

IN THE SUPREME COURT OF INDIA

CIVIL ORIGINAL JURISDICTION

WRIT PETITION (CIVIL) NO. 560 OF 2020

IN THE MATTER OF:-

GURSIMRAN SINGH NARULA PETITIONER

VERSUS

UNION OF INDIA AND OTHERS RESPONDENT(S)

**AFFIDAVIT ON BEHALF OF RESPONDENT NO. 1, UNION
OF INDIA, MINISTRY OF HEALTH AND FAMILY WELFARE**

PAPER-BOOK

(FOR INDEX KINDLY SEE INSIDE)

ADVOCATE FOR THE RESPONDENT NO. 1: G S MAKKER

INDEX

S.No.	Particulars	Page No.
1.	Affidavit on behalf of Respondent No. 1, Union of India.	1 - 11.
2.	ANNEXURE-A: A True copy of the order of the Hon'ble Supreme Court dated 10.08.2020 in Gursimran Singh Narula Vs Union of India & Ors., W.P. (C) No. 560/2020.	12.
3.	ANNEXURE-B: A True Copy of the National Guidelines for Infection Prevention and Control in Healthcare Facilities.	13 - 18.
4.	ANNEXURE-C: A True Copy of the guidelines on disinfection of common public places including offices dated 29.03.2020.	19 - 24.
5.	ANNEXURE-D: A True Copy of guidelines and SOP dated 18.05.2020 issued by the Ministry of Health & Family Welfare, Directorate General of Health Services (EMR Division).	25 - 31.
6.	ANNEXURE-E: A True Copy of the guidelines and SOP dated 04.06.2020 issued by the Ministry of Health & Family Welfare.	32 - 38.
7.	ANNEXURE-F: A True Copy of the advisory dated 18.04.2020 against spraying of disinfectant on people for COVID-19 management, issued by the Ministry of	39.

	Health & Family Welfare, Directorate General of Health Services (EMR Division).	
8.	ANNEXURE-G: A True Copy of the Minutes of the Meeting under Chairmanship of DGHS (Prof. Rajiv Garg) on 9 th June 2020 to review use of disinfection tunnel, use of various chemicals and spraying disinfectants.	40 - 41.

Filed by

Gurmeet Singh Makker
Advocate for Respondent.
Code No. 2357

Dated: 26.08.2020.
Place: New Delhi.

1

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AFFIDAVIT ON BEHALF OF RESPONDENT NO. 1, UNION
OF INDIA

I, Rajender Kumar , S/o Shri Yad Ram, aged about 46 years, at present working as a Under Secretary in the Ministry of Health and Family Welfare, New Delhi Government of India, being well conversant with the facts and circumstances of the case, do hereby solemnly affirm and state as follows:-

1. That I am the authorised officer of the Union of India in the abovementioned matter and I am well acquainted with the facts and circumstances of this case. I have been



duly authorised to swear and affirm the present affidavit being filed on behalf of Ministry of Health and Family Welfare. Save as expressly admitted herein and save what are matters of record, each and every contention made in the said petition shall be deemed to have been specifically denied.

2. That the present affidavit is being filed by the deponent in respectful compliance of this Hon'ble court's order dated 10.08.2020, whereby, this Hon'ble court was pleased to issue notice to Respondent Nos. 1 to 3. A copy of the said order is annexed herewith and placed at **Annexure-A (Page No. 12)**.

3. It is submitted that in the captioned petition the petitioner has prayed for the following reliefs:-

- "i. *Issue a writ in the nature of Mandamus or any other appropriate writ, direction or order a forthwith ban on the usage, installation, production, advertisement of disinfection tunnels involving spraying or fumigation of chemical disinfectants for the purposes disinfecting human beings and/or*



- ii. *Issue a writ in the nature of Mandamus or any other appropriate writ, direction or order a forthwith ban on the usage, installation, production, advertisement of disinfection tunnels involving spraying or fumigation of organic disinfectants for the purposes disinfecting human beings and/or*
- iii. *Issue a writ in the nature of Mandamus or any other appropriate writ, direction or order a forthwith ban on the usage, installation, production, advertisement of disinfection tunnels exposing human beings to ultraviolet rays for the purposes disinfecting them and/or*
- iv. *To pass such other orders and further orders as may be deemed necessary on the facts and in the circumstances of the case."*

4. In this regard, I respectfully state and submit that National Centre for Disease Control, Directorate General of Health Services, Ministry of Health and Family Welfare issued '*National Guidelines for Infection Prevention and Control in Healthcare Facilities*' in January, 2020, wherein, protocols to be followed for cleaning and sanitation enumerated that disinfectant fogging is not recommended

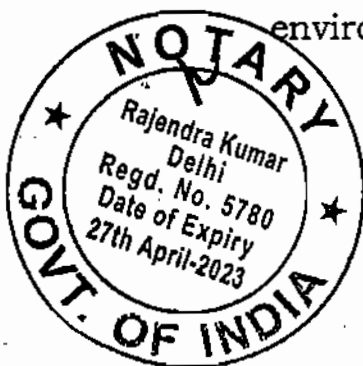
for routine patient care areas. It was also prescribed that fumigating and fogging have no role in the operation theatre



because fumigation with formalin is hazardous to persons and can also harm sensitive equipments.

5. It is stated that these practical guidelines for infection control in healthcare facilities also contains policy and procedure for cleaning, sanitation and disinfection of the external environment in the healthcare facilities. A copy of the relevant extracts of the said guidelines are annexed herewith and placed at **Annexure-B (Page Nos. 13 to 18)**.

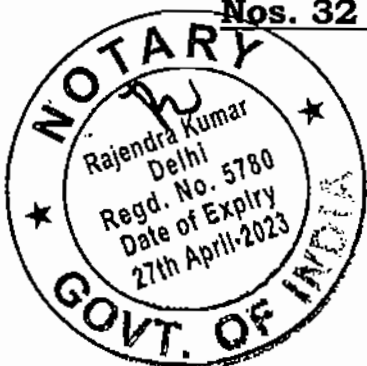
6. It is submitted that the answering respondent vide advisory dated 29.03.2020 issued guidelines on disinfection of common public places of areas reporting COVID-19 infection and the resultant guidance regarding the environmental cleaning / decontamination of common public places including the use of disinfectant for environmental cleaning. It may be noted that even in the said guidelines also fogging / fumigating of the external environment was never emphasized / advised by the



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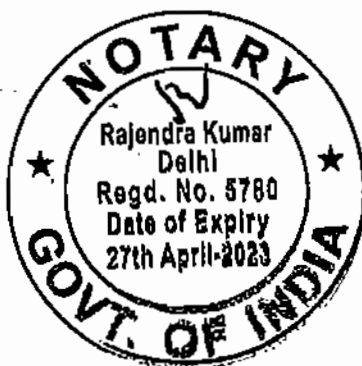
answering respondent therein. A copy of the said guidelines dated 29.03.2020 is annexed herewith and placed at **Annexure-C (Page Nos. 19 to 24).**

7. It is submitted that the thereafter, the answering respondent issued guidelines dated 18.05.2020 on preventive measures to contain spread of COVID-19 in workplace settings and Standard Operating Procedure ('SOP') dated 04.06.2020 on the preventive and response measures necessary to be observed to contain spread of COVID-19 in office settings. These guidelines / SOP, *inter-alia*, delineated adopting frequent hand washing with soap practice (for at least 40-60 seconds) even when hands are not visibly dirty and also recommended use of alcohol-based hand sanitizers (for at least 20 seconds), wherever feasible. The copies of the said guidelines and SOP dated 18.05.2020 and 04.06.2020 are annexed herewith and placed at **Annexure-D (Page Nos. 25 to 31)** and **Annexure-E (Page Nos. 32 to 38).**



8. I respectfully state and submit that from a perusal of the aforesaid guidelines, it is evident that the answering respondent nowhere issued any advisory/guidelines/SOPs for usage, installation, production, advertisement of disinfection tunnels involving spraying or fumigation of chemical/organic disinfectants for the purposes disinfecting human beings in the workplace/office/public places/external environments.

9. In addition to the above, the answering respondent respectfully submits that taking cognizance of the media reports where it was reported that persons from public were being sprayed/fogged with chemicals and/or exposed to such chemicals through walk in tunnels, the answering respondent convened a meeting of its technical advisory body "Joint Monitoring Group" ('JMG') on 08.04.2020 in the Ministry of Health and Family Welfare, Government of India. It is stated that the said meeting was chaired by Directorate

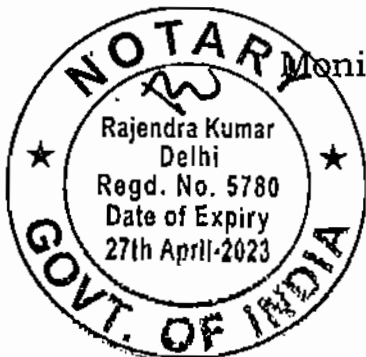


General of Health Services and was well represented by eminent experts from World Health Organization, National Centre for Disease Control, Indian Council of Medical Research, All India Institute of Medical Sciences, Experts from Central Government Hospitals (Dr RML hospital and Safdarjung Hospital), representative of Director General, Air Force Medical Services, Drug Controller General, etc. in the said meeting the Committee as aforementioned recommended as under:

- (i) Spraying of disinfectants on humans is not recommended under any circumstances. Spraying any chemical disinfectant is physically and psychologically harmful.
- (ii) Further, chemicals are harmful to human skin and mucous membrane of respiratory tract, if inhaled.
- (iii) External spraying of any chemical disinfectant does not kill a virus that has already entered the body of a person, who has earlier been exposed to the virus.

