

Let`s learn first aid.

Purpose of first aid

- ①lifesaving(the act of **saving lives**)
 - ②Prevention of injury or illness
 - ③Reduce distress of injured person
- Basic life support First aid →

Need for first aid

Injuries and medical emergencies can happen suddenly and without warning.

If a bystander provides first aid promptly,the victim`s chances of survival will increase significantly, and the recovery time for injuries and illnesses will improve.

Chain of life



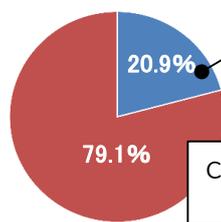
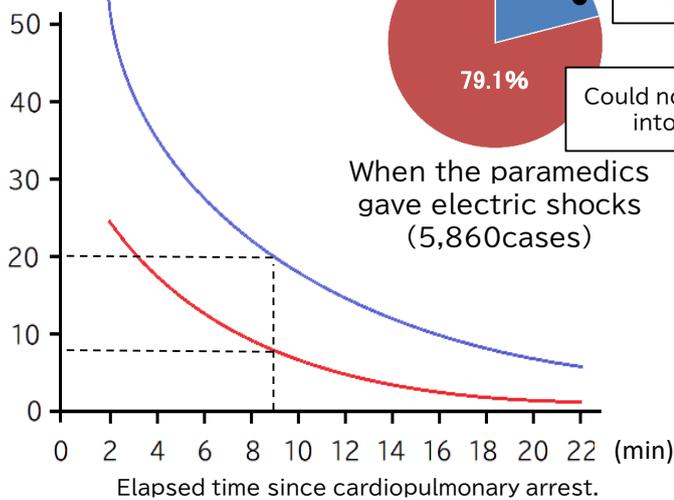
Cardiopulmonary arrest (heart attack) prevention

Call 119 early

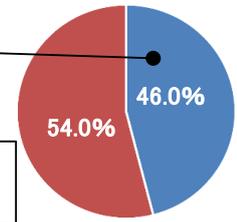
CPR and defibrillation

Ambulance and hospital care

Potentially life-saving (%)



When the paramedics gave electric shocks (5,860cases)



When a citizen gave electric shocks (1,311cases)

2020 survey by the Ministry of Internal Affairs and Communications

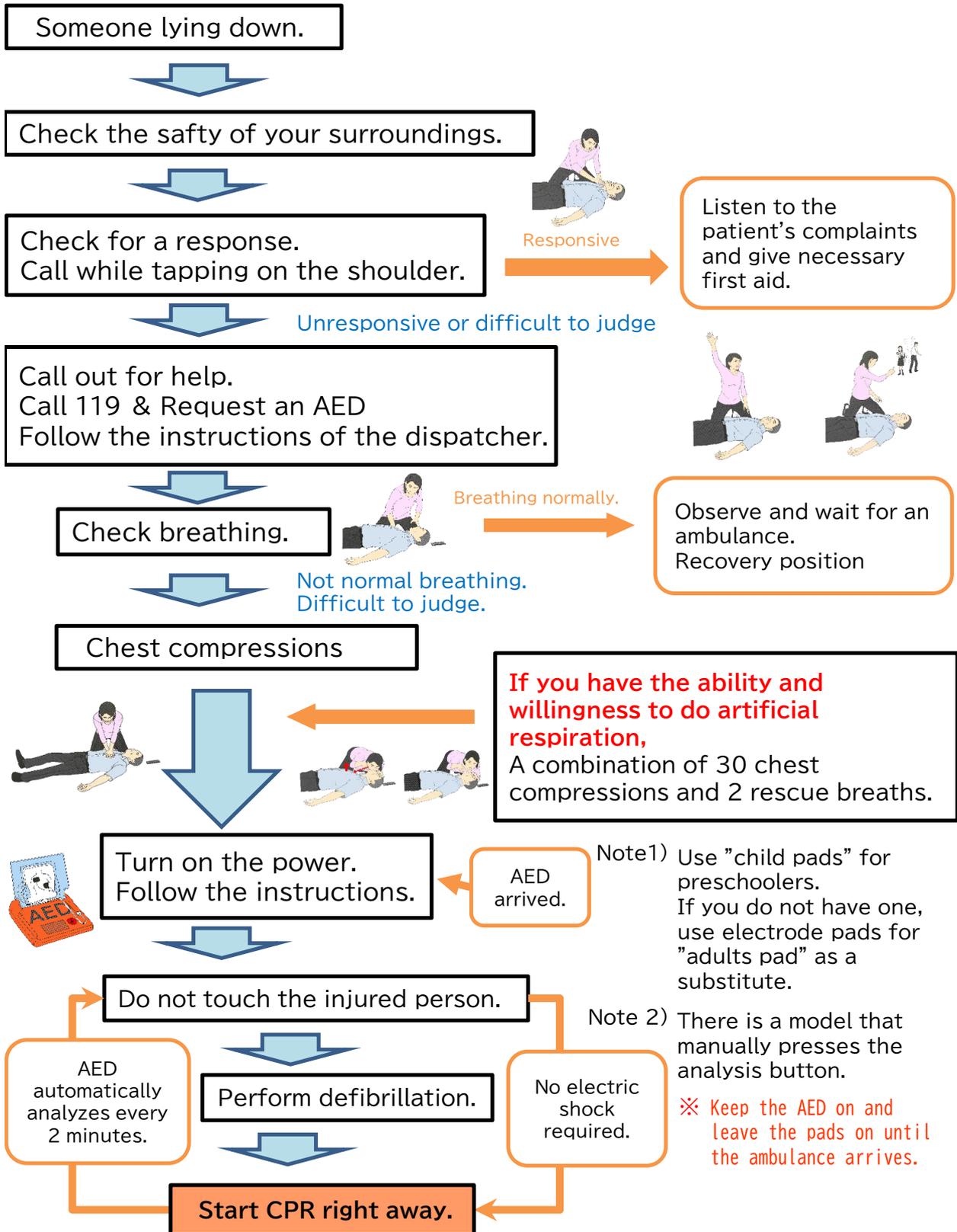
- A bystander performed life-saving measures.
- Noone did anything until the ambulance arrived.



