MEDICLINIC

COVID-19 INFORMATION

# COVID-19 UPDATE

## INFECTION PREVENTION

Prevent the transmission of known and / or unknown pathogens, including SARS-CoV-2, to susceptible patients and healthcare workers in consulting rooms.

### OCCUPATIONAL HEALTH AND SAFETY CONTROLS

The Hierarchy of Controls is a well-documented and accepted occupational health tool used to strategise and implement risk-mitigating interventions (Figure1). It is therefore essential that pathogens are regarded as an occupational risk and managed accordingly. The philosophy behind the hierarchy is that most effective measures need to be applied in a step-wise process to progressively minimise risk.

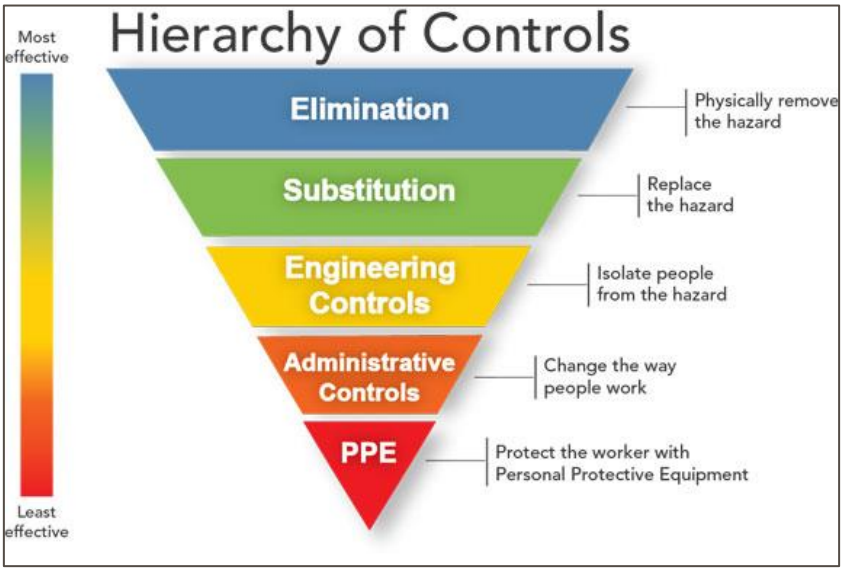


**Figure1. Occupational Health and Safety Hierarchy of Controls**

### ELIMINATION AND SUBSTITUTION

**These are the most effective measures to reduce risk and includes Standard Precautions, which should be implemented first. Practical examples in the Consulting Room include:**

- **Environmental Cleaning**: The frequency of environmental cleaning must be increased and done appropriately. This ensures that the bioburden is physically decreased. Waiting areas should be cleaned at least 3 times a day and consulting rooms after each patient.
- **Hand hygiene**: Appropriately timed and correctly performed hand hygiene is proven to reduce the risk of infection transmission. Ensure that alcohol handrub is available in waiting rooms, consulting rooms and administrative areas.

- **Cough etiquette**: All persons should be encouraged to sneeze and / or cough into their elbow or a tissue. This reduces the aerolisation risk of pathogens.
- **Universal masking**: It is mandatory and a legal requirement for all persons to wear cloth masks in public places. This reduces the aerolisation risk of pathogens. Patients should not remove masks in waiting areas.
- **Isolation:** The isolation of Patients Under Investigation (PUI) is to contain a person with an identified risk to a designated area, thereby reducing risk to others. These patients should be seen as soon as possible when they arrive at consulting rooms to minimise waiting times and potential exposure and leave or be referred as appropriate to an area where they can be separated.
- **Telemedicine**: Telemedicine is a highly effective method of substituting practice and reducing exposure.
- **Access control**: Screening all patients entering the consulting rooms and denying access to persons who may potentially be infective can eliminate risk (not applicable to emergencies).
- **Screening phone calls**: A phone call to a patient the day prior to consultation to screen for symptoms of infectious diseases and risks.

