



# Imaging of Covid-19 Patients- Do's for Radiographers

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# Setup Considerations

- All patients referred must be declared **Non Covid**, **Suspected** or **Confirmed Covid** category
- In screening area Consider each suspected patient as confirmed case and take precautions.
- Develop protocols as per need and resources available
- All staff must wear face mask all the time a
- Must ensure face masks for patients before entering in Radiology rooms
- Hand sanitation must be ensured by a dedicated worker



## .....Setup Considerations

- While performing any imaging you must use appropriate PPE (Personal Protective Equipment).. Do learn about Donning and doffing of PPE
- Wear lead apron inside the PPE if required, remember to disinfect after use.
- After imaging of each patient you must ensure change of required PPE eg. gloves, receptor cover etc. judiciously
- All covid patients should be clustered (suspected followed by confirmed) and equipment to be disinfected after imaging of such each cluster.



## ....Setup Considerations

- Institutions may consider assigned radiography & CT rooms or portable radiography units in ambulatory care facilities for use when chest X-rays are considered medically necessary.
- The surfaces of these machines must be cleaned
- Avoid the need to bring patients into other radiography rooms
- Must have standby arrangement in case of equipment failure



## .....Setup Considerations

- The air-flow in fixed X-ray, fluoroscopy or CT rooms etc. should also be considered before bringing in the next patient.
- Considering the air exchange rates, understanding that rooms may need to be completely avoided for few hours after imaging infected patients.
- All surfaces – used for imaging or scanning a patient suspected of COVID-19 infection should be environmentally cleaned and decontaminated by someone wearing proper PPE.



# Practice

- While doing radiography avoid unnecessary touching and staying near the patient.
- Prepare the room and staff in advance so as to minimize patient stay in the room
- Frequent infection control practice must be adopted
- Keep record of all patients and the staff present in the facility at any given time



# Steps for Portable Radiography...

1. Wrap machine with Linen and Radiographer in PPE
2. Wrap the receptor in double or triple plastic waste bag
3. Perform Radiography
4. Carefully unwrap the receptor outer cover and use another clean cover for next patient (incase more than one patient)
5. Remove linen from machine
6. Carefully Remove PPE and Take bath etc.
7. Disinfect machine in ward (by ward helper)

## ...Steps for Portable Radiography

8. Disinfect machine out of ward (radiography Helper) with 1% solution of Sodium hypochlorite
9. Carefully unwrap the receptor and disinfect (radiography helper) with 1% solution of Sodium hypochlorite
10. Wear - Mask, Glove, normal gown etc.
11. Take machine in Docking area & wrap machine with fresh linen
12. Its ready for next round of radiography



# CT - Tips

- CT should be sparingly used and reserved for indoor, symptomatic patients with specific clinical indications for CT.
- All abdomen CT patients - scan the lower chest from Carina onwards, if found suspicious for Covid-19, after the scan shut down the facility for disinfection and air exchange.
- Swab test of such patient to be done immediately and keep record of staff present.....
- All positive patients should be clustered and CT performed for all in one go preferably post lunch followed by Disinfection.
- Appropriate infection control procedures should be followed before scanning subsequent patients.

# CT –Disinfection

In case of any possible or confirm exposure to Covid

- Wipe equipment and accessories with detergent damp cloth (not dripping) followed by Wipe with non dripping 1% Sodium hypochlorite damp (not dripping) cloth (damp cloth wringed completely each time to ensure no water enters the machine)
- Clean entire CT room floors in the same manner
- Do fumigation with 20% bassishield for 30 minutes
- Close the room for 45 minutes
- Room floor should be wet cleaned and let it dry
- Ensure full air exchange
- .....Now its ready to use.



# CT- Radiographers management

- Two radiographers should be there one in gantry room and other in console room
- Both shall not mix or work / touch in each other's area.
- Gantry room Radiographer shall be assigned isolated sitting area
- Pressure injector should be used for all intravenous contrast injections for all CT patients to avoid console room staff entry in Gantry room



# Fluoroscopy procedures

- Before doing any fluoro-guided investigation or procedure take a chest image of each patient, if suspicious for covid must consider as positive patient.
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# MRI Procedures

- According to new guidance on the deployment of MRI during the pandemic ACR ([American College of Radiology](#)) advises to only use this modality for such patients “**where absolutely necessary**” and to postpone any non urgent MR studies.



