



Lloyd's Register
Foundation



INTERNATIONAL
MARITIME RESCUE
FEDERATION



Pandemic Response Guidance for Maritime Search and Rescue Organisations

FEBRUARY 2021

About this manual

The primary aim of the *Pandemic Response Guidance for Maritime Search and Rescue (SAR) Organisations* is to help save lives by providing a resource containing essential skills, knowledge and guidance for those operating in a maritime search and rescue environment during a pandemic, or major health emergency.

This manual has been designed as a guidance document and can be adapted to suit the local environment.

This manual will be reviewed after 3 years. Please send any comments and feedback to: info@imrf.org.uk

February 2021

The Guidance was developed by an International Maritime Rescue Federation (IMRF) Working Group and was Peer-Reviewed by IMRF Members. Thank you to all who contributed.

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Disclaimer

The content of this manual is for general guidance only. It represents best practice as at the date of publication and should not be considered as legal advice. Those using this manual should seek professional advice as and when necessary. The IMRF does not accept responsibility for any errors in this document.

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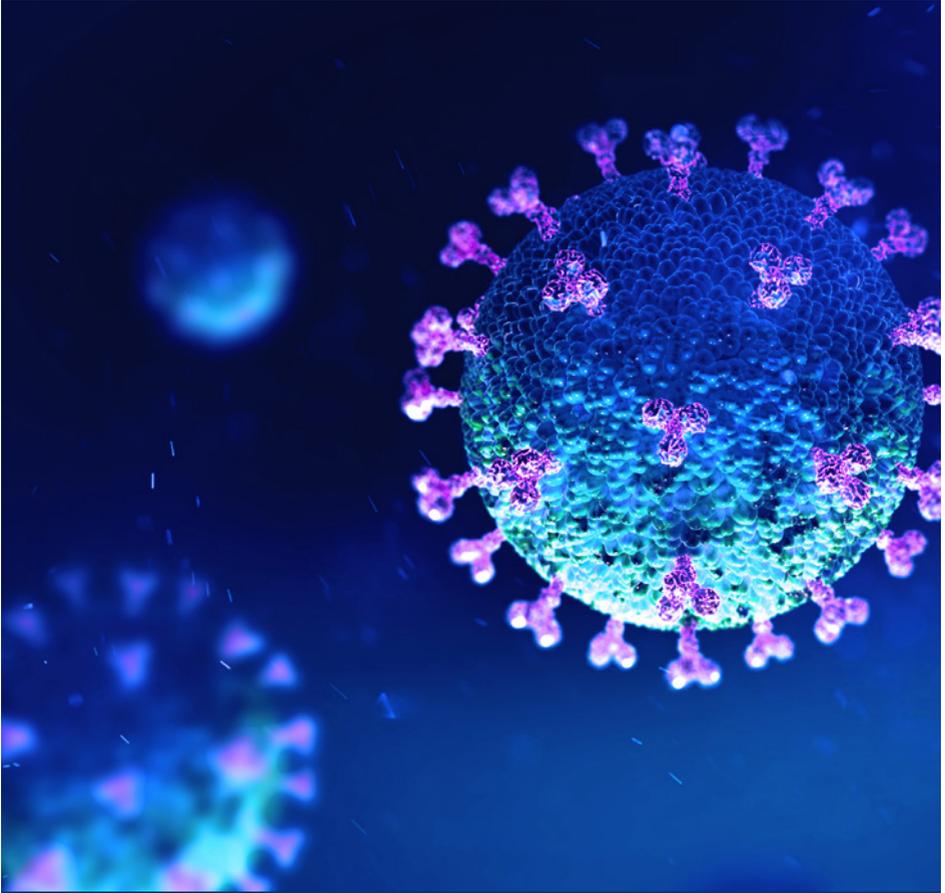
I am pleased to introduce this Pandemic Response Guidance for Maritime Search and Rescue (SAR) Organisations, produced by the International Maritime Rescue Federation, with the support of the Lloyd's Register Foundation.

Lloyd's Register Foundation's charitable purpose is to enhance safety and advance public education, particularly for the critical infrastructures and supply chains that society relies upon. We work towards making the world a safer place, an aim that we share with the IMRF.

The important work of SAR services does not disappear during a pandemic, but a pandemic does create additional health protection challenges for SAR operations. The primary aim of this Pandemic Response Guidance for Maritime SAR Organisations is to support those providing maritime SAR services in extraordinary circumstances to do so safely, with minimum risk to the health of casualties and personnel alike.

I am pleased that, with the support of the Lloyd's Register Foundation, IMRF has been able to produce this guidance. I have no doubt that it will help SAR responders to better protect the health of both those rescued and SAR responders themselves.

Unit 1: Introduction



Learning outcomes

- 1.1 Understand the purpose of the Pandemic Guidance for SAR Organisations.
- 1.2 Describe the containment and mitigation phases of a pandemic.
- 1.3 Understand the background to global pandemics.

This guidance should always be read in conjunction with any guidance and advice provided by national authorities and the World Health Organization (WHO).

Organisations should produce their own risk assessment and adapt their operating procedures to comply with the appropriate guidance and regulations.

1.1 The purpose of the guidance for SAR organisations

The following guidance is offered to assist organisations in managing their response to pandemics for the different aspects of their SAR services.

This guidance is not exhaustive, but it aims to suggest changes to policies and procedures that organisations may wish to introduce to ensure that the risk to their own personnel and others is minimised, whilst also maintaining the integrity of the service that they provide.

1.2 Background to global pandemics

A pandemic is described as an infectious disease that has spread across a large region, such as multiple continents or worldwide, affecting a substantial number of people.

Diseases may be transmitted in a number of ways such:

- Airborne transmission.
- Contact with contaminated people or objects.
- Food and drinking water.
- Animal to person contact.
- Insect bites.

Throughout human history, there have been a number of pandemic diseases such as influenza, smallpox and tuberculosis. Other historical global pandemics include diseases such as cholera, yellow fever, typhus and malaria.

The most fatal pandemic in recorded history was the Black Death (also known as The Plague), which killed an estimated 75 - 200 million people in the 14th century.

The term pandemic was not used then, but was adopted for later ones including the 1918 influenza pandemic (Spanish Flu). More recent and current pandemics include HIV/AIDS and COVID-19.



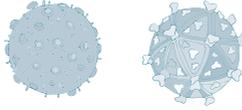
Soldiers ill with Spanish Flu at a hospital ward at Camp Funston, Fort Riley, Kansas.

