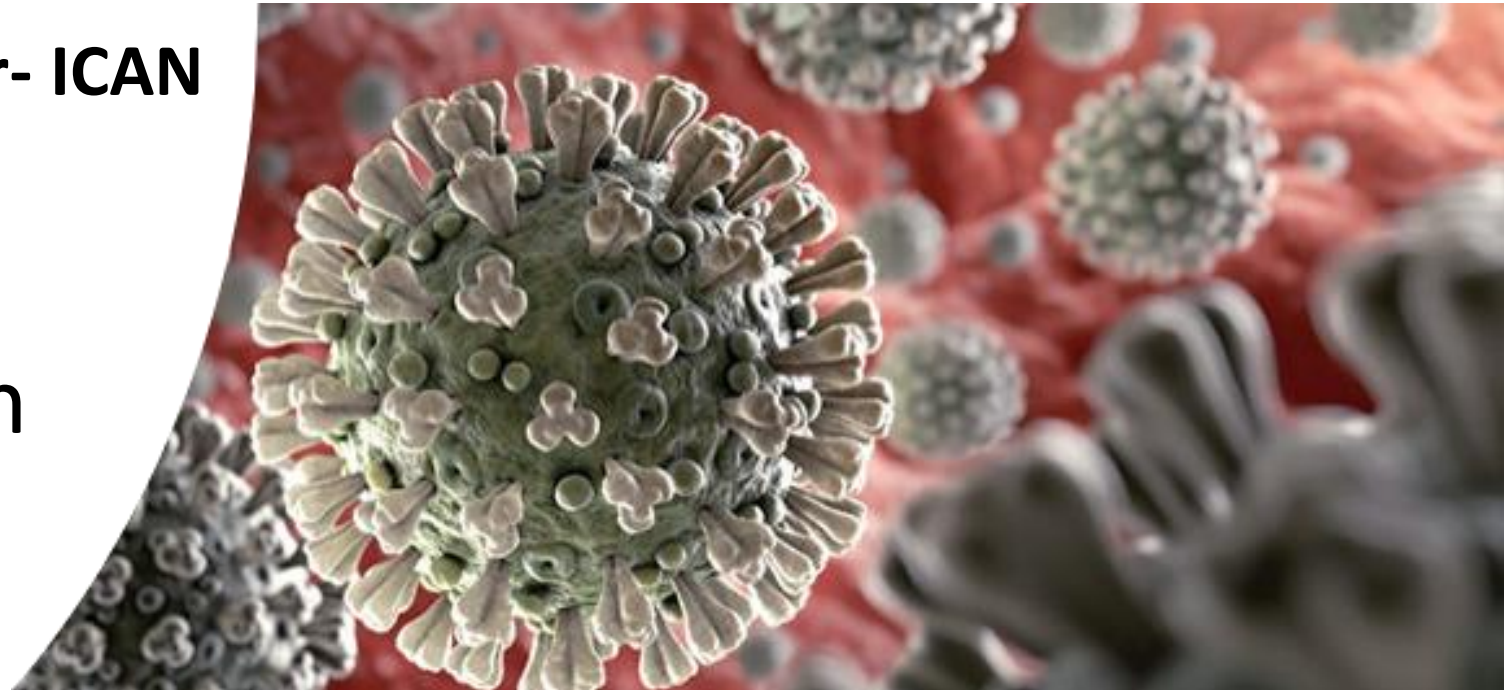




Title: Safe handling of dead bodies during COVID-19 outbreak

Presenter: Prof Shaheen Mehtar- ICAN

Preventing and controlling transmission of COVID 19 infection



Routes of Transmission

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

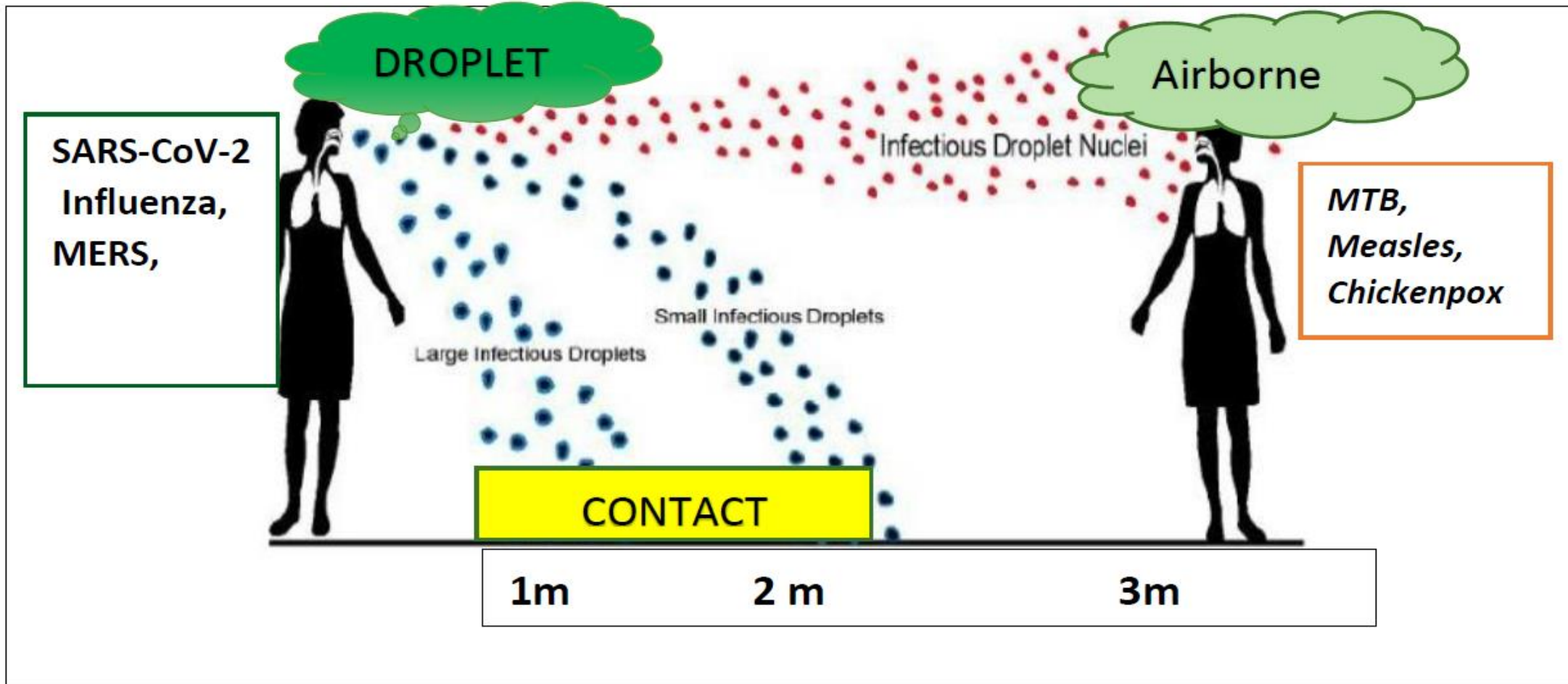


Figure 1: Illustrating the difference between the distance travelled between droplet and airborne after aerosol generation through coughing or sneezing

Infection Prevention and Control for the safe management of a dead body in the context of COVID-19

Interim guidance
24 March 2020



- Dead bodies generally not infectious except if **poorly handled during post mortem (autopsy)**
 - VHF (Ebola)
 - cholera,
 - pandemic influenza
- Must have proper hand hygiene and PPE supplies
- Must ensure dignity, religious and cultural norms of the person, and family
- Do not be in hurry to dispose off the body- mistakes can be made
- **No evidence of persons having become infected from exposure to COVID-19 bodies**

Infection Prevention and Control for the safe management of a dead body in the context of COVID-19

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The safety and well-being of everyone who tends to bodies should be the first priority. Before attending to a body, people should ensure that the necessary hand hygiene and personal protective equipment (PPE) supplies are available (see Annex I);

The dignity of the dead, their cultural and religious traditions, and their families should be respected and protected throughout;

Hasty disposal of a dead from COVID-19 should be avoided;

Step by step- safe burial

REMEMBER- this is not EBOLA!