日向市消防本部

Basic life support

Combining CPR and AED



Adult CPR

1. Check the safety of your surroundings.

- To prevent secondary disasters, check the safety of the area around the site while approaching the injured person.

Are you Ok?

2. Check for a response.

- Check for a response while tapping the shoulder. Call their name and ask "Are you OK" and see the reaction.
- If the person can talk, ask the complaints and perform first aid to prevent the injuries and illness are getting worse and reduce pain.

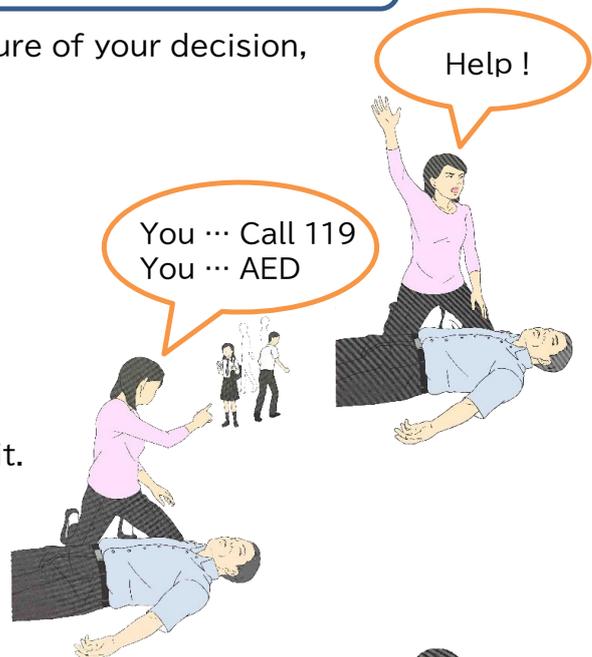


3. Call for help, Have them call 119 and ask to bring an AED. (In Japan, the phone number for emergencies is 119. Do not dial 911.)

- If there is no response or if you are unsure of your decision, call out for help immediately.
- To the gathered people
"Please Call 119."
"Please bring an AED."
Ask for the cooperation as above.
- If you shout for help but no one comes.
First, call 119 yourself.
Then, If you have an AED nearby, bring it.

Help !

You ... Call 119
You ... AED



4. Check breathing.

- Check if the person is breathing normally within 10 seconds.
- Watch to see if their chest and abdomen moves.
- If you can't see the movement, the person may be unable to breathe normally.
- If the person is not breathing normally or unsure, give CPR



Check breathing

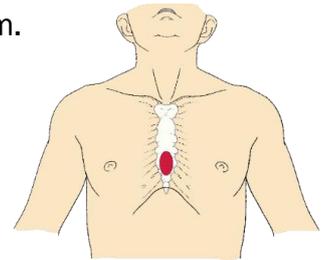
5. Perform CPR

< Chest compression >

- First, perform chest compressions.
- The most important thing is to apply constant pressure with enough force and enough speed.
"Strongly" "Fast" "Constantly"
- The part to be compressed is the lower half of the sternum. Aim for the middle of the chest.



