American Heart Association®

American Academy of Pediatrics
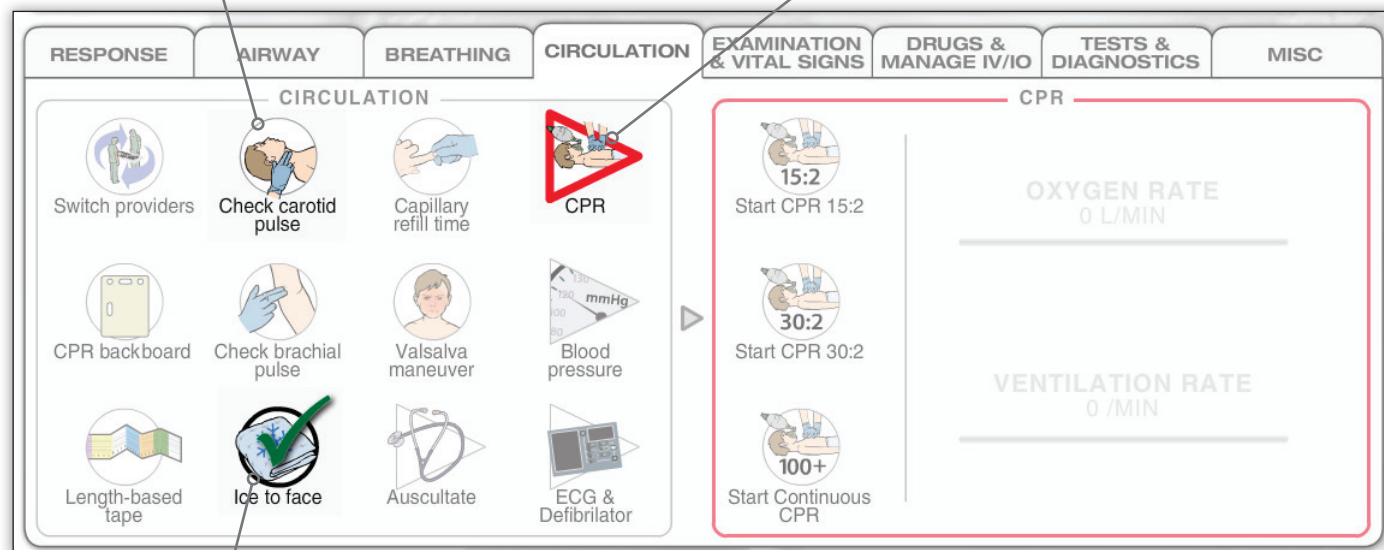DEDICATED TO THE HEALTH OF ALL CHILDREN™

▶ PALS Actions Overview > Legend

Action buttons (round buttons)
Clicking a round button initiates an action. Clicking this button, for example, checks the child's carotid pulse.

Menu buttons (triangular buttons)
A triangular menu button doesn't perform an action in itself, but opens a menu to the right of the button where related actions are available. The red outline around this button indicates that this menu is active.

Active action button
The green check mark indicates that the given action is active—in this case ice has been placed on the child's face.
To stop an active action simply click it again.

▶ Contents

Response

Tap and shout
Checks for response by tapping and shouting to determine the level of consciousness.

Look for breathing
Determines if the child is breathing by observing chest movement.

Sternal rub
Applies a painful stimulus by performing a sternal rub.
Not available for infant

Pinch infant/ child
Applies a painful stimulus by pinching the child.

RESPONSE	AIRWAY	BREATHING	CIRCULATION	EXAMINATION & VITAL SIGNS	DRUGS & MANAGE IV/IO	TESTS & DIAGNOSTICS	MISC

RESPONSE

Tap and shout

Sternal rub

Look for breathing

Pinch child

Check carotid pulse

Ask child: "Are you ok?"

ASK PARENT QUESTIONS

Current illness

Medical history

Family history

QUESTIONS: CURRENT ILLNESS

What happened?

When did the problems start?

Has there been any pain?

Have you noticed any change in consciousness?

Has he had fever?

Has he been coughing or wheezing or had other respiratory symptoms?

Has he been eating and drinking normally?

Has there been vomiting, diarrhea, or constipation?

Has he urinated today?