Unit 1: Introduction

Influenza virus



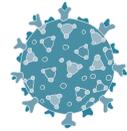
HIV/AIDS virus



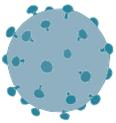
Human poliovirus



COVID-19



Hepatitis C virus



SARS-CoV-2 virus



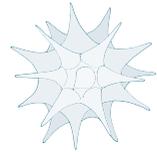
SARS virus



Bronchitis virus



Infection virus



Sindbis virus



Hepatitis A



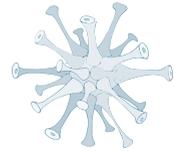
Herpes virus



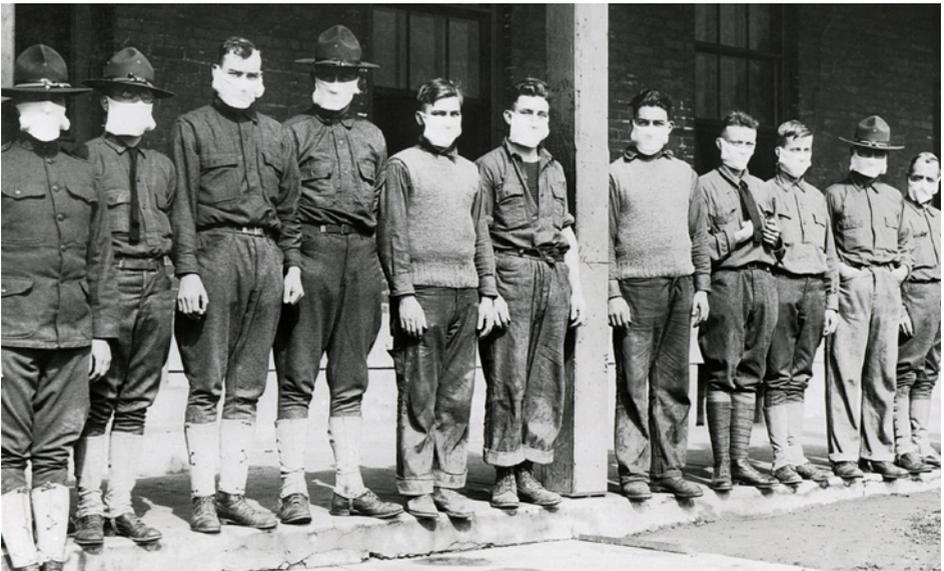
Adenovirus



Pathogenic virus



Different types of pathologically dangerous viruses for humans.



Masks being used by the US military during the Spanish Flu pandemic of 1918-1919.



The seasonal flu is not considered a pandemic.

A widespread endemic disease with a stable number of infected people is not a pandemic. Widespread endemic diseases with a stable number of infected people such as a recurrence of a seasonal influenza is generally excluded as being described as a pandemic, as they occur simultaneously in large regions of the globe rather than being spread worldwide.

1.3 Containment and mitigation

The basic strategies in the control of an outbreak are containment and mitigation.

Containment

The main objective of containment is to stop the disease spreading. Containment may be undertaken in the early stages of the outbreak, including contact tracing and isolating infected individuals to stop the disease from spreading to the rest of the population. Other strategies of containment include public health interventions relating to infection control and therapeutic countermeasures such as vaccinations, which can be effective, if available.



Developing vaccinations can sometimes be a solution to containing a pandemic.

Mitigation

When it becomes apparent that it is no longer possible to contain the spread of the disease, management will then move to the mitigation stage. This stage includes measures that are implemented to slow the spread of the disease and mitigate its effects on society and reduce the strain upon the healthcare system.

In reality, containment and mitigation measures may be undertaken simultaneously and in a systematic manner.

"All countries need to review their strategies now"

Dr. Michael J. Ryan, WHO Informal Advisory Group member during COVID-19 outbreak

Guidance for pandemic response for maritime search and rescue organisations

Initial Stages of Pandemic

- Mitigation
- Containment

Priorities for SAR Organisation

- Seek and follow guidance from national and local competent authorities
- Maintain essential SAR services with appropriate measures in place
- Carry out appropriate risk assessments and emergency plans
- Review and cancel non-essential operations and activities

Communication

- Ensure a communication plan is established
- Inform all relevant stakeholders of the ongoing situation

Manage and Review

- Review and update ongoing national and local guidance
- Update communication plan and stakeholders
- Develop contingency plans in case the situation is prolonged

Unit 2: The role of different stakeholders during a pandemic

Photo: Irish Coast Guard



Learning outcomes

- 2.1 Understand the role of the World Health Organization during a pandemic.
- 2.2 Understand the role of the national authorities during a pandemic.
- 2.3 Understand the role of other stakeholders during a pandemic.
- 2.4 Understand the importance of stakeholder management.

2.1 The role of the World Health Organization

The World Health Organization (WHO) is a specialised agency of the United Nations responsible for international public health. The WHO Constitution, which establishes the agency's governing structure and principles, states its main objective as "the attainment by all peoples of the highest possible level of health."

It is headquartered in Geneva, Switzerland, with six semi-autonomous regional offices and 150 field offices worldwide.

The WHO's broad mandate includes promoting universal health coverage, monitoring public health risks, coordinating responses to health emergencies, and promoting human health and wellbeing.

During a pandemic it provides technical assistance to countries, sets international health standards and guidelines, and collects data on global health issues through the World Health Survey.



The WHO may provide regular situation reports that can contain vital and up-to-date information on the progress of the pandemic.

Photo: ADES Uruguay



The WHO has played a leading role in several public health achievements, most notably the eradication of smallpox, the near-eradication of polio, and the development of an Ebola vaccine.

The International Maritime Organization (IMO) may also provide guidance on maritime issues related to a pandemic. These can be in the form of IMO circular letters. It is worth checking their website for further information and updates or subscribing to their newsletters.



Simulation training exercises are important for preparing for pandemics.

2.2 The role of the national government authorities

During a pandemic, the national government authorities are generally responsible for providing a response to the pandemic within the jurisdiction of their country. In some countries they will have prepared response plans and policies, and carried out training and simulation exercises relating to pandemic responses. In some countries, regional and local authorities may also play an important role.

National governments will provide policies and mandates to follow during a pandemic. This will include mitigation and containment policies, communication and advice to the public and businesses. Long-term and short-term strategies should be in place at national government level to deal with the pandemic and potential recovery plans. They can form specialist government advisory groups drawn from different sectors to provide specialist advice, such as medical and public health. These advisory groups can thus be useful to inform appropriate local authorities.

National SAR authority

The majority of SAR incidents are usually dealt with by the appropriate recognised national coordinating authority within a country. During a pandemic, they may also provide guidance for any SAR related activities or issues.

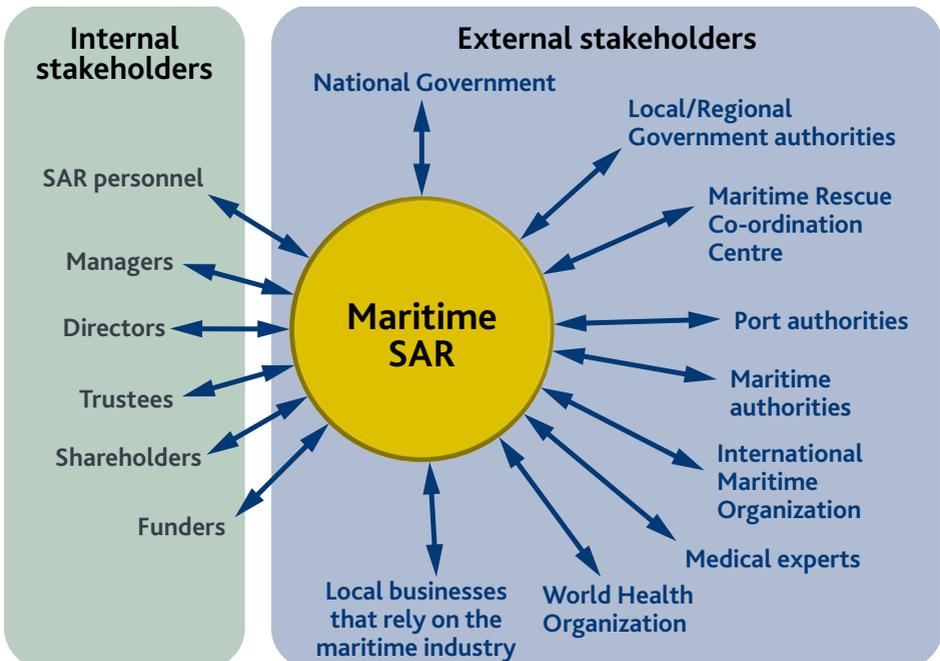
2.3 Other stakeholders

During a pandemic, it is vital that stakeholders work together and share information regarding response strategies, policies and procedures. The sharing of any lessons learned or good practice during the pandemic can help with information dissemination.

