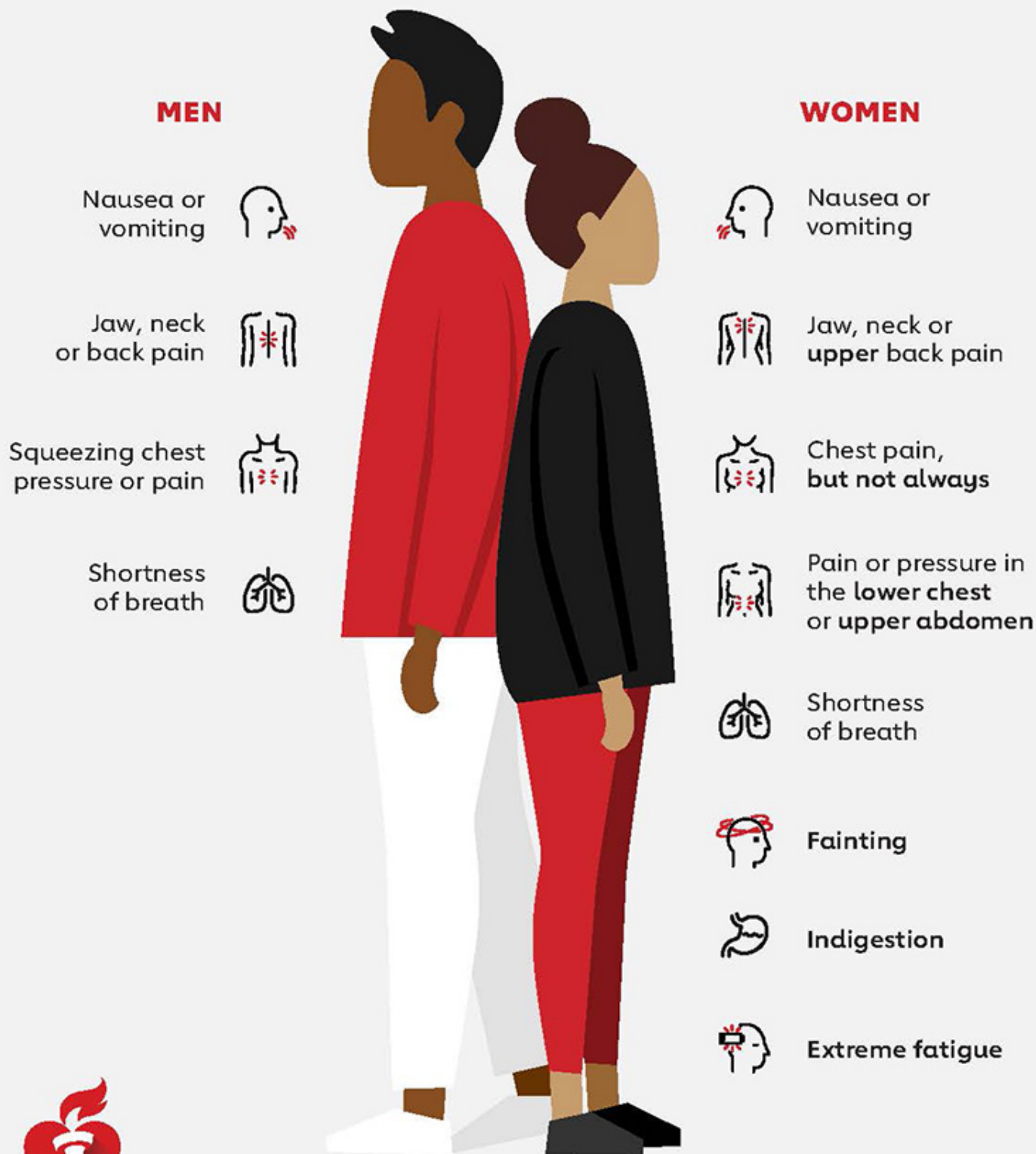


HEART ATTACK SYMPTOMS: MEN VS. WOMEN

By American Heart Association News

The most common symptom of a heart attack for both men and women is chest pain. But women may experience less obvious warning signs.