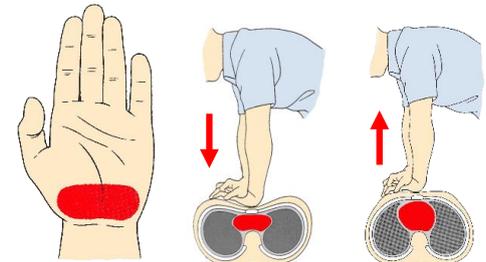
- Place the heel of your hand parallel to the middle of the chest and overlap the other hand.



Place for compressions

- Compress until the chest sinks about 5cm.(2 to 3 inches)
Perform 100 to 120 compressions per minute.

- Use both hands and apply weight pressure perpendicular to the ground.



Apply the heel of the palm and press and release vertically.

- It is also important to reduce the pressure so that the chest returns to its original state after applying pressure.

<Artificial respiration>

- ① **Airway management**: Hold the person's forehead with one hand and tilt up the chin with the fingertips of the other hand.

- ② Pinch the nose while keeping the airway open.

- ③ Form a seal over the victim's mouth with your mouth and blow gently. Watch for the chest to rise. **Blow twice.**

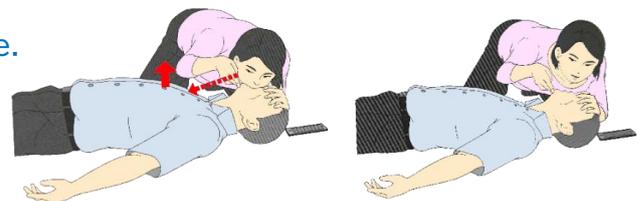


Airway management

※It takes about 1 second to blow once.

※Do not blow with force.

※Even if the chest does not rise after blowing twice, proceed to the next chest compression.



Artificial blow twice for 1 second each time.

<Continue a combination of 30 chest compressions and 2 rescue breaths.>

- ③ If you have the skill and willingness to do artificial respiration, continue with a combination of 30 chest compressions and 2 rescue breaths.
Please repeat this cycle until you are relieved by paramedics.

<When to stop CPR>

- ① When paramedics take over.
- ② When the injured person shows signs of responsiveness or purposeful movement.
- ③ When normal breathing resumes.

**Response to the covid-19
infectious disease epidemic**

【Basic way of thinking】

The new coronavirus is believed to be transmitted through respiratory droplets or contact. There is a risk of infection during artificial respiration, but aerosols can also be generated during chest compressions alone.

In the situation where infectious diseases are prevalent, all CPA victims should be treated as suspected of being infected.

- ① Make sure to wear a mask.
 - ② Avoid being too close to the patient's face when checking consciousness.
 - ③ If the patient is not wearing a mask, cover their nose and mouth with a handkerchief, etc.
 - ④ For adult CPA, continue chest with compressions without artificial respiration.
 - ⑤ For pediatric CPA, perform artificial respiration if you have been trained and are comfortable doing so.
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- ※ If there are enough people, consider opening windows to ventilate the room or guiding the ambulance crew.
 - ※ Afterwards, wash your hands and face thoroughly with soap and running water.
 - ※ Do not touch your face or surrounding area carelessly until you wash your hands.
 - ※ It is recommended to dispose of used handkerchiefs and other items that come into contact with the sick or injured person without touching them directly.

Defibrillate with an AED.

1. Arrival of the AED

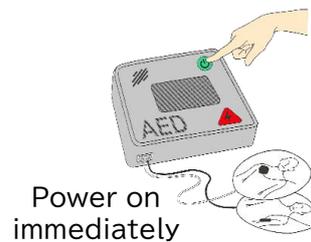
- Place the AED in a convenient location on the rescuer's side.
- If there are multiple rescuers, assign one person to operate it.



Position it in an easily accessible location.

2. First, power on the power.

- Some devices automatically power on when the power button is pressed or when the cover is opened.



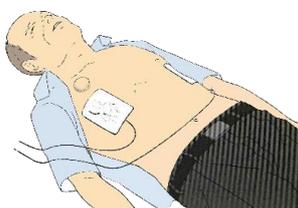
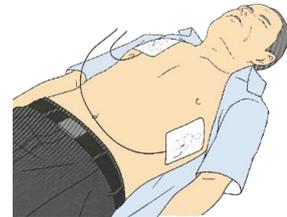
A type that turns on when the lid is opened.

3. Follow the voice instructions.

- When you turn on the power, a voice message will guide you on how to use it. Please follow the instructions provided.

□ Attach electrode pads to the patient's chest.