Stakeholders should be committed to a cohesive and cooperative partnership, which aims to continue the provision of an effective pandemic response.

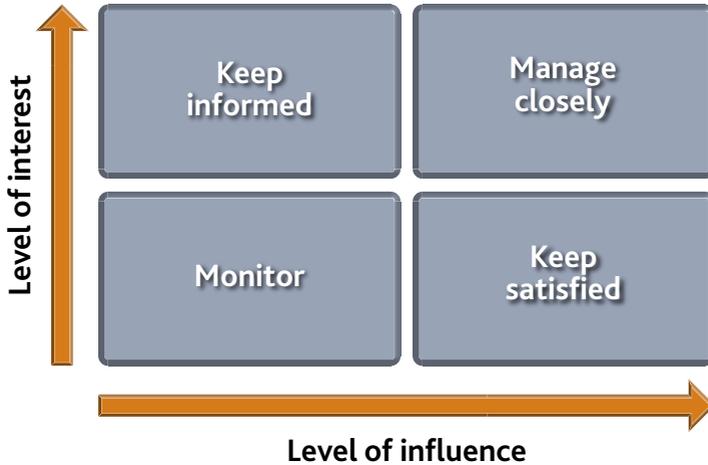
Some examples of stakeholders that could be involved in a pandemic response:

- Military.
- Emergency Services.
- Voluntary Sector.
- Private Sector.
- International Governing Bodies.
- Educational Sector.



Example of various internal and external stakeholders

2.4 Stakeholder management and engagement



The stakeholder matrix shown above will help you to prioritise which stakeholders need the most engagement.

Try this activity: draw out the matrix above on a sheet of paper, then write down each of your stakeholders on smaller, separate pieces of paper. Decide how much influence your different stakeholders have on your service (how much they affect you), and how much interest they have in your service (how much you affect them). Now, based on this, place each stakeholder in the appropriate box.

Once you have mapped the interests of the stakeholders, you can then prioritise how much engagement you need to have with them.

If your stakeholder has a high level of interest and a high level of influence, it is important to maintain a good relationship with them

and manage them closely. This usually means regular meetings, phone calls, reports and emails to keep them well informed.

If your stakeholder has a high level of influence but only limited interest, then maintain a good relationship with them to keep them satisfied, but they may not need regular information from you.

If the stakeholder has a high level of interest but only limited influence, then keep them informed, which could be with written reports or emails.

Stakeholders who have limited influence and interest require less communication but monitor their activity and contact them when you need to.

Unit 3: Priorities for SAR organisations during a global pandemic



Learning outcomes

- 3.1 Understand the key priorities for SAR organisations during a pandemic outbreak.
- 3.2 Understand the importance of communication.
- 3.3 Understand the options for SAR, essential and non-essential activities.
- 3.4 Understand the options for minimising the risks to personnel during essential SAR activities.

3.1 Priorities for SAR organisations during a pandemic outbreak

The key priorities for all SAR organisations during pandemics are:" :

- Minimise the risk of infection for all personnel.
- Continue to provide effective SAR and lifesaving services.
- Minimise the risk of infection for those who come into contact with the SAR service.

These priorities should underpin all aspects of the provision of SAR services during any pandemic.



Having a prepared pandemic response plan can save vital time during an outbreak.

3.2 Importance of communications

Key principles

In a fast-moving situation, the delivery of accurate, clear and up-to-date information and advice is an important factor in the delivery of a safe and effective maritime SAR service during a pandemic.

Organisations need to have a robust communication strategy in place to ensure that information gets to the right people at the right time.

The information provided should be factual, timely and targeted. It should support personnel in carrying out their work safely and effectively.

Key interest groups

There are four key groups who need to be communicated with:

- Personnel need to be kept regularly informed of changes in policies and operational guidelines.
- External stakeholders and partners – they need to be kept informed of the situation, particularly how any changes in procedures, or rearrangement of events and activities (e.g. training) apply to them.
- Funders and sponsors – they need to know that the organisation still needs support and how they can help.
- Press and media – they can help raise awareness of the organisation's work and help with the dissemination of public safety messaging and advice through all of their media channels.

Photo: AFM Public Affairs Malta



Communication plan



3.3 Options for SAR activities

Non-essential activities

All non-essential activities, such as SAR exercises and demonstrations, should be reconfigured, suspended, cancelled or postponed, in line with guidance from the national SAR authority. (See Unit 4)

Essential SAR activities

Maintaining essential SAR services should be the priority and the organisation should provide all operating bases with detailed instructions on how to proceed with SAR operations during the pandemic.

Examples may include:

- SAR tasks received from the Maritime Rescue Co-ordination Centre (MRCC).
- Giving assistance to a vessel in distress.
- Medevac, transportation of casualties, or people who are sick (whether related to the pandemic or not).
- Where national or local travel restrictions are in place, the organisation should liaise with the relevant national authorities to ensure that duty personnel, who are responding to an incident at the request of the relevant competent authority, can obtain the necessary authorisations to enable them to travel to their operational base.



Photo: RNLI/Don Jackson-Wyatt

3.4 Minimising the risks to personnel during essential SAR activities

	Disaster	High	Medium	Minimal
Severity	Disaster	High	Medium	Minimal
Probability	Critical	Critical	High	Medium
Regularly	Critical	High	Medium	Medium
Probable	Critical	High	Medium	Low
Occasional	Critical	High	Medium	Low
Rarely	High	Medium	Medium	Low
Probable	Medium	Medium	Low	Low

Risk Assessments should be reviewed frequently.

Where it is necessary to undertake a particular SAR activity, it is important to consider who really needs to participate in the activity and what safeguards can be put in place to protect everyone involved.

Risk assessments should be reviewed and updated to comply with national guidance.

Participating personnel

- Only the minimum essential personnel should participate in the activity. That must include personnel with the normal mandatory qualifications and certification (e.g. coxswain/skipper, engineer, radio navigation, deck crew, first aid etc.).
- The crew involved should be part of the duty crew.
- Participants should not attend if they have any symptoms of the infection, are feeling unwell or have tested positive for the infection.

Unit 3: Priorities for SAR organisations during a global pandemic

- If possible, personnel should not belong to any of the identified high-risk groups as they could be more susceptible to the disease (e.g. medical status, or otherwise).
- All stand-by personnel should be given prior instructions for safe access to their operating base, including parking, changing facilities etc. or be provided a dedicated personnel briefing before going on board. This should emphasise protective measures, including personnel placement on board (wheelhouse or outdoor deck), use of personal protective equipment etc.



Photo: RNLI/David Edwards

Maintaining social distance can minimise the risk of infection.

Equipment

Any additional Personal Protective Equipment (PPE) required to minimise the risk of infection needs to be designed or adapted for service at sea, so as not to impede the safety of SAR personnel or others involved in the activity.

