RIGHT TO CARE

COVID-19 DATA ANALYSIS AND ADVICE GROUP

TECHNICAL ADVICE DOCUMENT

DISASTER MEDICINE:

HOSPITAL PREPARATION ACTION PLAN 5

SAFETY

(THESE ACTION PLANS WILL BE RELEASED AS SEQUENTIAL NUMBERED ACTION PLANS TO BE USED BY HOSPITAL TO PREPARE FOR THE COVID-19)

The Actions Plans are presented as a free service to hospitals by the panel and by Right to Care

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1.1 LIST OF FIGURES

2 ACTION PLAN 5: SAFETY

Based on the Disaster Medicine literature and personal experience the following action plan is recommended for hospitals AT THIS STAGE by the Consultancy Panel while preparing for the Pandemic.

This technical advice document must be read in conjunction with the Plan to Manage COVID-19: Spatial Response Strategy for the Epidemic (Republic of South Africa, 2020).

DISASTER MEDICINE ALGORITHM[1]
C: Command and Control
S: Safety

The various steps of this Algorithm will be addressed in the follow-up Action Plans.

2.1 SAFETY

Ensuring safety is an integral component of the preparation of a hospital for a disaster or major incident and is a critical element in a Pandemic.

2.1.1 COMPONENTS OF SAFETY IN THE HOSPITAL IN A PANDEMIC

The safety aspects can be sub-divided into:

- Own Safety – ensuring own personal safety in a pandemic
- Scene Safety – ensuring that the hospital is safe
- Safety of patients – ensuring that the patients in the hospital are safe

It is impossible to provide all the detail on safety in a short action plan, and this Action Plan must therefore be read with all the prescripts on Occupational Health and Safety, as the plan will only highlight the unique aspects applicable in a Pandemic. Please read with the Guidelines for Infection Control and Prevention (National Dept of Health, 2020).

2.2 MODE OF TRANSMISSION SAFETY

The main aspects of Own Safety in a Pandemic are knowledge of the disease and the mode of transmission. This information is available on the NICD Website.

It is recommended that hospitals ensure that the staff are fully briefed on the disease and the modes of transmission. Keep a record of this training to prevent legal claims in a case where a staff member claims that he/she was not properly informed.

[1] (Advanced Life Support Group, 2019)