Check carotid pulse
Performs a pulse check at the carotid artery.

Menu: Family history
Asks the parent questions in regard to family history.

Menu: Current illness
Asks the parent questions in regard to current illness.

Ask child: "Are you OK?"
Asks if the child is OK.
Not available for infant

Menu: Medical history
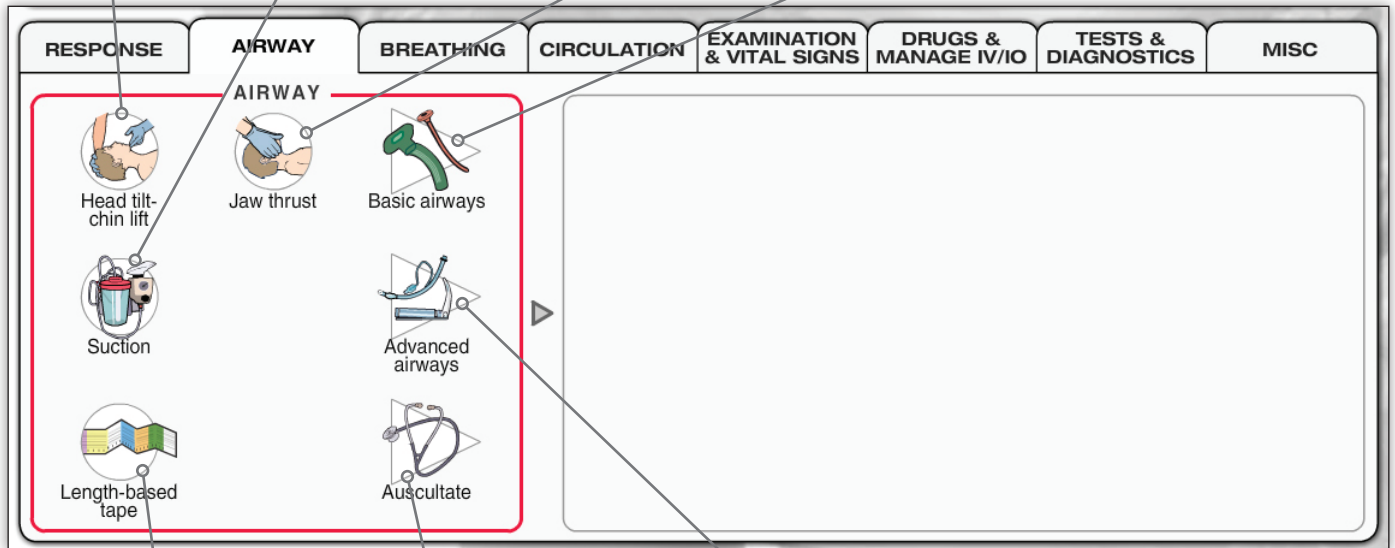Asks the parent questions in regard to medical history.

▶ Airway

Head tilt–chin lift
Performs a head tilt–chin lift. This relieves airway obstruction caused by the tongue blocking the airway.

Suction
Performs suction of the upper airway and airway adjuncts to remove secretions.

Jaw thrust
Performs a jaw thrust. This relieves airway obstruction caused by the tongue blocking the airway.

Menu: Basic airways
Presents options for basic airway adjuncts.

RESPONSE	AIRWAY	BREATHING	CIRCULATION	EXAMINATION & VITAL SIGNS	DRUGS & MANAGE IV/IO	TESTS & DIAGNOSTICS	MISC

AIRWAY

Head tilt-chin lift

Jaw thrust

Basic airways

Suction

Advanced airways

Length-based tape

Auscultate

Length-based tape
Uses a color-coded length-based resuscitation tape to determine correct drug dosages, equipment size, and defibrillation doses.

Menu: Auscultate
Presents options for auscultation.

Menu: Advanced airways
Presents options for advanced airway adjuncts.