- If possible, there should be no sharing of personal equipment - all gear is for personal use only (e.g. survival suit, life jacket, helmet, other clothing).
- SAR units, equipment and personal gear should all be washed and disinfected once the SAR activity has ended.



Photo: Flavio Gasperini/SOS MEDITERRANEE

- All personnel should be aware of any revised guidance on first aid procedures to minimise risk of infection (e.g. wearing of masks for CPR and all other human contact etc.).
- Follow social distancing and personal hygiene protocols.
- Personnel should keep a safe distance between themselves wherever possible.
- Wash or sanitise hands before and after the activity.
- Wear gloves.
- Wear masks.

Photo: MRCC Georgia



Unit 3: Priorities for SAR organisations during a global pandemic

Photo: RNLI/Callum Robinson



Creating a response plan for suspected infection

The organisation should develop a response plan in case someone exhibits symptoms of infection whilst at any of the organisation's locations or whilst on essential operational activities.

The plan should identify:

- A room/area where the person can be safely isolated and monitored.
- The requirement to deep clean any areas which the infected person has been in.
- Who should be contacted for assistance and how to call for help; and/or how to transport the person home, or to a health care facility if needed, with minimum risk to other personnel.

The plan should also cover procedures for handling personnel testing positive, directly after being in contact with other members of the organisation, or partner organisations, or members of the public (e.g. while responding to an incident).

Maintenance and deliveries

Operational readiness

Keeping SAR units and facilities in a state of operational readiness is a key component in maintaining SAR services. This can be challenging and require significant resources in normal circumstances.

During a crisis, it is essential to identify how your organisation can adapt service delivery, appropriate service and inspections intervals, and supply chain vulnerabilities in order to sustain safety and reliability margins.

Photo: RNLI/Nathan Williams



PPE decontamination

Maintenance

Only maintenance and repair activities that are critical to the safe running of SAR units or other essential services should be performed at this time. Some inspections can be postponed or, in the case of compulsory time-sensitive inspections, should be carried out with minimum number of people (for example, a lead inspector plus the person responsible for the SAR unit at the operating base). The number of personnel required to carry out any maintenance task should be limited to those who are essential to the successful completion of the task.

Sometimes operational personnel perform maintenance and some repair duties. However, technical staff, or other commercial boatyard technicians can be required to come to the operating base to carry out larger/more complicated repairs.

In these cases, every effort should be made to limit contact between any external workers and local personnel to what is essential for the task. Many SAR unit maintenance activities are used as a learning opportunity for trainee personnel. This type of training activity should be postponed, as most repairs are performed in confined spaces and in close proximity.

Photo: Bernhard Schulte Ship management (BSM)



Unit 3: Priorities for SAR organisations during a global pandemic

Deliveries

In order to minimise the number of deliveries to offices and operating bases, organisations need to identify and prioritise delivery of the spare parts that are essential for any immediate essential repairs, or identify the spare parts that most frequently need replacing.

Contact suppliers as soon as possible to establish any issues in the supply chain, especially for essential items such as Personal Protective Equipment (PPE), fuel and other mechanical spares.

As a result of disruption to international supply chains caused by the pandemic, it is worth planning for any potential limits to the availability of some equipment and spare parts, as well as possible delays in delivery. In order to minimise the contact (and the risk of infection) between delivery staff and the personnel at the receiving location, clear protocols need to be in place.

In some cases, items may be left by the delivery driver without the need for a signature. Most commercial deliveries from logistics companies are likely to have stopped the procedures requiring signing for packages physically, or on digital hand apparatus.





Learning outcomes

- 4.1 Understand what are considered non-essential activities.
- 4.2 Understand other contingency options for working routines.

4.1 What is a non-essential activity

Non-operational activities such as public visits, fundraising events, open days and conferences should either be: carried out in a safe manner following relevant guidance, postponed or cancelled.

- Can you consider other options for these events to be delivered differently such as an online conference?
- Who needs to know about the cancellation/postponement? Consider incorporating this into your communication plan.

Non-essential visits

Access to buildings and operating bases, including travel by personnel.

All non-essential visits to operating bases or organisation headquarters should be suspended during the pandemic, including visits from personnel not on call, members of cooperating organisations or authorities, sponsors etc. This should be communicated clearly on websites, social media etc. If the situation is prolonged for several years, new revised procedures may need to be put in place to adapt to any new regulations.

Photo: RNLI/Nigel Millard



Public access

Public access to operating bases, SAR units and other essential buildings and infrastructure should be suspended. Public access to giftshops, visitor centres, cafés and similar sources of income should be determined in accordance with guidelines from local/national authorities. If such areas are located in close proximity to areas used by personnel or other essential members of staff, public access should also be suspended.

Restricted access for essential personnel only

Access to operating bases and SAR units should be restricted to the personnel directly involved in, or critical to, the ongoing operation. Personnel changes at operating bases, or other operational facilities, should be conducted without any physical interaction between the incoming and outgoing shifts. Markers such as the use of tape could be used on the floor to remind personnel of social distancing and direction of travel for incoming/outgoing shift personnel.

Physical presence

All physical presence at operating bases and other organisation buildings should be kept to a minimum. If possible, only personnel required for essential maintenance, or critical to the conduct of safe and effective operations should be allowed physical access. Poster reminders on how to wash hands correctly should be displayed around the building, particularly in washrooms. All personnel who are physically present should take responsibility to help wipe down high transit areas on the SAR unit and in buildings such as table surfaces, cupboard doors, door handles etc.

4.2 Contingency options for working routines

Working from home and team meetings

All staff members should be encouraged to work from home wherever possible and should be supported by managers and the organisation in this endeavour.



With modern technology, most non-operational tasks can be performed from home, using a laptop/computer and an internet connection. Both internal team meetings and external meetings can be performed using commercial and/or freely available software solutions.

If a physical meeting is absolutely necessary, consider restricting attendance to the minimum essential personnel only, or splitting the larger group into sub-groups for each topic. Always start meetings with a gentle reminder of precautions to avoid spread of disease.

Managers and colleagues should in any event be checking on the mental wellbeing of all personnel and should provide details of internal and external contacts that can be called upon for advice/support, if required.

Unit 4: Options for non-operational activities

Photo: DGZRS



Working patterns to maintain social distance

Where access to buildings is required, to avoid or minimise contact between personnel, managers should assess whether it is possible to change access arrangements. For example, personnel could enter buildings/workplaces in smaller numbers, or at specific times, or on specific days, or use separate entrances and exits to buildings.

A safe distance should be maintained between personnel and everyone should be continually reminded of the importance of abiding by the hygiene measures in place.

Organisations should also provide facilities and hygiene resources so that personnel can wash and dry, or sanitise their hands regularly with the correct equipment.

Travel between operating bases and other buildings

The organisation should establish routines for travel between operating bases, personnel homes and workplaces, or any other travel necessary for the operation of the organisation.

Assess the risks associated with using public transport. If using rental cars, check whether the rental company has any special policies or restrictions in place as a result of the pandemic. Ensure that anyone travelling on behalf of the organisation knows what to do and who to contact if they feel ill while travelling.

Follow protocols given by local/national authorities

The organisation should be aware of any local/national protocols or restrictions on travel and keep monitoring any changes of policy by the relevant authorities, especially in relation to personnel travelling to respond to a SAR incident.

It is particularly important to monitor this in relation to international travel, as policies may vary between different countries. It may adversely impact the organisation's operations if key personnel are put into quarantine as a result of poor travel planning.



