

MOBILE CARE SERVICES

The importance of biosafety

Studies show that mobile units are often contaminated by microorganisms during patient transport, which can lead to the transmission of subsequent patients and the team that performs the care.

According to ANVISA, infections related to health care represent a substantial risk to patient safety, therefore, failures in the processes of cleaning and disinfecting surfaces can result in the spread and transfer of microorganisms in the different environments of health services.

At this time of pandemic, an increase in the number of pre-hospital and / or inter-hospital transport is expected. Thus, transmission by secondary cross-contamination should be a concern and can become a critical problem in the contamination of patients. The proper use of PPE's is extremely important during transport, as well as the cleaning of vehicles after service.

Control measures in emergency mobile pre-hospital care

1. All suspected, probable and confirmed cases of Covid-19 treated in the pre-hospital must be transported to the referenced network;
2. Offer the patient a surgical mask during care and travel if tolerated, as well as instruct him to cover his nose and mouth, preferably with a tissue or disposable paper towel when coughing, sneezing or blowing his nose -

recommend prompt disposal of the tissue or paper towels in the trash after use and the patient's frequent hand hygiene with alcohol gel;

3. During transport, the ambulance must have its windows open, to ensure good ventilation, keeping the environment always ventilated;

4. As few people as possible should contact the patient. Therefore, the presence of companions will not be allowed, except in the cases provided for by law;

5. During care, health professionals should use PPE as recommended in table 2.

6. The terminal cleaning of the ambulance must be carried out after each treatment of a suspected, probable or confirmed case of Covid-19;

7. The cleaning of the ambulance environment after the care of a suspected, probable or confirmed case of Covid-19 is very important to reduce the risk of cross-transmission of the disease to the rescue team and to other patients treated in this vehicle.

The new Coronavirus has a protein shell, the lipid capsid, which makes it particularly sensitive to disinfectants. There is evidence that the virus is effectively inactive with appropriate procedures that include the use of common disinfectants in health care facilities. The World Health Organization (WHO) suggests that the complete cleaning of the surfaces of the environment be carried out with water and detergent for hospital use, followed by the application of disinfectants commonly used in health institutions ”.

8. The guidelines on cleaning and disinfecting surfaces in contact with patients with suspected or infected with the new Coronavirus are the same as those used for other types of respiratory diseases. Health articles, products and equipment must be for the exclusive use of patients, and hygiene and disinfection must be carried out according to recommendations for shared use, avoiding the

cross transmission of the virus. For cases without suspected COVID-19, without epidemiology and without respiratory symptoms, the usual disinfection is performed.

The equipment available in the ambulance (eg stethoscope, sphygmomanometer) must be disinfected after use; as recommended in table 1.

9. Before starting the cleaning procedure, open the ambulance doors to allow greater ventilation of the environment.

Cleaning and disinfection

The tasks of cleaning and disinfecting surfaces in health services may vary according to the area and characteristics of the place where the cleaning will be carried out, in addition to the management model in force applied to the service in question.

The Cleaning and Disinfection Service includes cleaning, disinfection and conservation of fixed surfaces and permanent equipment, with the aim of preparing the environment, maintaining order and conserving equipment and installations, mainly avoiding the spread of microorganisms.

The cleaning technique is the same for concurrent and terminal cleaning, the latter being differentiated for being more thorough when cleaning all surfaces, materials and equipment of the vehicle.

Dry sweeping and dusting should be avoided as they can spread dust, foreign matter and microorganisms into the air and on clean surfaces. This cleaning should be done from the part with the least dirt (contamination) to the one with the most dirt, always in unidirectional movements, from the most

distant to the closest, and not in circular movements, as this only spreads the dirt, making it difficult to remove.



Correct way of cleaning

*Source: Manual operacional de bombeiros: resgate pré-hospitalar /Corpo de Bombeiros Militar do Estado de Goiás. – Goiânia: - 2016

Concurrent cleaning is carried out between one service and another, with the purpose of cleaning and organizing the environment, replacing the consumable materials and collecting the waste according to its classification. Also, during concurrent cleaning it is possible to detect non-functioning materials and equipment.

The surfaces, where contact with the hands is greater, it is recommended to increase the cleaning frequency, and in specific cases (contact precaution), cleaning followed by disinfection is recommended. For surfaces where the degree of contact with the hands is less, the recommendation is only cleaning with detergent solution.

Terminal cleaning should be more thorough cleaning, including all horizontal and vertical, internal and external surfaces. The procedure includes cleaning walls, floors, ceilings, gas panels, equipment, all furniture.

The process with the floor is the same in both types of cleaning. All parts of the vehicle must be cleaned and disinfected, including windows, door handles, etc.

