



Guideline 2005

Training Course

C P R + A E D

Nihon Kohden Corporation



Important Terminology

1. CPR : Cardio Pulmonary Resuscitation
2. AED : Automated External Defibrillator

What can we do for him/her ?



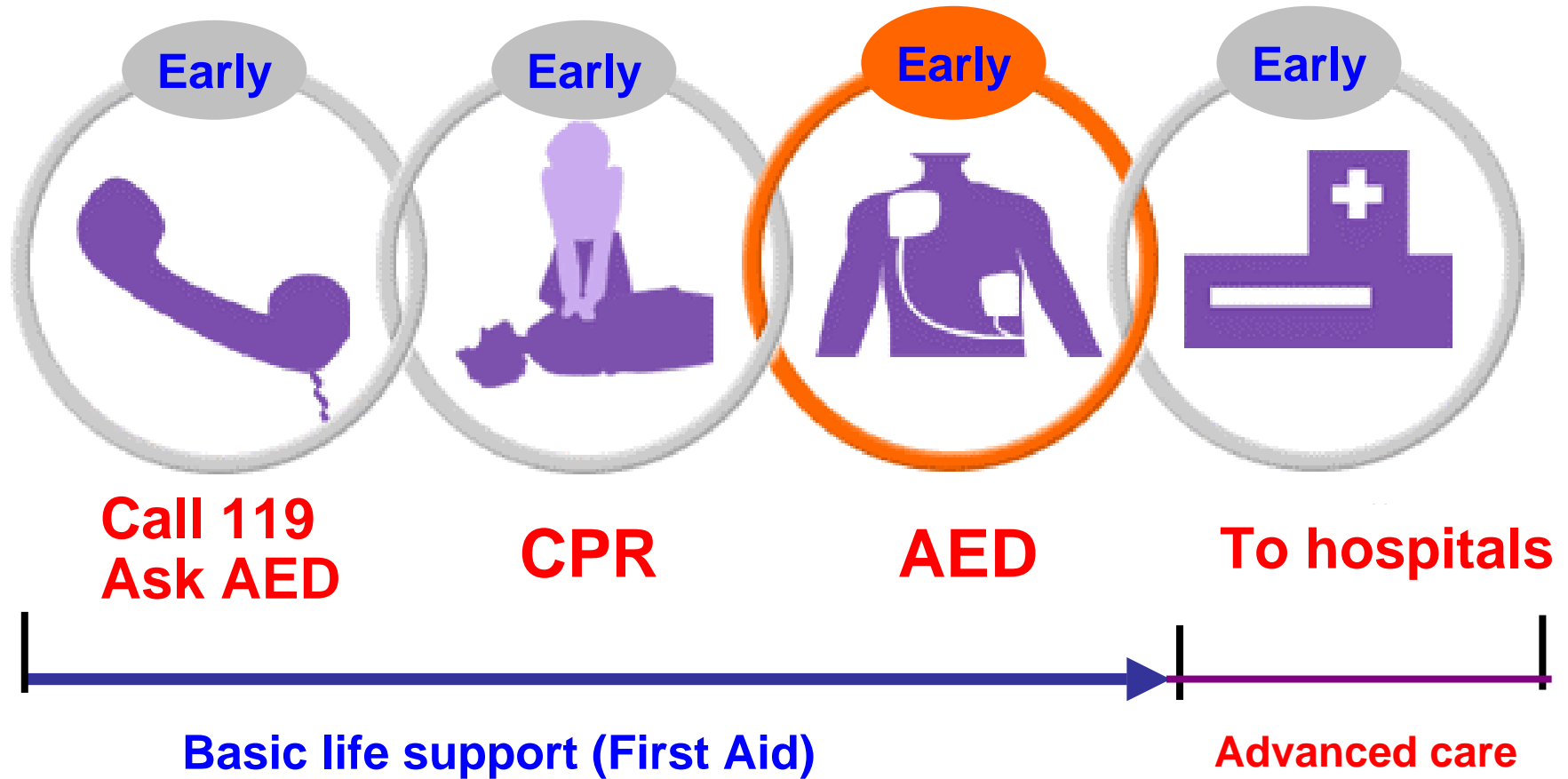
Sudden Cardiac Arrest (SCA)

Recent studies indicate that nearly 20,000 ~ 30,000 people each year die of SCA in Japan.
(250,000 people in USA)

Immediate CPR and should use the AED as soon as possible.