- Person may die at home, in the hospital or a care home (community institution)
- Assess the situation- preparation of staff and the family- last rites!
- Prepare removal of the body to mortuary
- Consider conditions in the mortuary- post mortem- (done or not done)
- Removal of body to family for ritual OR
- Removal of body to the cemetery

Principles of a safe burial

- Generally, dead bodies are not infectious (except VHF or cholera)
- Risk: lungs during pandemic influenza.
- **No evidence of transmission from a SARS CoV 2 dead body**
- **Very delicate virus which can easily be destroyed**
- Cremation is not necessary, do not bury or cremate in a hurry
- Safe handling will require preparation of staff and the family
 - Put appropriate IPC precautions in place- hand hygiene, PPE, cleaning & disinfection
- Dignity of the dead with respect to the religious & cultural beliefs

Moving the body

From hospital bed or care home to mortuary

- Staff member to prepare the body for removal
 - Remove all lines, tubes
 - Carry out hand hygiene
 - Wear gloves and gown/ apron
 - If risk of splashes during preparation, add eye cover and medical mask
 - Plug any orifices that might leak
 - Minimum movement and handling of the body
- Place in a **single leak proof body bag** (water proof and with handles)
 - May use a shroud if there is no sign of leakage.
- **SPRAYING THE BODY OR THE BODY BAG IS UNNECESSARY!**
- No special transport required.



Delivery of body to mortuary

- Inform the mortuary staff about the clinical diagnosis (confirmed COVID-19)
- Hand over the deceased.
- Wipe down trolley with a damp cloth to remove all signs of organic contamination. Disinfect with chlorine or alcohol (as recommended)
- Remove gloves, aprons and face covering
- Wash hands thoroughly
- Sign paper work
- Wash hands AGAIN!!!

Preparing the body for burial

From home, care home or mortuary.

- ***Religious or cultural ritual- body prepared by HCW (or family member)***
 - Wear gloves, waterproof apron, face cover and eye protection
 - Bathing the body
 - Tidying hair
 - Cleaning the body
 - Hand hygiene
- Family may want to observe: *allowed under strict supervision/ rules*
 - Wear PPE as above; hand hygiene
 - Not over 60 years of age
- No touching, kissing or hugging!
- Embalming not recommended

Carrying out a post mortem (autopsy)

Post mortems (PM) are considered an aerosol generating procedure (AGP)

- Performed on suspected cases to get a diagnosis- only if necessary
- Ventilation- 12 ACH or 160L/s/patient, controlled direction of air flow
- Minimum number of staff present
- Possibility of virus in respiratory tract will require additional PPE for ***aerosol generating procedures*** during autopsy
 - full body covering with long sleeve fluid resistant gown,
 - Gloves- long
 - Face shield or goggles
 - Boots
 - Respirators (for AGPs)
- Meticulous hand hygiene

Design of the mortuary

- The **size** of the mortuary (including the body store and post-mortem room) should be based on the maximum anticipated storage requirements for bodies and post-mortem examination requests.
- **Floor and surfaces** are hard-wearing, non slip, easily cleanable materials with impervious surfaces. sloping towards drains and gullies helps drainage.
- **Airflow** from ventilation systems is best directed away from observers, preferably by drawing air into the mortuary at a high level and discharging it at a low level.
- Down-draught **tables** minimising the risk of infection by direction of airflow.
- **Environmental cleaning and disinfection** essential after each case