## ENGINEERING CONTROLS

Engineering controls are enduring physical changes which can be made to the environment. In the consulting room, social distancing measures such as removing alternate chairs, spacing the workplace to ensure increased distances between persons and limiting the number of people waiting in waiting areas. Cough screens may also provide a valuable physical barrier. Ventilation must be considered in order to ensure fresh air is supplied and air changes take place. Ventilation can also be in the form of opening windows to increase air flow.

## ADMINISTRATIVE CONTROLS

Administrative controls refer to changing the way we do things. Staggering of appointments, car-park waiting procedures, access control procedures, screening phone calls are examples. Work from home and shift rotation protocols should be considered for administrative staff. Communication strategies to inform patients of changes made and procedures to be followed will greatly streamline operations. Consulting room staff need to be educated on risks, risk management and changes effected.

## PERSONAL PROTECTIVE EQUIPMENT

It is evident that several control measures preclude the use of personal protective equipment (PPE). PPE must be appropriate for the situation and the route of transmission of the pathogen, donned and doffed correctly and must be of appropriate quality. Excessive or deficient PPE is considered inappropriate. Appropriate PPE is PPE applied and removed mindfully and according to risk. This will be discussed in detail under precautions below.

## APPLICATION OF IPC PRACTICES IN A CONSULTING ROOM

**Step 1: Primordial risk prevention**

- SAMA and HPCSA recommend that medical practitioners utilise remote consultations by telephone, SMS, email or telemedicine and a telephonic risk assessment prior to the consultation as far as possible. Where not practical, face to face consultations need to occur with the necessary IPC practices implemented. Below are simple steps to put in place for medical practitioners:

**Step 2: Waiting areas:**

- Space out bookings to avoid large numbers of patients in the waiting area together. Maintain 1.5 to 2 metre distance between seats.
- All patients should wear their cloth face masks and should perform hand hygiene. Consider providing all coughing/sneezing patients with a surgical mask to wear on entry into waiting area and educational material for how to use the masks.
- Administrative staff must wear a cloth mask and interact with patients behind a cough screen if possible.
- Administrative staff must be mindful of fomites (pens, magazines, toys, etc.) in the waiting area and minimise risks associated with these. Remove magazines and toys from waiting areas.
- Provide hand hygiene products and display posters to make patients aware of the IPC requirements and protocols.
- Surface cleaning and disinfection must be done at least 3 times a day in the waiting area and frequently touched areas have to be cleaned and disinfected more frequently.
- Ensure adequate ventilation in the waiting area and consultation rooms.

**Step 3: Consultation:**

- Perform hand hygiene as frequently as you can, after each patient and always before and after gloves are put on (see page 3). Hand hygiene can be performed either by washing hands with soap and water or by using an alcohol based handrub.
- Ensure adequate ventilation in the consultation rooms.
- Use personal protective equipment (PPE) that prevents contact and droplet transmission when examining the patient. (See section on Transmission Based Precautions).
- Both the patient and medical practitioner have to wear a mask during the consultation and examination.
- Patients seen in the consulting rooms are usually not tested for pathogens prior to consultation. For this reason, the risk assessment is of vital importance.
- Remember to perform hand hygiene before and after removal of protective equipment. Remove gloves and mask using the appropriate technique and discard.
- It is important to first thoroughly clean all frequently touched surfaces after each patient then wiping (not just spraying) with disinfectants such as chlorine or 70% alcohol or using a disinfectant wipe. Wash items such as goggles/visors with soap and water followed by 70% alcohol when contaminated.
- **NOTE**: Please note that alcohol handrub cannot be used for disinfection of surfaces, because most handrubs contain an emollient. Alcohol surface disinfectants should be used.
- Consulting room equipment (sonar machines, otoscopes, stethoscopes, etc.) must be cleaned and disinfected according to the manufacturer's guideline after use on every patient.

**Step 4: Aerosol generating procedures**

- Additional protective equipment is needed if aerosol generating procedures are performed, such as collection of sputum for Pulmonary Tuberculosis (PTB) or nasopharyngeal or oropharyngeal swabs for SARS-CoV-2 in consultation rooms. Ideally, these should be performed in a separate room designated for these procedures.
- Use an N95 respirator or equivalent and disposable gown in addition to the gloves and eye protection when aerosol generating procedures are performed. Ensure that the N95 respirator fits well and is put on and taken off using the correct technique.