Source: American Heart Association's journal, Circulation
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Summary of High-Quality CPR Components for BLS Providers

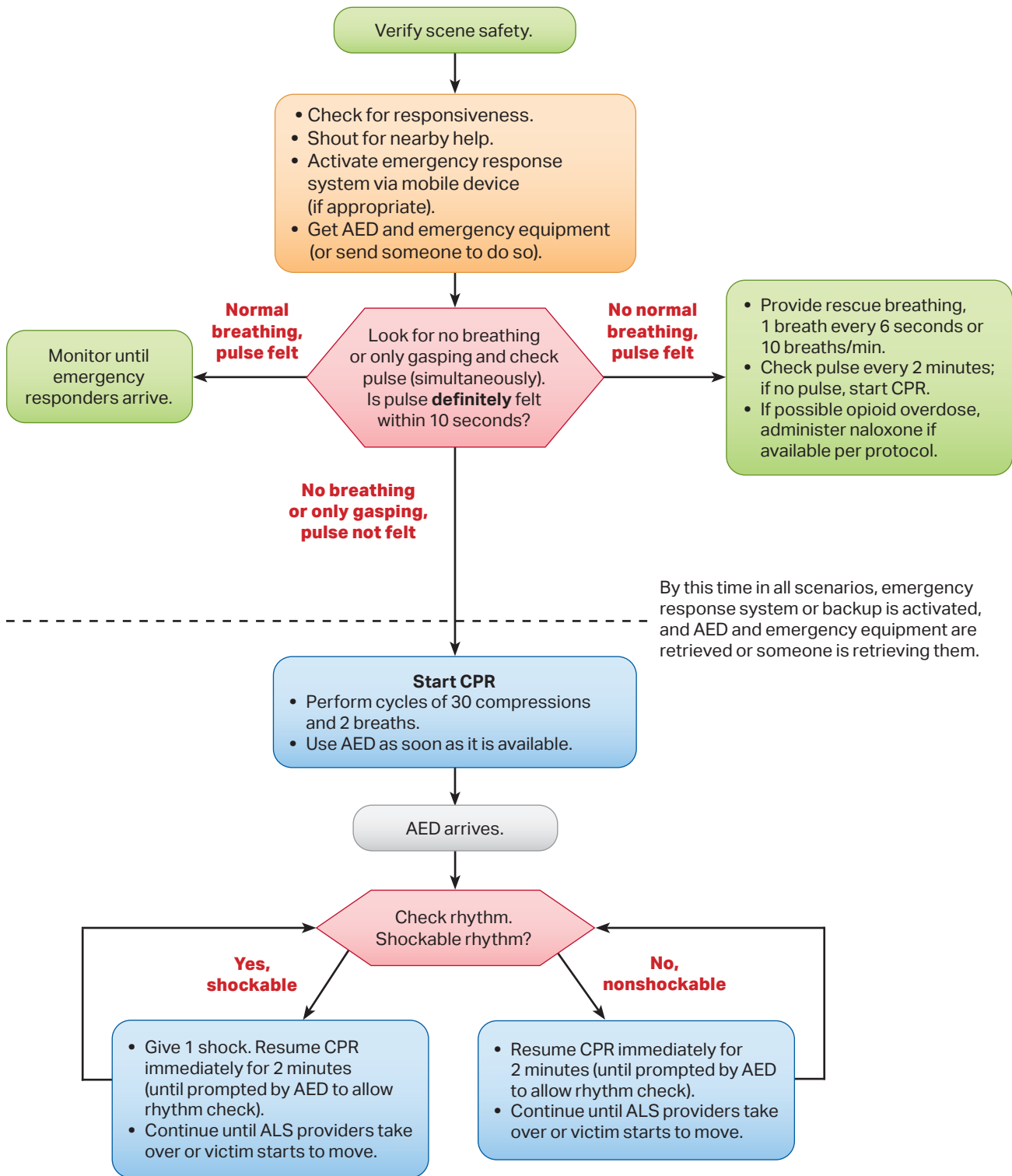


Component	Adults and adolescents	Children (age 1 year to puberty)	Infants (age less than 1 year, excluding newborns)
Verifying scene safety	Make sure the environment is safe for rescuers and victim		
Recognizing cardiac arrest	Check for responsiveness No breathing or only gasping (ie, no normal breathing) No definite pulse felt within 10 seconds (Breathing and pulse check can be performed simultaneously in less than 10 seconds)		
Activating emergency response system	If a mobile device is available, phone emergency services (9-1-1)		
	If you are alone with no mobile phone, leave the victim to activate the emergency response system and get the AED before beginning CPR Otherwise, send someone and begin CPR immediately; use the AED as soon as it is available	Witnessed collapse Follow steps for adults and adolescents on the left Unwitnessed collapse Give 2 minutes of CPR Leave the victim to activate the emergency response system and get the AED Return to the child or infant and resume CPR; use the AED as soon as it is available	
Compression-ventilation ratio <i>without advanced airway</i>	1 or 2 rescuers 30:2	1 rescuer 30:2 2 or more rescuers 15:2	
Compression-ventilation ratio <i>with advanced airway</i>	Continuous compressions at a rate of 100-120/min Give 1 breath every 6 seconds (10 breaths/min)	Continuous compressions at a rate of 100-120/min Give 1 breath every 2-3 seconds (20-30 breaths/min)	
Compression rate	100-120/min		
Compression depth	At least 2 inches (5 cm)*	At least one third AP diameter of chest Approximately 2 inches (5 cm)	At least one third AP diameter of chest Approximately 1½ inches (4 cm)
Hand placement	2 hands on the lower half of the breastbone (sternum)	2 hands or 1 hand (optional for very small child) on the lower half of the breastbone (sternum)	1 rescuer 2 fingers or 2 thumbs in the center of the chest, just below the nipple line 2 or more rescuers 2 thumb-encircling hands in the center of the chest, just below the nipple line If the rescuer is unable to achieve the recommended depth, it may be reasonable to use the heel of one hand
Chest recoil	Allow complete recoil of chest after each compression; do not lean on the chest after each compression		
Minimizing interruptions	Limit interruptions in chest compressions to less than 10 seconds with a CCF goal of 80%		