Learning outcomes

- 5.1 Understand what are essential training activities.
- 5.2 Understand other options for training delivery.

5.1 Training activities

During the containment phase of the pandemic, all non-essential training activities that require participants to be physically present should be suspended, cancelled or postponed. This is to avoid contact between operating bases and communities, as well as between personnel in a specific operating base.

Essential training activities that cannot be postponed should be carried out with the minimum number of trainers and trainees in attendance. If possible, such training should be organised for personnel from one operating base at a time.



Photo: MRCC Georgia

Essential training

In general terms, essential training is training that is needed for the continued provision of safe and effective rescue operations during a pandemic.

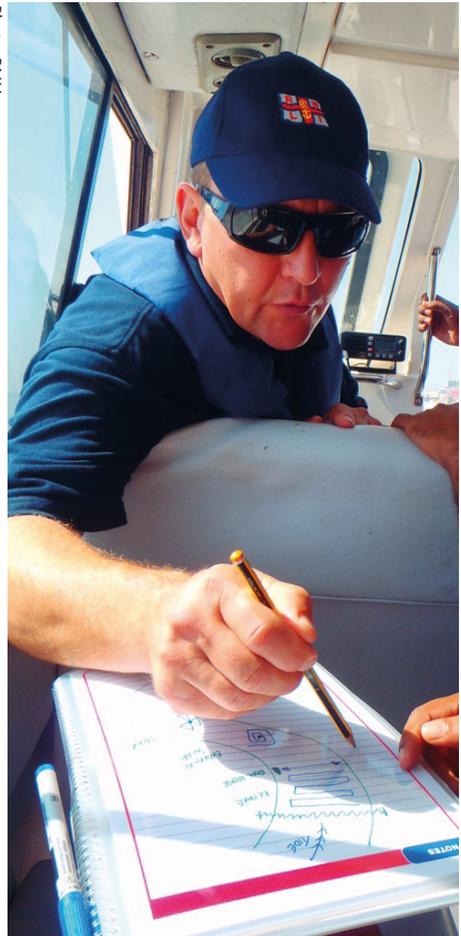
Examples of essential training include:

- Familiarisation with a new SAR unit, new equipment or new way of operation.
- Familiarisation with the SAR unit and operating procedures for replacement personnel (where regular personnel are off sick or in quarantine).
- Training with helicopter crews to support them in maintaining essential aeronautic operational qualifications.

If the pandemic situation is prolonged, essential training might also include:

- Training of relatively new personnel, who have a reasonable level of skill, but who need more experience in order to become independently operational team members.
- Maintaining personnel skills, especially for small fixed teams.
- Fitness training of rescue personnel e.g. suggestions for exercises or workouts that can be done at home, together with advice on appropriate nutrition, which might be necessary for maintaining the health and fitness levels of personnel.
- Essential training should include educating SAR personnel on the pandemic itself (eg. how it spreads) to empower personnel to be able to apply the protocols and understand what they are facing. This will improve adherence and involvement. It should be standardised so all personnel have the same understanding of the pandemic and are not over reliant on external/variable sources of information.

Photo: RNLI



Consider if all non-essential training activities can be cancelled or postponed.

Minimising the risks to personnel during essential training

If a certain training is considered essential, it is important to consider who really needs to participate and what safeguards can be put in place to protect the participants.

The participants should:

- Only be from the specific target audience for that training.
- Not belong to any risk group (by age, medical status, or otherwise).
- Be able to pass on to others what they learned at the training.

- Be given prior instructions for safe access to the training site, including parking, changing facilities etc.
- A dedicated personnel briefing before going on board, to emphasise protective measures, including personnel placement on board (wheelhouse or outdoor deck), use of personal protective equipment etc.

The training itself should:

- Be delivered online wherever possible.
- Have the minimum number of essential trainers and participants present.
- Not take place indoors, where more than one person is involved.
- Be conducted in accordance with strict social distancing and hygiene protocols.

Photo: RNLI/Nathan Williams





Photo: Flavio Casperini/SOS MEDITERRANEE

Social distancing and hygiene protocols include:

- No sharing of personal equipment.
- All gear is for personal use only (e.g. survival suit, life jacket, helmet, other clothing).
- Keeping a safe distance between participants wherever possible.
- Participants should not attend if they have symptoms, feel unwell or have tested positive for the infection before the training.
- Washing hands before and after the training.
- Wearing gloves.
- Wearing masks - this is a decision that would need to be considered on a case-by-case basis, bearing in mind the prevailing national guidelines and the operational risks posed (e.g. by masks impeding communications).
- Consider mandatory screening before attending training or starting a prolonged duty shift.
- Wash and disinfecting SAR unit, equipment and personal gear, once the training is finished.

5.2 Other options for training delivery

Distance learning

While SAR activities involve mostly practical skills, there are also a lot of topics that can be covered in theoretical lectures – either totally or partially. Such topics can be covered by eLearning courses on specific platforms, or by online lectures broadcast to the entire team. It is also possible to record these lectures and make them available for later use.

Personnel can also be provided with traditional learning material, such as documents or publications, by email or post, which they can study at home.

eLearning and social media can be used to disseminate water safety messages to a wider audience, when social interaction restrictions prevent safety demonstrations and lectures that would normally be given by the organisation's personnel.

Operational training requirements

If restrictions, whether imposed locally or nationally, prevent external training or operational requirements being met, the organisation will need to consider whether it is safe to continue SAR operations. If the training requirements are internal to the organisation itself, some consideration should be given to whether these requirements are safety critical, or whether they could be relaxed for the time being. However, the safety of the personnel should be paramount. If the situation is prolonged, training requirements will need to be kept under review to take account of the impact on operational safety.

Training requirements cannot be relaxed for too long a period without compromising the safety of the operations.





Learning outcomes

- 6.1 Understand the importance of personal and team wellbeing during a pandemic.
- 6.2 Understand how to minimise the environmental impact when disposing of waste.

6.1 Wellbeing

Team welfare

During a pandemic, the welfare of all personnel is critically important. Those that have leadership responsibilities can play a crucial role in ensuring the physical and emotional welfare of their team.

If personnel are facing long periods of isolation, due to lockdown measures or periods of quarantine, this can have an impact on their wellbeing and mental health. It is really important to ensure personnel are staying in regular contact either by phone or online platforms. Ensure regular daily or weekly welfare checks are carried out on anybody who is in self isolation.

If personnel are involved in any traumatic incidents, you should be vigilant that procedures are followed to ensure those personnel are able to discuss the incident and to access support and counselling.

Personnel should have an awareness of the signs and symptoms of stress, post-traumatic stress (PTS) and post-traumatic stress disorder (PTSD).

Both stress and PTS should be taken seriously, rather than ignored, and appropriate advice should always be sought.

Photo: Flavio Casperini/SOS MEDITERRANEE





Stress

Acute stress reactions can occur within minutes of being involved in a stressful event. They normally disappear within 2-3 days but usually within a few hours.

They can include:

- Disorientation.
- Confusion.
- Inability to comprehend instructions.
- Agitation.
- Anxiety.
- Withdrawing into oneself.

They are the visible signs of the brain processing traumatic information that it has suddenly received.

Post Traumatic Stress (PTS)

Sometimes, reaction to trauma can be delayed or may not subside. It is thought that the brain does not 'process' the memory in the normal way and can lead to a variety of symptoms.