The chain of survival

- Early defibrillation is critical to survival from SCA



CPR PROTOCOL

1 Tap the shoulder...
Check response

2 Call for help

119 !!
AED !!



3 Check breathing

Lift the chin, put your ear next to the mouth, and check breathing

Feel

Look

Listen



4 When you see no breathing...
2 rescue breaths
※Pinch the nose closed




5 When you see no breathing, coughing, or movement...
30 compressions

2 rescue breaths

ここを
中心に...



6 SHOCK by AED
※Stand clear



Chest compression and rescue breathing

One cycle of CPR consists of 30 compressions and 2 breaths at the rate of about 100 per minute, 5 cycles of CPR should take roughly 2 minutes.

Chest compression

By providing rhythmical compression, maintain some oxygen and substrate delivery to the brain and heart.

Minimizing interruptions in providing chest compression.

Rescue breaths

In case of difficulty to keep airway, to provide chest compression immediately.





Steps of CPR

1. Confirmation of Victim's response

- *'Are you okay? Can you hear?'*
- Give victim painful stimulation by tapping victim's shoulder

2. Ask to help and support

- 'Who can help ? Support ?'
- *'Mr. Mrs. XXX, Please Call 119 and ask Rescuers !'*
- *'Mr.Mrs. VVV, Please get AED as soon as possible !'*

3. Open the airway

- Head-tilt / Chin – lift method :
Put hand on forehead and lift chin up by index and middle fingers.

4. Check Breathing (Normal breaths or not)

- *'Look, Listen, Feel'* to make sure breaths are within 10 seconds
- 'Look' : To watch and confirm up and down of victim's chest
- 'Listen' : To listen breaths sounds of victim
- 'Feel' : To feel for air-movement on your cheek

5. Rescue breaths – 2 times (Non-normal breaths or No breath)

- Mouth to Mouth breathing ,
- *Slowly exhale until victim's chest inflate slightly up*
- *Take 1 second per breath*

Steps of CPR - continue

6. After 2 times rescue breaths

Start chest compression immediately

7. Chest Compression 30 times : Rescue Breaths 2 times

- Compress center of chest with the palmar heel of one hand by putting the other hand on it

- **Chest compression ; 30 times at a tempo of 100 times per minute**
- Force of compression ; target compression is 1/2 - 1/3 of chest thickness
- Or, In case of adults, target compression is 4.0 - 5.0 centimeters

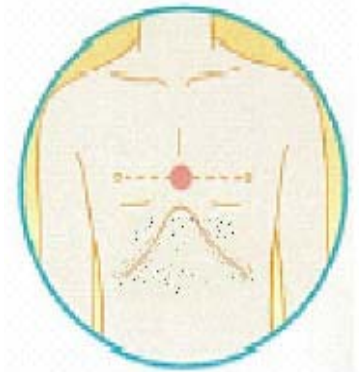
One cycle of CPR consists of 30 compressions and 2 breaths at the rate of about 100 per minute, 5 cycles CPR should take roughly 2 minutes.

8. Returning response

- Until returning victim's normal breathing or movement to continue CPR
- And every 2 – 3 minutes confirm breathing or movement
- Arrival of AED

To rapidly integrate CPR with use of the AED

- **Until arrival of rescuers(EMS) continue CPR with minimizing interruptions in providing compression**



A E D

Automated **E**xternal **D**efibrillator



AED

AED-9200

- **Easy to Use**
- **Voice prompt**
- **Analyzes heart rhythm automatically**
- **Self - tests**