*Compression depth should be no more than 2.4 inches (6 cm).

Abbreviations: AED, automated external defibrillator; AP, anteroposterior; CCF, chest compression fraction; CPR, cardiopulmonary resuscitation.

Adult Basic Life Support Algorithm for Healthcare Providers



Basic Life Support

Adult CPR and AED Skills Testing Checklist



Student Name _____ Date of Test _____

Hospital Scenario: "You are working in a hospital or clinic, and you see a person who has suddenly collapsed in the hallway. You check that the scene is safe and then approach the patient. Demonstrate what you would do next."

Prehospital Scenario: "You arrive on the scene for a suspected cardiac arrest. No bystander CPR has been provided. You approach the scene and ensure that it is safe. Demonstrate what you would do next."

Assessment and Activation

- Checks responsiveness
- Checks breathing
- Shouts for help/Activates emergency response system/Sends for AED
- Checks pulse

Once student shouts for help, instructor says, "Here's the barrier device. I am going to get the AED."

Cycle 1 of CPR (30:2) *CPR feedback devices are required for accuracy

Adult Compressions

- Performs high-quality compressions*:
 - Hand placement on lower half of sternum
 - 30 compressions in no less than 15 and no more than 18 seconds
 - Compresses at least 2 inches (5 cm)
 - Complete recoil after each compression

Adult Breaths

- Gives 2 breaths with a barrier device:
 - Each breath given over 1 second
 - Visible chest rise with each breath
 - Resumes compressions in less than 10 seconds

Cycle 2 of CPR (repeats steps in Cycle 1) Only check box if step is successfully performed

- Compressions
- Breaths
- Resumes compressions in less than 10 seconds

Rescuer 2 says, "Here is the AED. I'll take over compressions, and you use the AED."

AED (follows prompts of AED)

- Powers on AED
- Correctly attaches pads
- Clears for analysis
- Clears to safely deliver a shock
- Safely delivers a shock

Resumes Compressions

- Ensures compressions are resumed immediately after shock delivery
 - Student directs instructor to resume compressions or
 - Second student resumes compressions

STOP TEST

Instructor Notes

- Place a check in the box next to each step the student completes successfully.
- If the student does not complete all steps successfully (as indicated by at least 1 blank check box), the student must receive remediation. Make a note here of which skills require remediation (refer to instructor manual for information about remediation).

Test Results Check **PASS** or **NR** to indicate pass or needs remediation:

