Procedure for Vehicle Use

1 Purpose of Document

Due to supply constraints of personal protective equipment (PPE), the time and labor burden of cleaning vehicles, and preventative demands of spatial distancing. Covid 19 has the potential to tax missions vehicle resources.

This document is intended for all users of MSF vehicles used for the movement of MSF staff and Covid 19 patients (suspected or confirmed).

2 Summary

1 Purpose of Document ................................................................. 1
2 Summary .................................................................................. 1
3 Preparation ................................................................................ 1
  3.1 Operational preparation .......................................................... 1
  3.2 Vehicle preparation ............................................................... 1
4 On-board equipment: ................................................................. 2
5 Vehicle Use1,2 ............................................................................. 2
  5.1 Number of persons: .............................................................. 2
  5.2 Placement within the vehicle .................................................. 3
  5.3 Hygienic precautions: ............................................................ 3
  Keep a safe distance between passengers of at least 1m. .................. 3
  5.4 Other Precautions: ............................................................... 3
6 Personal Protection Equipment (PPE) ........................................ 4
7 Cleaning, Disinfection, and Maintenance 2–4 .................................. 5
  7.1 General: .............................................................................. 5
  7.2 Waste Disposal: ................................................................. 5
  7.3 Specific cleaning recommendations ....................................... 5
8 References ................................................................................ 6
9 Annexes .................................................................................. 7
  9.1 Annex: Example of vehicle modifications ................................ 7
  9.1.1 Driver Separation ............................................................. 7
  9.1.2 Disposable/washable Covers and surfaces ........................... 8
  9.2 Annex: Example Covid19 On-Board equipment checklist ........... 8
  9.3 Annex: Information on PPE Precautions Based on Transmission .... 8

3 Preparation

3.1 Operational preparation

Include in your operational plan the management and utilisation of the fleet.

Example considerations:

1. Establish if the driver will be kept separate or help actively with patient transfer
2. How will the vehicles be used? Will it be best to designate certain vehicle to be used for patient transfer to best use resources?
3. The real fleet capacity given possible reduced HR capacity and increased demand because of low passenger count
4. Cont…

3.2 Vehicle preparation
CoVid-19

1. Clean and disinfect the vehicle completely (see "vehicle maintenance and disinfection").
2. Remove all unnecessary items from the vehicle.
3. If possible, protect the vehicle seats with machine washable or cleanable (waterproof) protective covers.
4. Place the on-board equipment (see 4. On-board equipment:)
5. Develop and rehearse a plan for patient loading and management.

4 On-board equipment:

Below is a suggested list of items to include on-board for personal protection and maintaining hygienic conditions. Modify this list and add quantities as appropriate to the context and operational plan. Store separate from patients.

- Check list of needed on-board items

PPE (personal protective equipment)
- FFP2 Mask
- Disposable gown
- Disposable gloves

Other Equipment
- Hand sanitizer
- Disinfectant wipes or Alcoholic pads (see annex 2)
- Disinfectant spray (see annex 2)
- Disposable towels
- Reusable gloves for cleaning
- Hand-washing soap
- Soap
- 35litres garbage bags
- If needed, specialised medical waste box (ie. Sharps container)
- This Document – and any needed Annexes
- Registration and maintenance documents (see annex 1).

5 Vehicle Use¹,²

Use of vehicles should consider the spatial distance between persons necessary to minimise the possibility of direct transmission.

Limit exposure by using the minimal amount of personal needed to safely transport the patient. This will also help to conserve PPE.

NOTE: Separation of driver from patients is encouraged and may allow for reduced PPE needs and possibly allow for a higher overall passenger number.

5.1 Number of persons:

Maximum of 2 person per vehicle (driver + passenger/patient), except in the case where an accompanying person is necessary for the well being of the patient.

OR

Maximum 1 person per bench when using a mini-bus or van or Land Cruiser.
5.2 Placement within the vehicle

Example vehicle passenger arrangements. Keep patient as far “down wind” in ventilation flow as possible (see 5.4. 3)

5.3 Hygienic precautions:

1. Before entering the vehicle: Driver and passengers must disinfect their hands with a hydro-alcoholic solution if available. If hands are visibly dirty, use soap and water beforehand.

2. After exiting the vehicle: all occupants must wash their hands with a hydro alcoholic solution if available. If hands are visibly dirty, use soap and water beforehand.

3. Respiratory hygiene: cover your mouth and nose in the crook of your bent elbow, or in a tissue, when you cough or sneeze. Throw the tissue immediately in the trash and perform hand hygiene.