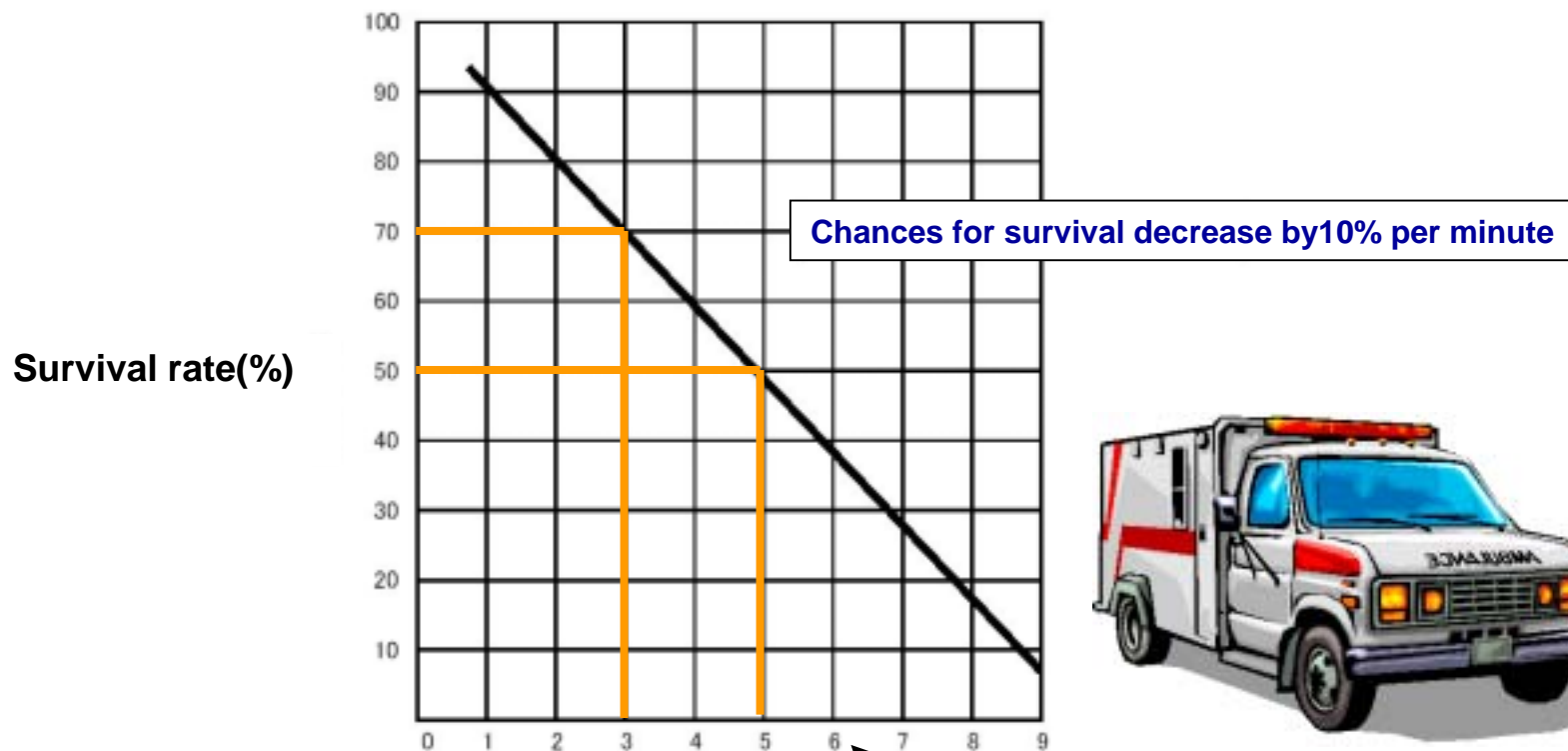


Manual type defibrillator



Implantable type defibrillator

Response Times and Survival Rates



Target time of the first shock is within 5 min. in out-of-hospitals

EMS arrive on-site 6 ~ 7min. in Japan

EMS ; Emergency Medical Services

Defibrillation ?

