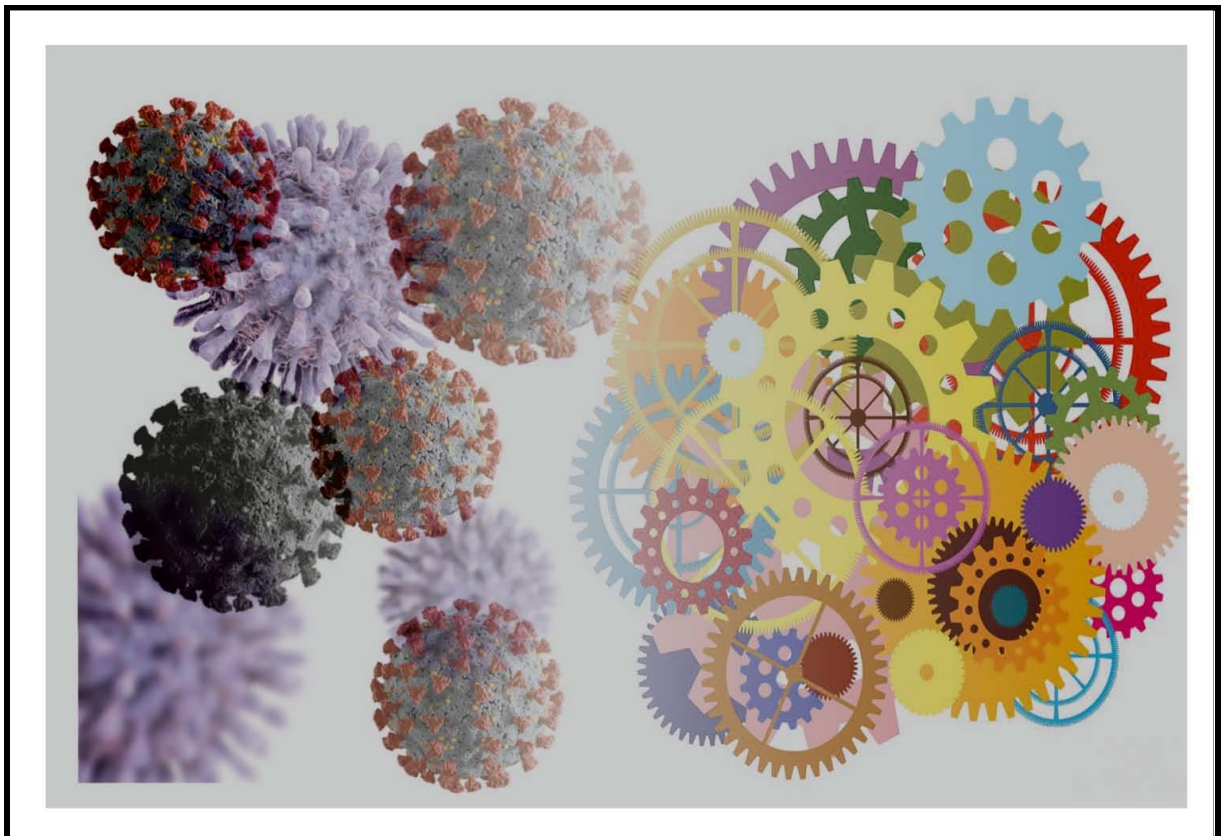

IAOH Guidance Document Beyond Flattening the Curve: Post-COVID-19 Safe Return to Workplace

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Indian Association of Occupational Health

IAOH Guidance Document

Beyond Flattening the Curve: Post-COVID-19 Safe Return to Workplace

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Disclaimer: These are general guidelines aligned with recent understanding of the pandemic. Please refer to the updated local governmental guidelines and advisories. Specific information can be availed by writing at iaohmumbai@gmail.com.

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Indian Association of Occupational Health



Indian Association of Occupational Health

- Founded as Society for the Study of Industrial Medicine of India on July 9, 1948. It was renamed as the Indian Association of Occupational Health (IAOH) in the seventies, now popularly called IAOH.
- It is the largest professional non-governmental not-for-profit organization in the country active in the pursuit of best practices and promotion of health & safety at workplace; presently having more than 3000 members in 22 branches across the country.
- It comprises of technical and academic experts and heads of Occupational Health services of large national & multi-national corporations.
- IAOH continues to provide scientific knowledge and guidance to industries on problems of occupational health & hygiene. Backed by years of experience of organising CMEs; Branch, Regional and National Conferences over seven decades.
- Several members have served on boards of IAOH, ICOH, MEDICHEM.

Indian Association of Occupational Health - Mumbai Branch Initiative

- As we look toward life after the worst of the COVID-19 coronavirus pandemic, gradually, business recovery will be paramount. This includes assessing business operations, bringing employees back to work, and ensuring a safe workplace. Even if these steps are variable, depending on region, type of industry, and external COVID status, and could be further in the future for some employers than others, the time to begin thinking about these issues is NOW. There comes a whole new set of modifying workplace, modifying processes, partial presentism, labour and employment challenges.
- Indian Association of Occupational Health - Mumbai Branch (IAOH-Mumbai) wants to help navigate you through Post- COVID-19 opening of to assist your business as you plan to get back to full strength, particularly focusing on Employees Health Security.
- This guidance document has been prepared after careful study of the local epidemiology of COVID-19 and global literature to address the issue of managing return to workplace and help plan businesses' next steps once lockdown measures start easing.
- With the current knowledge it is difficult to predict end of this pandemic and it is essential to understand that living with COVID-19 is a reality to be accepted. As the nature of any relaxation of restrictions may be diverse and subject to nature of transmission of the disease in the area, it would make sense for organisations to consider all the options and develop capability to mitigate the risks.



On 31 December 2019, the office of World Health Organization (WHO) in China was informed about the detection of cases of pneumonia of unknown aetiology in Wuhan City and Hubei Province of China. By 3 January 2020, a total of 44 patients with pneumonia of unknown aetiology were reported to WHO by the national authorities in China. On 30th January 2020 the WHO declared the outbreak as a Public Health Emergency of international concern and on 11th February 2020, WHO announced the name of the new Corona Virus disease: COVID 19. At the end of May 2020 over 6 Million people were diagnosed with COVID 19 and 35 Lakh people lost their life globally. The COVID 19 has affected in 185 countries.

The Corona Virus has created a huge impact globally, since major of the countries have sealed their border the global trade and commutation has come to a standstill and has led to an economic slowdown globally. Amidst this pandemic global health experts and scientist have stated their efforts for the development of vaccine to combat this virus.

India reported the first confirmed case of the Corona Virus infection on 30th January 2020 in the state of Kerala. Since the number has of COVID 19 in India are on a rise, the state of Maharashtra has been badly affected and has the highest number of cases. At the end of May 2020 2 lakhs cases were detected in Indian and out of with 70 thousand case are from Maharashtra.

Global voluntary organizations have come forward to strengthen the governments of various countries in the fight against COVID. Indian Association of Occupational Health (IAOH) is India's leading voluntary organization working in the space of enhancing occupational health and wellbeing and has dedicated itself to combat the Corona Virus in India through its network of more than 3000 occupational health specialists. Once such initiative of IAOH India Initiated by Mumbai Branch of IAOH is this IAOH Guidance Document "Beyond Flattening the Curve: Post-COVID-19 Safe Return to Workplace".

This Guidance Document is prepared by Dr. Suvarna Moti with Contribution of IAOH Mumbai Branch Task Group led by Dr. Divyang Shah, guided by the senior member of IAOH India Dr. Ramnik Parekh, Dr. S M Shanbhag and Dr. T Rajgopal.

We hope this guidance document shall help the industries in development of plans for combating COVID 19 at workplace after they reopen.

Dr. Sidram K Raut
National President
Indian Association of Occupational Health



Executive Summary

The world of work is severely affected during the novel coronavirus disease 2019 (COVID-2019) pandemic. Therefore, all sections of society – including businesses, employers and social partners – must play a role in order to protect workers, their families and society at large. The nature and extent of the restrictions moot to maintaining physical distancing of at least six feet have emerged from the lockdowns in place. Substantial proportion of workers either have to work from home or cease work during such a complete cessation of major proportion of economic activity, especially manufacturing and service industry.

Once the physical distancing measures achieve a sufficient reduction in community transmission rates of COVID-19, gradual resumption of work activities is being authorised. The document offers insights into how the resumption of work can be strategized basis some trigger criteria viz. *External Health Factors*: trajectory of New & active COVID-19 cases, recovery rate, deaths in the city/state/country; *Local hospital resources*: beds & ICU beds, testing capability, and *Internal trigger criteria*: Business preparedness action plans, employees' physical and mental health and readiness etc. to make the determination about your risk level and to what extent you can start operations, following a phased return to workplace approach through few industry examples.

The identification and assessment of risks in both physical and psychosocial working environments is the starting point for managing occupational safety and health (OSH) under COVID-19 measures through risk assessments, workplace audit and reinduction processes for a changed working scenario. The importance of involving workers and their representatives in the risk assessment revision under guidance from occupational health services is vital with up to date information from the public authorities on the prevalence of COVID-19 in the area. Having a communication strategy addressing the employee's anxieties for working in this transitional phase, their security and wellness is crucial for such a transition. Identifying and staggering the vulnerable employees' return during the easement is an important step to minimise exposure.

The document has enumerated measures for employee protection and maintenance of hygiene at workplace at length inclusive of the advisory of entry health assessment through self-declaration form, usability of temperature screening, disinfection and guidelines on use of PPE for diverse employee groups, indoor air quality and air conditioning, temporary isolation rooms, contact tracing, Hands only CPR process etc. focussing and emphasising enterprises' commitment to minimisation of exposure to COVID-19 at workplace. Some workplace related scenarios for employees with COVID history for decision-making regarding fitness to work have been described here.

It would be advisable to consider deferring Periodic Medical Examinations till the time the transmission rates decline significantly or suggest dropping spirometry examinations while certifying fitness to work for confined space. The issue of fitness to work for contractual workforce has been discussed at length. Sections pertaining to mental health and working from home, food operations have been discussed with some remedial measures.