▶ Airway > Basic airways
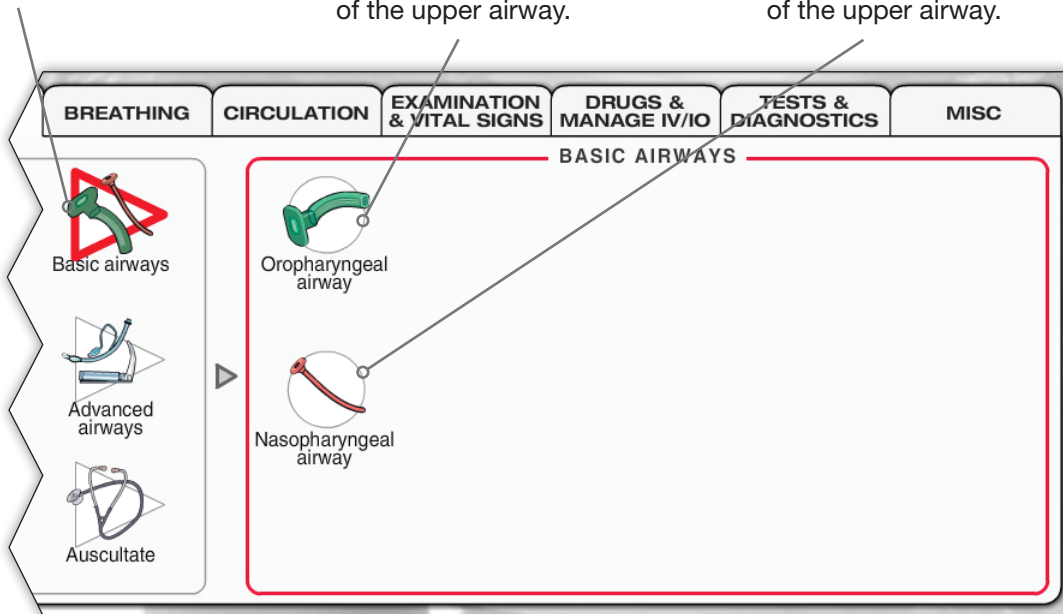
Menu: Basic airways
Presents options for basic airway adjuncts.
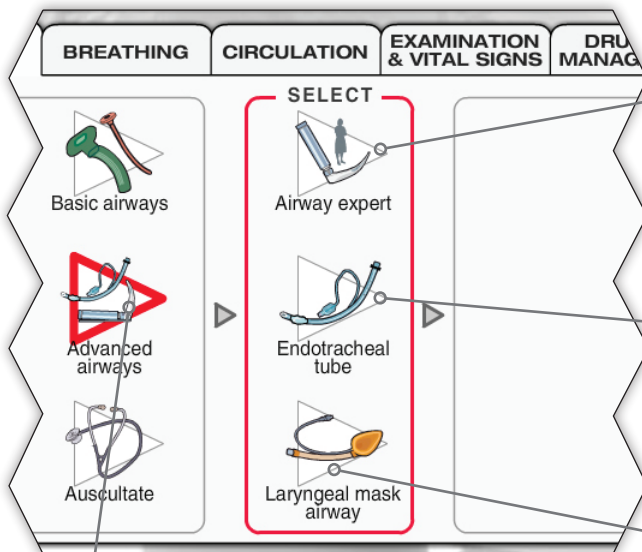
Oropharyngeal airway
Inserts an oropharyngeal airway to improve patency of the upper airway.

Nasopharyngeal airway
Inserts a nasopharyngeal airway to improve patency of the upper airway.

▶ Airway > Advanced airways

Menu: Airway expert
Presents options for the airway expert.

Menu: Endotracheal tube
Presents options for the endotracheal tube.

Menu: Laryngeal mask airway
Presents options for the laryngeal mask airway.

Menu: Advanced airways
Presents options for advanced airway adjuncts.