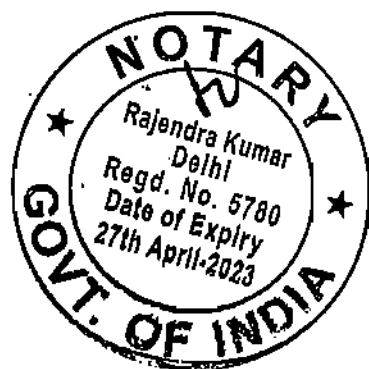
10. It is submitted that accordingly on the basis of deliberation, observation and recommendations of the Joint

Monitoring Group, an advisory was issued by Union



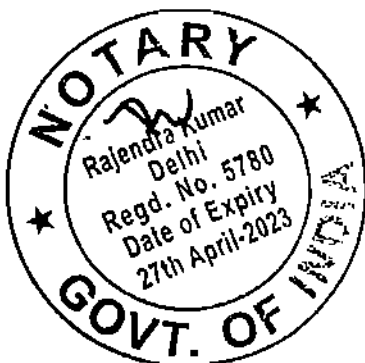
Ministry of Health and Family Welfare on 18th April 2020 and a copy thereof is annexed herewith and placed at **Annexure-F (Page No. 39).**

11. It is submitted that thereafter on 09.06.2020 another expert committee meeting, under Chairmanship of Directorate General of Health Services, was held to review use of disinfectant tunnels, use of various chemicals and spraying of disinfectant alongwith the efficacy of such use of spraying/fogging. The committee, in light of the discussions of the JMG and the abovesaid advisory dated 18th April, 2020 issued by the answering respondent, reiterated that spraying of the individuals with the disinfectants (such as tunnels, cabinets, chambers, etc.) is **not recommended** as it would diminish the infected person's ability to spread the virus through droplets or contact. The committee further observed that spraying disinfectants is **not recommended** in both health-care and non-health care settings. It was also observed that in indoor spaces, routine application of



9

disinfectants to environmental surfaces by spraying or fogging (also known as fumigation or misting) is not recommended for COVID-19 as the disinfectants may not be effective in removing organic material and may miss surfaces shielded by objects, folded fabrics or surfaces with intricate designs. If disinfectants are to be applied, this should be done with a cloth or wipe that has been soaked in disinfectant. It further went on to observe that spraying or fumigation of outdoor spaces, such as streets or marketplaces, is also not recommended to kill the COVID-19 virus or other pathogens because disinfectant is inactivated by dirt and debris and it is not feasible to manually clean and remove all organic matter from such spaces. Moreover, spraying porous surfaces, such as sidewalks and unpaved walkways, would be even less effective. Even in the absence of organic matter, chemical spraying is unlikely to adequately cover all surfaces for the duration of the required contact time needed to inactivate pathogens. Furthermore, streets and sidewalks are not

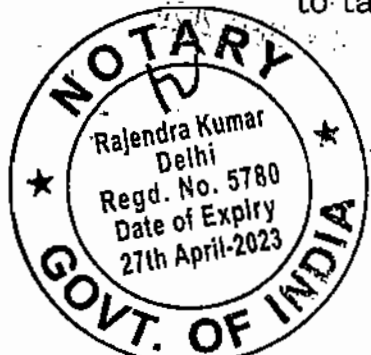


considered to be reservoirs of infection for COVID-19. In addition, spraying disinfectants, even outdoors, can be harmful for human health. A copy of the minutes of the said meeting dated 09.06.2020 is annexed hereto and placed at **Annexure-G (Page Nos. 40 to 41).**

12. It is submitted in particular that the Ministry of Health and Family Welfare has not written any letter or issued any advisory/guidelines/SOPs on the use of Ultra Violet lights for disinfection of humans for COVID-19 management.

13. It is most respectfully submitted that as public health and hospitals are State subject, it is for the States/Union Territories to implement the guidelines issued by the Ministry of Health and Family Welfare and the role of Government of India is limited to providing necessary guidance and financial support.

In view of the submission made hereinabove, it is most respectfully prayed that the Hon'ble Court may be pleased to take this affidavit filed on behalf of the Ministry of Health



and Family Welfare on record and/or pass such further orders as deemed proper and necessary, in the interest of justice. The answering respondent craves leave to file such further and additional affidavit as may be necessary in the later stage of the present proceedings.

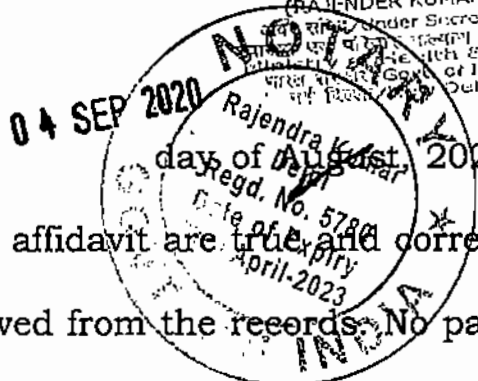
[Handwritten Signature]

DEPONENT

(राजेन्द्र कुमार)
(RAJENDER KUMAR)
अपर सचिव/Under Secretary
स्वास्थ्य एवं परिवार कल्याण विभाग
Ministry of Health & F.W.
Govt. of India
New Delhi

VERIFICATION

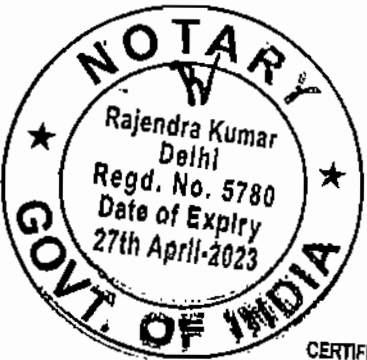
Verified at New Delhi on this 04 SEP 2020 day of August 2020 that the contents of the above affidavit are true and correct based on the information derived from the records. No part of the affidavit is false and nothing material has been concealed or suppressed therein.



[Handwritten Signature]

DEPONENT

(राजेन्द्र कुमार)
(RAJENDER KUMAR)
अपर सचिव/Under Secretary
स्वास्थ्य एवं परिवार कल्याण विभाग
Ministry of Health & F.W.
Govt. of India
New Delhi



ATTESTED
RAJENDER KUMAR
NOTARY, DELHI-R-5780
GOVERNMENT OF INDIA
SUPREME COURT OF INDIA
COMPOUND, NEW DELHI
Register Pg./SI. No. 9890448269

CERTIFIED THAT THE CONTENTS EXPLAINED TO THE DEPONENT EXECUTIVE WHO IS SEEMED PERFECT TO UNDERSTAND & AFFIRMED DEPOSED BEFORE ME AT DELHI ON 04 SEP 2020 IDENTIFIED BY IDENTIFIED BY IDENTIFY THE EXECUTIVE DEPONENT WHO HAS SIGNED IN MY PRESENCE

[Handwritten Signature]
18212

04 SEP 2020

ITEM NO.5 Court 5 (Video Conferencing)

SECTION PIL-W

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

12

Writ Petition(s)(Civil) No(s). 560/2020

GURSIMRAN SINGH NARULA

Petitioner(s)

VERSUS

UNION OF INDIA & ORS.

Respondent(s)

(FOR IA No.54166/2020-EXEMPTION FROM FILING AFFIDAVIT and IA
No.54167/2020-PERMISSION TO APPEAR AND ARGUE IN PERSON)

Date : 10-08-2020 This petition was called on for hearing today.

CORAM :

HON'BLE MR. JUSTICE ASHOK BHUSHAN
HON'BLE MR. JUSTICE R. SUBHASH REDDY
HON'BLE MR. JUSTICE M.R. SHAH

For Petitioner(s) Petitioner-in-person

For Respondent(s) Mr. Tushar Mehta, SG
Mr. Gurmeet Singh Makker, Adv.
Mr. Rajat Nair, Adv.
Mr. Apoorv Kurup, Adv.

UPON hearing the counsel the Court made the following

O R D E R

Issue notice to respondent Nos. 1 to 3. Notice is not being issued to respondent Nos. 4 to 6 as on date.

Learned counsel for the petitioner may serve a copy of the petition in the office of the learned Solicitor General, who may obtain instructions.

List the matter after two weeks.