Symptoms of PTS include:

- Recurrent dreams.
- Intrusive thoughts of the event.
- Cues that remind one of the event.
- Difficulty sleeping.
- Difficulty concentrating.
- Irritability or outbursts of anger.
- Avoidance of situations.

If left unchecked, PTS can lead to PTSD, a medical condition where disturbances become obtrusive and severely affect a person's personal and work life.

6.2 Safeguarding the environment

Disposal of waste

Any waste that is incorrectly disposed of can be potentially harmful, both to the environment and to human health. Garbage produced in cities, even far from the coast, can be carried to the sea by wind or rivers, threatening marine life and increasing marine pollution. This also applies to additional waste that is produced as a result of a health emergency, such as a pandemic.

For maritime SAR organisations seas, lakes and rivers are the main working environment and it is important to keep it clean. Clinical waste produced by hospitals and medical centres follow well-defined disposal routes.

However, trash that is produced by non-medical establishments or by the general public and that is not recycled or correctly disposed of, can remain in the environment and poses a growing threat.

During a pandemic, increasing numbers of face masks or protective gloves can be discarded, so becoming a health and environmental hazard.

In a health emergency, when health and personal safety are understandably paramount, the general public can appear to be less concerned about protecting the environment, particularly when people have been confined to their homes for long periods. However, the risks associated with the incorrect disposal of potentially infected items are not just about the impact on the natural environment – it can also be directly linked to the spread of infectious diseases.



Ensure any waste is correctly disposed of to reduce the spread of infectious diseases and avoid unnecessary pollution.

SAR personnel should be role models towards protecting the environment by following safe disposal of waste. They should also lead by example when following any safety protocols and regulations.

Safe disposal of potentially infected waste to reduce the spread of infectious diseases

The most common types of waste that are incorrectly disposed of are:

- Facial masks.
- Disposable gloves.
- Plastic bags.
- Food packaging.

Each country has its own waste disposal and recycling rules that, in some cases, can be revised in the light of the risks posed by the pandemic.

SAR organisations, like the general public, should always follow their own national waste disposal guidelines.

However, in general, we can say that:

- Non-reusable facial masks are not recyclable, so should be safely disposed of with general rubbish.

- Latex gloves are made with natural material, but are not compostable and so should be disposed of with general rubbish.
- Nitrile gloves are made with synthetic rubber, so should be disposed of with general rubbish.
- Vinyl gloves are made with PVC and so recycled as plastic.
- Any disposable protective clothing that has come into contact with (potentially) infected SAR personnel, casualty, patient or member of the public should be disposed of in accordance with the guidelines in country.

Considerations on how to reduce waste and minimise the risk of infection

- Don't leave your home if it's not necessary. Whether or not official advice is to stay at home, the more people go out, the more masks and gloves are consumed.
- Use reusable masks. After use, they can be washed and re-used, reducing the amount of trash and saving money.
- Dispose of waste responsibly, especially potentially infected waste.
- Avoid overfilling bins and empty waste bins regularly.
- Use recyclable material whenever possible.
- Avoid hand sanitizers if you are at home. Wash your hands twice and for a longer period instead.
- Avoid the use of single-use plastic. Don't use any plastic cups, plates, cutlery, or bottles at home or on any premises used by your organisation.

Photo: Flavio Gasperini/SOS MEDITERRANEE



Example: Medical/Hygiene issues related to COVID-19 Pandemic

This annex is an example of frequently asked questions (FAQs) that were compiled in 2020 during the early stages of the COVID-19 pandemic. **It does not constitute the latest and updated advice.** However, it is shared in this manual as a reference to some of the types of medical and hygiene questions and issues that may arise during a pandemic.

Note:

For up-to-date information on medical and hygiene issues during a pandemic, refer to information from National Government Authorities and World Health Organization (WHO).



MEDICAL/HYGIENE ISSUES RELATED TO COVID-19

(Last updated 21 April 2020)

Frequently Asked Questions

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1. Introduction

This document is for SAR organisations currently facing operating challenges as a result of COVID-19. It is primarily based on guidelines issued by the World Health Organization (WHO), existing national protocols provided by IMRF member organisations and consensus of an IMRF expert panel. Recommendations by ILCOR¹ and national resuscitation councils have also been included.

Organisations should always adhere to national legislation/regulations or guidelines in cases where recommendations in this document contradict information given by local authorities.

The understanding of the impact from the Covid-19 pandemic is constantly changing, and therefore guidelines and recommendations will also be constantly changing. Organisations should always seek the most updated information from reliable sources like WHO, Centres for Disease Control, National Health Authorities etc.

In this document, the term “SAR personnel” should be taken to include lifeguards, where they are part of a SAR organisation.

2. Background

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered coronavirus causes coronavirus disease COVID-19. This new virus and disease were unknown before the outbreak was identified in Wuhan, China, in December 2019.

3. How does COVID-19 spread?

People catch COVID-19 from others who have the virus. The disease can spread from person to person through small droplets from the nose or mouth, which are spread when a person with COVID-19 coughs or exhales. These droplets land on objects and surfaces around the person. Other people then catch COVID-19 by touching these objects or surfaces, then touching their eyes, nose or mouth. People can also catch COVID-19 if they breathe in droplets from a person with COVID-19 who coughs out or exhales droplets. That is why it is important to stay more than 1,5 metres (5 feet) away from a person who may have COVID-19.

¹ ILCOR: International Liaison Committee on Resuscitation

4. How can I protect myself and prevent the spread of disease?

By following a few simple precautions, you can protect yourself from infection or from spreading the disease to others:

- Regularly wash and thoroughly clean your hands with warm water and soap, or use an alcohol-based hand rub.
Why? Washing your hands with soap and warm water, where possible, or using alcohol-based hand rub, kills viruses that may be on your hands.
- Maintain at least 1,5 metres (5 feet) distance between yourself and anyone who is coughing or sneezing.
Why? When someone coughs or sneezes they spray small liquid droplets from their nose or mouth which may contain the COVID-19 virus. If you are too close, you can breathe in these droplets.
- Avoid touching eyes, nose and mouth.
Why? Hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to your eyes, nose or mouth. From there, the virus can enter your body and can make you sick.
- Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately.
Why? Droplets spread virus. By following good respiratory hygiene, you protect the people around you from viruses such as cold, flu and COVID-19.

5. How dangerous is the COVID-19 virus?

Illness due to COVID-19 infection is generally mild, especially for children and young adults. Hospitalisation rates are higher for those aged 60 years and above (national guidelines in some countries may set this age higher or lower, so follow local recommendations), and for those with other underlying health conditions (e.g. hypertension, diabetes, cardiovascular disease, asthma, or other chronic respiratory disease and cancer).

6. When should SAR personnel NOT report for duty?

SAR personnel should not report for duty if:

- they themselves are currently in quarantine or isolation;
- they have a fever;
- they are suffering from symptoms of airway infection;
- someone in their household is quarantined/isolated or has symptoms of airway infection;
- they have been without symptoms for fewer than 7 days after their infection has been confirmed/suspected.

7. Should SAR personnel routinely wear face masks?

There is no need for SAR personnel to wear face masks, as a routine, unless required by national guidelines.

The most effective ways to protect yourself and others against COVID-19 are to:

- wash your hands frequently with warm water and soap, or an alcohol-based hand rub;
- cover your mouth and nose with your bent elbow, or a tissue, when you cough or sneeze (the used tissue should then be disposed of immediately); and
- maintain a distance of at least 1,5 metres (5 feet) from people who are coughing or sneezing.