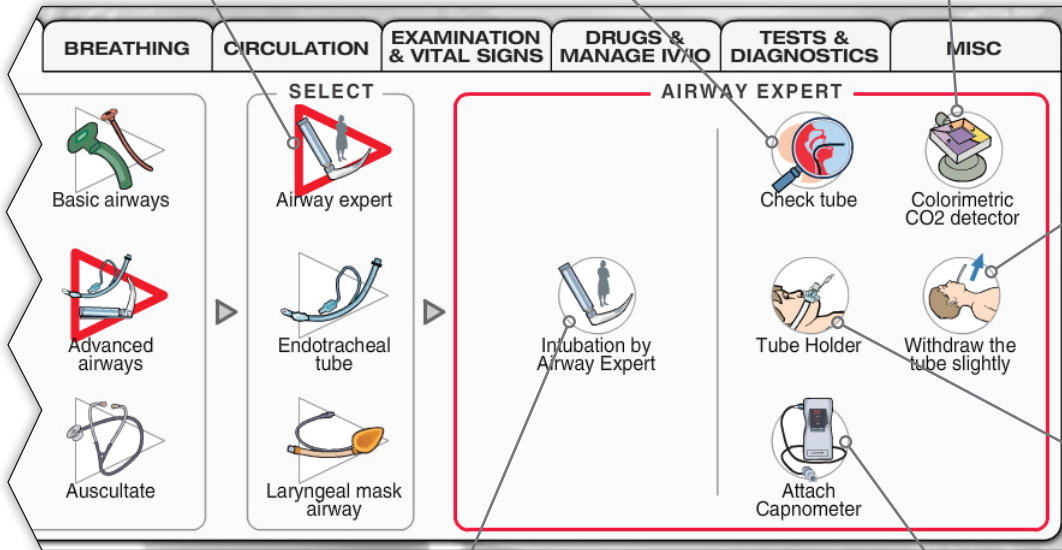## Airway > Advanced airways > Airway expert

Menu: Airway expert
Presents options for the airway expert.

Check tube
Checks the position of the endotracheal tube.

Colorimetric CO$_2$ detector
Detects exhaled CO$_2$ by colorimetry.

Withdraw the tube slightly
Adjusts the insertion depth of the endotracheal tube. Should be used to correct right main bronchus intubation.

Tube holder
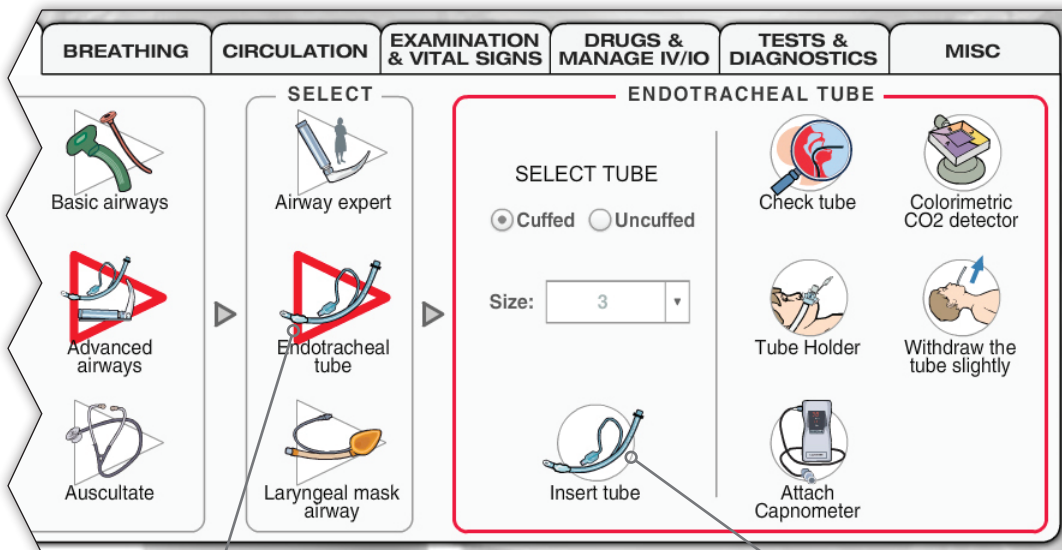Secures the placement of the tube with a commercial tube holder.

Intubation by Airway Expert
Airway expert intubates the child. Students will have to confirm and secure the device themselves.

Attach capnometer
Attaches a dynamic CO$_2$ detector/capnograph.

Airway > Advanced airways > Endotracheal tube

Menu: Endotracheal tube
Presents options for the endotracheal tube.

Insert tube
Inserts endotracheal tube to improve patency of the airway. The user will have to select the correct size and whether to use a cuffed or uncuffed device.

Airway > Advanced airways > Laryngeal mask airway

Menu: Laryngeal mask airway
Presents options for the laryngeal mask airway.

Check tube
Checks the position of the endotracheal tube.