The guidelines offer advice on requisite processes for employers and enterprises to initiate gradual and safe return to workplace while reinforcing the commitment to employee health and wellbeing through policies and measures building organisational resilience.



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1.0 About COVID-19

Novel coronavirus, COVID-19

- COVID-19 is a new strain of coronavirus first identified in Wuhan City, China in December 2019. Currently, the incubation period of COVID-19 is assessed to be between 2 and 14 days. The following symptoms may develop within 14 days after exposure to someone who has COVID-19 infection:
 - Fever
 - dry cough
 - difficulty in breathing
 - tiredness
 - loss of taste and smell
 - sore throat
 - headache
 - Generally, these infections can cause more severe symptoms in people with weakened immune systems, older people, and those with long-term uncontrolled conditions like diabetes, hypertension, cancer and chronic lung disease.
 - Droplets produced when an infected person coughs or sneezes containing the virus are the main means of transmission.
 - There are two main routes by which people can spread COVID-19:
 - infection can be spread to people who are nearby (less than six feet) through inhalation
 - someone may become infected by touching a surface, object or the hand of an infected person that has been contaminated with respiratory secretions and then touching their own mouth, nose, or eyes (such as touching doorknob or shaking hands then touching own face)
- Therefore, regular hand hygiene and cleaning of frequently touched surfaces helps to reduce the risk of infection.

2.0 Return to Workplace

The re-start of economic activity should be phased in, thus ensuring that authorities and businesses can adequately adjust to increasing activities in a safe way.

Considerations for transitioning to return to workplace

- Business operation decisions should be based on both the level of disease transmission in the community, resilience of public health and health systems coupled with readiness to protect the safety and health of employees and customers.
- Businesses and employers are encouraged to coordinate with state and local health officials to obtain timely and accurate information to inform appropriate responses. ([See Appendix 1.](#))

2.1 When to Open Workplace?

Phase One is recommended to be implemented when three factors are met.

1. there needs to be a downward trajectory of influenza-like illnesses and COVID-like syndromic cases reported in the area within a 14-day period.
2. Second, there needs to be a downward trajectory of documented cases and positive tests as a percentage of total tests within a 14-day period (with a flat or increasing volume of tests).
3. Third, the area hospitals need to be in a position to treat all patients without crisis care and have in place a robust testing program in place for at-risk healthcare workers.

During Initial Phase, employers are recommended to follow five steps:

1. Continue to encourage remote work and telework whenever possible and feasible.
2. If possible, return to work in staggered manner.
3. Close common areas where personnel are likely to congregate and interact; or enforce strict social distancing protocols.
4. Minimize non-essential business travel and adhere to guidelines regarding isolation following travel.



5. Strongly consider **special accommodations** for workers who are members of a **vulnerable population**. For purposes of this guidance, these include elderly individuals and those with serious underlying health conditions, including uncontrolled high blood pressure, uncontrolled diabetes, chronic lung disease, obesity, asthma, and those whose immune system is compromised such as by chemotherapy for cancer and other conditions requiring such therapy.

FAQs: Workplace Readiness

- Have key stakeholders been engaged in return to workplace plans/planning (businesses, local government, unions/works councils, tenants, contractors, etc.)?
- Is there a plan for routine monitoring of return to workplace?
- Is there a plan for periodic status updates to employees and key stakeholders?
- Is there a plan for responding to any new reported COVID-19 cases on site?
- Have critical roles/skills, functions or requirements been identified for return to workplace?
- Have safety plans and expectations been established that align with the return to workplace plan (i.e., leadership oversight, observation/ intervention, recognition of potential distractions, updated PPE grids, etc.)?
- Are there other planning situations that need to be considered in return to workplace (i.e., tenants, turnarounds, deferred maintenance, regulatory requirements, licensing, hurricane season, etc.)?

2.2 General Return-to-Work Principles

- Employers should consider planning for staged return to the workplace over what could be prolonged periods fully adhering to the organisational policies of being humane, taking care of health and well-being of the people and ensuring strict compliance with safety norms especially, in view of the recent chemical disaster at Vishakhapatnam.
- There is bound to be concern and anxiety among employees about being in workplaces or travelling to workplaces. They will want to know that their organisation is retaining their support for physical and mental health and is amenable to changing work patterns namely, flexible and remote working.

Phasing of Employees Called to Work¹

LEVELS	1	2	3	4
	Return to near normal operations. All employees that can be accommodated by following Social Distancing norms can be called to work	Most of the employees excluding vulnerable ones can be called to work	Critical employees required for important operations to be called. Others to Work from Home. Vulnerable Employees to stay at home.	Conditions are not favourable to start the facility and work should not be started . If already started shutting down the facility should be considered.

¹ Courtesy Dr Shrinivas Shanbhag



When Employees Can Come to Work?

Examples of best practices from Unilever and Dow are mentioned here for reference.

Best Practice Example - Dow²

External Trigger Criteria	Internal Trigger Criteria
Local governments have removed or eased the stay-at-home/work-from-home orders for noncritical-to-operations personnel	Business conditions support restaging/ increasing the workforce
Evidence of decreased incidence and distribution of COVID-19 illness within the region/sub-region/local area	Business/function/site level plans exist for phases of increasing site population
Primary Criteria - Virus Case doubling rate is greater than 30 days (3 day moving average)	Site workforce is mentally and emotionally ready to begin the process of return to workplace
Supporting Criteria - Death rate is below 2.5/ million/day	Adequate supplies of PPE exist on site for increased workforce (i.e., masks, face shields, gowns, gloves, etc.)
Supporting Criteria - New case rate is below 40 cases/million/day	Cleaning/disinfection plans have sufficient workers and resources to execute; with greater frequency and depth at earlier phases of return to workplace
Supporting Criteria - COVID-19 death rate is <10% of the peak COVID-19 death rate	Isolation protocols exist and remain in place for managing any subsequent pandemic waves
The Health System is able to treat all patients requiring hospitalization without resorting to crisis standards of care	Process to manage exceptions for return to workplace is defined (i.e., for caregivers, personnel considered at risk, etc.)
The Health System is able to test all people with COVID-19 symptoms	
The Health System is able to conduct active monitoring of confirmed cases and their contacts	

Best Practice Example – Unilever³

Unilever Criteria on Employees Coming to Work and Easement of Tiers are being shown here to indicate how Enterprise COVID Intensity Levels can be formulated.

Indicator type	External factors	Internal factors
Epidemiological factors	<ol style="list-style-type: none"> Confirmed case numbers Rates of hospitalisations and ICU admissions Numbers of deaths Proportion of tests that are positive The use of R₀ where available to determine viral transmission 	<ol style="list-style-type: none"> Absenteeism through sickness Absenteeism through quarantine / shielding Symptom monitoring
Health care factors	<ol style="list-style-type: none"> Hospital beds capacity Critical care (ICU) capacity 	
Public Health Capacity	<ol style="list-style-type: none"> Testing capacity (RT-PCR) Serology (Antibody testing) when reliability is endorsed by WHO 	
Availability of effective pharmaceutical interventions	<ol style="list-style-type: none"> Drug treatment Vaccine availability 	Treatment and vaccination available for employees

² Courtesy Dr Ashish Mishra, Dow. Finding a Way, #DowStrong. Return to Work Playbook, May 13, 2020

³ Courtesy Dr T Rajgopal, VP, Global Medical and Occupational Health, Unilever. "These criteria are intended for Unilever internal purposes only and is created based on a risk assessment of our own operations, it is updated from time to time. It is provided only for information as a template not in the provision of advice on COVID-19 management. You should make your own assessment of what is necessary for your operations, considering local laws and advice from relevant health authorities. Unilever accepts no liability for any losses and damages you may suffer in connection with your usage of this information".



Elements to be Evaluated to Ease the Tier Level

Internal Health Indicators	Confirmed employee cases (subject 0)	No employees reporting symptoms suggestive of COVID-19 through symptom checking	Only occasional employees reporting symptoms suggestive of COVID-19 through symptom checking	Moderate levels of employees reporting symptoms suggestive of COVID-19 through symptom checking	High level of employees reporting symptoms suggestive of COVID-19 through symptom checking	
	Symptomatic subjects	Normal level of sickness absenteeism for the time of year in that country	Normal level of sickness absenteeism for the time of year in that country	Pockets of absenteeism due to sickness, often with underlying common factors connecting the absent employees	High level of sickness absenteeism	
	Close contacts of confirmed case (Subject 1)	No absenteeism related to quarantining or shielding	Low levels of absenteeism related to shielding rather than quarantine	Moderate levels of absenteeism due to quarantine and shielding	High level of absenteeism due to employees in local quarantine and shielding	
	TIER	1	2	3	4	
External Health indicators	WHO transmission status	No new cases	Sporadic cases	Clusters of cases	Community transmission	<p>The highest scoring component that sets the overall factor score. Example: tests available for all (2) but shortages of ICU beds (4) means community health factor = 4</p>
	Availability of published R0	0	Available and below 0.7	Available and between 0.7-1	Available and Above 1	
	Hospital Capacity	Hospitals have sufficient capacity to treat COVID-19 without cancellation of routine care	Hospitals have sufficient capacity to treat COVID-19 cases with cancellation of some non-urgent care	Hospital capacity under strain with cancellation of most non-urgent care	Local healthcare critical care capacity under strain, with cancellation of care for non-COVID-19-related conditions	
	Testing Capacity	Testing capacity remains available & in use for suspected cases & contacts	Very few positive tests as % of total tests (with flat or increasing test capacity)	Reducing positive tests as % of total tests (based on a flat or increasing testing capacity)	Testing reserved for high priority groups: hospital patients and front-line healthcare staff	
	National trajectory new cases	National trajectory of case numbers has declined to zero over previous 14 days	National trajectory of case numbers has declined to under 10 cases per day over previous 14 days	National trajectory of case numbers has been declining over previous 14 days	National trajectory of new case numbers has been increasing / stabilising over previous 14 days	



	National trajectory of deaths	National trajectory of deaths has been declining over previous 14 days / reached zero	National trajectory of deaths has been declining over previous 14 days	National trajectory of deaths has been declining over previous 14 days	National trajectory of deaths has been increasing over previous 14 days	
	TIER	1	2	3	4	
Market Factor	Public Transportation	Operating normally - no physical distancing required - no masks needed	Country has lifted most of the restrictions. Countries may require to use mask Countries may not require to apply physical distancing if not practically possible.	Country has lifted some restrictions. Country may require use of masks while using public transportation Countries may implement physical distancing on public transportation.	Country still in lockdown. Transportation can be used only for those allowed to move	The highest scoring component that sets the overall factor score. Example Public transportation 2 and physical gathering at 3 -> Public condition factor = 3
	Social gathering places (e.g. Shops - School - Businesses Cinema - Restaurants)	Open as normal	Open with some measures still in place (either physical distancing or use of masks)	Restricted opening, with physical distancing and use of masks required and limits on numbers/types of operation (e.g. delivery only)	Only essential businesses open	
	TIER	1	2	3	4	

Note: 21 Day time frame allows sufficient time to assess the full impact of changes in community and/or public factors and to prevent rapid swings backwards and forwards between tiers if social measures are reapplied quickly and/or disease transmission increases. Enterprise COVID Intensity Level should be reduced 21 days after government restrictions have been lifted AND Health & Other External Factors are one Level lower than current country Level. e.g.: week 18 External Health factor = 3 + Other External factor = 3 then after day 22, ECIL can be eased down from Level 4 to Level 3.