In case of the presence of a large amount of organic matter, the excess must be removed with the aid of a cloth or paper towel and sanitize the place according to current recommendations. Specifically, the long board can be washed with plenty of water, provided it is in a suitable place.

Table 1. Cleaning and disinfection

ITEM	TECHNIQUE	METHOD
<p>Long board, mat, Oxygen net ruler, stretcher, bin, bench, shelf, cabinets</p>	<p>Cleaning and / or disinfection</p>	<p>Clean with water and soap or detergent.</p> <p>Rub with the products recommended by the Ministry of Health and validated by the service, after the patient leaves.</p> <p>It is recommended to use different colors of gloves for cleaning floors and furniture.</p>
<p>Walls, ceiling</p>	<p>Cleaning and / or disinfection</p>	<p>Clean with water and soap or detergent.</p> <p>Use unidirectional motion</p>
<p>Dumpsters, Stairs, Windows, Glazing, Doors and Fixtures</p>	<p>Cleaning and / or disinfection</p>	<p>Clean with water and soap or detergent.</p>
<p>Floor</p>	<p>Cleaning and / or disinfection</p>	<p>First, clean with soap or detergent, using the mop.</p> <p>Rinse and dry.</p> <p>After cleaning, apply the disinfectant, leaving the time necessary for the product to act (follow the manufacturer's instructions). If necessary, rinse and dry.</p>
<p>Sphygmomanometer. Stethoscope, cervical collar,</p>	<p>Cleaning and / or disinfection</p>	<p>Rub with standard disinfectant over the entire surface to be cleaned, allowing to dry naturally.</p>
<p>Equipment (monitor, cardioverter, fan, infusion pump)</p>	<p>Cleaning and / or disinfection</p>	<p>Clean with water and soap or detergent.</p> <p>Rub with the products recommended by the responsible bodies and validate for the service, after leaving the patient.</p>
<p>Fabrics (straps, belts, sphygmomanometer cuff and first aid bag)</p>	<p>Cleaning and / or disinfection</p>	<p>They must be washed by rubbing with a brush, water and soap, rinse, waiting for drying and stored properly.</p>
<p>Ventilatory / respiratory therapy supplies</p>	<p>Disinfection</p>	<p>Follow institutional routine for disinfection according to ANVISA standards</p>

Recommendations for personal protective equipment to be used to prevent and control the spread of SARS-CoV-2 (COVID-19), according to the environment, target and type of activity.

Table 2. Types of personal protective equipment recommended in the COVID-19 context.

RECOMMENDED TYPES OF PERSONAL PROTECTION EQUIPMENT IN THE COVID-19 CONTEXT, ACCORDING TO THE TYPE OF ENVIRONMENT, TARGET PERSON AND TYPE OF ACTIVITY *			
TYPE OF SCENARIO	PERSONAL TARGET THE SCENARIO	TYPE OF ACTIVITY	TYPE OF PPE
Ambulance / Transport vehicle	Health professionals	Transport of patients suspected of carrying COVID-19 to the reference health facility	Surgical mask Cloak Gloves Eye protection
	Driver	When the transport of the patient suspected of carrying COVID-19 takes place in a vehicle with an isolated compartment for the driver	Spatial distance of at least 1 meter Surgical mask
		When assisting the boarding of patients suspected of carrying COVID-19	Surgical mask Cloak Gloves Eye protection
		No direct contact with the patient suspected of carrying COVID-19, but there is no separation between the driver's cabin and the patient's compartment.	Surgical Mask
	Patient suspected of carrying COVID-19	During transport to the referral health facility	Surgical mask if tolerated
	Hygiene and cleaning professionals	After / between transporting patients suspected of having COVID-19	Surgical mask cloak Heavy-duty gloves Eye protection (if there is a risk of splashing organic

			or chemical materials) Closed work boots or shoes
--	--	--	---

Source: Protocolo de Manejo Clínico para o Novo Coronavírus, Brasil - Ministério da Saúde.

* In addition to the appropriate use of PPE, frequent hand and respiratory hygiene should always be performed. PPE must be disposed of in an appropriate container after each use and hand hygiene must be carried out before and after using each PPE.

After the end of the service shift time, the rescuer professional must wash all the pieces of uniform / uniform used during the work shift.

These should be sanitized separately, without contact with other family clothing items. If there is blood and other body fluids, disinfection of the washer is necessary after washing. A complete washer cycle is promoted with maximum water and sanitary water capacity.

Finally, we ratify the importance of the Mobile Emergency Care Service, which must remain organized and prepared with its complete and oriented teams, vehicles and equipment ready to attend to a possible suspected or confirmed case of human infection by COVID-19 .