(MEENAKSHI KOHLI)
AR-CUM-PS(RENU KAPOOR)
COURT MASTER*Humany*

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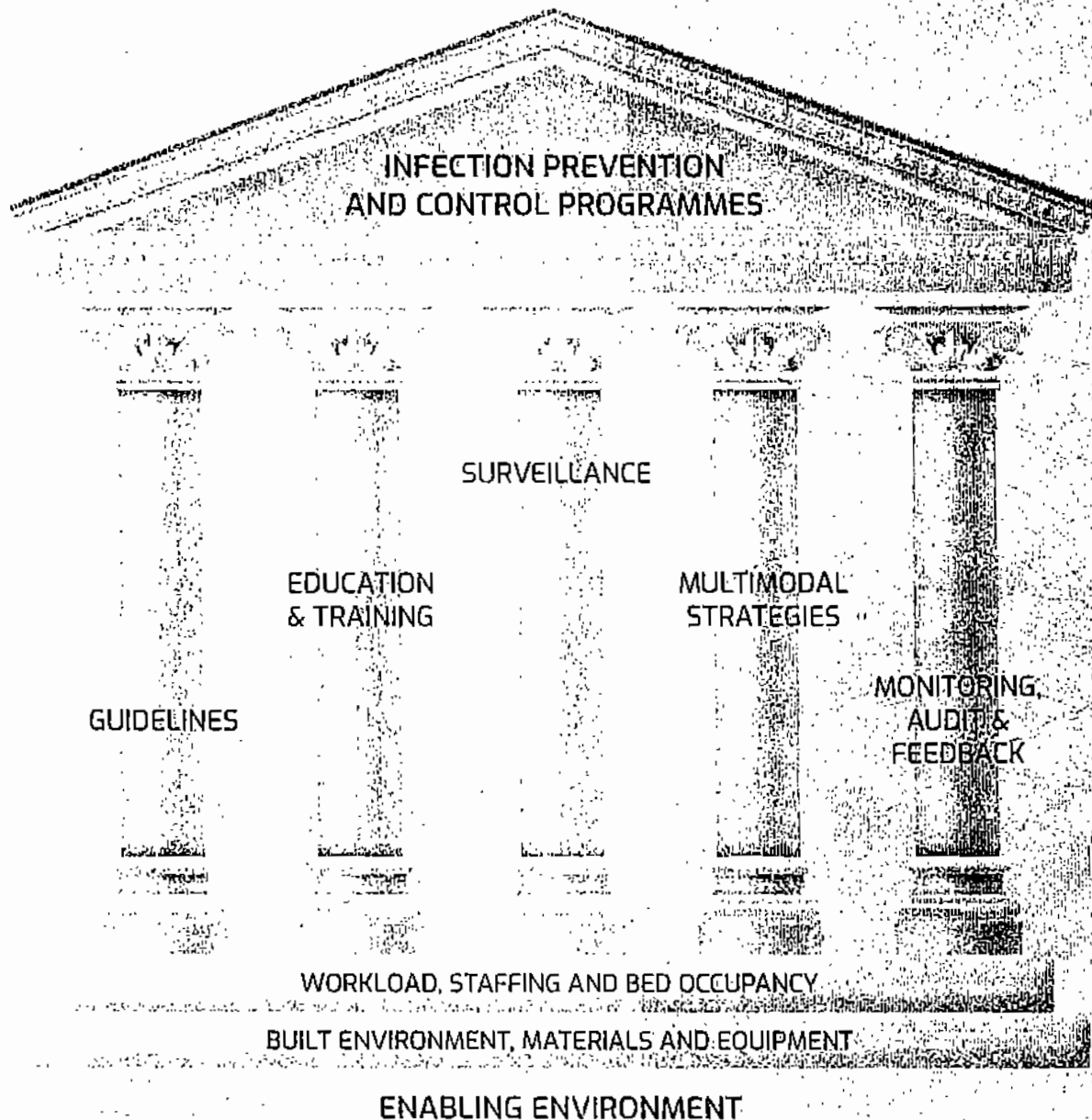


सत्यमेव जयते

13

Ministry of Health and Family Welfare
Government of India

NATIONAL GUIDELINES FOR INFECTION PREVENTION AND CONTROL IN HEALTHCARE FACILITIES



the nurse in charge, who is also responsible for keeping a visitor record. A roster of all staff working in the airborne precaution areas should also be kept for possible outbreak investigation and contact tracing.

- Patient-care equipment that is required for use by other patients should be thoroughly cleaned and disinfected before use.
- Ensure scrupulous daily cleaning of the airborne precaution room/area.

Cleaning and sanitation

Need for cleaning and sanitation

Dry conditions favour the persistence of gram-positive cocci (e.g. coagulase-negative *Staphylococcus* spp.) in dust and on surfaces, whereas moist, soiled environments favour the growth and persistence of gram-negative bacilli. Fungal spores are present in dust and fungi can proliferate in moist, fibrous material.

Pathogenic organisms that survive in the environment can be a source of infection to patients admitted in the hospital. Therefore, it is important to clean the environment thoroughly on a regular basis. This will reduce the bacterial load, get rid of soil and make the environment unsuitable for growth of microorganisms.

Hospitals need to practice and maintain the highest standards of hygiene and an environment conducive for speedy patient recovery.

General principles of cleaning and sanitation⁶⁶

Regardless of the agent used for cleaning, the following protocol must be followed:

- Staff should be properly trained on the practices of cleaning and decontamination of hospital surfaces.
- Appropriate PPE should be worn and a log of all cleaning procedures must be maintained.
- Housekeeping surfaces can be divided into two groups – those with minimal hand-contact (e.g. floors, and ceilings) and those with frequent hand-contact or "high touch surfaces" (e.g. doorknobs, bedrails, light switches, wall areas around the toilet in the patient's room, and the edges of privacy curtains).
- All housekeeping surfaces (floors/table tops/counters) should be cleaned on a regular basis, when visibly soiled and when spills occur. Either hot water or a neutral detergent may be used or a detergent/disinfectant may be used.
- Housekeeping surfaces should be cleaned with a detergent/disinfectant solution on daily basis or more frequently in specific high-risk areas (ICUs, transplant units, isolation rooms, burns wards, OTs, emergency rooms, or

when there are suspected spills of blood/body fluids) and in areas that have patients with known transmissible infectious diseases.

- All horizontal surfaces and all toilet areas including washbasins and commodes should be cleaned daily.
- Administrative and office areas with no patient contact require normal domestic cleaning.
- Fresh detergent/disinfectant solutions must be prepared every day according to manufacturers' instructions. These solutions must be replaced with fresh solutions frequently.
- Diluted disinfectant solutions may become contaminated with resistant pathogens. Therefore, after the day's use, remaining solutions must be discarded and containers must be cleaned with detergent before being dried.
- High-touch surfaces must be cleaned and disinfected more frequently than minimal-touch surfaces.
- The methods of cleaning floors include wet mopping, and vacuum cleaning with filters attached. Avoid dry mopping with brooms, as this generates dust aerosols.
- Horizontal surfaces must be wet dusted with a cloth moistened with a hospital disinfectant (or detergent).
- Contamination of cleaning solutions and mops must be minimized. For wet mopping, a two-bucket method should be used. When a single bucket is used, the solutions should be changed more frequently. Used cleaning solutions must be discarded in the sluice. The buckets should be cleaned with detergent and kept inverted to assist drying.
- Mop heads must be changed after cleaning spills and at the beginning of the day.
- Mop heads and cleaning cloths must be decontaminated regularly by laundering (heat disinfection) with detergent and drying at 80°C.
- Walls, blinds and window curtains must be cleaned when visibly soiled or contaminated.
- Disinfectant fogging is not recommended for routine patient care areas.
- Bacteriological testing of the environment is NOT RECOMMENDED as a routine unless seeking a potential source of an outbreak.

Blood and body substance spill management

Splashes of body fluids on walls and surfaces can be cleaned by using a high-level disinfectant.

- Use PPE (gloves, face masks and fluid-resistant gowns) for cleaning blood spills. Wear protective shoe covers/boots when cleaning large spills.

- For decontamination of small spills (<10 ml), if sodium hypochlorite solution is selected, use a 1:100 dilution (525–615 ppm of available chlorine) (Table 5.3). If spills involve larger amounts of blood, or involve a spill of microbiology cultures in the laboratory, a 1:10 dilution of hypochlorite solution for first application (before cleaning) reduces the risk of infection during cleaning. After the first application, remove the visible organic matter with absorbent material (e.g. disposable paper towels), discard into leak-proof, labelled bag/container and then dispose of as per waste management guidelines.

Cleaning agents and disinfectants for environmental use

A neutral detergent and warm water solution should be used for all routine and general cleaning. When a disinfectant is required for surface cleaning, e.g. after spillage or contamination with blood or body fluids, or in special areas such as the surgical unit, dialysis unit and ICU, the manufacturer's recommendations for use and occupational health and safety instructions should be followed. Table 5.4 lists the disinfectants used for the environment, their recommended use and precautions.