To eliminate abnormal heart rhythm such as VF with electrical shock

Ventricular Fibrillation (VF)

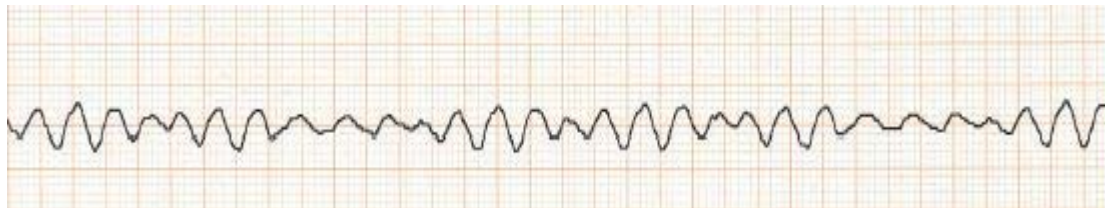
VF is a kind of abnormal heart rhythm, while losing pumping function of the heart.

VF tends to deteriorate to asystole within a few minutes.

However, basic CPR alone is unlikely to eliminate VF and restore a perfusing rhythm.

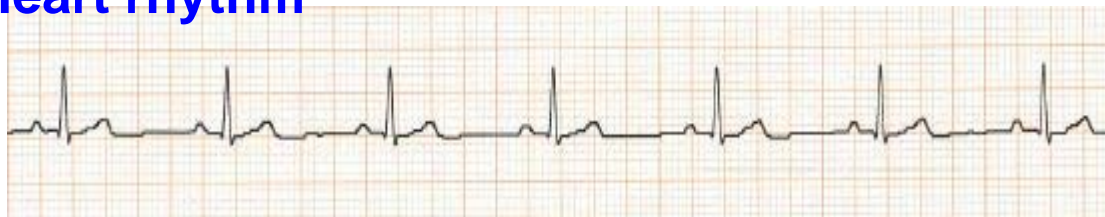
Only AED's electrical shock can eliminate the VF.

VF



Shock

Normal Heart rhythm



AED-9200 ; Easy to Use

Open the lid of AED

Automatically the power is on
AED's voice guidance will start promptly



Put the electrode pads on victim's bare chest

AED automatically starts analyzing the heart rhythm



Press the SHOCK button.





Operating AED

V.P; Voice prompt

1. Arrival of AED
2. **Open the lid of AED** Automatically its power is on
AED's voice guidance will start promptly
V.P ; Put the electrode pads on victim's bare chest
3. **Take out the electrode pads from the package and put them on**
AED automatically starts analyzing the heart rhythm
V.P ; Analyzing, don't touch victim and keep away from victim
Operator(rescuer) announce; Analyzing, don't touch victim
4. In case of necessity of electrical shock
V.P; Charging for electrical shock
V.P; Ready to discharging, keep away from victim and
push the flashing shock button
5. **Operator announce ; Discharging, Keep away from victim and
make sure, no body is touching the victim, then push the button**
6. After shock
V.P; Shock has been delivered, it is okay to touch victim and
provide CPR immediately
Operator provides CPR (30:2) immediately
7. AED analyzes victim's heart rhythm every two minute, then announces V.P
8. Operator will take action in accordance with V.P. of AED



Use of AED

when the victim is under conditions like....

No response

**Make sure ; No breathing, No coughing, and
No movement)**

**From 1 year to 8 years old,
if possible, use electrodes for child,
if impossible, you may use adult's electrodes on
children carefully**

**Operate AED in accordance with voice prompt
regardless (depend on) type of GL2000 or GL2005**

(Both type protocols are acceptable in Japan)

Special situations

- 1 . Put electrodes on victim's bare chest
- 2 . Water : wipe the victim's chest with a towel before put the pads
- 3 . Implanted pacemaker: put the pads at least 3cm away
- 4 . Hairy chest: press down firmly or shave the area with razor before putting on the pads
- 5 . Medicine patch: take the patch off and wipe the chest before putting on the pads
- 6 . Don't touch the victim while analyzing the rhythm or when delivering the shock



