGGLES OR FACE SHIELD
   - Place over face and eyes and adjust to fit

4. GLOVES
   - Extend to cover wrist of isolation gown

USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene
Nasal Swab Collection

- Nasal Swab is collected from the anterior turbinate
- Insert dry swab into nostril upto 1 inch.
- Slowly remove swab while slightly rotating it
- Use a same swab for another nostril.
- Put tip of swab into vial containing VTM, breaking applicator’s stick.
Throat Swab collection

- Have the patient open his/her mouth wide open
- Use tongue depressor
- Sweep the swab over the back of the throat including tonsils
- Send both nasal and throat swab of one patient in a single VTM tube.
- Send filed requisition form also
Do’s and Don’ts

- Swab held between thumb & 1st, 2nd fingers with shaft protruding beyond web of thumb (like a pencil)
- **Not** between thumb & forefinger with base in palm of hand
- If patient makes a movement as a reaction to swabbing the swab will slide out of harm’s way if held the 1st way but not if held the 2nd way
- Control over the swab is much greater if it is held correctly.
Guidelines for Packaging & transport for COVID 19 patient

• General guidelines for Specimen Transport (IATA Protocol)

• Diagnostic specimens obtained from patients with suspected infectious diseases may contain infectious agents

• Potential source of infection due to transport mishap

• Diagnostic specimens must be packaged, labeled and transported as an infectious substance

• Diagnostic specimens collected during an investigation of an outbreak of a serious disease of unknown cause must be handled as infectious substances
Main goals

- protects the environment, the carrier
- protects the sample
- arrival in good condition for analysis
# Triple packaging system

To avoid leakage and for shock absorption during transport

<table>
<thead>
<tr>
<th>Primary Container</th>
<th>Secondary Container</th>
<th>Outer Container/ Packaging Box</th>
</tr>
</thead>
</table>
| • Watertight and leak proof  
• Cap correctly and securely closed.  
• Keep in upright position during transport | • Watertight  
• Several clinical specimens in 1 secondary container  
• Containers have to be cleansed and disinfected if re-used  
E.g.: Disposable, zip-lock plastic bags; Large centrifuge tubes (50 ml) with screw caps | • Made of strong material that can be cleansed and disinfected  
• Should have the Biohazard warning label  
• A content list in a sealed plastic bag inside the transport box may also be included |
Absorbant packing material (Sufficient absorbant material must be placed between the primary and secondary receptacles)

1. Primary receptacle (leakproof, 95kPa)
2. Secondary receptacle (leakproof)
3. Outer container (w/list of itemized contents)
Category B, “650 package”
UN 3373
No biohazard label
Category A “602 package”
Labels: UN 2814  UN 2900  Biohazard
Transport Conditions

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Media</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal swab/Throat swab</td>
<td>VTM</td>
<td>2-8 °C</td>
</tr>
<tr>
<td>NPA/ swab</td>
<td>VTM</td>
<td>2-8 °C</td>
</tr>
</tbody>
</table>

- Transport the specimen immediately to Microbiology laboratory
Packaging & Transport

- Put the sealed samples in the thermacoal box/vaccine carrier with frozen ice packs.
- Put enough cotton and pack the samples.
- Seal the box with cellotape
- Label it as ‘Sample of COVID 19 patient’ with Biohazard sign.
- Send along with filled and complete requisition form.
Acceptance Criteria

• Ensure that the specimens are properly labeled with unique identification number and date
• Cross check the specimen label (unique identification number and date) with the request form
• Ensure that the specimen received is in good condition
• Record all primary specimens in the laboratory register/computer after receiving them in the laboratory
Rejection Criteria:

• Unsuitable Specimen for Procedure
  - Reject specimens which are **unsuitable** (e.g. leaking/broken specimen container) for the procedure requested or if the specimen has been in transit too long for a valid result.
  - Improperly or unlabelled.
  - With no or incomplete case sheet.
Handling of Specimen Leakage and Spillage

- Leaking specimens are hazardous to all staff involved in handling.
- Such specimens should be rejected or discarded.
- When leakage of fluid content to the outside of the outer container is encountered during transport within laboratory:
  - Report to laboratory staff immediately;
  - People in the vicinity should be alerted and instructed to stay away from the affected site;
  - The spill should be decontaminated as soon as possible according to the Spill Clean-up Procedure.
Spill Clean Up

• Decontaminate spills - 10% bleach after wiping the surface clean

• Place waste in leak-proof biohazard bags - ensure safe final management of waste (autoclaving)

• Protect cleaning personnel with PPE
Any person want to get tested for COVID-19

First call District CMO - CMO will collect and sent the sample to appropriate laboratory.
Some contact number
Central helpline number, +91-11-23978046 for COVID-19 related queries.

Uttar Pradesh Help line number: 18001805145
Email UP; ncov2019@gmail.com.
CMO Complaint Cell Helpline Number- 1076

MYGOV CORONA HELPDESK
WHATSAPP NUMBER
+91 90131 51515
PREPARE, DON'T PANIC
#IndiaFightsCorona
Coronavirus: What you need to do

Wash your hands

Use a tissue for coughs

Avoid touching your face

STAY SAFE DONOT PASS IT ON