Table 5.3. Preparation of hypochlorite solution of 0.5%, 1% and 2%

Product	Chlorine available	0.5%	1%	2%
Sodium hypochlorite – liquid bleach	3.5%	1 part bleach to 6 parts water	1 part bleach to 2.5 parts water	1 part bleach to 0.7 parts water
Sodium hypochlorite – liquid	5%	1 part bleach to 9 parts water	1 part bleach to 4 parts water	1 part bleach to 1.5 parts water
NaDCC (sodium dichloro-isocyanurate) – powder	60%	8.5 grams to 1 litre water	17 grams to 1 litre water	34 grams to 1 litre water
NaDCC (1.5 g/tablet) – tablets	60%	6 tablets to 1 litre water	11 tablets to 1 litre water	23 tablets to 1 litre water
Chloramine – powder	25%	20 g to 1 litre water	40 g to 1 litre water	80 g to 1 litre water

Bleach solution becomes unstable rapidly, hence it needs to be freshly prepared daily or changed on becoming dirty/turbid. Chlorine bleach can be corrosive. Protect metal instruments by thoroughly rinsing them with water after soaking for 10 minutes.

Policy for cleaning, sanitation and disinfection

The healthcare facility should develop a policy for cleaning, sanitation and disinfection of environmental surfaces.

Table 5.4. Common cleaning agents and disinfectants for environmental cleaning

Disinfectants	Recommended use	Precautions
Sodium hypochlorite 1% in-use dilution; 5% solution to be diluted 1:5 in clean water	Disinfection of material contaminated with blood and body fluids	<ul style="list-style-type: none"> • Should be used in well-ventilated areas • Protective clothing required while handling and using undiluted • Do not mix with strong acids to avoid release of chlorine gas • Corrosive to metals
Bleaching powder 7g/L with 70% available chlorine	Toilets/bathrooms – may be used in place of liquid bleach if this is unavailable	Same as above
Alcohol (70%) isopropyl, ethyl alcohol, methylated spirit	Smooth metal surfaces, table tops and other surfaces on which bleach cannot be used	<ul style="list-style-type: none"> • Flammable, toxic – to be used in well-ventilated area, avoid inhalation • Keep away from heat source, electrical equipment, flames, hot surfaces • Allow it to dry completely, and avoid diathermy burns
Detergent with enzyme	Cleaning endoscopes, surgical instruments before disinfection is essential	

Source: Practical guidelines for infection control in healthcare facilities

- Between cases:
 - Place soiled towels, drapes and gowns in a clean laundry bag and send to laundry. Wet linen should be placed in plastic container so that bacteria do not pass through the moist material.
 - Soiled instruments must be placed in disinfectant and then send to the cleaning area, this prevents occupational hazard to the cleaner.
 - Wipe all used equipment, furniture and lights.
 - Move operating table to one side and wet vacuum or wet mop a 3-4 feet area around the operating site.
 - Empty suction bottle and wash the suction bottle and tubing with detergent-disinfectant. Best is disposable suction bottle.
- Terminal daily cleaning after scheduled cases are over:
 - Remove all portable equipment from the room
 - Wipe windowsills, overhead lights, equipment, furniture and waste containers with a cloth soaked in detergent disinfectant solution.
 - Wet vacuum or wet mop the entire floor area
 - Clean and disinfect the wheels/castors
 - Restock unsterile supplies
 - Check levels and dates of all sterile supplies and restock
 - Clean the air-conditioning grills.
 - Clean scrub sinks with scouring powder
 - Empty all shelves, wipe with detergent-disinfectant and dry them before replacing the supplies.

Weekly general cleaning procedure

- Remove all portable equipment. Clean lights and fixtures with detergent disinfectant solution and cloth.
- Clean doors hinges and facings and rinse with solution.
- Wipe down the walls with a mop soaked in detergent disinfectant solution.
- Scrub the floor with floor cleaning machine and a phenol disinfectant detergent solution. Use a wet vacuum to pick up the fluid.
- Replace clean portable equipment, clean wheels and castors by rolling them across a towel saturated with detergent disinfectant.
- Wash and dry all furniture and equipment including
 - Operating room table
 - Suction holders
 - Foot and sitting stools
 - IV stands and all other stands
 - X-ray view boxes
 - All tables
 - Tubing to oxygen tanks
 - Waste containers and buckets

Note: Thorough washing and cleaning is essential. Fumigation and fogging have no role in the modern operation room. Fumigation with formalin is hazardous to persons and should not be done. It can also harm sensitive equipment.

H. R. Mays

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ANNEXURE-C

19 COVID-19: Guidelines on disinfection of common public places including offices

Scope: This document aims to provide interim guidance about the environmental cleaning /decontamination of common public places including offices in areas reporting COVID-19.

Coronavirus Disease 2019 (COVID -19) is an acute respiratory disease caused by a novel Coronavirus (SARS-CoV-2), transmitted in most instances through respiratory droplets, direct contact with cases and also through contaminated surfaces/objects. Though the virus survives on environmental surfaces for varied period of time, it gets easily inactivated by chemical disinfectants.

In view of the above, the following guidelines are to be followed, especially in areas reporting COVID-19. For ease of implementation the guideline divided these areas into (i) indoor areas, (ii) outdoor areas and (iii) public toilets.

1. Indoor areas including office spaces

Office spaces, including conference rooms should be cleaned every evening after office hours or early in the morning before the rooms are occupied. If contact surface is visibly dirty, it should be cleaned with soap and water prior to disinfection. Prior to cleaning, the worker should wear disposable rubber boots, gloves (heavy duty), and a triple layer mask.

- Start cleaning from cleaner areas and proceed towards dirtier areas.
- All indoor areas such as entrance lobbies, corridors and staircases, escalators, elevators, security guard booths, office rooms, meeting rooms, cafeteria should be mopped with a disinfectant with 1% sodium hypochlorite or phenolic disinfectants. The guidelines for preparing fresh 1% sodium hypochlorite solution is at **Annexure I**
- High contact surfaces such elevator buttons, handrails / handles and call buttons, escalator handrails, public counters, intercom systems, equipment like telephone, printers/scanners, and other office machines should be cleaned twice daily by mopping with a linen/absorbable cloth soaked in 1% sodium hypochlorite. Frequently touched areas like table tops, chair handles, pens, diary files, keyboards, mouse, mouse pad, tea/coffee dispensing machines etc. should specially be cleaned.
- For metallic surfaces like door handles, security locks, keys etc. 70% alcohol can be used to wipe down surfaces where the use of bleach is not suitable.
- Hand sanitizing stations should be installed in office premises (especially at the entry) and near high contact surfaces.
- In a meeting/conference/office room, if someone is coughing, without following respiratory etiquettes or mask, the areas around his/her seat should be vacated and cleaned with 1% sodium hypochlorite.
- Carefully clean the equipment used in cleaning at the end of the cleaning process.
- Remove PPE, discard in a disposable PPE in yellow disposable bag and wash hands with soap and water.

In addition, all employees should consider cleaning the work area in front of them with a disinfecting wipe prior to use and sit one seat further away from others, if possible

2. Outdoor areas

Outdoor areas have less risk than indoor areas due to air currents and exposure to sunlight. These include bus stops, railway platforms, parks, roads, etc. Cleaning and disinfection efforts should be targeted to frequently touched/contaminated surfaces as already detailed above.

3. Public toilets

Sanitary workers must use separate set of cleaning equipment for toilets (mops, nylon scrubber) and separate set for sink and commode). They should always wear disposable protective gloves while cleaning a toilet.

Toilet pot/ commode	Sodium hypochlorite 1%/ detergent. Soap powder / long handle angular brush	<ul style="list-style-type: none"> • Inside of toilet pot/commode: • Scrub with the recommended agents and the long handle angular brush. • Outside: clean with recommended agents; use a scrubber.
Lid/ commode	Nylon scrubber and soap powder/detergent 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Wet and scrub with soap powder and the nylon scrubber inside and outside. • Wipe with 1% Sodium Hypochlorite
Toilet floor	Soap powder /detergent and scrubbing brush/ nylon broom 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Scrub floor with soap powder and the scrubbing brush • Wash with water • Use sodium hypochlorite 1% dilution
Sink	Soap powder / detergent and nylon scrubber 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Scrub with the nylon scrubber. • Wipe with 1% sodium hypochlorite
Showers area / Taps and fittings	Warm water Detergent powder Nylon Scrubber 1% Sodium Hypochlorite/ 70% alcohol	<ul style="list-style-type: none"> • Thoroughly scrub the floors/tiles with warm water and detergent • Wipe over taps and fittings with a damp cloth and detergent. • Care should be taken to clean the underside of taps and fittings. • Wipe with 1% sodium hypochlorite/ 70% alcohol
Soap dispensers	Detergent and water	<ul style="list-style-type: none"> • Should be cleaned daily with detergent and water and dried.