PASS **NR**

Instructor Initials _____ Instructor Number _____ Date _____

Adult CPR and AED

Skills Testing Critical Skills Descriptors

- 1. Assesses victim and activates emergency response system (this *must* precede starting compressions) within 30 seconds. After determining that the scene is safe:**
 - Checks for responsiveness by tapping and shouting
 - Shouts for help/directs someone to call for help *and* get AED/defibrillator
 - Checks for no breathing or no normal breathing (only gasping)
 - Scans from the head to the chest for a minimum of 5 seconds and no more than 10 seconds
 - Checks carotid pulse
 - Should be done simultaneously with check for breathing
 - Checks for a minimum of 5 seconds and no more than 10 seconds
- 2. Performs high-quality chest compressions (initiates compressions immediately after recognition of cardiac arrest)**
 - Correct hand placement
 - Lower half of sternum
 - 2-handed (second hand on top of the first or grasping the wrist of the first hand)
 - Compression rate of 100 to 120/min
 - Delivers 30 compressions in 15 to 18 seconds
 - Compression depth and recoil—at least 2 inches (5 cm) and avoid compressing more than 2.4 inches (6 cm)
 - Use of a commercial feedback device or high-fidelity manikin is required
 - Complete chest recoil after each compression
 - Minimizes interruptions in compressions
 - Delivers 2 breaths so less than 10 seconds elapses between last compression of one cycle and first compression of next cycle
 - Compressions resumed immediately after shock/no shock indicated
- 3. Provides 2 breaths by using a barrier device**
 - Opens airway adequately
 - Uses a head tilt–chin lift maneuver or jaw thrust
 - Delivers each breath over 1 second
 - Delivers breaths that produce visible chest rise
 - Avoids excessive ventilation
 - Resumes chest compressions in less than 10 seconds
- 4. Performs same steps for compressions and breaths for Cycle 2**
- 5. AED use**
 - Powers on AED
 - Turns AED on by pushing button or lifting lid as soon as it arrives
 - Correctly attaches pads
 - Places proper-sized (adult) pads for victim’s age in correct location
 - Clears for analysis
 - Clears rescuers from victim for AED to analyze rhythm (pushes analyze button if required by device)
 - Communicates clearly to all other rescuers to stop touching victim
 - Clears to safely deliver shock
 - Communicates clearly to all other rescuers to stop touching victim
 - Safely delivers a shock
 - Resumes chest compressions immediately after shock delivery
 - Does not turn off AED during CPR
- 6. Resumes compressions**
 - Ensures that high-quality chest compressions are resumed immediately after shock delivery
 - Performs same steps for compressions

Basic Life Support

Infant CPR

Skills Testing Checklist (1 of 2)



Student Name _____ Date of Test _____

Hospital Scenario: "You are working in a hospital or clinic when a woman runs through the door, carrying an infant. She shouts, 'Help me! My baby's not breathing.' You have gloves and a pocket mask. You send your coworker to activate the emergency response system and to get the emergency equipment."

Prehospital Scenario: "You arrive on the scene for an infant who is not breathing. No bystander CPR has been provided. You approach the scene and ensure that it is safe. Demonstrate what you would do next."

Assessment and Activation

- Checks responsiveness
- Shouts for help/Activates emergency response system
- Checks breathing
- Checks pulse

Once student shouts for help, instructor says, "Here's the barrier device."

Cycle 1 of CPR (30:2) *CPR feedback devices are required for accuracy

Infant Compressions

- Performs high-quality compressions*:
 - Placement of 2 fingers or 2 thumbs in the center of the chest, just below the nipple line
 - 30 compressions in no less than 15 and no more than 18 seconds
 - Compresses at least one third the depth of the chest, approximately 1½ inches (4 cm)
 - Complete recoil after each compression

Infant Breaths

- Gives 2 breaths with a barrier device:
 - Each breath given over 1 second
 - Visible chest rise with each breath
 - Resumes compressions in less than 10 seconds

Cycle 2 of CPR (repeats steps in Cycle 1) Only check box if step is successfully performed

- Compressions
- Breaths
- Resumes compressions in less than 10 seconds

Rescuer 2 arrives with bag-mask device and begins ventilation while Rescuer 1 continues compressions with 2 thumb-encircling hands technique.

Cycle 3 of CPR

Rescuer 1: Infant Compressions

- Performs high-quality compressions*:
 - 15 compressions with 2 thumb-encircling hands technique
 - 15 compressions in no less than 7 and no more than 9 seconds
 - Compresses at least one third the depth of the chest, approximately 1½ inches (4 cm)
 - Complete recoil after each compression

Rescuer 2: Infant Breaths

This rescuer is not evaluated.

(continued)

Basic Life Support
Infant CPR
Skills Testing Checklist (2 of 2)



Student Name _____ Date of Test _____

(continued)

Cycle 4 of CPR

Rescuer 2: Infant Compressions

This rescuer is not evaluated.

Rescuer 1: Infant Breaths

- Gives 2 breaths with a bag-mask device:
 - Each breath given over 1 second
 - Visible chest rise with each breath
 - Resumes compressions in less than 10 seconds

STOP TEST

Instructor Notes

- Place a check in the box next to each step the student completes successfully.
- If the student does not complete all steps successfully (as indicated by at least 1 blank check box), the student must receive remediation. Make a note here of which skills require remediation (refer to instructor manual for information about remediation).