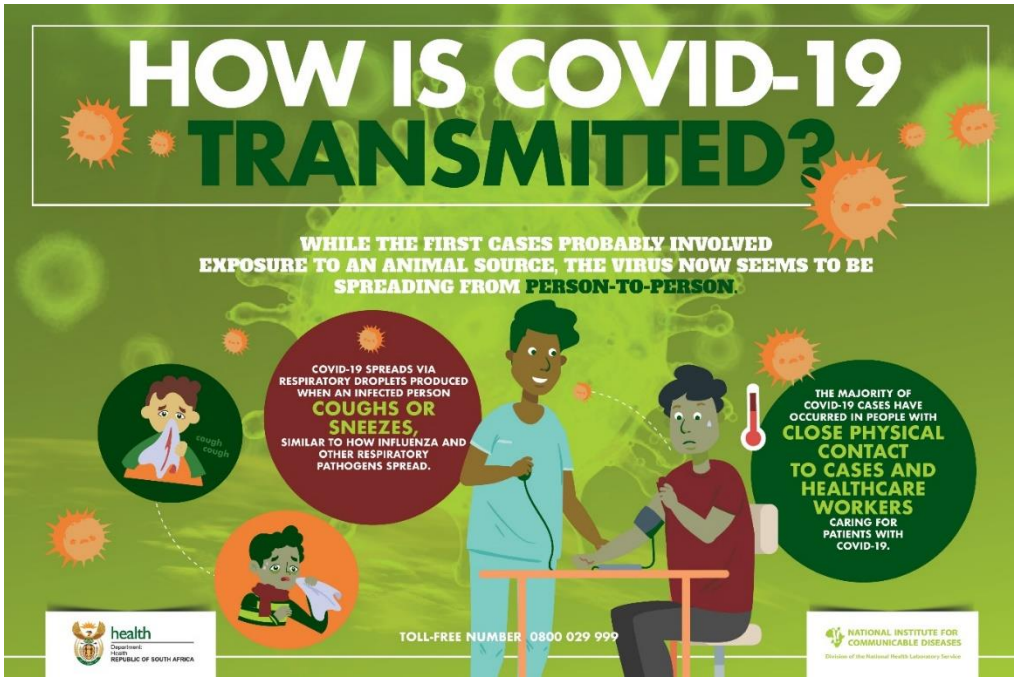

Figure 1: NICD Infographic

This is crucial information for applying the correct IPC procedures and ensuring safety of you and your patients.

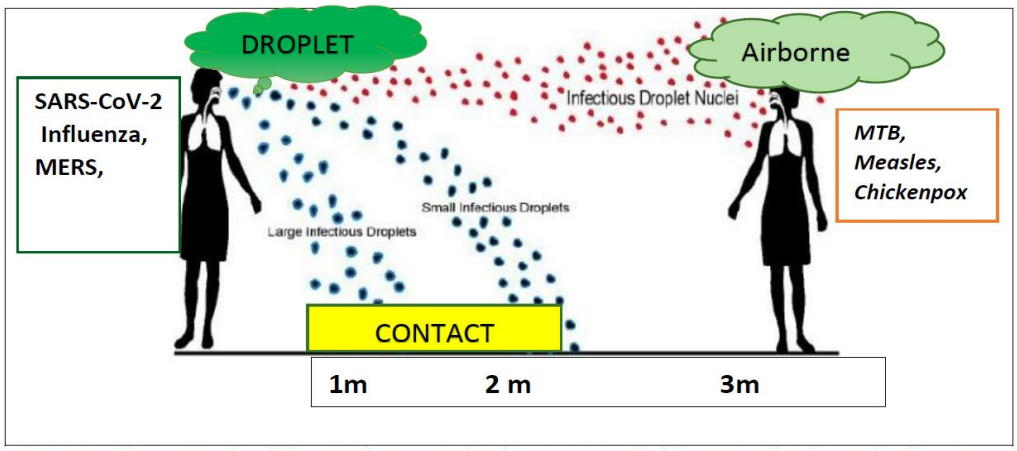

Figure 1: Illustrating the difference between the distance travelled between droplet and airborne after aerosol generation through coughing or sneezing

Figure 2: Mode of Transmission (Prof Shaheen Mehtar

2.3 PERSONAL PROTECTIVE EQUIPMENT

The second aspect of Own Safety is having the necessary Personal Protective Equipment (PPE) available. This aspect was addressed in Action Plan 2 – but is just highlighted again as it is of paramount importance. Utilise the guidelines issued by the National Dept of Health to ensure the appropriate PPE is available.

The Infection Control Officer need to study the national Infection Control and Prevention Guidelines in detail to guide use of PPE (National Dept of Health, 2020).

TYPE OF PPE	CLINICAL STAFF (nurses, doctors, EMS) Providing direct care to COVID-19 patients or patients with respiratory symptoms	NON-CLINICAL STAFF (admin staff, catering staff) coming into distant contact with COVID-19 patients and contaminated surfaces	NON-CLINICAL STAFF (cleaners) coming into distant contact with COVID-19 patients and contaminated surfaces	PATIENTS with RESPIRATORY symptoms	PATIENTS <u>without</u> RESPIRATORY symptoms
Gloves	Non-sterile gloves. Change between patients	Non-sterile gloves. Change when leaving COVID-19 area	Reusable long rubber utility cleaning gloves (ideally up to elbow) Change after completed cleaning contaminated area	None	None
Face cover	**Surgical Mask** for general care of COVID-19 patients **N95 respirator** for aerosol generating procedures on COVID-19 suspects/cases	**Surgical mask** when within <1m of a patient with respiratory symptoms (one per shift, if integrity maintained)	**Surgical mask** when within <1m of a patient with respiratory symptoms	**Surgical mask** worn when in contact with others	None
Aprons	Change when visibly contaminated. Discard after aerosol-generating procedure	Change when leaving COVID-19 area	After each work session (in absence of clinical contact)	None	None
Face shields, or visors, or goggles, or other eye covers	Wash clean, disinfect and reuse	None	Wash clean, disinfect and reuse	None	None