**NOTE: All Notifiable Medical Conditions, including COVID-19, have to be reported to the Department of Health and National Institute for Communicable diseases according to National Health Act, 61 of**

**2003, Regulation 1434: Regulations relating to the surveillance and control of Notifiable Medical Conditions (NMC), 2017.**

## PREVENTION OF THE TRANSMISSION OF PATHOGENS AND INFECTIOUS DISEASES

Transmission of Multi Drug Resistant Organisms (MDROs) and infectious diseases can be prevented through adherence to Standard precautions and the implementation of Transmission based precautions.

**Standard Precautions** are to be implemented at all times and with all patients to prevent transmission of potentially pathogenic micro-organisms between patients, the environment and the patient, or from patients to healthcare workers. Additional **Transmission Based Precautions** are implemented for patients who are known or suspected to be colonised or infected with pathogens that can be transmitted to other patients and healthcare workers. The type of precautions are based on the route of transmission.

## STANDARD (ROUTINE) PRECAUTIONS

Standard Precautions are designed to **reduce the risk of transmission** of microorganisms from both recognised and unrecognised sources.

- They are applicable to **all patients and in all situations**, regardless of diagnosis or presumed infection status.
- All patients may serve as reservoirs for microorganisms, **even if only colonised** and not exhibiting any signs of infection.
- The use of PPE as part of standard precautions applies when there is **a risk of exposure** to:
  - Blood
  - Body fluids, secretions and excretions (except sweat), regardless of whether they contain visible blood
  - Non-intact skin
  - Mucous membranes

## STANDARD PRECAUTIONS CONSIST OF THE FOLLOWING:

| TOPIC | ACTIONS |
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| Hand hygiene | Perform hand hygiene according to the Five Moments of Hand hygiene:<br>• Before patient contact<br>• Before an aseptic procedure<br>• After the risk of blood and body fluid exposure<br>• After patient contact<br>• After contact with the patient surroundings<br>In addition<br>• Before gloves are donned<br>• Immediately after glove (and other PPE) removal<br>• Where indicated to prevent cross contamination between different body sites<br>• Hand hygiene should be performed before putting on and after removal of PPE.<br>**NOTE:** Hand hygiene can be performed by rubbing the hands for 20 – 30 seconds with 2-3 ml 70% alcohol based handrub or until dry. The hands have to be covered with the alcohol based handrub. |

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| | Alternatively, hands can be washed with soap and running water for 20 – 30 seconds dried properly with a single use paper towel when hands are visibly soiled.<br>Alcohol based handrub should be available in waiting areas.<br>Posters informing patients about hand hygiene should be displayed in waiting areas. |
| Maintenance of a clean environment | Ensure adherence to routine cleaning and disinfection of all surfaces, furniture and equipment in the consulting rooms, procedure rooms and waiting areas.<br>• First clean the area with a detergent and water to remove dirt and organic material.<br>• Disinfect clinical areas after cleaning, using 70% alcohol surface disinfectant or hypochlorite 1:1000 ppm solution or equivalent or alternatively use disinfectant wipes.<br>• Surfaces have to be cleaned in between patients, especially if procedures were performed.<br>• All spills of blood and body fluids have to be removed safely, using adequate PPE and then disinfected. |
| Personal Protective Equipment (PPE) | **Gloves**<br>• Protect against contact with blood and body fluids and infectious materials.<br>• Wear non-sterile, disposable gloves when there is any anticipated contact with blood or body fluids.<br>Don clean gloves:<br>• After performing hand hygiene.<br>• Before contact with mucous membranes or non-intact skin or different body sites on the same patient.<br>• Once contaminated, gloves can become a means of spreading infectious materials to other patients or environmental surfaces.<br>• Discard used gloves in the healthcare risk waste (HCRW) container.<br>• Perform hand hygiene following glove removal.<br>**NOTE: Gloves are not a replacement for hand hygiene. Alcohol should never be applied on gloved hands.** |
| | **Apron/ gown**<br>• A disposable apron is preferred where indicated for standard and transmission based precautions.<br>• Aprons are used to prevent contamination of clothing during procedures and patient care activities that are likely to generate splashes or sprays of blood or body fluids.<br>• A disposable gown is only indicated should excessive blood or body fluid exposure be anticipated during patient contact or as indicated by the specific condition.<br>• Perform hand hygiene after removal.<br>**Plastic aprons or gowns are to be worn once, removed and discarded into the HCRW container inside the room.** |
| | **Mask**<br>• Wear a surgical mask to protect the respiratory tract from infectious agents.<br>• During procedures and patient care activities that are likely to generate splashes or sprays of blood or body fluids.<br>• The mask should fully cover nose and mouth to prevent fluid penetration.<br>Discard in HCRW container after removal.<br>Perform hand hygiene before application and after the removal. |