Test Results Check **PASS** or **NR** to indicate pass or needs remediation:

<input type="checkbox"/> PASS	<input type="checkbox"/> NR
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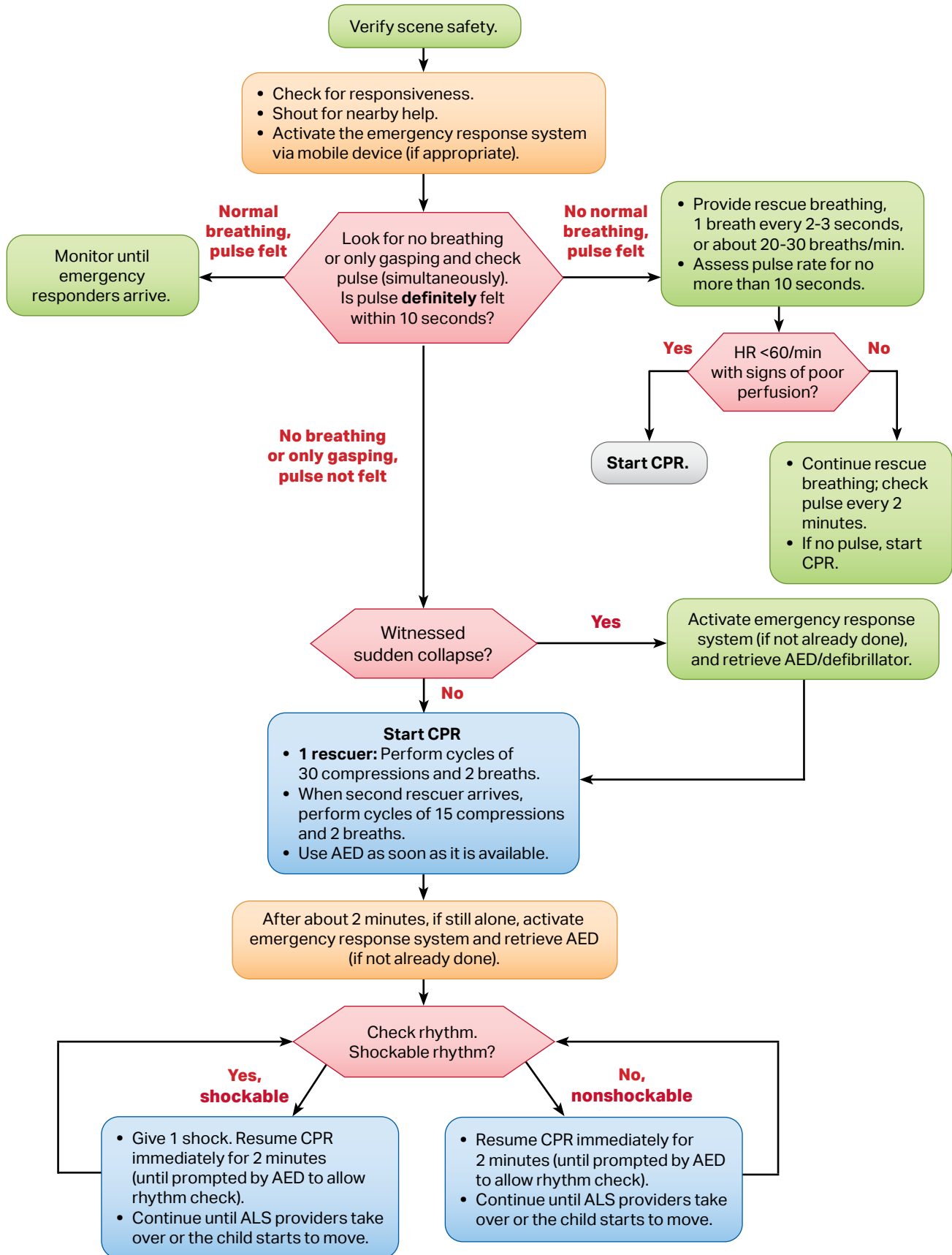
Instructor Initials _____ Instructor Number _____ Date _____