Environmental cleaning & Disinfection

- Good light
- Wear appropriate PPE during cleaning and disinfection
- Surfaces clean and dry.
- Routine cleaning and disinfection every day- frequency twice a day
- Disinfect with 1:1000 ppm available chlorine or 70% alcohol after each case
- Sterilization of instruments
- Healthcare waste management- anatomical waste / infectious waste
- Hand hygiene

Moving the body from the mortuary to cemetery

- Body can be placed in a shroud (if leakage use body bag)
- Those handling the body or the body bag should wear gloves and aprons
- Once the body has been placed in the grave, remove gloves and aprons and wash hands thoroughly
- If the PPE is reusable, wash thoroughly and dry. Wipe with a disinfectant such as 70% alcohol.

Burial- by family or officials

- According to local regulations
- Body may be viewed- Hand hygiene after viewing
- Relatives not to touch the body or make close contact
- Others may observe without touching- distance of 1 m
- Minimum numbers to attend the funeral
- During burial- by anyone involved in preparing the body
 - Hand hygiene
 - Gloves
 - Face and body protection if splashing anticipated
- Remove clothes and wash immediately after burying the body

After the funeral

- **Clothes of the deceased**

- laundered at temperatures between 60-90° C, sundried, ironed and reused or donated
- Hand wash in hot water in a tub, then soaked in 5000 ppm (?) chlorine

- **Shoes**

- Cleaned and donated

- **Linen (sheets and towels)**

- Laundered as above and can be reused

- **Personal toiletries (toothbrush, shaving kit)**

- May be disposed off.

Who is at risk at a funeral

Direct contact with the body

- Children: usually find it difficult to adhere to hand hygiene
- Elderly who might have co morbidities

Crowded funeral gatherings

- The elderly & children
- Those with co morbidities
- Where there are no facilities for hand hygiene, social spacing or clean environment
- Where cloth mask are not worn during the funeral.

Burials in Africa

Burial is a very important ritual for most (African) cultures

- Makes your parents/ ancestors proud
- Shows respect
- Many people gather to say farewell
- Food and drink (also in Europe- wake)
- Touch and say good bye

Should this be permitted?

- Rituals can be modified to allow participation of the immediate family to allow a respectful burial
- Small gatherings at funerals (less than 50 people in ZA)
- No socialising following the burial- disperse quickly

Nelson Mandela's funeral



An incident that caused a large outbreak

All it took was one funeral and 40 people were infected with coronavirus.

- On 21 March, less than a week after President Cyril Ramaphosa had declared a national state of disaster and banned large gatherings to help contain the spread of coronavirus, around 100 people attended a funeral ceremony in a village.
- The village, which lies in the sleepy rural community, is now the epicentre of the virus in the area. The 21 March funeral, along with two others in the city, **account for 200 Covid-19 cases in the province** - about a quarter of the total.



South Africa funeral regulations



Poonees Funeral Parlour in Lenasia, Johannesburg, is one of a handful of funeral homes in the country who are now offering **live streaming funeral services to their clients at no additional cost.**

In the time of coronavirus

- **Maximum** of 50 people allowed at a funeral
- **All night vigils** are prohibited
- **Only those close** to the deceased are allowed to travel for the funeral
- **Social distancing** must be observed during the ceremony

Source: South Africa government

IPC precautions- Summary

Coronaviruses: Classified as Biohazard Group 2 (NOW upgraded to Biohazard Group 3. – TB!)

- **Standard precautions**
 - Hand hygiene
 - PPE
 - Gloves
 - Aprons/ gowns
- **Protect mucous membranes** if splashes expected (transmission based precautions)
 - Mask
 - Face shield
 - Goggles
- **Prepare body for transfer** from hospital to mortuary
 - Remove all medical devices
 - Wrap in a shroud
 - body bag if indicated if fluid exposure expected (or part of normal policy)
- **No disinfection of the body bag required**
- **Only one body bag is sufficient**
- **No special transportation required**