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| | Never let a mask hang around your neck. |
| | **Respirator**<br>**Additional precautions during aerosol-generating procedures**<br>• A N95 respirator or equivalent should be worn during high risk procedures where aerolisation may occur, such as sputum collection, intubation or bronchoscopy or gastroscopy on patients with a known or suspected condition such as Pulmonary Tuberculosis or influenza viruses (such as SARS-CoV-2).<br>• N95 respirators must be fit tested.<br>• A seal check has to be performed every time the mask is donned. |
| | **Goggles or face shield/visor**<br>To protect mucous membranes of the eyes, nose and mouth.<br>• Goggles should fit snugly over and around eyes.<br>• Face shield/visor should cover forehead, extend below chin and wrap around sides of the face.<br>Perform hand hygiene before application and after removal.<br>Always clean the goggles or face shield after use with soap and water and disinfect with 70% alcohol surface disinfectant or hypochlorite 1:1000 ppm. |
| Decontamination of medical devices | • Ensure that single use items are discarded safely and immediately after use.<br>• Never re-use single-use items.<br>• All re-usable medical devices and equipment must be cleaned and disinfected or sterilised before they are used again.<br>• Ensure that endoscopes, speculums, etc. are cleaned, disinfected or sterilised according to the manufacturers' guidelines, after each patient use.<br>• Handle patient care equipment with care to prevent transmission of micro-organisms. |
| Safe injection practices | Prevent injuries when:<br>• Using needles, scalpels and other sharp instruments or devices.<br>• Handling sharps after a procedure.<br>• Cleaning instruments.<br>• Disposing needles.<br>**Never:**<br>• Re-cap needles or manipulate needles using both hands.<br>• Use techniques that involve directing the point of the needle toward any part of the body.<br>• Force used sharp items (trocars, needles and syringes) into an overfull sharp container.<br>• Remove used needles from disposable syringe with bare hands.<br>• Place used disposable syringes and needles, scalpel blades and other sharp objects in appropriate rigid, puncture proof containers which are centrally located.<br>• Close and secure sharps containers when recommended levels are reached (3/4 full).<br>**Always:**<br>• Use a single hand "scoop" technique if the needle **has** to be re-capped/or use a mechanical device for holding the sheath.<br>• Transport used items safely, in a receiver (e.g. kidney bowl) to the disposal area.<br>• Use the safety technique of a neutral zone ("put down-pick up") in operating theatres when passing sharps, to avoid hand-to-hand contact. |

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| Healthcare Risk Waste (HCRW) Management | • Place all waste contaminated with blood or body fluid in (red lined) HCRW containers.<br>• All used PPE has to be discarded into the HCRW container.<br>• Close the container when ¾ full and ensure its removal by the healthcare service provider. |
| Linen management | • Sheets and patient gowns have to be changed after each patient.<br>• Linen should be collected in a yellow bag and washed at 65°C for 10 minutes. |
| Cough Etiquette/ respiratory hygiene | Promote respiratory hygiene/ cough etiquette:<br>• Cover mouth and nose with a tissue when coughing or sneezing.<br>• Put the used tissue in a healthcare risk waste container.<br>• Perform hand hygiene after coughing or sneezing.<br>• Ensure that an alcohol based handrub is available in waiting areas.<br>• Ensure that a bin is available in waiting areas.<br>• Posters informing patients about cough etiquette should be available in waiting areas. |

## TRANSMISSION BASED PRECAUTIONS

Transmission based precautions are used to reduce the risk of transmission of potentially infectious diseases and pathogens.