Pre-Opening Employee Health Assessment

- It will be vital to ascertain the exact health status of every employee before he is formally advised to come to work; particularly about COVID infection, having symptoms, his comorbidity, contact with a COVID case and COVID indicators from his area of residence.
- Employer will also need to assess the COVID Spared Indicators in the area of each employee.
- Self-Assessment and Declaration Form should be sent via any communication channel, [e.g. e-mail, WhatsApp]

Phased Approach recommended with strong focus on Phase 1

Key Considerations	Phase 1	Phase 2	Phase 3
Who returns to work	Individuals who by returning to work provide critical support to essential teams	Individuals who by returning to work can now perform their role to the full scope	All individuals with the exception of those who self-identify as high-risk or who by medical standards are deemed high-risk
Social distancing	Strict	Heightened	Relaxed
PPE	Location specific	Location specific	Location specific
Cleaning & Hygiene	Rigorous	Rigorous	Enhanced
Gate/Entry Protocol	Temp screening, questions etc	Temp screening, questions etc	Moderate
Common areas such as Cafeterias	Closed or Take-n-Go only	Take-n-Go or Staggered approach to limit occupancy	Staggered approach to limit occupancy, if needed
Conference rooms	Limited to those rooms where physical distancing can be observed	Limited to those rooms where physical distancing can be observed	Open
Visitors	Severely restricted	Restricted	Monitored

2.3 Reopening Operations

Preparing people for new ways of working in post-COVID 19 situations⁴

Occupational Health function is an important function in an enterprise (plant level to corporate level) to influence the safe work environment. Apart from employees, various other stakeholders like managements, staff unions, HR, safety, contractors and lastly, families of staff will need to be included in the scope.

2.3.1 Risk management approaches

- Employers will need to consider detailed health and safety risk management approaches in close collaboration with safety and occupational health teams and advisories by state health authorities.
- Risk assessment of the changed workplace scenario should factor probabilities of COVID risk in daily workplace operations.
- Involve workers and their representatives in the risk assessment revision.
- Risk assessment can be **process risk evaluation or task-based health risk assessment**; factoring in excess risk due to COVID exposure backed by an action plan.
- Pay special attention to workers who are at high risk and be prepared to protect the most vulnerable and pregnant workers.
- Workplace risk assessment for exposure to COVID and planning for preventive measures for jobs
 - *Low exposure risk* – jobs or work tasks without frequent, close contact with the general public and other co-workers, visitors, clients or customers, or contractors, and that do not require contact with people known to be or suspected of being infected with COVID-19
 - *Medium exposure risk* – jobs or work tasks with close, frequent contact with the general public, or other co-workers, visitors, clients or customers, or contractors, but that do not require contact with people known to be or suspected of being infected with COVID-19.

⁴ Courtesy Dr Ajay Deshpande, Shell



- *High exposure risk* – jobs or work tasks with high potential for close contact with people who are known or suspected of having COVID-19, as well as contact with objects and surfaces possibly contaminated with the virus
- Risk assessment should be carried out for each specific work setting and each job or group of jobs.
- Some critical functions require manning by vulnerable personnel who can be accommodated by special isolated work cabins, accommodation on campus or other similar living arrangements proximate to workplace with fully employed risk mitigation measures.

2.3.2 Workplace audit

- Review the workplaces and consider whether staff can maintain a six feet physical distance between each other in workplaces; how to manage meetings, interviews and other interactions and distancing to be maintained in communal areas such as canteens or kitchen areas.
- Carry out adaptations to the layout of the workplace and the organisation of work that will reduce COVID-19 transmission before resuming work fully and before all workers return to the workplace. Consider resuming work in stages to allow adaptations to be carried out.

2.3.3 Re-orientation/Re-induction process

Communication strategy

It would be a good idea to constantly communicate with employees, through the lockdown, and even share with them return to workplace plan to gain trust.

- Maintain clear communication around the health and safety measures the company will be putting in place.
- Solicit the cooperation of the workers' union in preparedness planning. Communicate with them about the preventive steps being taken by your company towards mitigating the consequences of the pandemic at workplace. This will send a message of participatory management of the crisis. A union representative should be a plant based task force member like site safety committee. Invite their suggestions and respect their views. Active and collaborative participation from workers' union will help in smooth and seamless start up activities and stabilisation of operations & construction activities. Involvement of Opinion makers in the Task Force will go a long way in instilling confidence and maintaining discipline in the workforce.
- The business should operate a phased approach for returning to work; companies will need to have effective internal communication, particularly on the impact of protection measures.
- As the situation on COVID-19 is constantly changing, providing regular updates to workers about the status of COVID-19 will help them to feel informed and well supported, and in return, stay motivated to assist and adapt through this challenging time.

Employers should:

- identify a point person or team to take the lead on communicating on COVID-19
- keep up with the latest information from national and local authorities
- regularly provide up-to-date and reliable information to workers
- clarify and communicate the company's procedures and policies, including for flexible work arrangements, remote working, absence, sick leave, annual leave, redundancy, etc.

Communication checklist⁵:

Below are some common communications that may come handy and can be prepared for use.

Note: Ensure and verify information and communication channels with public health and health care authorities.

- Health newsletters
- Company efforts: Information about Safety measures taken towards employee health and safety
- Posters on safe and healthy behaviours in the workplace/ washrooms

⁵ Courtesy Dr Shyam Pingle, IIPH & PHFI. Health & Safety Handbook for the Workplace, An employer's guide for post-lockdown operations in non-healthcare setting. 2020



- ❑ Safety rules/ Do's & Don'ts: Cafeteria schedules, meeting rules, general and employee group-specific guidelines specific to their occupational health risk (e.g. sales, front-line staff etc.)
- ❑ Wellness programs
- ❑ Insurance and employee benefits
- ❑ HR Policy: Any considerations around COVID-19 and flexible leave, sick leave etc. including how emerging COVID-19 cases will be handled in the workplace
- ❑ Updates on COVID-19 cases in the workplace & Caution to high/low risk contacts

Re-induction process

- The changed workplaces and patterns of work necessitate a re-orientation or re-induction process for returning staff.
- Managers need to have a sensitive and open discussion with every individual and discuss any adjustments and/or ongoing support they may need to facilitate an effective return to the workplace.
- Provide employees with introduction to new procedures and training, if necessary, before they resume work.

2.3.4 Psychosocial Support/ Employee Assistance Program

See the session on [Mental Health](#)

2.4 Entry of employees

Employee Health Security While Commuting

- Download *Aarogya Setu* App on compatible mobile phones. It helps in identifying high risk people in a defined geographical radius.
- Use personal /company provided vehicles only. Use non-AC vehicles as much as possible.
- Maintain social distancing while waiting for bus /cab.
- Wear cloth masks/face covering before boarding and while commuting.
- Use sanitizer while boarding and deboarding. Hand Sanitizer should be available in company owned bus & cabs.
- Follow staggered seating if using company bus / cab (max occupancy 40 %)
- Company bus/ cab chauffeurs need to use hand sanitizer while boarding and deboarding and use face cover.

Entry Point Health Assessment

- Daily mandatory temperature testing: Use non touch infrared thermometers or thermal scanners. Any such screening should be implemented on a non-discriminatory basis. The identity of employees exhibiting fever (>100.4 °F / 38 °C) or other COVID-19 symptoms should only be shared with members of company management with a true need to know.
- Process of self-assessment and declaration at the entrance of the site.
- List of comorbidities should be decided by the enterprise, indicative one would be : Uncontrolled Diabetes Mellitus, Uncontrolled Hypertension, Heart Diseases, Lung Diseases (COPD, asthma), Cancer, conditions with immunosuppression (HIV AIDS, bone marrow transplant), dialysis and kidney diseases, liver disease, diseases of spleen.
- A consent for data sharing with company for complying with govt directive and a disclaimer, should be included in the form to be signed by the person.
- Organizations must ensure compliance to requirements of data storage and access while implementing this process; may be addressed through a policy support from HR.



Early identification of suspected cases is critical to containing the spread. These are some ways to identify symptoms early on:

- Daily mandatory temperature testing for fever at entry points
 - Regular self-declaration of good health
 - Early self-reporting by employees on any COVID symptoms- fever, cough, loss of taste & smell, shortness of breath or difficulty breathing
 - Reporting of any members of the household testing positive for COVID-19
 - Reporting of any contact with a COVID-19 diagnosed patient/ body
-

Sanitation or disinfection tunnels

Precautionary measures are to be adopted while using chemical disinfectants for cleaning – like wearing gloves during disinfection. **Spraying of individuals or groups in such tunnels is NOT recommended under any circumstances.** Spraying an individual or group with chemical disinfectants is physically and psychologically harmful.