Infant CPR

Skills Testing Critical Skills Descriptors

- 1. Assesses victim and activates emergency response system (this *must* precede starting compressions) within 30 seconds. After determining that the scene is safe:**
 - Checks for responsiveness by tapping and shouting
 - Shouts for help/directs someone to call for help *and* get emergency equipment
 - Checks for no breathing or no normal breathing (only gasping)
 - Scans from the head to the chest for a minimum of 5 seconds and no more than 10 seconds
 - Checks brachial pulse
 - Should be done simultaneously with check for breathing
 - Checks for a minimum of 5 seconds and no more than 10 seconds
- 2. Performs high-quality chest compressions during 1-rescuer CPR (initiates compressions within 10 seconds after identifying cardiac arrest)**
 - Correct placement of hands/fingers in center of chest
 - 1 rescuer: 2 fingers or 2 thumbs just below the nipple line
 - *If the rescuer is unable to achieve the recommended depth, it may be reasonable to use the heel of one hand*
 - Compression rate of 100 to 120/min
 - Delivers 30 compressions in 15 to 18 seconds
 - Adequate depth for age
 - Infant: at least one third the depth of the chest (approximately 1½ inches [4 cm])
 - Use of a commercial feedback device or high-fidelity manikin is required
 - Complete chest recoil after each compression
 - Appropriate ratio for age and number of rescuers
 - 1 rescuer: 30 compressions to 2 breaths
 - Minimizes interruptions in compressions
 - Delivers 2 breaths so less than 10 seconds elapses between last compression of one cycle and first compression of next cycle
- 3. Provides effective breaths with bag-mask device during 2-rescuer CPR**
 - Opens airway adequately
 - Delivers each breath over 1 second
 - Delivers breaths that produce visible chest rise
 - Avoids excessive ventilation
 - Resumes chest compressions in less than 10 seconds
- 4. Switches compression technique at appropriate interval as prompted by the instructor (for purposes of this evaluation). Switch should take no more than 5 seconds.**
- 5. Performs high-quality chest compressions during 2-rescuer CPR**
 - Correct placement of hands/fingers in center of chest
 - 2 rescuers: 2 thumb-encircling hands just below the nipple line
 - Compression rate of 100 to 120/min
 - Delivers 15 compressions in 7 to 9 seconds
 - Adequate depth for age
 - Infant: at least one third the depth of the chest (approximately 1½ inches [4 cm])
 - Complete chest recoil after each compression
 - Appropriate ratio for age and number of rescuers
 - 2 rescuers: 15 compressions to 2 breaths
 - Minimizes interruptions in compressions
 - Delivers 2 breaths so less than 10 seconds elapses between last compression of one cycle and first compression of next cycle

Pediatric Basic Life Support Algorithm for Healthcare Providers—Single Rescuer



Pediatric Basic Life Support Algorithm for Healthcare Providers—2 or More Rescuers