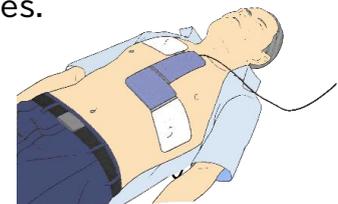
- Open the clothing to expose the patient's skin for direct application of the electrode pads.
- Stick the electrode pads according to the image or instructions on the pads. ※There are also integral types.



If there are any embedded medical devices, stick it avoiding the protrusion.



If the chest is wet, wipe with a dry towel.



Cut or shift the underwear and stick it.

For preschool-aged children (up to approximately 6 years old), use electrode pads specifically designed for them. If the AED has a mode selector switch, switch it to the preschooler mode. Do not use preschooler electrode pads on adults. If possible, continue performing chest compressions while attaching the electrode pads.

□ **Do not touch the patient. (ECG analysis)**

- The AED automatically determines if defibrillation is required. A voice message tells you not to touch the patient, so make sure no one is touching it.
- If there are multiple rescuers and you are continuing CPR, stop CPR immediately.

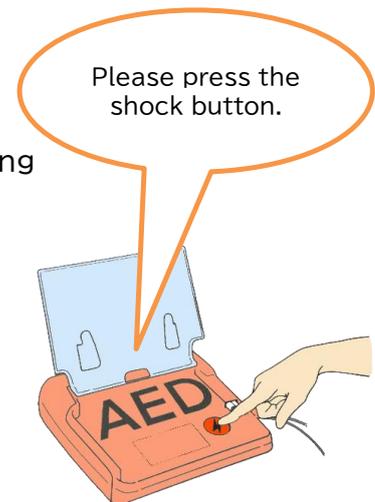


Make sure
no one touches it.

Depending on the model, you may need to press the analysis button.
Correct electrocardiogram analysis cannot be performed if the patient is touched or shaken.

4. Perform defibrillation.

- If a shock is required, it will automatically start charging and you hear voice instructions from the device.
- When charging is completed and the device is prepared for electric shock, there is vocal warning that the shock button will flash.
- Make sure no one is touching the patient and press the shock button.



Press the shock button

5. Response after performing defibrillation.

- Follow the AED's voice prompts and immediately resume CPR starting with chest compressions.
- The AED automatically begins analyzing an ECG every 2 minutes.
- Stop CPR according to the voice message and then act according to the voice message.

Even if the person regains consciousness, don't turn off the AED and leave the electrode pads attached to the patient. When the ambulance arrives, please tell them the details of the life-saving measures taken, such as the number of electric shocks given.

Child·Infants CPR

- ⊙ As in adults, if there is no reaction and normal breathing, give CPR.
- ⊙ CPR procedures are the same as for adults.
- ⊙ CPR consists of 30 chest compressions and 2 rescue breaths.
- ⊙ The most important thing in chest compressions is to apply pressure with sufficient strength and speed, as in adults, without interruption.

Child CPR (1 year old or older but under 16 years old.)

☐ Chest compression

- Apply pressure with one hand or both hands.
- The compression depth is 1/3 of the thickness of the chest. Otherwise push down until it sinks about 5cm depending on child's build.

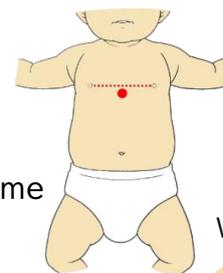


Child chest compressions

Infants CPR (Under 1 year old)

☐ Chest compression

- The compression position is the sternum, the same as for an adult and child. The compression should be slightly closer to the foot than where the line connecting the nipples and the sternum intersect.
- Compression depth is 1/3 of chest thickness.



Place for compressions

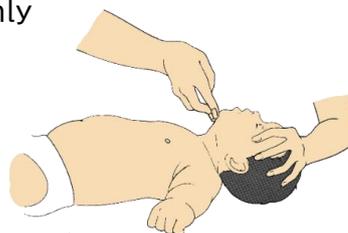
With two fingers.



Infants chest compressions

☐ Artificial respiration

- Secure the airway and cover the nose and mouth together. Then give two gentle breaths, one second each. If the mouth and nose cannot be covered together, cover only the mouth in the same way as adults.



Airway management



Cover the nose and mouth together.