REFERENCES

1. ABNT – Associação Brasileira de Normas Técnicas. Veículos para atendimento a emergências médicas e resgate, NBR 14561. Rio de Janeiro: ABNT, 2000. <https://www.normas.com.br/visualizar/abnt-nbr-nm/20560/abnt-nbr14561-veiculos-para-atendimento-a-emergencias-medicas-e-resgate>. Acesso em: 06/04/2020.
2. BRASIL, ANVISA. Cartilha de Proteção Respiratória contra Agentes Biológicos para Trabalhadores de Saúde. Brasília: 2008. http://portal.anvisa.gov.br/resultado-de-busca?p_p=id=101&p_p=lifecycle=0&p_p=state=maximized&p_p=mode=view&p_p=columnid=column&p_p=columncount=1&_101_struts_action=%2Fasset_publisher%2Fview_content&_101_assetEntryId=327062&_101_type=document. Acesso em: 07/04/2020.
3. BRASIL. ANVISA. Resolução – RDC nº 63, de 25 de novembro de 2011, Dispõe sobre os requisitos de boas práticas de funcionamento para os serviços de saúde. Brasília: ANVISA, 2011. <https://www20.anvisa.gov.br/segurancadopaciente/index.php/legislacao/item/rdc-63-de-25-de-novembro-de-2011>. Acesso em: 05 de abril de 2020.
4. BRASIL. ANVISA. Segurança no ambiente hospitalar. Brasília: ANVISA, 2003. http://www.anvisa.gov.br/servicosade/manuais/seguranca_hosp.pdf. Acesso em: 07/04/2020.
5. BRASIL. ANVISA. Segurança do paciente em serviços de saúde: limpeza e desinfecção de superfície. Brasília: ANVISA, 2012. <https://www20.anvisa.gov.br/segurancadopaciente/index.php/publicacoes/item/seguranca-do-paciente-em-servicos-de-saude-limpeza-e-desinfeccao-de-superficies>. Acesso em: 06/04/2020.
6. BRASIL. Ministério da Saúde. Portaria nº 529, de 1 abril de 2013. Institui o Programa Nacional de Segurança do Paciente (PNSP). https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2013/prt0529_01_04_2013.html. Acesso em: 03/04/2020.
7. BRASIL. Ministério da Saúde. Portaria n.º 2048 Em 5 de novembro de 2002. Ministério da Saúde. https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2002/prt2048_05_11_2002.html. Acesso em 05/04/2020.

8. BRASIL. Ministério da Saúde. Portaria n° 2657, de 16 de dezembro de 2004. Brasília: Ministério da Saúde, 2004.
https://bvsmis.saude.gov.br/bvs/saudelegis/gm/2004/prt2657_16_12_2004.html.
Acesso em: 06/04/2020.
9. BRASIL. Ministério da Saúde. Secretaria de atenção especializada à saúde departamento de atenção domiciliar e de urgência. Brasília: Ministério da Saúde, 2020.<https://portalarquivos2.saude.gov.br/images/pdf/2020/fevereiro/05/Protocolo-de-manejo-clinico-para-o-novo-coronavirus-2019-ncov.pdf>.
Acesso em: 04/04/2020.
10. BIELAWSKA-DRÓZD, A; CIEŚLIK, P; WLIZŁO-SKOWRONEK, B; WINNICKA, I; KUBIAK, L; JAROSZUK-ŚCISEŁ, J; DEPCZYŃSKA, D; BOHACZ, J; KORNIŁÓWICZ-KOWALSKA, E; KOCIK, J. Identification and characteristics of biological agents in work environment of medical emergency services in selected ambulances. International Journal of Occupational Medicine and Environmental Health 2017;30(4):617–627
<https://doi.org/10.13075/ijomeh.1896.00816>. Acesso em 03/04/2020.
11. GOIÁS. Corpo de Bombeiros. Manual Operacional de Bombeiros. Goiás, 2016.<https://www.bombeiros.go.gov.br/wp-content/uploads/2015/12/MANUAL-DE-RESGATE-PR%C3%89-HOSPITALAR.pdf>. Acesso em: 07/04/2020.
12. LINDSLEY, W; MCCLELLAND, T; NEU, D; MARTIN JR, S; MEAD, K; THEWLIS, R; NOTI, J. Ambulance disinfection using Ultraviolet Germicidal Irradiation (UVGI): Effects of fixture location and surface reflectivity. Journal of Occupational and Environmental Hygiene. ISSN: 1545-9624 (Print) 1545-9632 (Online) Journal homepage:<http://www.tandfonline.com/loi/uoeh20>,<https://doi.org/10.1080/15459624.2017.1376067>. Acesso em: 06/04/2020.