4. Avoid touching your eyes, nose, and mouth.

5. Keep a safe distance between passengers of at least 1m

5.4 Other Precautions:
CoVid-19

1. Communicate your arrival to the health facility so they can prepare and plan for arrival and minimise patient contact to uncontrolled areas.
2. Avoid sharing the vehicle between multiple people in the same day as much as possible.
3. Open the windows: Every user should partially their window to ensure good air-change over in the car interior. Ensure both the front and rear window are open to create proper airflow.  

![Figure 1: ideal vehicle ventilation](image1)

4. Avoid use of heating and air conditioning. Only use with the windows partially open. NEVER use air-recirculation.  

![Figure 2: symbol for air recirculation](image2)

6 Personal Protection Equipment (PPE)

Table 1: summary of personal protective equipment (PPE) requirements

<table>
<thead>
<tr>
<th>Person</th>
<th>Activity</th>
<th>Required PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver or passenger with no suspicion of Covid 19</td>
<td>Helping to load or unload suspected Covid-19 patient</td>
<td>Mask, Gloves</td>
</tr>
<tr>
<td></td>
<td>No direct contact (&gt;1 m) with suspected Covid-19 patient</td>
<td>Mask</td>
</tr>
<tr>
<td></td>
<td>No direct contact (&gt;1m) physical barrier between patient and driver</td>
<td>No PPE</td>
</tr>
<tr>
<td>Suspected or confirmed Covid-19 patient</td>
<td>Transport to referred health establishment</td>
<td>Mask, Gloves</td>
</tr>
<tr>
<td>Accompanying Caretaker</td>
<td>Caring for patient but maintaining spatial distancing (&gt;1m)</td>
<td>Mask, Gloves</td>
</tr>
<tr>
<td>Accompanying Health Care worker</td>
<td>Actively treating patient during transfer</td>
<td>Mask, Gown, Gloves, Eye protection</td>
</tr>
</tbody>
</table>
Cleaning personal

<table>
<thead>
<tr>
<th>Action</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mask</td>
<td>Daily</td>
</tr>
<tr>
<td>Gown or washable coveralls</td>
<td>OR</td>
</tr>
<tr>
<td>Heavy Gloves</td>
<td>Before transfer of vehicle to another driver</td>
</tr>
<tr>
<td>Eye Protection</td>
<td>OR</td>
</tr>
<tr>
<td>Boots or closed work shoes</td>
<td>After transport of patients at risk</td>
</tr>
<tr>
<td>Cleaning the vehicle after the transport of suspected or confirmed Covid-19 patients.</td>
<td></td>
</tr>
</tbody>
</table>

7 Cleaning, Disinfection, and Maintenance $^2$-$^4$

7.1 General:

1. Cleaning is to be made by appropriately trained staff wearing necessary PPE.
2. Empty all equipment before cleaning.
3. Clean systematically to ensure nothing is missed: Clean from front to back, top to bottom.
4. Clean first with usual soap and water using reusable brush/ sponge etc. Rinse and ensure surfaces are free of dirt before applying 0.1% chlorine solution. Ensure 1 min contact time on all surfaces and then rinse again with water.
5. The vehicle is cleaned with the **doors open** and allowed to **air dry**. This ensures good air renewal.
6. Use **clean**, durable, cleaning gloves. Wash gloved hands and then disinfect with before removing and before washing another vehicle. Remember to wash hands thoroughly immediately after gloves are removed.
7. In the event of accidental exposure to biological fluids (injuries) with a risk of contamination: wash and disinfect the injury and report immediately to the department in charge of medical personnel or to the hospital emergency department.

7.2 Waste Disposal:

1. **General Waste**: (masks, gloves, disposable-gown, decontamination wipes/alcohol pads, etc...) are placed in a 35-liter trash bag and disposed of in accordance with IPC and waste management procedures.
2. **Medical waste**: (needles, cutting, etc.): they are placed in an identified, appropriate, box and stored in a separate 35-liter bag within the vehicle. In accordance with IPC and waste management procedures.

7.3 Specific cleaning recommendations

Exercise caution when cleaning equipment and vehicle controls! Excessive water or chlorine can damage the equipment.

Introduce signs reminding personal what needs to be frequently cleaned.