2.4.1 Use of Aarogya Setu App

All employees/workmen should be encouraged to use **Aaryoga Setu** app on their mobile, wherever possible. (<https://www.mygov.in/aarogya-setu-app/>). Mobile data, Bluetooth and location settings to be kept 'ON' from the time of leaving the residence and in the premises / work area till the time employee/workmen reaches back home

2.4.2 Temperature check for employees

Screening employees' temperatures will not completely mitigate the risk of contagion, as some people with COVID-19 do not have a fever (100.4 °F /38 °C) and may also otherwise be contagious without experiencing any symptoms.

- Train personnel about the control measures to be used at temperature checkpoints.
- Provide face mask and gloves to record the body temperature with touchless thermometers.
- It is best to use touchless thermometers (forehead/temporal artery thermometers)
- Consider installing thermal scanners / chambers wherever you expect a high flow of workmen

2.4.3 Testing for COVID-19

Testing of employees should be advised only for symptomatic employees and high-risk family contacts of COVID positive persons with RT-PCR having specificity of 100%. Follow latest guidelines from ICMR or local health authority.

2.4.4 Contact Tracing

- A contact of a COVID-19 case is any person who has had contact with a COVID-19 case in previous 2 days i.e. within 48 hours before the onset of symptoms of the case to 14 days after the onset of symptoms.
- Public health authorities will carry out contact tracing and organizations must assist as much as possible.



Classification of contact based on level of exposure

High-risk exposure (close contact):

- Touched body fluids of the patient (Respiratory tract secretions, blood, vomit, saliva, urine, faeces)
- Had direct physical contact with the body of the patient including physical examination without PPE.
- Touched or cleaned the linens, clothes, or dishes of the patient.
- Lives in the same household as the patient.
- Anyone in proximity (within 3 ft) of the confirmed case without precautions.
- Passenger in proximity (within 3 ft) of a conveyance with a symptomatic person who later tested positive for COVID-19 for more than 6 hours.

Low risk exposure:

- Shared the same space (Same class for school/worked in same room/similar and not having a high-risk exposure to confirmed or suspect case of COVID-19).
- Travelled in same environment (bus/train/flight/any mode of transit) but not having a high-risk exposure.

- **What to do once contacts are identified?**
 - Monitor people at high risk of infection at least once a day. Check for symptoms for up to fourteen days (maximum incubation period). If the contact repeats exposure, the monitoring period is extended as it resets to day one.
 - Sick contacts should not visit medical facilities unannounced, as it puts others at risk of infection.
 - High-risk exposure contacts will be actively monitored by public health authorities, with home quarantine for 14 days and testing
 - Low-risk exposure contacts should self-monitor for symptoms while observing physical distancing measures and should be monitored at work.
 - If symptoms of illness occur, contacts should immediately self-isolate and seek medical advice, preferably by phone first, always following recommendations of the national/local authorities through COVID-19 helpline number (1075)

2.5 Employee Protection & Hygiene Measures

The implementation of safe work practices to limit exposure to COVID-19 at work requires implementing the hierarchy of controls. Start first with collective measures and supplement them with individual measures, such as personal protective equipment (PPE).

Depending on the nature of business and its operations, make a cohort of employees to physically work in the office while others continue to work remotely, and then switch them around, for designated periods of time.

Social Distancing & Modifications at Work

- Designate six feet of distance between people where queues are likely to form, such as near entrances, timeclocks and in cafeterias.
- Remote meeting facilities and video conferences should be encouraged wherever possible to minimise the need for staff to travel. Limit in-person meetings to a small number of attendees.
- Curtail visitor access to the workplace. Introduce visitor self-screening questionnaire.
- If possible, deliver services remotely instead of in person.
- If possible, ask vulnerable workers to work from home (older people and those with chronic conditions and pregnant workers).
- Eliminate, and if not possible limit, physical interaction with and between customers. For example, through online or phone orders, contactless delivery or managed entry (while also avoiding crowding outside), and physical distancing both inside and outside the premises.
- When delivering goods, do so through pick-up or delivery outside the premises.
- Manufacturers may consider staggering shift times and meal and rest breaks while maintaining compliance with law requirements.



- Facilitate workers' use of individual rather than collective /pool transport, for example by making available car parking or a place for storing bicycles securely, and encouraging workers to walk to work, if possible.
- Require employees to practice social distancing at work. This can include staying at least six feet apart, limiting the number of occupants in offices and/or elevators, requiring office doors to remain closed when occupied, closing lunch and break areas, and restricting occupancy and spacing.
- Portion of the tables or chairs in a cafeteria may need to be rearranged / removed.
- Closing certain stalls/urinals in the restroom to create adequate distance between individuals.
- Ensure there is only one worker at a time in bathrooms and changing rooms.
- Prop open doors to reduce touching of handles.
- Install glass or plexiglass barriers where people have to meet to talk and exchange documents or materials, including at secretarial workstations and customer service desks.

Hygiene Measures

- Employees should be advised to wash their hands and wear masks before leaving their residence, during travel and at work.
- Identify and procure PPE (See Section 3.5). Calculate number of people, daily requirement for 6 days a week for 6 weeks - stocks have to be there before commencing operations.
- Supply soap and water or appropriate hand sanitiser at convenient places Maintain sufficient supply.
- Provide training to all cleaning /housekeeping staff on-site before assigning cleaning tasks.
- Carry out a deep-clean of the closed premises before reopening.
- Schedule frequent and regular cleaning of high-traffic areas like shared equipment, timeclocks, kitchens and cafeterias, water coolers, doors, bathrooms and copy machines.
- Clean premises frequently, especially counters, door handles, tools and other surfaces that people touch often and provide good ventilation if possible.
- Avoid excessive workload on cleaning staff by taking appropriate measures, such as assigning additional staff to the tasks and asking workers to leave their workspace tidy.
- Provide workers with tissues and waste bins lined with a plastic bag so that they can be emptied without contacting the contents.
- Delivery workers must be allowed to use facilities such as toilets, cafeterias, changing rooms and showers, albeit with the appropriate precautions (such as allowing only one user at a time and regular cleaning).
- For electronics—such as tablets, touchscreens, keyboards, remote controls and ATMs—consider using wipeable covers. If there are no manufacturer's instructions for cleaning and disinfecting electronics, use alcohol-based wipes or sprays containing at least 70% alcohol and dry the surfaces thoroughly.
- Ensure workers are trained on the hazards of the cleaning chemicals being used in the workplace.

PPE being used for protection against COVID exposure, under no circumstances should substitute PPE for protection against occupational hazards. These should be used as mutually complementary PPE.

2.6 Indoor Air Quality

- Refer the ISHRAE COVID-19 Guidance Document for Air Conditioning & Ventilation.
- The best action to limit risk of COVID-19 infection by air is to ventilate indoor environments with outdoor air as much as possible. Mechanical ventilation systems and air conditioning systems, which provide ventilation, can perform this function more effectively than simply opening the windows, because they improve the quality of the outdoor air with filtration.
- If fresh air is not provided, it is advisable to introduce a fresh air duct attached to a central inline fan filter unit and distribute the fresh air by grilles into the space or near the indoor units. In case fresh air cannot be provided through a fan it is recommended to actively use operable windows. For ducted units/fan coil/ AHUs, fresh air must be provided by an inlet duct and fan. It is advisable to provide a MERV 13 or higher filter fitted on the Air Handling Unit.



- The recommendation is to maximize supply of outside air within the limits of the system. In buildings without mechanical ventilation systems it is recommended to actively use operable windows. Add a TFA (treated fresh air) unit if recommended Fresh Air intake impacts cooling performance.
- Install UVGI (Ultraviolet germicidal irradiation) for larger Ducted Units and AHUs to keep Coils continuously clean and disinfected.

2.7 Temporary Isolation Room⁶

Identify a separate room in OHC/Medical Centre as a temporary isolation room.

- The room should be comfortable with air conditioning, close/ adjacent to and yet separate from main OHC. It should be preferably termed as Fever Clinic cum Isolation Room.
- The entrance/ exit should preferably be located in such a way that patients can be evacuated without entering main OHC, office block or production hall.
- It should have a glass window through which direct observation is possible by OHC personnel.
- Facilities to be provided in the room:
 - Bed with proper linens and pillows
 - Drinking water facility
 - Urinal
 - Hand washing facility and wash basin.
 - Pulse Oxymeter and emergency medical tray with necessary medicines, injections, medical oxygen
 - Separate sphygmomanometer, stethoscope, torch, thermal scanners
- It should be easily sterilised after every use - At least 6 sets of linens should be kept exclusively for this.
- All employees coming to OHC with fever should directly enter the Fever Clinic cum Isolation room, so as not to contaminate the rest of OHC.
- OHC personnel in full PPE should take medical care.
- Employee should be sent back home after fever control with the advisory of self-isolation and treatment under guidance of unit Medical Consultants.
- Ambulance or a vehicle to take sick person to home or to hospital to be used only for patient in Fever or isolation room. Driver should use PPE. Vehicle to be disinfected/ sanitized before/ after use.
- Return to work only after deemed fit by unit medical consultant
- Detailed medical records of all employees needing to use the room to be maintained in hard and soft copies
- Display PPE matrix outside this room. Display contact numbers of local state rapid response team and other important numbers

3.0 Occupational Health

Occupational Health & Safety services have the responsibility of undertaking risk assessment for COVID-19 at workplace to preventing transmission. Besides this, these services will be advising in a major way on the fitness for work when employees return to work in the changed work environment. They will have to ensure the health facility and its staff are protected. The OHC should manage routine services as well as emergencies using the latest clinical protocols including adequate and appropriate use of PPE, training for the use of PPE including correct donning and doffing procedures and biowaste disposal without endangering the staff or the employees.