8. Is it safe for our organisation to continue to undertake medical calls?

Each organisation should familiarise itself with screening algorithms used by the requesting authorities (medical dispatch, coastguard, J/MRCC etc.) in its area. Screening will help determine the level of risk and the precautions that should be taken by responders. The authority should also advise victims and bystanders on how to behave when responders arrive, including keeping distance, putting on surgical masks and following any other instructions given by the responders.

Ideally medical personnel should join the vessel on all medical calls, but in cases where this is not possible, such as due to lack of time, or where the rescue vessel operates without medical personnel onboard, the SAR personnel must undertake the necessary precautions themselves.

If the necessary protective equipment is not available, organisations should consider whether or not to accept the call. However, every alternative option for providing life-saving treatment and/or medevac should always be explored. The coxswain should, together with the requesting authority, and/or the organisation's medical team, make the necessary assessments in advance of such missions.

With adequate screening, training of SAR personnel and protective equipment in place, it should be safe for crews to continue to do medical calls.

9. How can SAR personnel carry out screening for COVID-19?

A quick way to screen patients or SAR personnel on a casualty vessel is to ask these questions from a safe distance (also observe national guidelines):

1. Do you have/ have you had fever in the last few days?
2. Are you coughing?

3. Do you feel any pain or pressure to the chest?
4. Do you have difficulty breathing or shortness of breath?
5. Do you have/ have you had contact with anyone with proven Covid-19?

If the patient answers YES to one of these questions, the person should be treated as if there is a suspected/confirmed Covid-19 infection.

10. When should we wear Personal Protective Equipment (PPE) and what should we wear?

As part of the standard of care, all providers must perform hand hygiene before and after all patient care activities, regardless of the etiology of the patient presentation. Gloves are never a substitute for hand hygiene. All personnel should avoid touching their face while working and should be encouraged to remind other personnel, as people are often not conscious of touching their own face.

When handling and transporting patients with acute respiratory tract infection and/or symptoms such as fever, cough, shortness of breath or suspected/confirmed SARS-CoV-2 infection responders should wear surgical mask, eye protection, gown/coverall and gloves.

All other handling/transport of patients with uncertain infection status should be carried out with a surgical mask, gloves and goggles.

Measures that should be taken to limit exposure in the vessel:

- Have clearly defined roles and responsibilities within the SAR personnel so that as few as possible of them has to be in the "patient zone" within 1 metre distance of the patient;
- Let patients wear surgical masks and gloves if possible (explain to the patient);
- Wrap the patient/cover surfaces with infection control sheets;
- Keep the patient (if feasible) isolated in a suitable location during transport;
- Maintain ventilation at a high level of air exchange;
- Next of kin can only accompany the patient if absolutely necessary (except young children);
- Clarify all logistics in the evacuation chain as soon as possible.

Please see the table in Figure 1 (following page) for further details of the appropriate items of PPE to be used for different levels of care.

Figure 1: Appropriate PPE to be used for different levels of care

Level of care	Hand hygiene	Surgical mask	Respirator (N95/FFP2)	Gown/coverall	Goggles or face shield	Gloves
Suspected case of Covid-19, assessment from 1 metre distance	X	X				X
Bridge team WITH patient compartment isolated	X					
Bridge team WITHOUT patient compartment isolated	X	X*				
Suspected or confirmed case of Covid-19 requiring transport WITHOUT aerosol-generating procedures**	X	X		X	X	X
Suspected or confirmed case of Covid-19 requiring transport with WITH aerosol-generating procedures**	X		X	X	X	X
Cleaning the vessel after transport of suspected or confirmed Covid-19 case	X	X		X	X	X

* If all SAR personnel are involved in treatment of the patient, the bridge team should remove their PPE before entering the bridge (clean zone), but not the mask.

** Bag valve mask ventilation, airway suction, intubation, nebulizer, CPAP/biPAP, CPR. Most of this would be performed when ambulance crew are on board, where ambulance crew are in attendance. Any ambulance crew in attendance would normally be expected to provide the N95/FFP2 masks to all SAR personnel.

11. How can we ensure proper use of Personal Protective Equipment (PPE) among SAR personnel?

Each organisation should establish its own procedures and training for the use of infection control PPE. As a reference, the European Centre for Disease Prevention and Control has made a very good guideline with an online e-tutorial that can be useful:

<https://www.thinglink.com/scene/584726288351100929>

The US Centres for Disease Control also has a useful guideline:

https://www.cdc.gov/coronavirus/2019-ncov/downloads/A_FS_HCP_COVID19_PPE.pdf

PPE should always be removed in an appropriate doffing area to prevent secondary contamination. Care should be taken to avoid self-contamination, for example by using a “buddy” system.

If members of the bridge team must be involved in direct patient care, after completing care and prior to entering an open bridge they should remove eye protection, gown and gloves and perform hand hygiene. The mask should remain in place during transport.

12. How do we perform patient care during transport?

SAR personnel should attempt to minimise patient contact during assessment. It may be permissible, for example, to defer obtaining vital signs if the patient appears stable, has no visual evidence of distress or shock, and transport time is not prolonged.

Individual isolation capsules are not needed to transport Covid-19 patients. Keeping a mask on the patient is enough for transport.

After conducting an initial assessment focused on patient's stability (respiratory distress, altered mental status, etc.), SAR personnel should define appropriate interventions for patient deterioration before and/or during patient transport.

Any patient belongings should be considered contaminated, placed in a biohazard bag, sealed, labelled and transported with the patient in the patient compartment. SAR personnel should avoid opening compartments and cabinets unless essential to patient care. Equipment needs should be anticipated and the appropriate tools removed from cabinets prior to placing the patient in the vessel.

After pre-arrival notification, the SAR personnel should continue to communicate with the medical dispatch or ambulance with updates on the patient's condition and ETA to facilitate reception of the patient immediately upon arrival.

13. Is it still safe to give Cardiopulmonary Resuscitation (CPR)?

Risk of infection

The risk of infection varies over time and also between regions and countries, and it is recommended that each organisation keeps updated on the specific risk in their own area over time.

Most out-of-hospital cardiac arrest occur in private homes, where infection status most likely will be well known. It is also very unlikely that a person will suffer a sudden cardiac arrest at home as a result of COVID-19. This is more likely to occur to patients who have already been admitted to a hospital.

Mitigate age as risk factor

The health risk from COVID-19 increases with age, and according to the WHO the critical age for increased risk is at the moment 60 years. National guidelines in some countries may set this age higher or lower, follow local recommendations.

As a mean to mitigate the increased risk for elderly SAR personnel, it is recommended that SAR personnel above the age of 60 years, avoid performing CPR if possible.

14. What sort of treatment is appropriate for casualties suspected of infection?

- 1) Adults without clear or proven infection:
 - SAR personnel can deploy to incident;
 - **NO** mouth-to-mouth ventilation;
 - Chest compressions only (preferably with proper PPE* in place);
 - Use of Automated External Defibrillator (AED).
- 2) COVID-19 positive or strong suspicion:
 - SAR personnel can deploy to incident;
 - **NO** mouth-to-mouth ventilation;
 - **Chest compressions only (only when proper PPE² is in place);**
 - AED only (when PPE is not available).
- 3) Children, infants and newborns:
 - SAR personnel can deploy to incident;
 - Give CPR (including mouth-to-mouth ventilation).