Table 2: cleaning recommendations for specific objects and equipment

<table>
<thead>
<tr>
<th>Object</th>
<th>Action</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Dashboard</td>
<td>Mechanically clean$^5$ and Disinfect with:</td>
<td>Daily</td>
</tr>
<tr>
<td>- Steering Wheel</td>
<td>- 0.1% chlorine$^3$ solution</td>
<td>OR</td>
</tr>
<tr>
<td>- Indicators and control buttons</td>
<td>- Rinse</td>
<td>Before transfer of vehicle to another driver</td>
</tr>
<tr>
<td>- Rear view mirror</td>
<td>Wash with soap and water if visibly dirty or greasy</td>
<td>OR</td>
</tr>
<tr>
<td>- Gear shifter</td>
<td></td>
<td>After transport of patients at risk</td>
</tr>
<tr>
<td>- Hand Brake</td>
<td></td>
<td>OR</td>
</tr>
<tr>
<td>- Door handles and window regulators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Vehicle keys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Pens, etc…</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object</td>
<td>Action</td>
<td>Frequency</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>- GPS or control screens</td>
<td>Disinfect with:</td>
<td>If contaminated or soiled</td>
</tr>
<tr>
<td>- Phones</td>
<td>- Alcohol solution</td>
<td></td>
</tr>
<tr>
<td>- Other sensitive surfaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Seats (non-fabric or leather)</td>
<td>Wash and disinfect:</td>
<td>Weekly OR</td>
</tr>
<tr>
<td>- Floor (non-carpeted)</td>
<td>Soap and 0.1% chlorine solution</td>
<td>After transport of patients at risk OR</td>
</tr>
<tr>
<td>- Seat covers (washable)</td>
<td></td>
<td>If contaminated or soiled</td>
</tr>
<tr>
<td>- Fabric covers</td>
<td>Machine wash at 60°C</td>
<td>Weekly OR</td>
</tr>
<tr>
<td>- Work clothes (change daily)</td>
<td></td>
<td>If contaminated or soiled</td>
</tr>
</tbody>
</table>

8 References

This is a draft and is still to be approved by the WatSan Working Group (MSF Environmental Health guidance in COVID-19)

Other references used in creation:


9 Annexes

9.1 Annex: Example of vehicle modifications

Limiting contact with driver staff can reduce the risk of transmission to staff and conserve PPE. The following is not meant to be prescriptive but may inspire innovation. This section will be updated as good solutions are developed.

9.1.1 Driver Separation

9.1.1.1 Land cruiser

If modified land cruisers or other ambulance vehicles are available in the mission they should obviously given priority for patient transfer. Simple driver separation may be attainable through local modification.

![Figure 3: example of a minimal land cruiser modification with driver separation and space for a stretcher](image)

If installing a driver separator use a surface capable of being cleaned and disinfected.

Low quality, temporary, installations (example: local plywood and plastic sheeting) should be used as such. Remove and dispose of when condition becomes too poor.
9.1.2 Disposable/washable Covers and surfaces

![Figure 4: example of washable and removable seat cover](image)

Washable or temporary covers can reduce contamination of difficult to clean surfaces. Ensure they are removed and cleaned properly and are removed for cleaning. Ensure they do not become a source of contamination.

9.2 Annex: Example Covid19 On-Board equipment checklist

9.3 Annex: Information on PPE Precautions Based on Transmission

**GLOVES:** reduce hand contamination

**GOWN** (and **APRON**, if necessary): reduce contamination of the clothing of health / cleaning staff through contact or splashing

**EYE PROTECTION** (face shield/panoramic protective glasses): reduce contamination of the mucous membranes of health / cleaning staff during patient care (risk of projections or droplets). For health / cleaning staff we prefer a face shield and panoramic protective glasses over protective glasses.

**MASK:** reduce contamination of the mucous membranes of health / cleaning staff during patient care (risk of projections or droplets). Limit the transmission of exhaled infectious agents through the wearer's nose / mouth.

- Healthcare workers / cleaning staff should always use splash resistant masks
- For health staff / cleaning staff, we favor the use of surgical masks with fasteners
- For carers and patients, we favor the use of an ear fixation surgical mask, which is easier to put on and take off.

**How to use the mask correctly with patients with Covid-19**

- Always perform hand hygiene before placement and removal
- Place the mask to cover the mouth and nose and attach it securely to minimize the spaces between the face and the mask.
- Avoid touching the mask during use
- They are a single use item. Discard the mask after each use and dispose of it immediately
- Remove the mask using the proper technique (do not touch the front, but remove untie the fasteners from behind)
- Change the mask:
  - As soon as it gets wet / damp or becomes difficult to breathe through (maximum every three hours)
  - In case of contamination or mechanical damage (pierced)
  - If it was placed on the forehead and / or under the chin