- 70% Alcohol can be used to wipe down surfaces where the use of bleach is not suitable, e.g. metal. (Chloroxylenol (4.5-5.5%)/ Benzalkonium Chloride or any other disinfectants found to be effective against coronavirus may be used as per manufacturer's instructions)
- Always use freshly prepared 1% sodium hypochlorite.

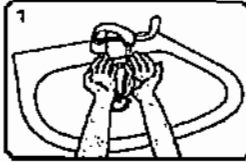
- Do not use disinfectants spray on potentially highly contaminated areas (such as toilet bowl or surrounding surfaces) as it may create splashes which can further spread the virus.
 - To prevent cross contamination, discard cleaning material made of cloth (mop and wiping cloth) in appropriate bags after cleaning and disinfecting. Wear new pair of gloves and fasten the bag.
 - Disinfect all cleaning equipment after use and before using in other area
 - Disinfect buckets by soaking in bleach solution or rinse in hot water
4. **Personal Protective Equipment (PPE):** Wear appropriate PPE which would include the following while carrying out cleaning and disinfection work.
- Wear disposable rubber boots, gloves (heavy duty), and a triple layer mask
 - Gloves should be removed and discarded damaged, and a new pair worn.
 - 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, following completion of cleaning. (Refer to **Annexure II: Steps of Hand Hygiene**)

Masks are effective if worn according to instructions and properly fitted. Masks should be discarded and changed if they become physically damaged or soaked. (**Annexure-III: Guidelines for use of mask**)

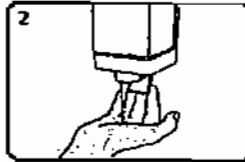
Guidelines for Preparation of 1% sodium hypochlorite solution

Product	Available chlorine	1percent
Sodium hypochlorite – liquid bleach	3.5%	1 part bleach to 2.5 parts water
Sodium hypochlorite – liquid	5%	1 part bleach to 4 parts water
NaDCC (sodium dichloro-isocyanurate) powder	60%	17 grams to 1 litre water
NaDCC (1.5 g/ tablet) – tablets	60%	11 tablets to 1 litre water
Chloramine – powder	25%	80 g to 1 litre water
Bleaching powder	70%	7g g to 1 litre water
Any other	As per manufacturer's Instructions	

Hand-washing technique with soap and water



1
Wet hands with water



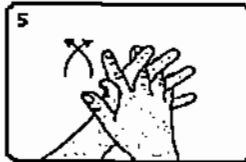
2
Apply enough soap to cover all hand surfaces



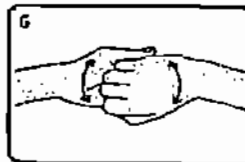
3
Rub hands palm to palm



4
Rub back of each hand with palm of other hand with fingers interlaced



5
Rub palm to palm with fingers interlaced



6
Rub with back of fingers to opposing palms with fingers interlocked



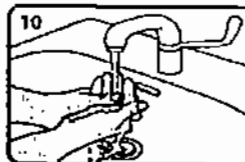
7
Rub each thumb clasped in opposite hand using a rotational movement



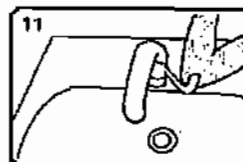
8
Rub tips of fingers in opposite palm in a circular motion



9
Rub each wrist with opposite hand



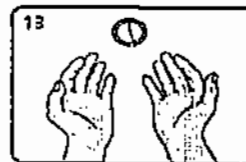
10
Rinse hands with water



11
Use elbow to turn off tap



12
Dry thoroughly with a single-use towel



13
Hand washing should take 15-30 seconds

Guidelines for use of mask

The correct procedure of wearing triple layer surgical mask

1. Perform hand hygiene
2. Unfold the pleats; make sure that they are facing down.
3. Place over nose, mouth and chin.
4. Fit flexible nose piece over nose bridge.
5. Secure with tie strings (upper string to be tied on top of head above the ears –lower string at the back of the neck.)
6. Ensure there are no gaps on either side of the mask, adjust to fit.
7. Do not let the mask hanging from the neck.
8. Change the mask after six hours or as soon as they become wet.
9. Disposable masks are never to be reused and should be disposed off.
10. While removing the mask great care must be taken not to touch the potentially infected outer surface of the mask
11. To remove mask first untie the string below and then the string above and handle the mask using the upper strings.
12. Disposal of used masks: Used mask should be considered as potentially infected medical waste. Discard the mask in a closed bin immediately after use.

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Guidelines on preventive measures to contain spread of COVID-19 in workplace settings

1. Background

Offices and other workplaces are relatively close setting, with shared spaces like (corridors, elevators & stairs, parking places, cafeteria, meeting rooms and conference halls etc.) and thus COVID-19 infection can spread relatively fast among officials, staffs and visitors.

Thus there is a need to prevent importation of infection in workplace settings and to respond in a timely and effective manner in case suspect case of COVID-19 is detected in these settings, so as to limit the spread of infection.

2. Scope

This document outlines the preventive and response measures to be observed to contain the spread of COVID-19 in workplace settings. The document is divided into the following sub-sections

- (i) basic preventive measures to be followed at all times
- (ii) measures specific to offices
- (iii) measures to be taken on occurrence of case(s)
- (iv) disinfection procedures to be implemented in case of occurrence of suspect/confirmed case.

3. Basic preventive measures

The basic preventive measures include simple public health measures that are to be followed to reduce the risk of infection with COVID-19. These measures need to be observed by all (employees and visitors) at all times. These include:

- i. Physical distancing of at least one meter to be followed at all times.
- ii. Use of face covers/masks to be mandatory.
- iii. Practice frequent hand washing (for at least 40-60 seconds) even when hands are not visibly dirty and use of alcohol based hand sanitizers (for at least 20 seconds).
- iv. Respiratory etiquettes to be strictly followed. This involves strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing off used tissues properly.
- v. Self-monitoring of health by all and reporting any illness at the earliest

4. Preventive measures for offices:

Guidelines with respect to preventive measures specific to offices have been issued by DoPT. These guidelines are available at:

<https://www.mohfw.gov.in/pdf/PreventivemeasuresDOPT.pdf>.

Any staff reportedly suffering from flu-like illness should not attend office and seek medical advice from local health authorities [e.g. CGHS wellness center, medical attendance under CS (MA) etc.]. Such persons, if diagnosed as a suspect/confirmed case of COVID-19 should immediately inform the office authorities.

Any staff requesting home quarantine based on the containment zone activities in their residential areas should be permitted to work from home.

DoPT guidelines with respect to organizing meetings, coordinating visitors shall be scrupulously followed.

5. Measures to be taken on occurrence of case(s):

Despite taking the above measures, the occurrence of cases among the employees working in the office cannot be ruled out. The following measures will be taken in such circumstances:

5.1. When one or few person(s) who share a room/close office space is/are found to be suffering from symptoms suggestive of COVID-19:

5.1.1. Place the ill person in a room or area where they are isolated from others at the workplace. Provide a mask/face cover till such time he/she is examined by a doctor.

5.1.2. Report to concerned central/state health authorities. Helpline 1075 will be immediately informed.

5.1.3. A risk assessment will be undertaken by the designated public health authority (district RRT/treating physician) and accordingly further advice shall be made regarding management of case, his/her contacts and need for disinfection.

5.1.4. The suspect case if reporting very mild / mild symptoms on assessment by the health authorities would be placed under home isolation, subject to fulfilment of criteria laid down in MoHFW guidelines (available at:

<https://www.mohfw.gov.in/pdf/RevisedguidelinesforHomeIsolationofverymildpresymptomaticCOVID19cases10May2020.pdf>)

5.1.5. Suspect case, if assessed by health authorities as moderate to severe, he/she will follow guidelines at:

<https://www.mohfw.gov.in/pdf/FinalGuidanceonMangaementofCovidcasesversion2.pdf>.

- 5.1.6. The rapid response team of the concerned district shall be requisitioned and will undertake the listing of contacts.
- 5.1.7. The necessary actions for contact tracing and disinfection of work place will start once the report of the patient is received as positive. The report will be expedited for this purpose.

5.2. If there are large numbers of contacts from a pre-symptomatic/asymptomatic case, there could be a possibility of a cluster emerging in workplace setting. Due to the close environment in workplace settings this could even be a large cluster (>15 cases). The essential principles of risk assessment, isolation, and quarantine of contacts, case referral and management will remain the same. However, the scale of arrangements will be higher.

5.3. Management of contacts:

The contacts will be categorised into high and low risk contacts by the District RRT as detailed in the **Annexure I**.

The high risk exposure contacts shall be quarantined for 14 days. They will follow the guidelines on home quarantine (available on:

<https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>).

These persons shall undergo testing as per ICMR protocol (available at: <https://www.mohfw.gov.in/pdf/Revisedtestingguidelines.pdf>).

The low risk exposure contacts shall continue to work and closely monitor their health for next 14 days.

6. Closure of workplace

If there are one or two cases reported, the disinfection procedure will be limited to places/areas visited by the patient in past 48 hrs. **There is no need to close the entire office building/halt work in other areas of the office** and work can be resumed after disinfection as per laid down protocol (see para 7).