Figure 3: Recommended PPE (National Dept of Health, 2020)

Print these guidelines out and post in all applicable areas of the hospital

PPE Touchpoints	Type of PPE to be worn

Triage/points of entry screening personnel.	• 2-metre social distancing
	• No PPE recommended but surgical mask optional
	• If social distancing is not possible:
	  ○ Face shield or Goggles
	  ○ Surgical mask

Collecting respiratory specimens.	• Goggles *or* face shield • Fit-tested N95 respirator (or equivalent) • Disposable isolation gown • Apron • Gloves
Caring for suspected/confirmed COVID-19 patient, *with no* aerosol-generating procedure.	• Goggles *or* face shield • Surgical mask* • Disposable isolation gown • Gloves
Caring for suspected/confirmed COVID-19 patient, *with* aerosol-generating procedure.	• Goggles *or* face shield • Fit-tested N95 respirator (or equivalent) • Disposable isolation gown • Apron • Gloves • Disposable head covering/theatre cap
Transport of suspected/confirmed COVID-19 patient	• Goggles *or* face shield • Surgical mask • Disposable isolation gown • Gloves
Visitor to suspect/confirmed COVID-19 patient	• Surgical mask • Disposable isolation gown • Gloves

Figure 4: Summary PPE Recommendations (Life Health and Netcare)

Appoint a Safety Officer(s) for the Red Isolation Area and Yellow Transit Area (Advanced Life Support Group, 2019) (Ligthelm, 2014)**. This Safety Officer must not be responsible/involved in any patient care, but only patrol the isolation area continuously to check on adherence to PPE and isolation prescripts and to identify risks immediately. Experience has shown that the use of a Safety Officer(s) in the isolation area prevents breaches in measures, reassures personnel and corrects mistakes immediately.**

The Safety Officer also supervises the doffing and donning of PPE and only gives permission for staff to move into the Red Isolation Area when they are dressed in the required PPE.

All people leaving the Red Isolation Area is also inspected by the Safety Officer before they are allowed to move into the Green Safe area.

2.4 PSYCHOLOGICAL SAFETY AND ATTENTION SPAN

Working in Protective Wear in a high-risk isolation area is both physically and mentally exhausting.

Research has proven that the levels of concentration in staff wearing PPE in high-risk environments starts dropping after 4-hours and that is when isolation-mistakes occur.

It is therefore essential that the Safety Officer monitor all the staff's performance and activate rotations timeously to prevent dangerous actions.

Dehydration remains a serious risk for staff in full protective wear. It is therefore essential that staff rotation with toilet breaks and rehydration opportunities are structured. This requires staff to rotate, decontaminate, and after a toilet and rehydration opportunity don a new mask before re-entering the red isolation area.

With high mortality rates psychological support to staff with structured support opportunities must be planned.

2.5 SECURITY

Ensuring safety in a hospital in a Pandemic is an enormous task. Only a few critical Action Plan actions is highlighted.

2.5.1 ACCESS CONTROL

Implement stringent access control measures to the hospital and very specifically to the Red Isolation Area. (Incidents have occurred in the past where next-of-kin uses unofficial entrances and routes to gain access to their loved ones in Isolation and through these actions spread the infections. The opposite is also true where patients escaped from isolation areas and infected large groups of people outside.) (United States European Command, 2006)

- Implement strict access and egress control
- Ensure that ALL entrances to the controlled Red Isolation Area is controlled and if necessary locked. Be aware of large windows
- Demarcate and mark all Red Isolation Areas using the prescribed notice.