It is rare for children to have cardiac arrest because of heart problems - these are more likely to be caused by primary oxygen deficiency / respiratory problems, which is why ventilation is of the utmost importance for the child's survival.

Although mouth-to-mouth breathing increases the risk of being infected with COVID-19, for children it is currently recommended that normal guidelines are followed i.e. 5 rescue breaths followed by both chest compressions and mouth-to-mouth ventilation even in suspected / confirmed cases of COVID-19.

² Personal Protective Equipment for CPR: goggles/face shield, N95/FFP2 respirator, gown/coverall, gloves.

15. Changes to the Basic Life Support (BLS) protocol.

Examples of adjustments to the normal BLS protocol. Each organisation should develop their own procedures/check card according to national guidelines. The example below is from RNLI.

Covid-19 Considerations

Wear PPE
 Wear wet weather PPE or Dry suits (sleeves tightened).
 Helmets with visors down or glasses (if no helmets available)
 Wear gloves

Scene assessment from a distance – 1.5 metre where possible

Consider applying a free flow oxygen mask without oxygen flowing to provide a physical shield

Do Not use:
 Suction
 Plastic Airway
 Bag Valve Mask/Pocket Mask
 Mouth to Mouth Ventilations

Clear Airway with head tilt and chin lift – avoid fluids
 Check breathing by watching chest – place hands or checkcards on chest

Consider risk versus benefit of attempting CPR

Turn head away from rescuer and place a towel / triangular bandage over casualty's face (mouth and nose) to create a barrier

Compression only CPR

AEDs can be used where available

If successful CPR roll the casualty into the recovery position and manage airway – avoid any fluids

Rapid evacuation to equipped resource

Wash hands with soap and water. An alcohol-based hand gel can be used as an alternative
 Decontaminate as appropriate

16. Drowning – should we perform mouth-to-mouth resuscitation?

At the moment, there are no specific guidelines for drowning victims during the pandemic, but there are a lot of ongoing research efforts internationally to understand what measures can be taken. Recommendations for drowning resuscitation are in development and will be available within a few weeks. The IMRF will continue to monitor the situation and will update our recommendations accordingly.

17. How can we protect SAR personnel members who are required to board other vessels?

When boarding a casualty vessel, the SAR personnel are at potential risk of getting exposed to someone infected with COVID-19. Due to this risk it is important to always consider the necessity of leaving your own vessel.

If it is absolutely required to board a casualty vessel, SAR personnel should consider:

1. Proper planning - allow as few SAR personnel as possible to board a casualty vessel;
2. Perform proper hand hygiene;
3. Wear disposable gloves;
4. Consider wearing a survival suit or infection control coverall (if available);
5. Put on safety goggles;
If not available, you can close the face shield on your helmet;
6. Instruct crew of casualty vessel to stay at least 2 metres away;
7. If not possible to keep distance, consider wearing a surgical face mask;
8. Avoid touching your face while working;
9. Dispose of gloves and perform proper hand hygiene when returning to the SAR unit.

18. How do we decontaminate a SAR unit after transport of COVID-19 patients?

Recent reports indicate that the virus can survive on certain surfaces for as long as 72 hours, and it is therefore important that no lifeboats are placed back on general service prior to decontamination.

It is advisable to remove as much equipment from the SAR unit as possible before transporting a patient. This reduces the need for decontamination afterwards. Following patient transfer leave doors and windows open so that sufficient air exchange may occur.

Maintain proper precautions when decontaminating:

- Wear gloves and surgical mask;
- Avoid touching your face while cleaning;
- Avoid exposing more people than necessary during cleaning;
- Wash your hands and face or take a shower when you're finished;

19. What supplies are needed for decontamination?

- PPE for personnel performing the decontamination;
- Leak proof biohazard bags;
- Garbage bags;
- Spray bottles;
- Disposable rags;
- Alcohol based hand sanitizer;
- Absorbent towels;
- Bleach or alcohol-based cleaning solution or disinfection wipes.

20. What precautions should be taken during disinfection/decontamination?

All visibly soiled surfaces should be cleaned and then decontaminated starting from the ceiling of the vessel and working down to the floor in a systematic process.

All surfaces that may have had contact with the patient or materials that were contaminated during patient care (e.g. control panels, floors, walls, work surfaces, stretcher, rails, etc.) must be thoroughly cleaned including the underneath and base of the stretcher.

To conduct cleaning, providers should follow routine cleaning and disinfection procedures for pre-cleaning. This can be done with water and soap. This pre-cleaning must be followed by the application of a high-grade disinfectant to any potentially contaminated surfaces or objects.

Coronaviruses have a lipid envelope which makes a wide range of disinfectants effective. Disinfectant solution options include:

- An EPA-registered disinfectant that is labelled for emerging viral pathogens. These may have descriptions such as “[product name] has demonstrated effectiveness against viruses similar to COVID-19 on hard, non-porous surfaces. Therefore, this product can be used against COVID-19 when used in accordance with the directions for use against [name of supporting virus] on hard, non-porous surfaces.”;
- Chlorine-based compounds (bleach, calcium hypochlorite, NADCC tablets) must be at least 0.1% (1000ppm) for 10 minutes on a clean surface;
- Alcohol-based compounds (isopropyl alcohol, ethyl alcohol) must be at least 60-70% alcohol by weight or by volume;
- Regular household disinfectant containing 0.5% sodium hypochlorite (that is, equivalent to 5000 ppm or 1 part bleach to 9 parts water).

Ensure adequate ventilation especially when using chemicals. Doors should remain open while cleaning the vehicle.

Follow contact times on labels of the products used.

If patient care equipment is reusable, it must be cleaned and disinfected according to the manufacturer's instructions.

21. How do we decontaminate/disinfect equipment?

Disinfect the outside of any bags containing unused medical equipment as well as the stretcher. PPE should be removed under supervision and placed into a final biohazard bag, which is then closed and disinfected.

Pre-cleaning technique

- First clean with dry techniques;
- Clean from clean area towards dirty and from "high" (eg on top of a cupboard) to "low" (e.g. a floor).
- Dry cleaning of the floor and other surfaces is sufficient if there are no spills or visible contaminations;
- Wet cleaning is necessary for adhering dirt and wet contamination, such as blood, urine and saliva.

Decontaminating the survival suit

While still wearing surgical mask and goggles, clean the outside of the survival suit with soapy water, using a sponge. Pay special attention to neck cuffs that potentially have to be pulled over the wearer's head. Rinse thoroughly with fresh water.

Follow manufacturer's instructions if further disinfection is required.

22. What do we do with waste, following decontamination?

All waste, including PPE and wipes, should be considered Category A infectious substances, and should be packaged appropriately for disposal.

- Linen should not be shaken. It should be contained and laundered according to standard operating procedures;
- Wash and disinfect linen: washing by machine with hot water (60-90°C) and laundry detergent is recommended for cleaning and disinfection of linens. If machine washing is not possible, linen can be soaked in hot water and soap in a large drum, using a stick to stir, avoiding splashing. If hot water not available, soak linen in 0.05% chlorine for approximately 30 minutes. Finally, rinse with clean water and let linen dry fully in the sunlight.
- All waste must be disposed of according to organisation protocols as well as local and national regulations for Category A infectious substances (best practice may be to transfer waste to the hospital for disposal).
- Additional cleaning methods may also be used, though are not required (e.g. ultraviolet germicidal irradiation, chlorine dioxide gas, or hydrogen peroxide vapor). However, these should not replace the manual disinfection.



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