Another important aspect of occupational health is **periodic medical examinations**. It would be advisable to defer these for suitable length of time depending upon the reduction in disease transmission in the community. If these are to be conducted,

1. Plan it well to avoid crowding at OHC
2. Avoid spirometry, audiometry and take universal precautions
3. Examination may also cover COVID-19 related history and vitals

3.1 Fitness for Work

Employers should plan for how to handle an employee who does not have any underlying disability but is still fearful of becoming ill by working at location. Employers will need to balance these requests

⁶ Courtesy Dr DV Lele



for additional flexibility against the precedent it will set for other employees. The International Labour Organisation (ILO) has set out some guidelines categorising employees into three buckets:

Category A- Essential Workforce who must come to the workplace for business continuity (minimum)

Category B- Workforce who are physically required to come to work 2-3 days per week

Category C- Those who are less essential on-site and can easily work from home (majority)

3.2 When is it safe for employees to return to work?

➤ [Unconfirmed COVID-19 with illness](#)

Has fully recovered from the illness with or without medical intervention. Allow them to return to work only under all of the following conditions:

- Employees must have no fever for 10 days without the use of any fever reducing medicines (aspirin, acetaminophen, or ibuprofen)
- Their respiratory symptoms have improved
- 17 days have passed since the onset of any symptoms

➤ [Confirmed COVID-19 with no illness](#)

Has to remain in isolation following diagnosis. Should be able to return to work only under all of the following conditions:

- No illness for 10 days since the date of their first positive COVID-19 test
- For an additional 3 days after they end isolation, they continue to limit contact (stay 6 feet away)
- They wear a mask or other covering of their nose and mouth to limit the potential of dispersal of respiratory secretions

➤ [Confirmed COVID-19 with illness not requiring hospitalization⁷](#)

Very mildly symptomatic patients having the requisite facility at his/her residence for self-isolation will have the option for home isolation. Should be able to return to work only under all of the following conditions:

- Patient under home isolation will end home isolation after 17 days of onset of symptoms (or date of sampling) and no fever for 10 days. There is no need for testing after the home isolation period is over.
- Respiratory symptoms have improved
- No continuing illness: the employee exhibits no symptoms of COVID-19

➤ [Confirmed COVID-19 with illness requiring hospitalization](#)

An employee who has been confirmed (tested positive by a medical professional) with COVID-19 and has become ill due to the virus, requiring hospitalization may be at higher risk of shedding (dispensing respiratory secretions) and spreading the infection. It is recommended to undertake rigorous testing before returning these employees to work since they may experience longer periods of viral detection compared to those with mild or moderate symptoms.

Individuals Who Are Symptomatic at Work

- Quarantine the individual from others at designated quarantine/isolation room.
- For the symptomatic individual, provide a face mask (typically surgical type), disposable tissues, disposable vomit bags (airline type) if nauseous, trash container with bag liner.
- Caregiver / interviewer to wear a face mask (preferably N95 or equivalent), gloves (typically latex or vinyl disposable).
- Confirm or arrange for transportation to home/ health professional

3.3 Medical Management of Suspected COVID-19 Case at Work⁸

This guideline only pertains to an employee reporting to OHC with flu-like symptoms

- Avoid panic
- Take the person to temporary isolation room or ward; provide him with a face mask
- Wear N95 respirator and gloves
- Take appropriate medical history maintaining at least 1-meter distance

⁷ Revised guidelines for home isolation of mild cases. MOHFW, May 10, 2020

⁸ Courtesy Dr SV Datar



- Fever, dry cough, loss of smell & taste, shortness of breath, body aches, running nose and any other associated symptoms
- Close contact with suspected/confirmed COVID-19 case
- Comorbidities i.e. diabetes, hypertension, CHD, chronic liver/kidney disease, cancer, any other immunocompromised status
- Travelling to hot spots – containment zone, red zone, orange zone
- Any medication/ relevant medical complaints
- Measure vital parameters viz. Temperature, pulse rate, respiratory rate, Blood Pressure, SPO2
- Conduct appropriate physical examination
- Manage as per clinical condition
- Employers should call helpline 1075; Inform the local state/central health authority and follow their instructions
- Shift the patient out as soon as possible
- Clean and disinfect the diagnostic equipment used
- After patient is shifted, clean and disinfect the isolation room
- Follow-up the patient till tests result comes
- Keep accurate medical records
- A public health authority will then carry out a risk assessment to decide the next course of action, be it disinfection or contact tracing
- A patient reporting mild symptoms will be placed under home quarantine
- Contact tracing and disinfection will be carried out once the patient tests positive
- If one or two cases are reported in the office, places visited by the patient over the last 48 hours will be disinfected. Work will be resumed after disinfection. In case of a large outbreak, the building will be sealed for 48 hours after disinfection, while the staff will work from home until the building is declared fit for occupation.



Transportation of confirmed or suspected cases and contacts of COVID-19⁹:

- A suspected COVID-19 employee should be transported with a facemask to a government authorized testing centre in a government authorized transport for further evaluation.
- Responses do not indicate contact with any confirmed or suspected positive COVID-19 case but having symptoms of flu; the individual should be transported with a facemask to a health professional / fever clinic in a special vehicle for further evaluation and treatment.
- All asymptomatic contacts of any confirmed or suspected positive COVID-19 case but having no symptoms of flu; should be transported to their homes with a facemask in a special vehicle with advice to home-quarantine for 14 days.

3.4 Fitness for Closed Vessel Entry

Criteria for issuing fitness for confined spaces or closed vessel entry do not alter except for **removal of spirometry examination** for evaluating pulmonary capacity. PPE to be used are N95 masks, person-specific breathing apparatus/respirator with protective gloves, buddy with appropriate mask, goggles and gloves after adequate safety clearance.

3.5 Fitness for Contractors/ Migrant workers / Construction Industries¹⁰:

The purpose is to follow due diligence process to manage various risks at work sites arising out of COVID-19 having migrant workers – either in situ (present at worksites) or newly inducted. Details are mentioned in [Appendix 3](#).

A. *Controlled access inside the project and workmen habitat*

B. *Screening for staff/workmen*

C. *HSE Induction*

D. *Workmen Habitats (Labour camps)*

E. *Travel and Transportation*

F. *Maintaining social distancing*

G. *Attendance System*

H. *Sanitization*

I. *PPE requirement*

3.6 Use of Personal Protective Equipment

- Paramedical staff i.e., staff nurses; medics, pharmacist etc. need to be trained in SOPs to be followed at isolation room, OHC and use of PPE kit.
- Staff undertaking the work in Laundry, Mess/Canteen, security and other related staff i.e., drivers, general duty staff etc. needs to be trained on use of mask/cloth face covers, gloves, cleaning and disinfection procedures and use of PPE kit, etc.
- Refresher training or regular direction to all the above staffs needs to be provided as on need basis. It is to be emphasized that all activities / procedures must be done under strict monitoring/observations of trained specialists.

⁹ Courtesy Dr Bishwadeep Paul

¹⁰ Courtesy Dr Divyang Shah, Larsen & Toubro Limited



PPE Matrix

#	Setting	Activity	Risk	PPE	Remarks
1	OHC Registration counter	Registration Information	Mild	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	Physical distancing to be followed all times
2	Doctor's Room	Clinical management	Mild	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	No aerosol generating procedure allowed
3	ENT/Ophthalmic examination	Clinical management	Moderate	<ul style="list-style-type: none"> N-95 respirator Latex examination gloves Goggles Face shield 	Aerosol generating procedures anticipated. Face shield, when a splash of body fluid is expected
4	Pharmacy counter	Drug dispensing	Mild	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	Frequent use of hand sanitizer is advised over gloves.
	Ward	Clinical management	Mild	<ul style="list-style-type: none"> Triple layer mask Two Latex examination gloves 	Patients stable. No aerosol generating activity.
6	Emergency	Critical care management	Moderate	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves Goggles Face shield 	Aerosol generating procedure anticipated. Face shield, when a splash of body fluids expected
7	Laboratory	Sample collection and analysis	Mild	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	
8	Critical care management	Attending to severely ill patients while performing aerosol generating procedure	High	<ul style="list-style-type: none"> Full complement of PPE (N-95 mask, coverall, goggle, Nitrile examination gloves, shoe cover) 	
9	Sanitation staff	Cleaning surfaces/floor	Low	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	
10	Sanitation staff	Handling bio-medical waste	High	<ul style="list-style-type: none"> Triple layer mask Nitrile gloves Splash proof gowns Gum boots Safety goggles 	
11	Housekeeping	Cleaning & Disinfection	Low	<ul style="list-style-type: none"> Triple layer mask Gloves – Heavy duty Disposable rubber boots 	Given below
				<ul style="list-style-type: none"> All disposable PPE should be removed and discarded after cleaning activities are completed. Hands should be washed with soap and water immediately after each piece of PPE is removed 	
12	Ambulance Transfer to designated hospital	Transporting patients not on any assisted ventilation	Low	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	
13	Ambulance Transfer to designated hospital	Management of Severe Acute Respiratory Infection patient	High	<ul style="list-style-type: none"> Full complement of PPE (N-95 mask, coverall, goggle, Nitrile examination gloves, shoe cover) 	While performing aerosol generating procedure
14	Ambulance Transfer to designated hospital	Driving the ambulance	Low	<ul style="list-style-type: none"> Triple layer medical mask Latex examination Gloves 	
15	Canteen	Washing used utensils	Moderate	<ul style="list-style-type: none"> Full body apron Face shield Surgical mask Gloves 	
16	Security at Gate		Mild	<ul style="list-style-type: none"> Triple layer mask Latex examination gloves 	Physical distancing to be followed all times



Aerosol Generating Medical Procedures (Relevant to OHC)

- **Nebulizer**
- **Spirometry**
- **Open Airway suction**
- **Positive pressure ventilation**
- **Endotracheal intubation**
- **CPR**

3.7 Biomedical Waste Disposal

- Separate yellow, red /black bags, foot operating dustbins needs to be kept at each floor and outside the facility.
- Designated place to be earmarked outside the building for collection of yellow and black bags. It should be collected at least twice daily by biomedical waste management vehicle/any other local established practice.
- Maintain proper segregation of waste as per BMW Rules, 2016 as amended and CPCB guidelines for implementation of BMW Management Rules. As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation room so as to ensure adequate strength and no leakage.
- Use a dedicated collection bin labelled as “COVID-19” to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorized staff of CBWTF.
- Ensure that *Doffing* takes place in the designated area with all the PPE kit including mask, gloves is properly placed in yellow bags. All the health care workers collecting possible infectious material such as biological samples, PPE kits from yellow bags should also wear PPE and following the IPC measures.
- Site of collection of biomedical waste should be regularly disinfected with freshly prepared 1% hypochlorite solution.
- All officials concerned with the administration and all other health care workers including medical, paramedical, nursing officers, and waste handlers attendants & sanitation attendants needs to be well oriented to requirements of handling and management of general and biomedical waste generated at the facility.