However, if there is a larger outbreak, the entire building will have to be closed for 48 hours after thorough disinfection. All the staff will work from home, till the building is adequately disinfected and is declared fit for re-occupation.

7. Disinfection Procedures in Offices

Detailed guidelines on the disinfection procedures in offices have already been issued by the MOHFW and are available on:

<https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf>.

Risk profiling of contacts

Contacts are persons who have been exposed to a confirmed case anytime between 2 days prior to onset of symptoms (in the positive case) and the date of isolation (or maximum 14 days after the symptom onset in the case).

High-risk contact

- Touched body fluids of the patient (respiratory tract secretions, blood, vomit, saliva, urine, faeces; e.g. being coughed on, touching used paper tissues with a bare hand)
- 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 close proximity (within 1 meter) of the confirmed case without precautions.
- Passengers in close proximity (within 1 meter) in a conveyance with a symptomatic person who later tested positive for COVID-19 for more than 6 hours.

Low-risk contact

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

Figure 1: Management of the case(s) and contacts

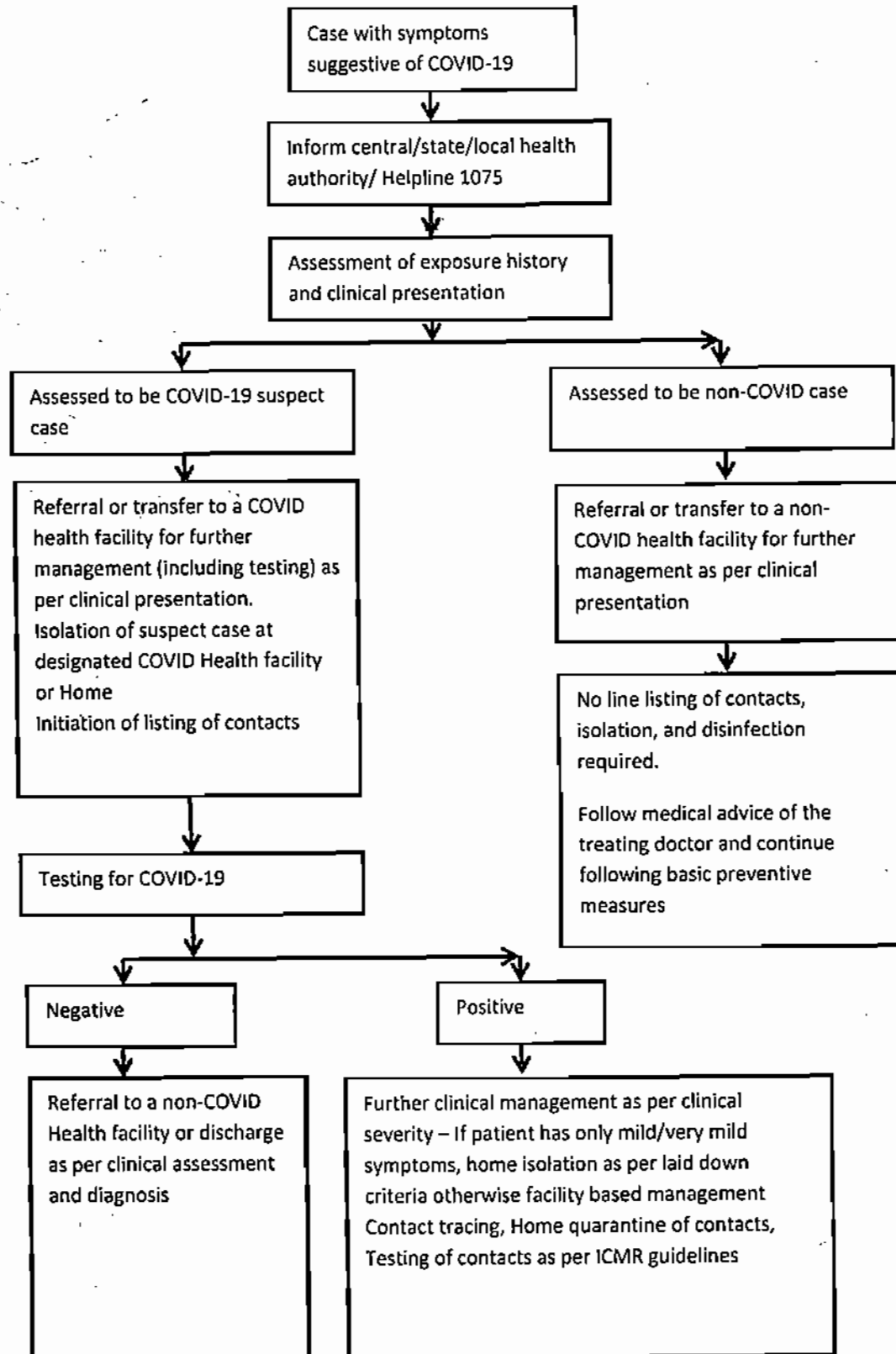
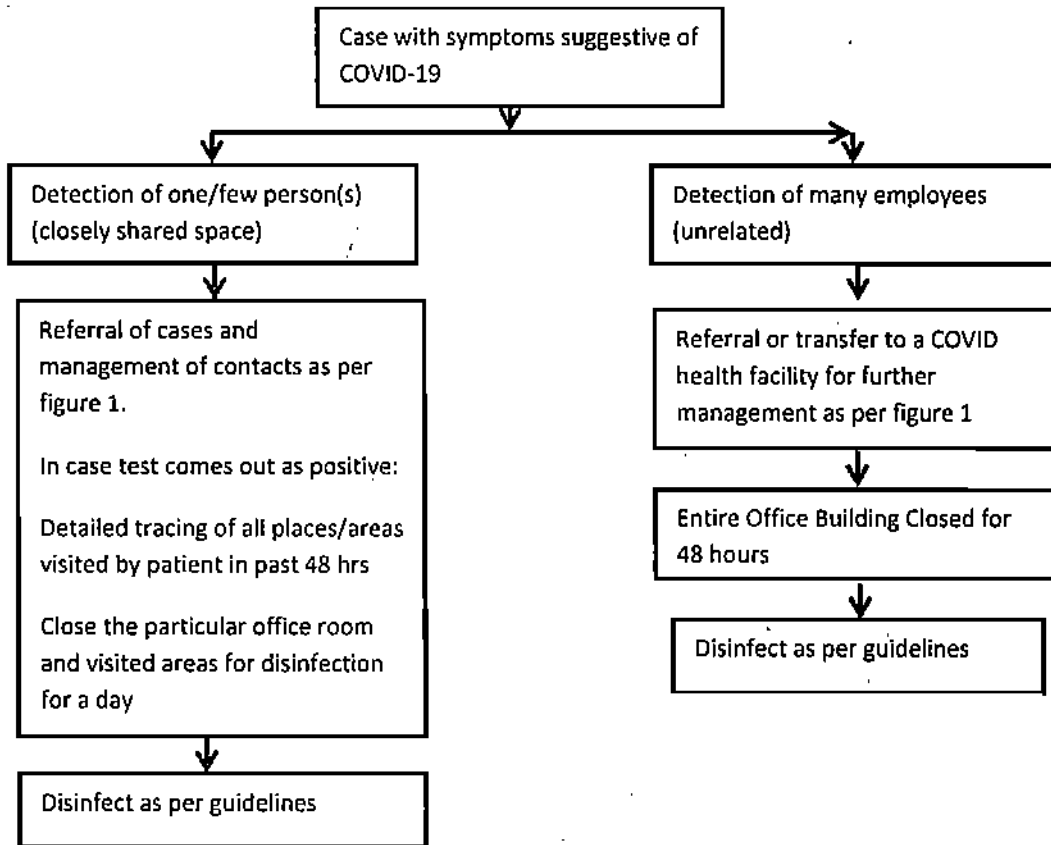


Fig-2: Disinfection of workplace



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ANNEXURE-E

4th June, 2020

Government of India
Ministry of Health & Family Welfare

32

SOP on preventive measures to contain spread of COVID-19 in offices

1. Background

Offices and other workplaces are relatively close settings, with shared spaces like work stations, corridors, elevators & stairs, parking places, cafeteria, meeting rooms and conference halls etc. and COVID-19 infection can spread relatively fast among officials, staffs and visitors.

There is a need to prevent spread of infection and to respond in a timely and effective manner in case suspect case of COVID-19 is detected in these settings, so as to limit the spread of infection.

2. Scope

This document outlines the preventive and response measures to be observed to contain the spread of COVID-19 in office settings. The document is divided into the following sub-sections

- (i) Generic preventive measures to be followed at all times
- (ii) Measures specific to offices }
- (iii) Measures to be taken on occurrence of case(s)
- (iv) Disinfection procedures to be implemented in case of occurrence of suspect/confirmed case.

Offices in containment zones shall remain closed except for medical & essential services. Only those outside containment zones will be allowed to open up.