These should always be applied in addition to Standard Precautions. The type of transmission based precaution will be based on the route of transmission of the organism or disease. There may be more than one route of transmission and precautions have to reflect all routes of transmission.

**Transmission based precautions consist of the following categories:**

1. **Contact precautions**
    - Microbes are transmitted :
        - Direct contact e.g. the hands of healthcare workers.
        - Indirect contact, via the environment and contaminated equipment.
2. **Respiratory precautions**:
    - Microbes are released through droplets or droplet nuclei (aerosols) when coughing or sneezing (respiratory tract activity).
    - Precautions related to the respiratory route of transmission are divided into:
        - **Airborne precautions** for particles (aerosols) <5 µm.
        - **Droplet precautions** for particles larger than >5 µm.

## 1. CONTACT PRECAUTIONS

Contact precautions have to be applied when caring for patients with known or suspected infections or colonisation with micro-organisms transmitted by direct or indirect contact. Common diseases requiring contact precautions include gastrointestinal infections, wound and skin infections and colonisation or infection with multidrug-resistant micro-organisms.

**Adhere to Standard Precautions at all times. In addition, the following is required:**

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| Personal Protective Equipment | **Aprons**<br>Worn to reduce contact exposure from the patient and patient environment<br>• Do not leave the room (or patient zone) while wearing the apron.<br>• Discard into HCRW waste container in the isolation area after each use.<br>• Never re-use aprons.<br>**Gloves**<br>• Wear gloves when in contact with the patient. |

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| | • Change gloves after each patient.<br>• Always perform hand hygiene before donning and after removal of gloves. |

## 2. RESPIRATORY PRECAUTIONS:

### 2.1 AIRBORNE PRECAUTIONS

Airborne pathogens can be transmitted via aerosols and air currents.

Diseases spread by airborne pathogens include:

- Measles
- Varicella (Chickenpox)
- Pulmonary Tuberculosis (PTB), **including extra-pulmonary TB related to the respiratory tract (pleura, trachea, etc.)**
- Patients with extra pulmonary TB (e.g. TB bone, etc.) do not require isolation if PTB has been excluded.
- Patient must be accommodated in a room with negative pressure ventilation where available or in a room with open windows if possible

**Adhere to Standard Precautions at all time.**

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| Personal protective equipment | • All staff wearing N95 respirators must have undergone a fit test to ensure that the correct respirator is used to provide optimal protection.<br>• Always perform a seal check after putting on the respirator.<br>• Never share N95 respirators.<br>• The N95 respirator can be used for one day.<br>• Replace damp, soiled, contaminated or damaged respirators immediately.<br>• Remove respirator **after** seeing the patient and either store appropriately or discard in HCRW container.<br>• Perform hand hygiene after removal.<br>• If an N95 Respirator does not fit properly, it provides a false sense of security and should not be worn.<br>• A N95 respirator should **not** be worn by a patient. A surgical mask is adequate. |

### 2.2 DROPLET PRECAUTIONS

Large droplet nuclei do not remain suspended in the air for long periods and are only able to travel short distances. Transmission from large droplets requires close contact (approximately 2m) with the source or through risk-prone procedures causing aerolisation and splashes such as intubation, open suctioning, bronchoscopy and insertion of nasogastric tubes. Diseases transmitted via large droplets include Meningococcal Meningitis, Mumps, Rubella and Influenza.

**Adhere to Standard precautions at all times.**

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| Personal protective equipment | • Surgical masks are to be worn **before** entering the patient room.<br>• Surgical masks are single-use items and must be discarded in the HCRW container after removal.<br>• Replace damp, soiled or contaminated masks immediately.<br>• Perform hand hygiene after removal.<br>• Gloves should be put on when in contact with respiratory secretions<br>• **An N95 respirator must be used during aerosol producing procedures such as intubation.** |

## RESOURCES (Available from Mediclinic Intranet)

- Cloth mask poster
- Cough etiquette poster
- Hand hygiene poster
- PPE donning and doffing poster
- Social distancing poster

## REFERENCES


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