Other important point

Gasping respiration

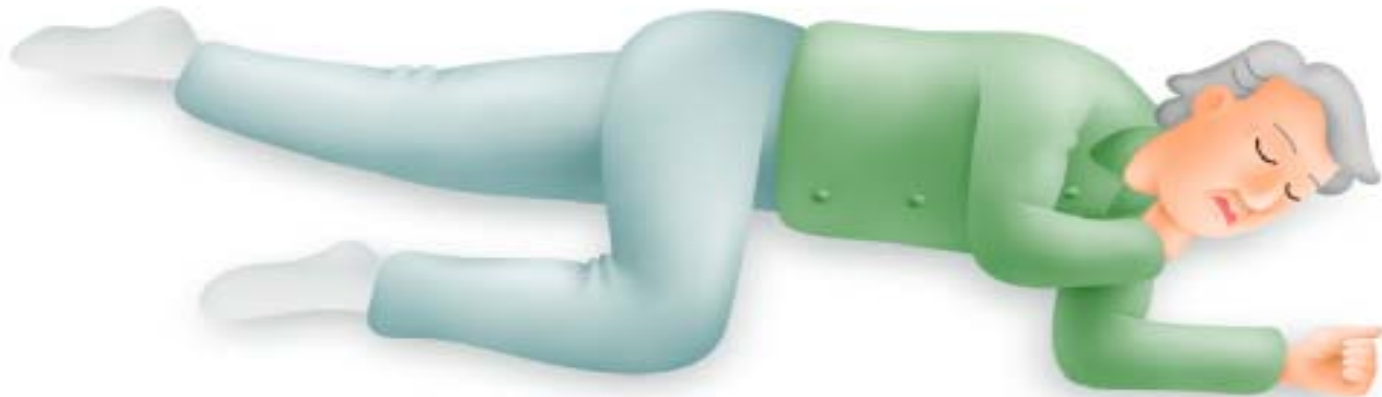
Like a stertorous breathing is not normal breathing

In such a case, rescue breathing must be done

Recovery position (Side position)

In case of no response, however, there is normal breathing

Turn the victim to the lateral position to keep the airway open,
and wait for the arrival of rescuers (EMS) while carefully watch victim



Status Indicator of Operatable



Once per day, AED reviews it's function by itself including electrode pads, then turn on **Green Indicator; Operatable Condition**

Visible indicator is important function for emergency



If AED is non- Operatable Condition, the status indicator will turn on red, please contact to responsible person immediately