# Ultrasound

- Should be minimized unless no alternative
- PPE must be used
- Keyboard etc. should be covered with disposable transparent plastic sheet
- Follow standard covid infection control guidelines
- Careful disinfection of Machine especially transducers and area is required



## Finally Must to follow...

- Ensure daily disinfection of potential covid exposure rooms as per fixed schedule
- Rest of rooms in department must be sanitized once in 3 days
- Minimize the footfall in covid service area
- Keep record of staff and visitors every day with their contact details in all Covid related imaging intervention area

# TDS....

**Lets Practice 'TDS' to fight Covid-19 also.**

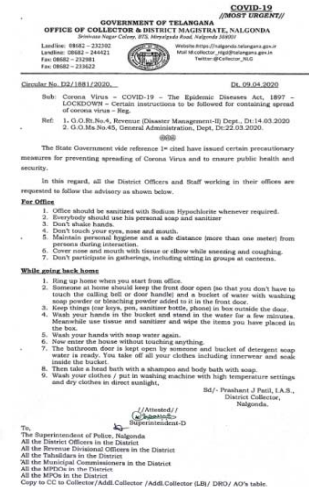
- **T...TIME...** Keep your potential exposure time to minimum i. e.. Go near and remain near patients for minimum duration and times.
- **D.... DISTANCE...** Maintain the maximum possible distance from each other. Don't limit to any given distance ...here also 'Inverse Square law' holds good.
- **S... SHIELDING...** Keep your self shielded appropriately i. e. Wear full covered cloths, use mask and/or other PPE as per requirement.



# Post duty When reach home

Follow these guidelines ( Issued byTelangana Govt....)

1. Ring up home when you start from office.
2. Someone at home should keep the front door open (so that you don't have to touch the calling bell or door handle) and a bucket of water with washing soap powder or bleaching powder added to it in the front door.
3. Keep things (car keys, pen, sanitizer bottle, phone) in box outside the door.
4. Wash your hands in the bucket and stand in the water for a few minutes. Meanwhile use tissue and sanitizer and wipe the items you have placed in the box.
5. Wash your hands with soap water again.
6. Now enter the house without touching anything.
7. The bathroom door is kept open by someone and bucket of detergent soap water is ready. You take off all your clothes including innerwear and soak inside the bucket.
8. Then take a head bath with a shampoo and body bath with soap.
9. Wash your clothes / put in washing machine with high temperature settings and dry clothes in direct sunlight,





Remember we have to serve with safety

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and

We have to be safe to serve

# Recommended

- For Donning and Doffing see this 15 minutes+ video from AIIMS New Delhi at :
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[https://youtu.be/mdrK\\_zhHD88](https://youtu.be/mdrK_zhHD88)



All India Institute of Medical Sciences  
New Delhi  
**DONNING TECHNIQUES**

अखिल भारतीय आयुर्विज्ञान संस्थान  
नई दिल्ली  
**पीपीई पहनने का तरीका**



1  
अभितगत सुरक्षा उपकरण  
Articles needed for donning



2  
अपना मोबाइल फोन, चड़ी, आभूषण और वॉलेट नाले जाए  
Don't carry your watch, jewellery, wallet and mobile



3  
जांच करें- पीपीई कट्टा या फटा न हो  
Do check for any tear, wear and appropriate size of PPE



6  
हैंड सनेटाइजर द्वारा हाथों को कीटाणुरहित करें  
Perform Hand hygiene



7  
दोनों जूते कवर (अंदर और बाहरी) पहनें  
Wear both shoe covers (inner and outer)



9  
हैंड सनेटाइजर द्वारा हाथों को कीटाणुरहित करें  
Perform Hand hygiene



10  
दस्ताने की पहली जोड़ी पहनें, आस्तीन को जहाँ तक संभव हो खींचें  
Wear first pair of gloves & pull the sleeves as far as possible