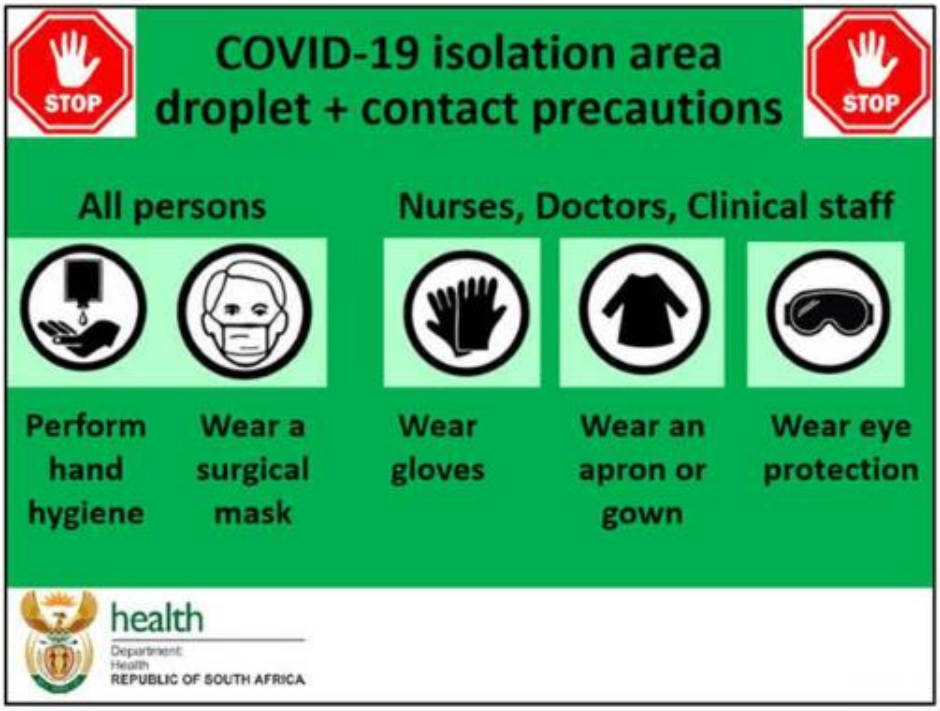

Figure 5: Notice to all Red Isolation Area (National Dept of Health, 2020)

- Ensure all persons entering and leaving the Red Isolation Area is recorded and that these records are archived.
- Place a visitor register at each patient's bed to record all visitors in Green Safe Area wards, to enable tracing of contacts should a patient be identified as positive.

2.5.2 HOSPITAL SECURITY

Serious conflict situations occurred, in Pandemics, in other parts of the world where local population stormed the hospitals. This is not expected but should be kept in mind.

The risk is in the event of a serious shortage of food or protective equipment, a run on the hospital for food or PPE to protect themselves may occur. This may also occur in transport to or from the hospital. This, however, is not expected but should be kept in mind.

2.5.3 PATIENT SECURITY

The risk of patients "escaping" from care in serious Pandemics have occurred. This specifically happened when patients were transferred to higher levels of care that may, according to public opinion, have a high mortality rate. Security in ensuring that this does not occur should be coordinated with the SA Police Service.

Ensuring that formal discharge control is implemented and that only patients who are formally discharged may leave the Red Isolation Area.

2.5.4 SPECIMEN SECURITY

In other Pandemics, especially Viral Haemorrhagic Fever outbreaks, specimens from positive patients that got lost was a serious risk. Although the risk with COVID-19 is relatively low, measures should be taken to ensure a controlled flow of specimens between the Red Isolation Area and the laboratory. A practical tip is the use of lockable containers with a key in the Red Isolation Area and a key at the laboratory.

2.5.5 VISITORS

Visitors are not allowed into the Red Isolation Area (National Dept of Health, 2020). This requires stringent access control.

It has proven of value to have a window where visitors can view a relative (especially a mild to moderate ill patient) through the closed window (Ligthelm, 2014).