3.8 Management of Emergencies

COVID-19 is highly transmissible, particularly during resuscitation. First, the administration of CPR involves performing numerous aerosol-generating procedures, including chest compressions, positive pressure ventilation. Second, resuscitation efforts require numerous providers to work near one another and the patient. Finally, these are high-stress emergent events in which the immediate needs of the patient requiring resuscitation may result in lapses in infection-control practices.

3.8.1 Procedure for CPR - Key changes¹¹

- First aiders should don PPE to guard against contact with both airborne and droplet particles.
- Limit personnel in the room or on the scene to only those essential for patient care.
- Use breathing air bag with filter and tight seal to replace artificial respiration to reduce mouth to mouth contact.
- If air bag is not available in a minute, first aider should perform at least **hands-only CPR** after recognition of a cardiac arrest event.
- First aider should use automated external defibrillator to assess and treat victims of cardiac arrest.
- Proactively, communicate with local ALS institution for smooth transfer.
- First aid record should be completed within 24 hours. If the patient is diagnosed as suspected or confirmed COVID, first aider should strictly follow due diligence process to complete the epidemiological survey.
- Used PPE should follow disposal management process in accordance with local practices.

¹¹ Courtesy Dr Bishwadeep Paul



Preparation

- COVID-19 status and updated guidelines of BLS during COVID epidemic should be clearly communicated to all first aiders/ first responders.
- Topic training about how to use air bag with filter (filter adaptor added) and tight seal should be delivered to all first aiders/ 1st responders.
- All first aiders/first responders must be trained in the items of PPE which they are likely to use, and in the procedures for which any PPE is used.
- Respirator fit-testing for all site emergency response team members to wear surgical masks and N-95 valve-less masks. As employees return to the sites, Emergency Response Team (ERT) must presume everyone a suspected COVID-19 carrier as they respond to emergencies.
- The PPE and air bag shall be placed in a reasonable position to ensure that they can be reached within 4 minutes in case of emergency. Sites should evaluate their number of bag-valve masks (if used) on site for ERT use. It is recommended to use bag-valve masks instead of face shields for providing breaths during CPR while under pandemic guidelines.
- Proper disinfection shall be taken after all the practice including the equipment, area.

PPE requirement for BLS under COVID epidemic
· N95 mask
· face shield/eye protection
· disposable gloves
Breathing air bag with filter

Special management process of CPR used PPE

Objective	Recommended types	Disposal
Mask	N95	Dispose masks in biohazard trash
Eye protection	safety glasses with side shields	Wipe with chlorine containing disinfectant with effective chlorine content of 500-1000mg / L
Glove	Disposable gloves	Dispose gloves in biohazard trash
bag-mask device	Disposable one-time use	Wipe with chlorine containing disinfectant with effective chlorine content of 500-1000mg / L
Environment	/	Wipe with chlorine containing disinfectant with effective chlorine content of 500-1000mg / L
Floor	/	Wipe with chlorine containing disinfectant with effective chlorine content of 500-1000mg / L
Waste	/	Disposal according to medical waste

3.9 Sickness absenteeism

Workers who are confirmed as having COVID-19 will be absent and unable to work for significantly longer and those who become seriously ill may require a further period of rehabilitation once cured of the infection. These should be counted as on sick leave. In addition, some workers may be absent because they are close contacts having to take care of a relative suffering from this infection and have been quarantined. This should not be considered as sickness absence.

4.0 Work from Home Guidance

As part of the physical distancing measures taken, workers are encouraged or obliged to work from home if the nature of their job allows it. The extent to which the home environment can be adapted will vary according to the situation of the worker and the time and resources available for adaptations. Below



are some suggestions to minimise the risks to workers who have not been able to prepare their home workplace properly¹².

- Risk assessment involving workers who telework and their representatives.
- Allow workers to take equipment that they use at work home on a temporary basis viz. items such as computer, monitor, keyboard, mouse, printer, chair, footrest, or lamp. Give teleworkers support in the use of IT equipment and software.
- Provide teleworkers with guidance on setting up a workstation at home that applies good ergonomics as far as possible.
 - ensuring sufficient space at the workstation, to allow the teleworker to have comfortable position, change his/her position and move
 - ensuring adequate lighting, thermal comfort and low noise level
 - adequate layout of the air conditioning equipment
 - training teleworkers on the correct techniques for adjusting work furniture and arranging working area to ensure a comfortable, neutral work posture
 - ensuring periodical interruptions through breaks and other non-IT activities (to avoid eye fatigue and to break prolonged sitting) — short, frequent breaks are preferable; during the breaks, the teleworker should move away from the workstation, do relaxing exercises, etc.
 - ensuring that work tasks are varied to avoid monotony
- Ensure that there is good communication at all levels that includes those working from home through scheduled online meetings, online chats or 'virtual coffee' meetings.
- Effective communication and support from the manager and colleagues and being able to maintain informal contact with colleagues is important.
- Be aware that your employee may have a partner who is also teleworking or children who may need care as they are not at school, or who need to connect remotely to continue their schoolwork. Others may need to care for elderly or chronically ill people and those that are in confinement. In these circumstances, managers will need to be flexible in terms of working hours and productivity of their staff and will need to make the workers aware of their understanding and flexibility.
- Assist workers in setting healthy boundaries between work and free time by communicating clearly when they are expected to be working and available.

5.0 Mental Health Measures

It will be important for every employer to ensure that the organisation culture is inclusive, and that every employee feels they are returning to a supportive and caring environment and managers are sensitive to any underlying tensions or anxieties and confident about dealing with them. Some of the fears and reactions spring from realistic dangers, but many reactions and behaviours are also borne out of lack of knowledge, rumours and misinformation.

Dealing with Stress & Mental Health Issues Among Teleworkers

Several approaches may help teleworkers to improve their work-life balance. Some strategies that could be used include:

- Start and end the day with a routine or daily ritual and finish at the same time every day.
- Establish the hours during which they may be contacted (by peers or managers).
- Provision of communication tools by the employer (emails, chats, shared documents, video conferencing, collaborative work tools, shared agenda, etc.) and their related support is desirable.
- Plan the working day and stick to it. Teleworkers schedule regular meetings and catch up with the manager, team and clients to help maintain ongoing contact and foster positive working relationships.
- Disconnect by putting away a laptop computer or switching off the (business) phone.
- Plan and take regular and short breaks and a lunch break.

¹² COVID-19: Back to the workplace - Adapting workplaces and protecting workers. EU guidance for a safe return to the workplace



- Have a specific room/space in which to work so that when this room is left work is over.
- Establish boundaries around work hours with partners, children and/or housemates.
- Informal contact is maintained by getting together online (virtual coffee breaks, discussion forums/chats, etc.).
- Managers keep in touch with lone workers and ensure regular contact to make sure that they are healthy and safe (recognise signs of stress).

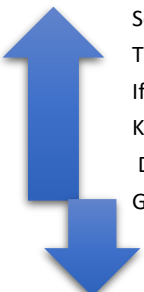
Messages for Team Leaders or Managers:

Keeping all staff protected from chronic stress and poor mental health during this response with some measures listed here to mitigate mental stress:

- Campaigns to reduce stigma, promote innovative solutions, build positive changes in attitude
- Checklist to assess personal strengths/ limitations and recognise signs of stress and burnout
- Regularly monitor staff for their wellbeing and foster an environment for staff conversations
- Ensure good quality communication and accurate information updates are provided
- Ensure staff get the regulated rest periods for sufficient rest breaks during work
- Provide a brief and regular forum to allow workers to express their concerns and ask questions and encourage peer-support amongst colleagues.
- Buddy system to provide psychological support and monitor stress and burnout
- Facilitate access to, and ensure staff are aware of where they can access mental health and psychosocial support services, including on-site if available or telephone-based support or other remote-service options.
- Orient all responders, including nurses, ambulance drivers, volunteers and workers in quarantine sites, on how to provide basic emotional and practical support to affected people using psychological first aid.
- Managers and team leads will face similar stressors as their staff, and potentially additional pressure in the level of responsibility of their role. It is important that the above provisions and strategies are in place for both workers and managers, and that managers are able to role-model self-care strategies to mitigate stress.

Messages for Stress Management:

Employees need to know that it is normal to feel sad, distressed, worried, confused, scared or angry during a crisis. They should be informed:



- Seek help for physical and mental health and psychosocial needs, if required.
- Talk to people you trust. Contact your friends and family.
- If you must stay at home, maintain a healthy lifestyle.
- Keep in touch with family and friends through email, phone calls and making use of social media platforms.
- Draw on skills that used during difficult times to manage emotions during this outbreak.
- Get the facts about your risk and how to take precautions from credible sources
- Don't use tobacco, alcohol or other drugs to cope with emotions
- Decrease the time you and your family spend watching or listening to upsetting media coverage.



6.0 Canteen/ Food Operations¹³

Food operations must ensure high hygiene standards in line with the established Food Safety Management System (FSMS).