Removal of airway foreign bodies

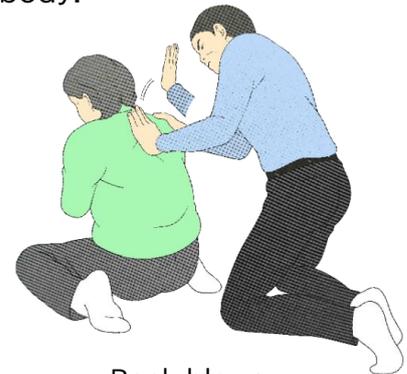
- ① Signs of choking...Pale face. Unable to speak, breathe.
- ② Call for help. Have them call 119 and ask to bring an AED.
- ③ Let them cough if they can.
- ④ Try back blows.
- ⑤ Repeat abdominal thrusts method until the foreign body is removed or becomes unresponsive.
- ⑥ If the person becomes unresponsive, perform CPR.
 - ※ Chest compressions may also remove the foreign body.



Choke sign

1. Back blows

- Give strong and sharp back blows with the heel of your hand between the shoulder blades.
- If the patient is standing, do so while standing.
- If the foreign object cannot be removed by this method, try the following abdominal thrust method.



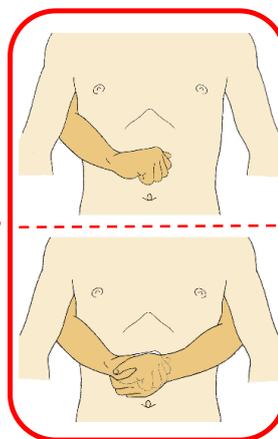
Back blows

2. Abdominal thrust

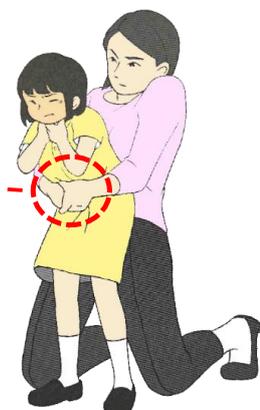
- Position yourself behind the person and reach your arms around the abdomen. Place a fist with one hand slightly above the person's navel.
- As shown in the illustration, hug him from behind and thrust upward and inward.
- If the person becomes unresponsive, perform CPR.



If the person is standing, perform while standing.



Abdominal thrusts



If the person is a child, kneel down behind them.

- ※ If you see a foreign object during CPR, remove it.
- ※ Do not interrupt chest compressions to look for foreign objects.
- ※ Abdominal thrusts should not be performed on **pregnant women**, **infants**, or **those who are overweight**.

Removal of airway foreign bodies for infants. (Under 1 year old)

1. Back blows

- A method of removing airway foreign bodies for conscious infants.
- For infants, back blows are recommended. If back blows do not release the foreign body, perform chest thrusts .



back blows for infant

2. Chest thrust

- A method of removing airway foreign bodies by performing chest thrusts for a conscious infant.
- If it cannot be removed by back blows, turn the baby over so they are facing upwards. Give four to five chest thrusts.
- Repeat until the foreign body is removed or the reaction disappears.



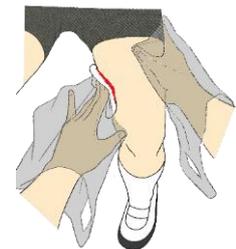
chest thrusts for infant

If the baby becomes unresponsive during removal of the foreign bodies, perform CPR in the same way as for cardiopulmonary arrest.

First Aid

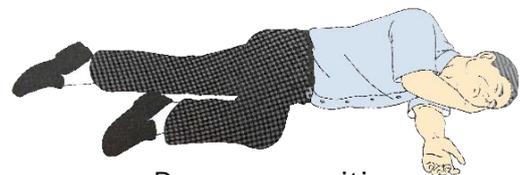
Hemostasis method

- "Direct pressure hemostasis" Apply direct pressure firmly to the wound with a thick gauze or towel.
- Use clean and thick gauze or towel that is large enough to cover the wound.
- Place gauze or a towel on the wound and apply strong pressure with your hand. If needed, use both hands or put your weight on it.
- If the blood seeps through the material, do not remove it. Put more gauze or towel on top of it and continue to apply pressure.
- Avoid direct contact with blood to prevent infection.



Position · How to move

- Keep the victim in a comfortable position and help them to remain still until the ambulance arrives. However, if it is in a dangerous place, move them **carefully and with little movement as possible** to the safe location.
- If the person is unresponsive but breathing normally, place them in the **recovery position** and prepare for vomiting.



Seizure

- During the seizure, prevent injury from hitting their head on nearby objects.
- Do not put anything in the person's mouth to prevent biting their tongue.
- Do not hold the person down. It can break their bones.
- When the seizure subsides, check the reaction. If unresponsive, perform CPR.
- After the seizure, If the person has a history of seizure and the seizure is the same as usual, place them in the recovery position and observe.

[Citations, references]

へるす出版”救急蘇生法の指針2020市民用”

Compliant with guidelines 2020.