2.5.6 BODY SECURITY

Control over bodies is essential until the bodies are removed from the hospital according to Infection Control Guidelines. Incidents did occur in other Pandemics where relatives obtained access to a body in the mortuary/holding area and conducted funeral rites contaminating themselves and the environment.

2.5.7 TRANSPORT

The mass arrival of people, worried well and family may create significant congestion. This require prior liaison with EMS on what entrances to use. The transport of patients to higher levels of care may need to take place from an alternative exit of the complex to avoid congestion as well as panic amongst worried wall of relatives of other patients.

3 SUMMARY

Maintaining safety and therefore also security is integral in ensuring safe isolation in a Pandemic.

This action plan will be followed by a sequentially numbered Action Plan continuing the preparation

4 REFERENCES

Advanced Life Support Group, 2019. *Major Incident Medical Management and Support: Practical Approuch in the Hospital (HMIMMS).* 2nd ed. Chichester: Wiley Blackwell.

Ciotone, G. R. (. a., 2006. *Disaster Medicine,* Philadelphia: Mosby.

ICRC, n.d. *Hospitals for War-Wounded,* Geneva: ICRC.

Ligthelm, T., 2014. *High Security Bio-Safety Isolation.* Second ed. Johannesburg: Right to Care.

National Dept of Health, 2020. *COVID-19 Infection Prevention and Control Guidelines for South Africa,* Pretoria: Nat Dept of Health.

NICD, 2020. *Facility Readiness Checklist,* Sandringham: NICD.

Powers, R. & Daily, E., 2010. *International Disaster Nursing,* Cambridge: Cambridge University Press.

Republic of South Africa, 2020. *Plan to Manage the COVID-19,* Pretoria: Dept of Health.

Toubkin, M., 2020. *Covid-19 Operational Manual,* Sandton: Netcare.

United States European Command, 2006. *Anian Wind 2006,* Stuttgard: United States European Command.

Wallis, L. & Smith, W., 2011. *Disaster Medicine,* Cape Town: Juta.

COVID-19 HOSPITAL PREPARATION CHECK-LIST FOR PREPARATION THIS FAR

Ser No	Action	Date Completed
1.	Training completed in triage Sieve and Sort for all screening and receiving personnel and posters are printed and available for use.	
2.	Triage tags are available and supports the Triage process	
3.	Posters for doffing and donning PPE from the NDOH Guidelines are printed and available	
4.	Screening, testing and triage facility was planned, and equipment is available	
5.	Surge capacity of the facility is calculated **and recorded** indicating: • Additional space for ICU/ventilation capabilities • Additional patient care space for high dependency care • Additional patient care space for low dependency care	
6.	Bed repairs / additional sources to provide beds to surge capacity in in place	
7.	All available ventilators were identified and process to service the unserviceable ventilators is in place	
8.	Oxygen cylinders and regulators are checked and serviced	
9.	Supply line for oxygen cylinders refills were reviewed and checked, supplier can shorten turn-around time if required	
10.	The Red Area that will be used for patient care was identified and include all the levels of care available at the hospital	
11.	The Red Area is separated from the rest of the hospital by a Yellow Transit Area. The Yellow Area has adequate facilities to decontaminate staff and equipment coming out of Red Area.	
12.	Plan is in place to move COVID-19 patients from Red Area to and from x-ray department	
13.	The Green Support Area has been identified	
14.	All areas are demarcated, and signage is available to be placed when required.	
15.	The PPE guidelines from the National Department of Health was evaluated and all needs determined.	
16.	PPE stock is ready and sufficient for at least seven (7) days	
17.	Temporary ventilation capability is planned for movement of patients if required and oxygen is available for transfers.	
18.	Planned beds can accommodate Fowlers position and oxygen administration.	
19.	Palliative Care is considered, facilities and staff were planned	
20.	Hospital Command is planned, and members of command identified	
21.	Command Centre is prepared	
22.	Communication capabilities are available for Command centre	