Personal hygiene of food handlers

- Communication on personal hygiene and hand washing with soap and water for at least 20 seconds
- Sanitise hands frequently with an alcohol-based hand sanitiser; mobile phone frequently
- Wear a face mask and clean protective clothing within the food premises
- Cover mouth and nose with a tissue while coughing or sneezing
- Wear gloves while handling preparing food
- Stay at home if you develop symptoms of COVID
- Self - quarantine if you work with / near an infected person
- Discontinue fingerprint or biometric attendance for the employees
- Use hot water and disinfectant to sanitise food premises

Best practices for food services during COVID 19

- Clean and disinfect the food services area after every meal is prepared.
- Disinfect high contact points such as doorknobs, equipment handles, etc. repeatedly
- Make hand washing / sanitisation facility at the entry of the retail store
- Food handlers must use tongs, gloves or other utensils to prevent direct contact with food
- Do not leave any ready- to- eat food item open or in glass displays
- Food handlers must wear clean uniform, gloves, mask /face cover, head covers at all times
- Screen food handlers for symptoms of COVID – 19. Individuals showing any symptoms should
- be sent to health facility and encouraged to stay at home
- Wash all food items thoroughly with clean, potable water. Use 50 ppm chlorine with clean, potable water for fruits and vegetables to be consumed raw.
- Promote hand hygiene and social distancing among staff
- Encourage pre – ordering of food online or over telephone to reduce waiting time. Establish designated pick up zones for customers to maintain social distancing

Food delivery

- Use a hand sanitiser before pick – up and after food delivery
- Avoid contact with common touch points such as door handles etc. If, unavoidable use a hand sanitiser after coming in contact with common touch points
- Avoid handling cash. Encourage customers to use contactless modes of payments. In case credit/ debit cards are used, sanitise the card machine with 70% alcohol after every use

Social distancing

- Limit the number of people in the food premise
- Space out / Stagger workstations and food preparation areas, and maintain a gap of at least six feet between food handlers
- Increase time between shifts / scatter breaks to minimise staff interaction
- Prohibit sharing of lockers by employees

Cleaning and sanitation requirements for food handlers

- Clean various areas of food establishments, transport vehicles etc with soap and water followed by disinfection
- Use hot water for washing and sanitising equipment, containers, utensils, cutlery etc
- Install hand sanitisation workstations at entry and near high contact surfaces

¹³ Courtesy Dr Nilam Chavan



- Clean toilets and washrooms after every shift using water and detergent using 1% hypochlorite solution
- Clean high touch points (namely elevator buttons, handles, public counters) twice daily by mopping with 1% sodium hypochlorite
- Leave benches, counters and equipment to air dry. The most hygienic way to dry the equipment is in a draining rack

Common disinfectants that can be used by food businesses

- Chlorine – Used for perishable products and food contact surfaces for raw food and after use
- Quaternary Methyl Butyric acid (QMBA) – Used for food contact surfaces
- 70% alcohol based – Used for hand sanitization, common touch points and food contact surfaces

References

1. WHO Coronavirus disease (COVID-19) outbreak: rights, roles and responsibilities of health workers, including key considerations for occupational safety and health.
2. Interim Briefing Note Addressing Mental Health and Psychosocial Aspects of COVID-19 Outbreak (developed by the IASC's Reference Group on Mental Health and Psychosocial Support).
3. WHO Mental health and psychosocial considerations during the COVID-19 outbreak.
4. ECDC Technical Report Contact tracing: public health management of persons, including
5. healthcare workers, having had contact with COVID-19 cases in the European Union – second update 8 April 2020.
6. CIPD Coronavirus (COVID-19): returning to the workplace guide.
7. Central Pollution Control Board Revision 1: Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients Revised March 25, 2020
8. MOHFW Guidelines Advisory against spraying of disinfectant on people for COVID-19 management
9. Novel Coronavirus Disease 2019 (COVID-19): Additional guidelines on rational use of Personal Protective Equipment (setting approach for Health functionaries working in non-COVID areas) published by Ministry of Health & Family Welfare, Government of India on 1st May. 2020
10. OSHA. Guidance on Preparing Workplaces for COVID.
11. Whitehouse & CDC. Guidelines on Opening up America Again.
12. CDC. Implementation of Mitigation Strategies for Communities with Local COVID-19 Transmission
13. CDC. Interim Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19), May 2020. Plan, Prepare and Respond to Coronavirus Disease 2019.
14. EU Guidance for Safe Return to Work. COVID-19: Back to the workplace - Adapting workplaces and protecting workers
15. Guidelines for Quarantine facilities COVID 19
16. FSSAI Guidelines for Food Safety Management System
17. Coronavirus Disease 2019 (COVID-19): Standard Operating Procedure (SOP) for transporting a suspect/confirmed case of COVID-19.
18. Govt of India National Directives for COVID-19 management.
19. WHO Europe. Strengthening and adjusting public health measures throughout the COVID-19 transition phases. Policy considerations for the WHO European region. April 24, 2020.
20. Joint European Roadmap towards lifting COVID-19 containment measures.
21. NDMA. Ministry of Home Affairs, GOI. Guidelines for restarting manufacturing industries after lockdown. May 9, 2020.
22. ISHRAE COVID-19 Guidance Document for Air-conditioning & Ventilation.
23. PHFI & Global Health & Safety handbook for the Workplace. An employers' guide for post-lockdown operations in non-healthcare settings. April 2020
24. ILO. Prevention and Mitigation of COVID-19 at Work. Action checklist.
25. WHO Considerations in adjusting public health and social measures in the context of COVID-19 Interim guidance 16 April 2020
26. WHO Considerations for public health and social measures in the workplace in the context of COVID-19. Annex to Considerations in adjusting public health and social measures in the context of COVID-19. 10 May 2020
27. WHO Getting your workplace ready for COVID-19, 3 March 2020,



Appendix 1 Self Declaration Form

Name:
Employee Number:
Date:

- Has someone in your close family returned from a foreign country Yes/No
- Is the patient under home quarantine as advised by local health authority? Yes/No
- Have you or someone in your family come in close contact with a confirmed COVID-19 patient in the last 14 days? Yes/No
- Do you have fever? Yes/No
- Do you have cough? Yes/No
- Have you lost your smell and taste? Yes/ No
- Do you have sore throat? Yes/No
- Do you feel shortness of breath? Yes/No
- Have you been suffering from diabetes/hypertension/cancer/cardiovascular conditions? Yes/No
- If yes to any of the above, have you been taking treatment regularly? Yes/No
- Has your condition/s been medically declared to be under control? Yes/No

Disclaimer: The form is not intended for collecting medical confidential data

Appendix 2 Contact Tracing

Contact Tracing Questionnaire¹⁴

Name:	
Date:	Time:
(Circle one) Suspected	Confirmed (by whom):
Symptoms (list):	
Date/Time of 1 st Symptoms:	
Have You Been at Work Between 2 Days (48 hrs) Before Symptoms & Now? Yes No	
If yes above, who have you been within 6 feet of?	
If yes above, what locations have you been in and what may you have touched?	
<i>Encourage them to seek medical care, isolate themselves as much as possible, use good cough etiquette and hand washing hygiene, rest, drink fluids, dispose of or sanitize things they touch, inform those outside of work that they have come into contact with so they can be watchful of their health situation, call back to the site <u>at a frequency decided by the site (typically each day)</u> with updates of their condition.</i>	

¹⁴ Courtesy Dr Bishwadeep Paul



Contact Listing Form

CONTACT LISTING FORM¹

Case Information												
Outbreak Case ID	Surname	Other Names	Head of Household	Address	Town	District	Date of Symptom Onset	Location of Case Identified				
Contact Information												
Surname	Other name	Sex (M/F)	Age (y)	Relation to Case	Date of Last Contact with Case	Type of Contact (1/2/3/4)* List all	Head of Household	Address	Town	District	Phone Number	Health Care Worker (Y/N) If yes, what facility?

*** Types of Contacts**

- 1 = Touched body fluids of the EVD case (blood, vomit, saliva, urine, feces, semen, sweat)
- 2 = Had direct physical contact with the body of the patient (alive or dead)
- 3 = Touched or cleaned the linens, clothes, or dishes of the patient
- 4 = Slept or ate in the same household as the patient

Contact sheet filled by: _____

Name: _____

Title: _____

Telephone: _____

Appendix 3 Fitness for Contractors/ Migrant Labour/ Construction Industries¹⁵

A. Controlled access inside the project and workmen habitat

1. Pre-approval for deployment of new workmen from Project Director/Project Manager / Site Manager.
2. Clear guidelines will be detailed on the procedure to be followed in case of rejoining after a quarantine (self-sickness/ travel). It should address following:
 - Avoiding entry of new workmen from known hotspots of COVID 19 – especially Red zones and Orange Zones
 - To obtain “Self-Declaration Form” from all workmen during screening to identify the COVID-19 risk level of workmen. This information shall include
 - Place of his latest stay (to identify whether, it is a hotspot)
 - Contact with any confirmed or suspected COVID 19 individual
 - Contact with persons who have a travel history to hot spots
 - Whether they have any symptoms for COVID 19
 - To obtain “Declaration Form” from all subcontractors that they will not engage a worker, who has travel history to any hotspot regions or containment zones
3. Ensuring availability of medical practitioner at workmen habitat
 - Medical check-up by doctor / medic
 - Contact less thermal scanning

¹⁵ Courtesy Dr Divyang Shah



B. Screening for staff/workmen

- Separate medical equipment such as contactless IR thermometer etc shall be given for two/ three labour camps that are in a 5 KM radius
- In labour camps exceeding 5 KM radius, one dedicated medical equipment shall be provided
- It is recommended that screening of workmen shall be conducted twice a day i.e. at labour camp/accommodation before starting of the work and on return to the labour camp/accommodations from the site location
- If the screening cannot be completed at the labour camp before the start of work, the same shall be done at the entry points of the site
- Workmen hailing from any red zones areas / house quarantine cases should be identified and work should be assigned only after necessary medical fitness procedures are completed

C. HSE Induction

- Apart from the regular EHS induction, workmen will be trained on COVID 19 risks and the precautionary measures covering the following topics,
 - Symptoms of COVID 19
 - How virus spreads
 - Importance of maintaining social distancing
 - Importance and DO's and DON'T's of hand washing
 - Overview of the precautionary measure taken at site for COVID 19
- Roles & Responsibility of workmen specific to the precautions towards COVID 19
- Reporting in case of symptoms similar to Flu