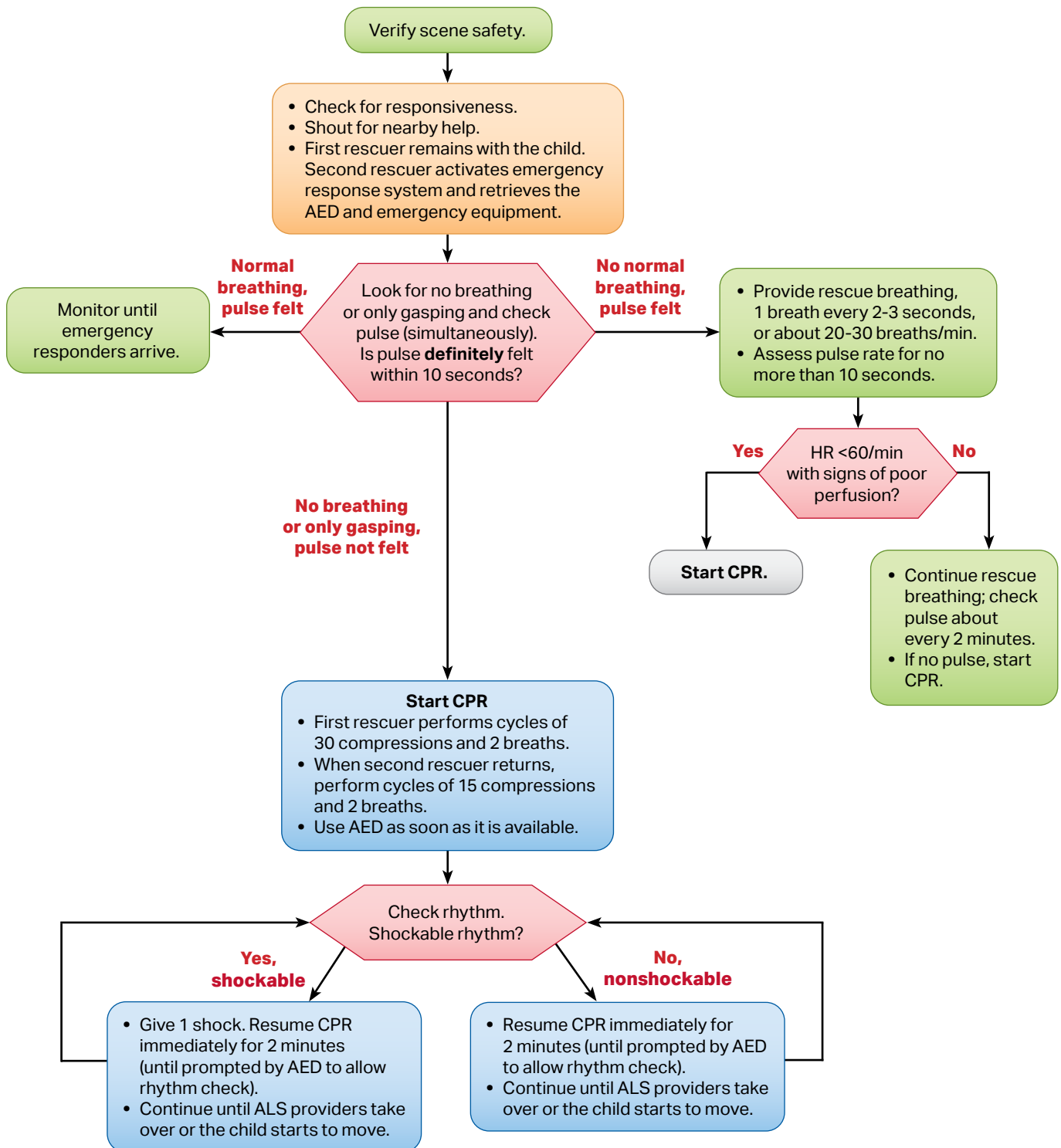
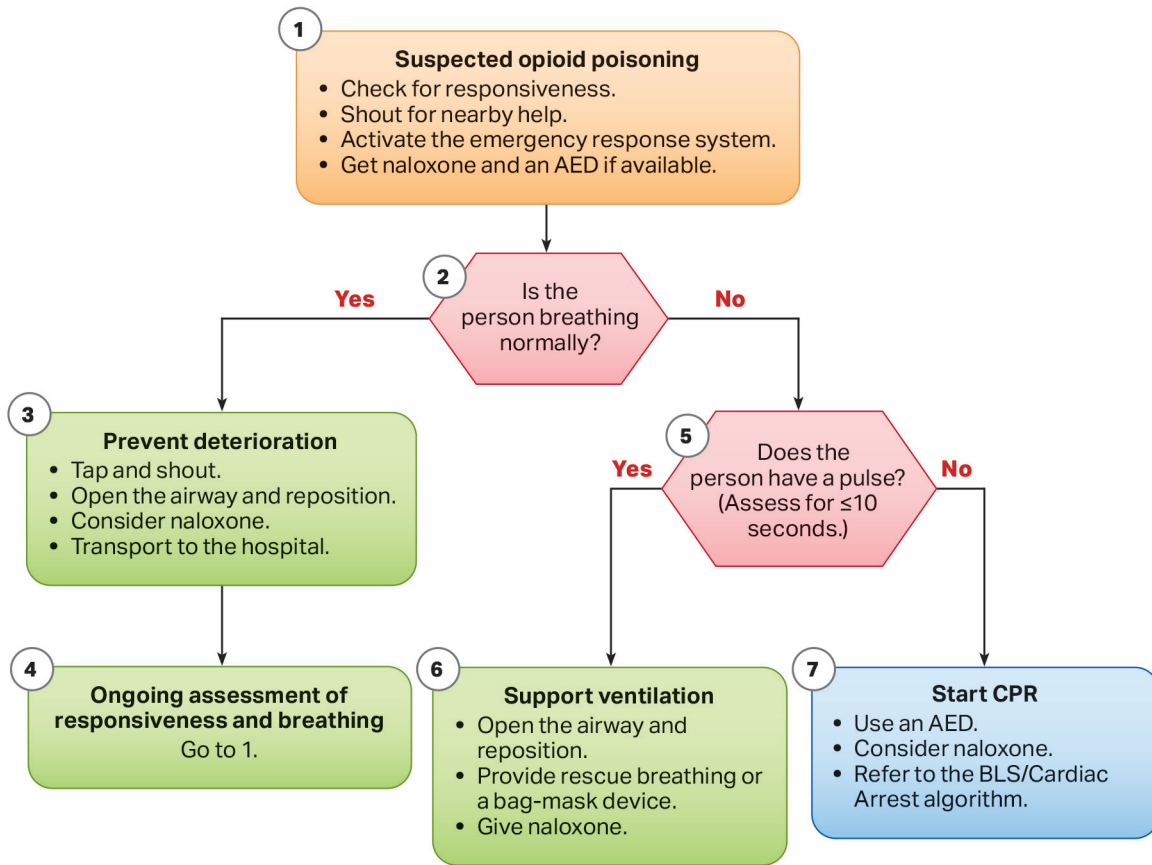


Figure 6. Opioid-Associated Emergency for Healthcare Providers Algorithm.