3. Generic preventive measures

Persons above 65 years of age, persons with comorbidities, pregnant women are advised to stay at home, except for essential and health purposes. Office management to facilitate the process.

The generic preventive measures include simple public health measures that are to be followed to reduce the risk of infection with COVID-19. These measures need to be observed by all (employees and visitors) at all times. These include:

- i. Individuals must maintain a minimum distance of 6 feet in public places as far as feasible.

- ii. Use of face covers/masks to be mandatory.
- iii. Practice frequent hand washing with soap (for at least 40-60 seconds) even when hands are not visibly dirty. Use of alcohol-based hand sanitizers (for at least 20 seconds) can be made wherever feasible.
- iv. Respiratory etiquettes to be strictly followed. This involves strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing off used tissues properly.
- v. Self-monitoring of health by all and reporting any illness at the earliest to the immediate supervisory officer.
- vi. Spitting shall be strictly prohibited.
- vii. Installation & use of Aarogya Setu App by employees.

4. Specific preventive measures for offices:

- i. Entrance to have mandatory hand hygiene (sanitizer dispenser) and thermal screening provisions.
- ii. Only asymptomatic staff/visitors shall be allowed.
- iii. Any officer and staff residing in containment zone should inform the same to supervisory officer and not attend the office till containment zone is denotified. Such staff should be permitted to work from home and it will not be counted as leave period.
- iv. Drivers shall maintain social distancing and shall follow required dos and don'ts related to COVID-19. It shall be ensured by the service providers/ officers/ staff that drivers residing in containment zones shall not be allowed to drive vehicles.
- v. There shall be provision for disinfection of the interior of the vehicle using 1% sodium hypochlorite solution/ spray. A proper disinfection of steering, door handles, keys, etc. should be taken up.
- vi. Advise all employees who are at higher risk i.e. older employees, pregnant employees and employees who have underlying medical conditions, to take extra precautions. They should preferably not be exposed to any front-line work requiring direct contact with the public. Office management to facilitate work from home wherever feasible.
- vii. All officers and staff / visitors to be allowed entry only if using face cover/masks. The face cover/mask has to be worn at all times inside the office premises.
- viii. Routine issue of visitors/temporary passes should be suspended and visitors with proper permission of the officer who they want to meet, should be allowed after being properly screened.
- ix. Meetings, as far as feasible, should be done through video conferencing.
- x. Posters/standees/AV media on preventive measures about COVID-19 to be displayed prominently.

- xi. Staggering of office hours, lunch hours/coffee breaks to be done, as far as feasible.
- xii. Proper crowd management in the parking lots and outside the premises – duly following social distancing norms be ensured.
- xiii. Valet parking, if available, shall be operational with operating staff wearing face covers/ masks and gloves as appropriate. A proper disinfection of steering, door handles, keys, etc. of vehicles should be taken up.
- xiv. Any shops, stalls, cafeteria etc., outside and within the office premises shall follow social distancing norms at all times.
- xv. Specific markings may be made with sufficient distance to manage the queue and ensure social distancing in the premises.
- xvi. Preferably separate entry and exit for officers, staff and visitors shall be organised.
- xvii. Proper cleaning and frequent sanitization of the workplace, particularly of the frequently touched surfaces must be ensured.
- xviii. Ensure regular supply of hand sanitisers, soap and running water in the washrooms.
- xix. Required precautions while handling supplies, inventories and goods in the office shall be ensured.
- xx. Seating arrangement to be made in such a way that adequate social distancing is maintained.
- xxi. Number of people in the elevators shall be restricted, duly maintaining social distancing norms.
- xxii. For air-conditioning/ventilation, the guidelines of CPWD shall be followed which *inter alia* emphasises that the temperature setting of all air conditioning devices should be in the range of 24-30°C, relative humidity should be in the range of 40-70%, intake of fresh air should be as much as possible and cross ventilation should be adequate.
- xxiii. Large gatherings continue to remain prohibited.
- xxiv. Effective and frequent sanitation within the premises shall be maintained with particular focus on lavatories, drinking and hand washing stations/areas.
- xxv. Cleaning and regular disinfection (using 1% sodium hypochlorite) of frequently touched surfaces (door knobs, elevator buttons, hand rails, benches, washroom fixtures, etc.) shall be done in office premises and in common areas
- xxvi. Proper disposal of face covers / masks / gloves left over by visitors and/or employees shall be ensured.
- xxvii. In the cafeteria/canteen/dining halls:
 - a. Adequate crowd and queue management to be ensured to ensure social distancing norms.
 - b. Staff / waiters to wear mask and hand gloves and take other required precautionary measures.
 - c. The seating arrangement to ensure a distance of at least 1 meter between patrons as far as feasible.
 - d. In the kitchen, the staff to follow social distancing norms.

5. Measures to be taken on occurrence of case(s):

Despite taking the above measures, the occurrence of cases among the employees working in the office cannot be ruled out. The following measures will be taken in such circumstances:

i. When one or few person(s) who share a room/close office space is/are found to be suffering from symptoms suggestive of COVID-19:

- a. Place the ill person in a room or area where they are isolated from others at the workplace. Provide a mask/face cover till such time he/she is examined by a doctor.
- b. Immediately inform the nearest medical facility (hospital/clinic) or call the state or district helpline.
- c. A risk assessment will be undertaken by the designated public health authority (district RRT/treating physician) and accordingly further advice shall be made regarding management of case, his/her contacts and need for disinfection.
- d. The suspect case if reporting very mild/mild symptoms on assessment by the health authorities would be placed under home isolation.
- e. Suspect case, if assessed by health authorities as moderate to severe, will be treated as per health protocol in appropriate health facility.
- f. The rapid response team of the concerned district shall be requisitioned and will undertake the listing of contacts.
- g. The necessary actions for contact tracing and disinfection of work place will start once the report of the patient is received as positive. The report will be expedited for this purpose.

ii. If there are large numbers of contacts from a pre-symptomatic/asymptomatic case, there could be a possibility of a cluster emerging in workplace setting. Due to the close environment in workplace settings this could even be a large cluster (>15 cases). The essential principles of risk assessment, isolation, and quarantine of contacts, case referral and management will remain the same. However, the scale of arrangements will be higher.

iii. Management of contacts:

- a. The contacts will be categorised into high and low risk contacts by the District RRT as detailed in the Annexure I.
- b. The high-risk exposure contacts shall be quarantined for 14 days.

- c. These persons shall undergo testing as per ICMR protocol.
- d. The low risk exposure contacts shall continue to work and closely monitor their health for next 14 days.
- e. The flowchart for management of contact/ cases is placed at Annexure - II.

6. Closure of workplace

- i. If there are one or two cases reported, the disinfection procedure will be limited to places/areas visited by the patient in past 48 hrs. There is no need to close the entire office building/halt work in other areas of the office and work can be resumed after disinfection as per laid down protocol.
- ii. However, if there is a larger outbreak, the building/block will have to be closed for 48 hours after thorough disinfection. All the staff will work from home, till the building/block is adequately disinfected and is declared fit for re-occupation.

7. Disinfection Procedures in Offices

Detailed guidelines on the disinfection as already issued by Ministry of Health & Family Welfare as available on their website shall be followed.

Risk profiling of contacts

Contacts are persons who have been exposed to a confirmed case anytime between 2 days prior to onset of symptoms (in the positive case) and the date of isolation (or maximum 14 days after the symptom onset in the case).