D. Workmen Habitats (Labour camps)

- Separate dwelling for new workmen
- New workmen should not be accommodated in the same rooms as the existing workmen
- Dwelling units / rooms should be suitably organized to ensure the avoidance of proximity of the workmen groups
- Resources at workmen habitat
- Limiting the number of workmen in dwelling units
- As far as possible, Grocery shop, Saloon, and other items shall be made available within the workmen habitat to avoid the movement of workmen outside the habitat
- Restriction of workmen from habitat
- To avoid infection from outside the community, workmen exit access shall be restricted
- Any workman goes out of the habitat shall get a gate pass from camp boss
- A hand washing facility shall be kept at the entrance of the habitat, any people entering the habitat shall be asked to wash their hands and enter the habitat
- Promoting self-hygiene and cleanliness
- Pictorial posters in local language shall be placed across the workmen habitat to create awareness on maintaining self – hygiene and respiratory hygiene

E. Travel and Transportation

- Only one person allowed travel on a two-wheeler to/from a project site/ accommodation
- Company vehicles shall be restricted for use only by designated staff/workmen and shall be disinfected as required during working hours (apart from starting and closing time)
- Mass transportation of workmen should be avoided
- Transport of workmen from one tower/shutdown location to another shall be done shall within same day, with adherence to proper social distancing norms within the transport vehicle. If required, the number of trips can be increased



F. *Maintaining social distancing*

- It is recommended that one representative can be nominated from each group to manage social distancing all times
- Staff and workmen when entering any house for meter connections etc, should wear a face mask and ensure social distancing norms are followed
- Mixing of workmen between gangs should be strictly avoided

G. *Attendance System*

- Attendance shall be captured through facial recognition or manual recording by the Admin with workmen signing the attendance log. Hand sanitizers should be available at the attendance desk after this activity.
- As much as possible, all signatures on hard copies should be avoided

H. *Sanitization*

- Hand sanitizers shall be kept available for all workmen at prominent locations
- Adequate quantity of hand sanitizers shall be available in the conveyance vehicles and in the First-aid kits at site
- When working in cities /crowded area like OFC/UG cabling, etc., area cordoning should be done to ensure social distancing and sanitizers must be available at the site
- Labour camp shall be frequently inspected by a dedicated personnel / HSE personnel to ensure adherence to SOPs

I. *PPE requirement*

- Face masks shall be provided to all workmen and it shall always be worn.

Appendix 4 PPE Donning & Doffing Procedures

Sequence for donning and doffing personal protective equipment (PPE)

Donning PPE (Putting on)	Doffing PPE (Taking off)
1. Perform hand hygiene	1. Remove shoe covers (if applicable)
2. Put on shoe covers (if applicable)	2. Remove gown and gloves together*
3. Put on gown	3. Perform hand hygiene
4. Put on mask/respirator (if applicable)	4. Remove eye protection (if applicable)
5. Put on eye protection (if applicable)	5. Remove mask/respirator (if applicable)
6. Put on gloves	6. Perform hand hygiene

[Donning Protocol \[Next Page\]](#)



Donning Protocol

 World Health Organization

How to put on, use, take off and dispose of a mask

- 

Before putting on a mask, wash hands with alcohol-based hand rub or soap and water
- 

Cover mouth and nose with mask and make sure there are no gaps between your face and the mask
Avoid touching the mask while using it; if you do, clean your hands with alcohol-based hand rub or soap and water
- 

Replace the mask with a new one as soon as it is damp and do not re-use single-use masks
- 

To remove the mask: remove it from behind (do not touch the front of mask); discard immediately in a closed bin; wash hands with alcohol-based hand rub or soap and water

- ### 1 Perform hand hygiene

Alcohol based handrub
Rub hands for 20–30 seconds.
or
Water and soap
Wash hands for 40–60 seconds.


- ### 2 Put on the gown


- ### 3 Put on the mask

Medical mask.


- ### 4 Put on eye protection

Put on face shield or goggles.


- ### 5 Put on gloves

Ensure glove is placed over the cuff of the gown.



Full PPE




 World Health Organization


DoFFing Protocol

Ensure that infectious waste containers are available for safe disposal of PPE. Separate containers should be available for reusable items.
Order is important


- ### 1 Remove gloves


- ### 2 Remove the gown


Ensure gown is pulled away from the body during removal and that clothing does not become contaminated and dispose of them safely.


- ### 3 Perform hand hygiene


Alcohol based handrub
Rub hands for 20–30 seconds.
or
Water and soap
Wash hands for 40–60 seconds.


- ### 4 Remove eye protection


Remove face shield or goggles.



- ### 5 Remove the mask

Ensure you are taking the mask off from the straps, avoid touching the mask.


- ### 6 Perform hand hygiene

Alcohol based handrub
Rub hands for 20–30 seconds.
or
Water and soap
Wash hands for 40–60 seconds.



 World Health Organization



1. While restarting the unit, consider the first week as the trial or test run period; ensure all safety protocols; and not try to achieve high production targets.
2. To minimize the risk it is important that employees who work on specific equipment are sensitized and made aware of the need to identify abnormalities like strange sounds or smell, exposed wires, vibrations, leaks, smoke, abnormal wobbling, irregular grinding or other potentially hazardous signs which indicate the need for an immediate maintenance or if required shutdown.
3. Especially during the Covid-19 times, ensure all lockout and tagout procedures are in place on a daily basis (not applicable for units running 24hrs).
4. Inspection of all equipment as per the safety protocols during the restart phase
5. In case the industry has any difficulty in managing crucial backward linkages that may be critical for their safe functioning, they should approach the local district administration for specific assistance. District Magistrates may be instructed to ensure that in such instances, the industrial unit may be facilitated to run their end to end operations, in the overall interests of industrial security.

For specific industrial processes:

1. Storage of raw material

- a. Inspect the storage facilities for any signs of spills, wear and tear during the lockdown.
- b. Check for already opened storage vessels/containers/bags/silos for possible oxidation/chemical reaction/ rusting/ rotting etc.
- c. HAZMAT Chemicals in the storage need to be checked for chemical stability before using for any processes
- d. Ensure ventilation and proper lighting before entering the storage areas
- e. Sense for abnormalities like strange sounds or smell, exposed wires, leaks and smoke
- f. Check supply pipelines/valves/conveyor belts for any signs of damage/wear & tear
- g. Check the storage building for any signs of distress and damage to the roof.

2. Manufacturing Processes

- a. Carry out a complete Safety Audit of the entire unit before taking up starting activities
- b. Cleaning of pipelines, equipment and discharge lines: Mechanical cleaning followed by air /water flushing and chemical cleaning based on the type of the process equipment
- c. Run-in of rotatory equipment under supervision
- d. Boilers/ furnaces/ heat exchangers to be checked for lining and signs of wear and tear
- e. Check supply pipelines/valves/conveyor belts for any residual material and wear and tear. Also check all the pipelines / valves for obstructions/ pressure levels.
- f. Ensure all pressure, temperature gauges are functional
- g. *Tightness test*: Many process units handle combustibles or toxic substances (or both), the leakage of which could result in disaster, damage, or economic loss. To prevent the occurrence of such incidents, it is necessary to confirm that the plant complies with the required tightness before start-up.
- h. Service test need to be performed for all water, compressed air, and steam piping and equipment with normal operating fluids. The system is first pressurized with operating fluids and then checked for leakage. For air lines, leaks can be found using soap solution. For water and condensate lines, the leakage can be observed visually. Leakage points found during the test are retightened. The test is deemed successful if no foam is observed from soap solution, or if no water or condensate is observed visually.
- i. Vacuum hold test: All vacuum systems must be leak tested. Air inside the system is first evacuated to attain the required vacuum. The best way is to start at one end of the section and work through to the other end, checking flanges, valves, fittings, instruments, and other equipment. Each leak is tagged, making it easy for the maintenance team and personnel of the next shift to continue with the work.

¹⁶ Courtesy NDMA, Ministry of Home Affairs. May 9, 2020



- j. Trial testing be carried out before the full-fledged production is initiated with full human resources
- k. Ensure the arrangement for round-the-clock emergency crews/ professional technical teams provided with MAH and cluster of MAH should have an extended coverage of 200 km to reach transport accident spots for help

3. Storage of products

- a. Check the storage facilities / silos for any damage or wear and tear

4. Guidelines for the workers

- a) Ensure 24 -hour sanitisation of the factory premises.
- b) Factories need to maintain a sanitisation routine every two-three hours especially in the common areas that include lunchrooms and common tables which will have to be wiped clean with disinfectants after every single use.
- c) For accommodation, sanitisation needs to be performed regularly to ensure worker safety and reduce spread of contamination.
- d) Entrance health checks
 - a. Temperature checks of all employees to be done twice a day.
 - b. Workers showing symptoms should not report to work.
- e) Provisions of hand sanitisers and mask to all employers.
 - a. Providing gloves, masks and hand sanitisers to be done at all factories and manufacturing units.
- f) COVID 19 health and prevention staff education
 - a. Education on safety steps to take from entry to exit in the factory
 - b. Measures to take precautions at personal level
- g) Quarantine measures for supply and storage of goods
 - a. Sterilise boxes and wrapping brought into factory premises
 - b. Isolate and sanitise finished goods as appropriate
 - c. Delivery of goods in shifts
- h) Physical distancing measures
 - a. Create physical barriers to ensure the physical distance within the work floor and
 - b. dining facilities
 - c. Provide face protection shields along with masks and PPEs.
- i) Working in shifts
 - a. Factories that work 24 hours at full production capacity should consider one hour gap between shifts, except factories/plants requiring continuous operations.
 - b. Managerial and administrative staff should work one shift at 33 per cent capacity as per MHA guidelines; but while deciding which particular person to be included in 33% at any given point of time, overriding priority should be given to personnel dealing with safety.
 - c. Ensure no sharing of tools or workstations to the extent possible. Provide additional sets of tools if needed.
- j) Scenario plan on discovering a positive case
 - a. Factories have to prepare accommodation to isolate workers, if needed.
 - b. HR has to help manage the whole process for individual, all travelling employees also
 - c. to undergo a mandatory 14-day quarantine
- k) Presence of skilled workers
 - a. Workers involved in dealing with hazardous material must be skilled and experienced in
 - b. the field. No compromise on deployment of such workers should be permitted when an
 - c. industrial unit is opened up.