Check points of in case of red indicator



Battery check



Check pads

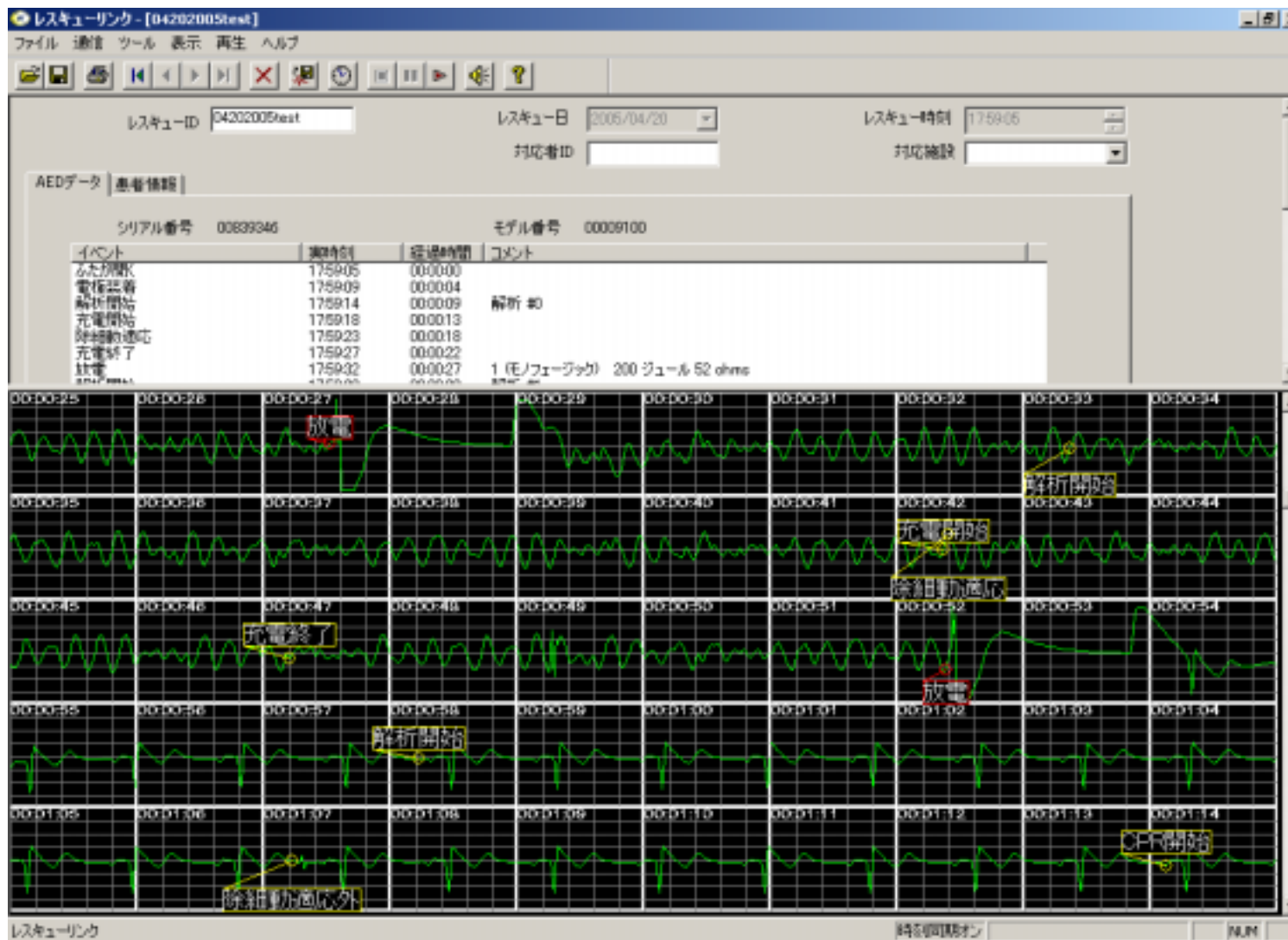


Call for service



Rescue Link®

Allows rescue data to be quickly transferred from AED-9200 or rescue data card to a standard Windows PC for reviewing and archiving



Accessories of AED for initial responders

Kit includes:

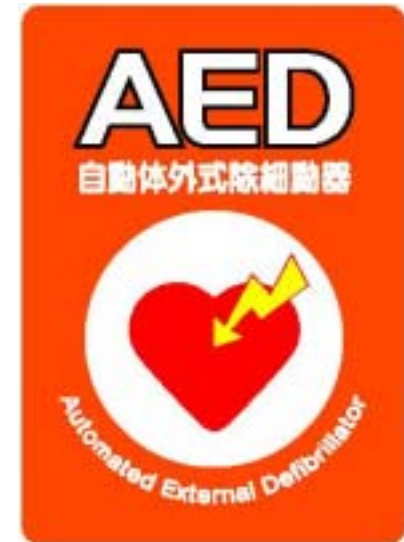
- Disposable razor
- Scissors
- Disposable towel
- Barrier devices for rescue breathing
- Disposable latex-free gloves

Can be stored in all Delivery Systems



Install Location of AED

- **For early defibrillation**
 - To know the location of AED
 - All members know location of AED and
 - To manage, integrate CPR and AED
- **Location**
 - In highly visible, easily accessible locations
 - Pay attention for temperature and humidity
 - Install AED at no water damages area
 - To check condition of AED easily every day



AED Sign Board

Examples of AED installations



AED sign board



Convention Center
(Tokyo Kokusai Forum)



In hospital