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Positions for 6-Person High-Performance Teams*

Resuscitation Triangle Roles



Compressor

- Assesses the patient
- Performs compressions according to local protocols
- Rotates every 2 minutes or earlier if fatigued



Monitor/Defibrillator/ CPR Coach

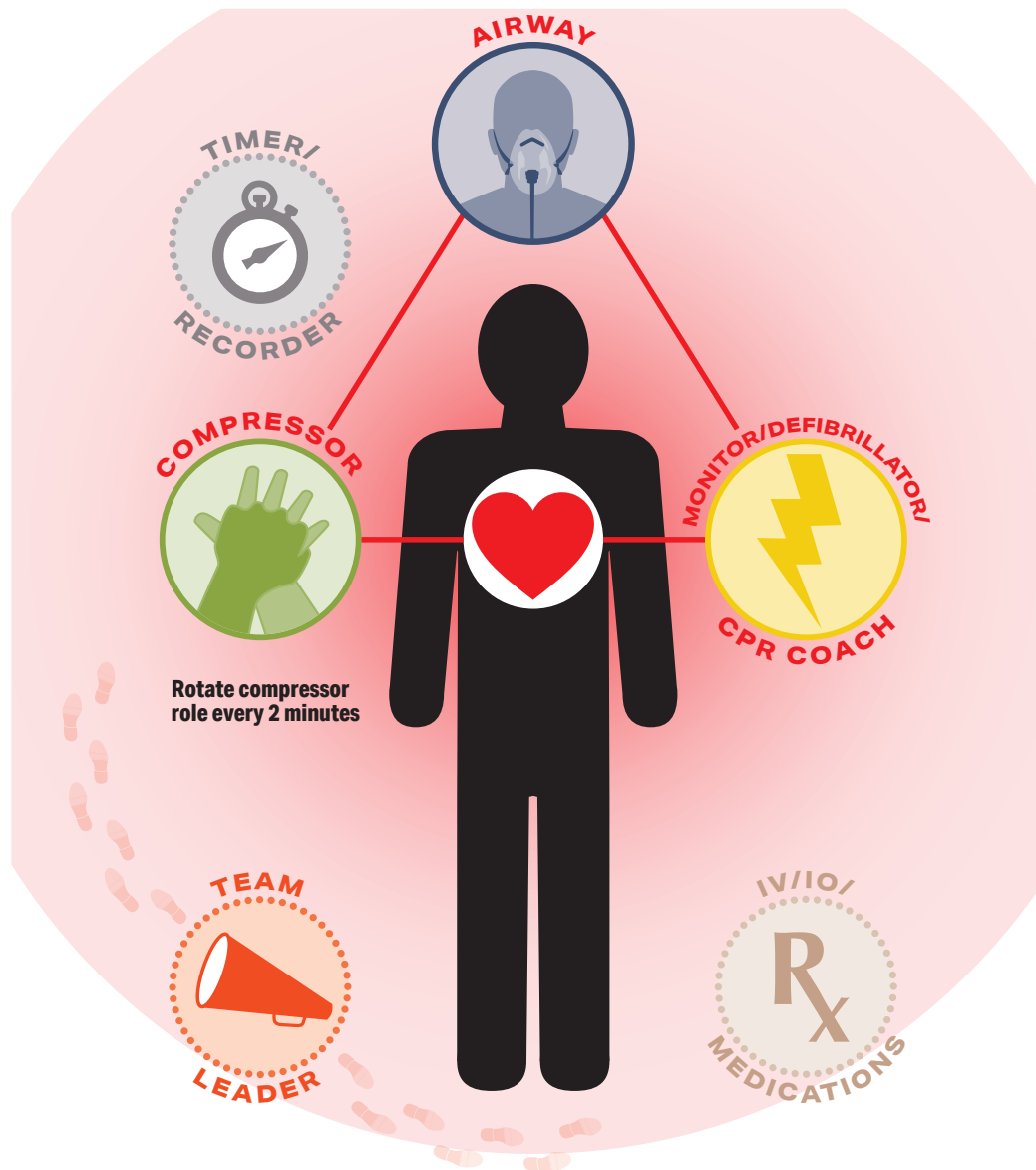
- Brings and operates the AED/monitor/defibrillator and acts as the CPR Coach if designated
- If a monitor is present, places it in position where it can be seen by the Team Leader (and most of the team)



Airway

- Opens the airway
- Provides bag-mask ventilation
- Inserts airway adjuncts as appropriate†

The team owns the code. No team member leaves the triangle except to rotate compressors or to protect his or her safety.



Leadership Roles



Team Leader

- **Every resuscitation team must have a defined leader**
- Assigns roles to team members
- Makes treatment decisions†
- Provides feedback to the rest of the team as needed
- Assumes responsibility for roles not defined



IV/IO/Medications†

- An ALS provider role
- Initiates IV/IO access
- Administer medications



Timer/Recorder

- Records the time of interventions and medications (and announces when these are next due)
- Records the frequency and duration of interruptions in compressions
- Communicates these to the Team Leader (and the rest of the team)

*This is a suggested team formation. Roles may be adapted to local protocol.

†Roles and tasks are performed by advanced providers.