11  
गाउन पहनें और फिटनेस की जाँच करें  
Wear gown and check the fit



13  
N95 मास्क पहनें और नाक के पुल पर ठीक से फिट करें  
Wear N95 Mask and fit over the nasal bridge properly



16  
तेज फूकमार कर, सीक प्रूफ टेस्ट करें  
Perform leak proof test



17  
हुड पहनें और हुड को सिर के पीछे बांधें  
Wear hood with breather mask and tie the hood at the back of the head



19  
दस्ताने की दूसरी जोड़ी पहनें, इससे गाउन की आस्तीन कवर होना चाहिए  
Wear a second pair of gloves. It should cover the arms of the gown



21  
गाउन के फिटनेस की जाँच करें  
Check the fit of gown



23  
डोनिंग क्षेत्र से बाहर आने के लिए तैयार  
Ready to leave the donning area







## DOFFING TECHNIQUES



डॉफिंग रूम में एक कुर्सी, एक पीएमडीबी डिस्पेंसर और एक स्वचालित हैंड्रब नरीन होना चाहिए  
Doffing room should have a chair, a BMW  
bin and an automatic hand rub dispenser



पीपीई में फिसली भी फटे और संदूषण के लिए जांच करें  
Check for tear and exposed body parts



बाहरी दस्ताने कीटाणुरहित करने के लिए हैंड्रब का उपयोग करें  
Disinfect the outer gloves with alcohol based hand rub



गंदी कुर्सी पर बैठें और जूते का कवर हटा दें  
Sit on dirty chair and remove the shoe cover



आगे झुकें और सिर की टोपी निकालें  
Remove the hood away from the body



अंदर के दस्तानों को कीटाणुरहित करें  
Disinfect the inner gloves



दोनों हाथों के अंदर के दस्ताने का निरीक्षण करें  
Inspect both sides of inner gloves



बाहरी दस्ताने निकालें  
Remove the outer gloves



हैंड्रब द्वारा बाहरी दस्ताने कीटाणुरहित करें  
Use alcohol based hand rub to disinfect the outer gloves



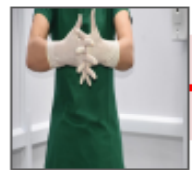
अंदर के दस्तानों को कीटाणुरहित करें  
Disinfect the inner gloves



कमर के स्तर से खींचकर गाउन निकालें, आस्तीन से एक समय में एक हाथ खींचें, गाउन को अंदर से बाहर और शरीर से दूर रोल करें और फुड़दान में फेंक दें  
Remove the gown by pulling from hip level, pull one arm at a time from the sleeves and roll it inside out away from the body. Discard into dustbin



अंदर के दस्तानों को कीटाणुरहित करें  
Disinfect the inner gloves



दस्ताने को कीटाणुरहित करें  
Disinfect gloves



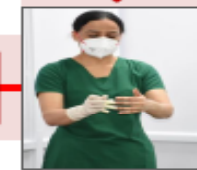
N95 मास्क निकालें  
Remove N95 mask



नये दस्ताने पहनें  
Put a fresh pair of gloves



हैंड सनेटाइजर द्वारा हाथों को कीटाणुरहित करें  
Perform hand hygiene



अंदर के दस्ताने हटा दें अपने हाथों को दूषित न करें  
Remove the inner gloves. Do not contaminate your hands.



जूतों को तले सहित सनेटाइजर द्वारा कीटाणुरहित करें  
Disinfect shoes along with sole with alcohol based rub



दस्ताने को कीटाणुरहित करके निकाल दें  
Disinfect and remove gloves



हैंड सनेटाइजर द्वारा हाथों को कीटाणुरहित करें  
Perform hand hygiene



स्क्रब के पट्टे/दूषित होने की जांच करें  
Check the scrub for tear & contamination



सिर से पैर तक स्नान करें  
Proceed for a head to toe shower



Wishing you safe Imaging ....

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Thank you

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