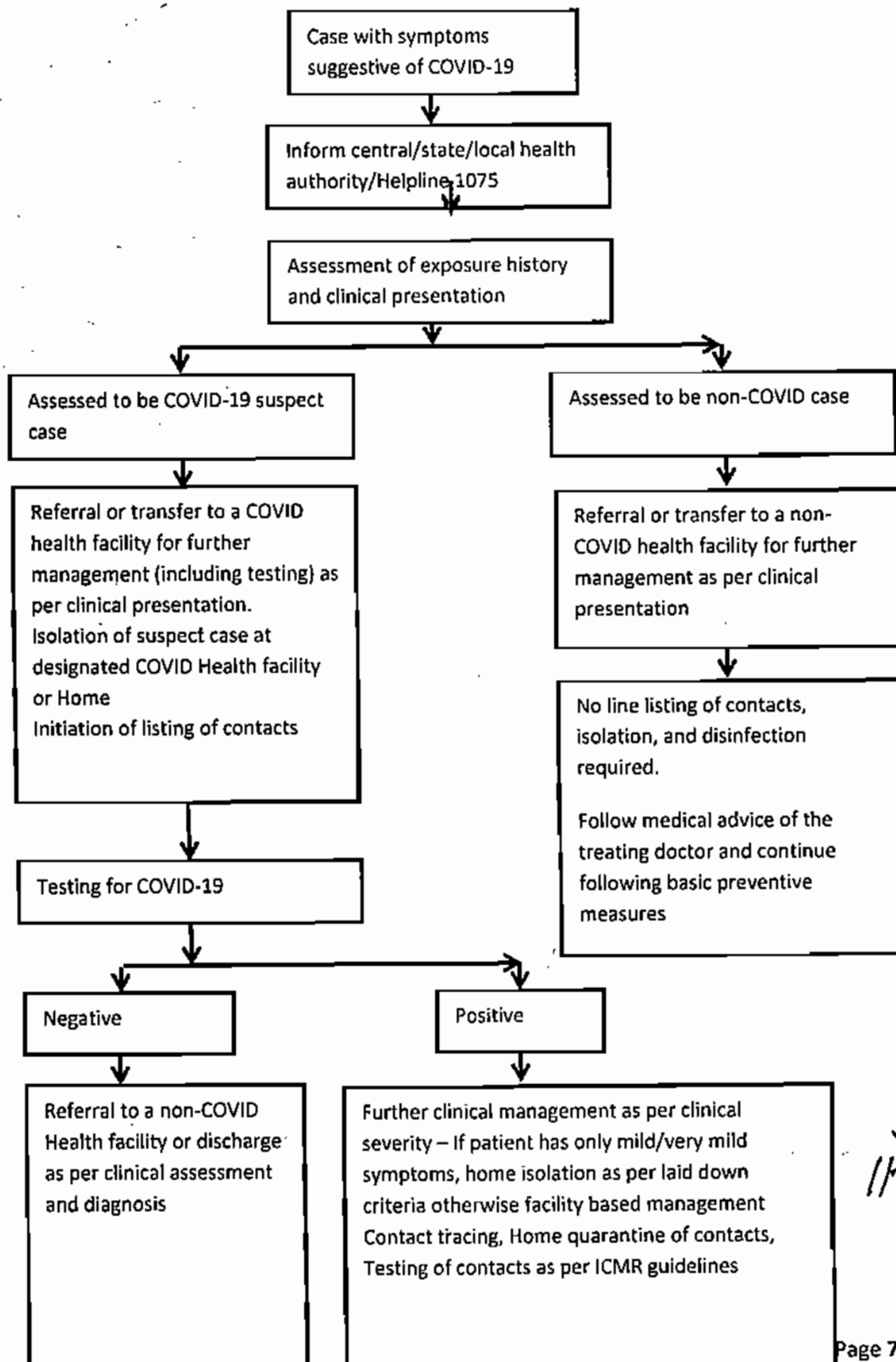
High-risk contact

- Touched body fluids of the patient (respiratory tract secretions, blood, vomit, saliva, urine, faeces; e.g. being coughed on, touching used paper tissues with a bare hand)
- 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 close proximity (within 1 meter) of the confirmed case without precautions.
- Passengers in close proximity (within 1 meter) in a conveyance with a symptomatic person who later tested positive for COVID-19 for more than 6 hours.

Low-risk contact

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

Management of the case(s) and contacts



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ANNEXURE-F

39

Ministry of Health & Family Welfare
Directorate General of Health Services
(EMR Division)

Advisory against spraying of disinfectant on people for COVID-19 management

Ministry of Health & Family Welfare has received many queries regarding the efficacy (if any) of use disinfectants such as Sodium hypochlorite spray used over the individuals to disinfect them. The strategy seems to have gained a lot of media attention and is also being reportedly used at local levels in certain districts/local bodies.

Purpose of the document

To examine the merit of using disinfectants as spray over human body to disinfect them from COVID-19 and to provide appropriate advisory

Disinfectants are chemicals that destroy disease causing pathogens or other harmful microorganisms. It refers to substances applied on inanimate objects owing to their strong chemical properties.

Chemical disinfectants are recommended for cleaning and disinfection only of frequently touched areas/surfaces by those who are suspected or confirmed to have COVID-19. Precautionary measures are to be adopted while using disinfectants for cleaning – like wearing gloves during disinfection.

In view of the above, the following advisory is issued:

- Spraying of individuals or groups is **NOT recommended** under any circumstances. Spraying an individual or group with chemical disinfectants is physically and psychologically harmful.
- Even if a person is potentially exposed with the COVID-19 virus, spraying the external part of the body does not kill the virus that has entered your body. Also there is no scientific evidence to suggest that they are effective even in disinfecting the outer clothing/body in an effective manner.
- Spraying of chlorine on individuals can lead to irritation of eyes and skin and potentially gastrointestinal effects such as nausea and vomiting. Inhalation of sodium hypochlorite can lead to irritation of mucous membranes to the nose, throat, respiratory tract and may also cause bronchospasm.
- Additionally use of such measures may in fact lead to a false sense of disinfection & safety and actually hamper public observance to hand washing and social distancing measures.

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Meeting under Chairmanship of DGHS (Prof. Rajiv Garg) on 9th June 2020 to review use of disinfection tunnel, use of various chemicals and spraying disinfectants.

A meeting was held under Chairmanship of DGHS (Prof. Rajiv Garg) on 9th June 2020 at 4:30pm, to address the following issues:

1. Use of disinfection tunnel
2. Use of various chemicals and
3. Spraying disinfectants.

The committee constituted of:

- i. Dr. (Prof) Nandini Duggal, HoD Microbiology, ABVIMS & Dr. RML Hospital
- ii. Dr. (Prof) Rajni Gaiind, HoD Microbiology, VMMC & Dr. Safdarjung Hospital
- iii. Dr. Mala Chhabra, Sr. Consultant, Microbiology, ABIVMS & Dr. RML Hospital
- iv. Dr. Gagandeep Singh, Assoc. Prof. Microbiology, AllMS New Delhi

The Committee members gave the following observations:

1. Use of disinfection tunnel

The matter of spraying of disinfectant on people for COVID-19 management was discussed in the Joint Monitoring Group and an advisory in this regard has been issued by MOHFW/DGHS, EMR division which is available on the website of the ministry. It clearly states the following:

'Spraying of individuals or groups is NOT recommended under any circumstances. Spraying an individual or group with chemical disinfectants is physically and psychologically harmful.

• Even if a person is potentially exposed with the COVID-19 virus, spraying the external part of the body does not kill the virus that has entered your body. Also there is no scientific evidence to suggest that they are effective even in disinfecting the outer clothing/body in an effective manner.

• Additionally use of such measures may in fact lead to a false sense of disinfection & safety and actually hamper public observance to hand washing and social distancing measures'

It is reiterated that spraying of individuals with disinfectants (such as tunnels, cabinets, chambers etc.) is not recommended. This could be physically and psychologically harmful and would not reduce an infected person's ability to spread the virus through droplets or contact. Moreover, spraying individuals with chlorine and other toxic chemicals could result in eye and skin irritation, bronchospasm due to inhalation, and gastrointestinal effects such as nausea and vomiting.

2. Use of chemicals:

As per the advisory by MOHFW/DGHS, EMR division:

'Chemical disinfectants are recommended for cleaning and disinfection only of frequently touched areas/surfaces by those who are suspected or confirmed to have COVID-19. Precautionary measures are to be adopted while using disinfectants for cleaning – like wearing gloves during disinfection.

Nandini Duggal

Rajni Gaiind

Mala Chhabra

Gagandeep Singh

• Spraying of chlorine on individuals can lead to irritation of eyes and skin and potentially gastrointestinal effects such as nausea and vomiting. Inhalation of sodium hypochlorite can lead to irritation of mucous membranes to the nose, throat, respiratory tract and may also cause bronchospasm.

The chemicals such as freshly prepared 1% sodium hypochlorite or 70% ethanol etc., are to be used as indicated, to disinfect inanimate surfaces using mops/wipes for the recommended contact time.

3. Spraying disinfectants:

Spraying disinfectants is not recommended in both health-care and non-health care settings.

In indoor spaces, routine application of disinfectants to environmental surfaces by spraying or fogging (also known as fumigation or misting) is not recommended for COVID-19 as the disinfectants may not be effective in removing organic material and may miss surfaces shielded by objects, folded fabrics or surfaces with intricate designs. If disinfectants are to be applied, this should be done with a cloth or wipe that has been soaked in disinfectant.

Spraying or fumigation of outdoor spaces, such as streets or marketplaces, is also not recommended to kill the COVID-19 virus or other pathogens because disinfectant is inactivated by dirt and debris and it is not feasible to manually clean and remove all organic matter from such spaces. Moreover, spraying porous surfaces, such as sidewalks and unpaved walkways, would be even less effective. Even in the absence of organic matter, chemical spraying is unlikely to adequately cover all surfaces for the duration of the required contact time needed to inactivate pathogens. Furthermore, streets and sidewalks are not considered to be reservoirs of infection for COVID-19. In addition, spraying disinfectants, even outdoors, can be harmful for human health.

The committee referred to the document of the World Health Organization on 'Cleaning and disinfection of environmental surfaces in the context of COVID-19' (<https://apps.who.int/iris/handle/10665/332096>).

Nandini Duggal
(Dr Nandini Duggal)

Dr RANJANA MND
9/6/2020

09.6.2020
Dr Mala Chhabra

Dr. Gagandeep Singh
9/6/20

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