Colorimetric CO_2 detector
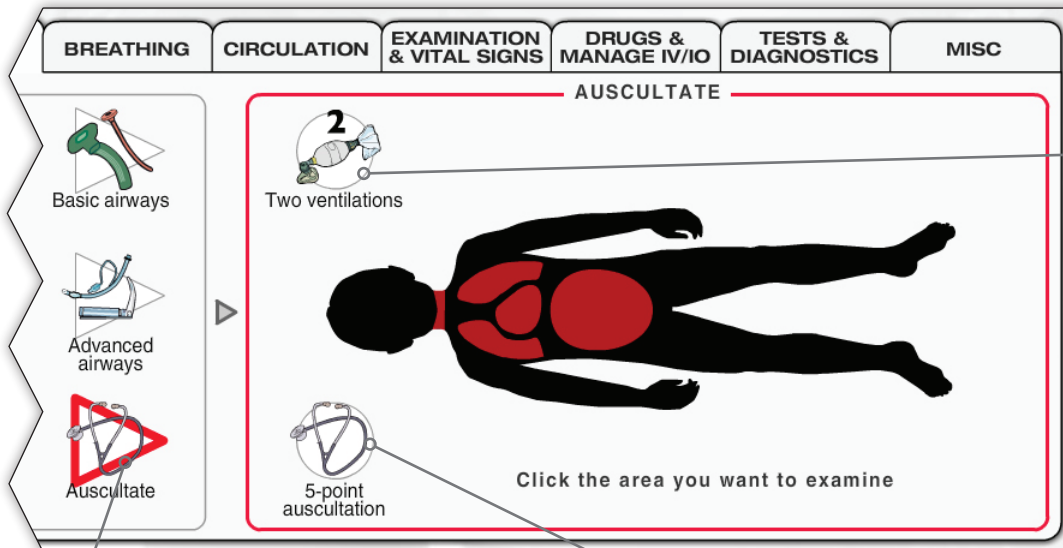Detects exhaled CO_2 by colorimetry.
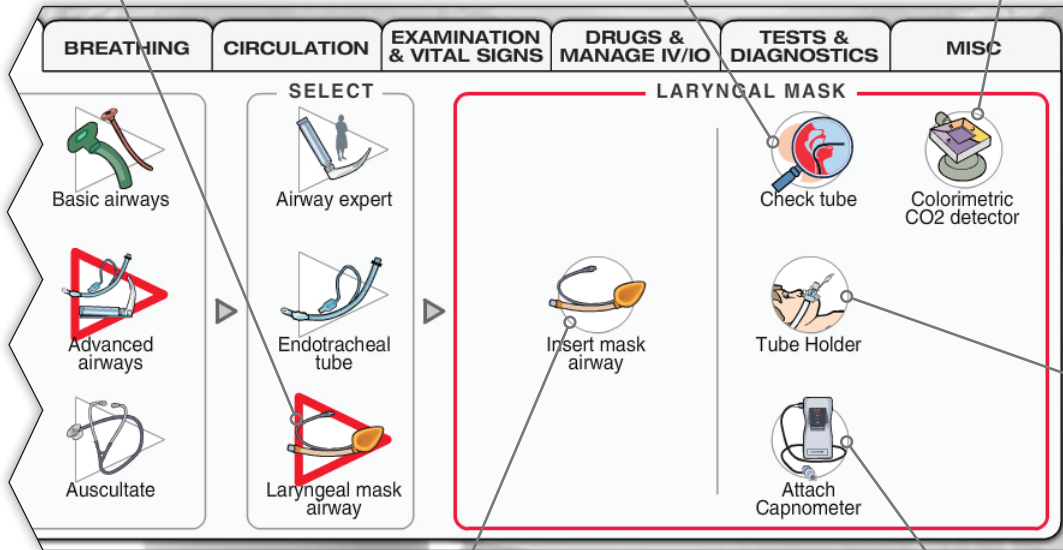
Insert mask airway
Inserts laryngeal mask airway to improve patency of the airway.

Attach capnometer
Attaches a dynamic CO_2 detector/capnograph.

Tube holder
Secures the placement of the tube with a commercial tube holder.

Airway > Auscultate

Two ventilations
Gives 2 ventilations with a self-inflating bag.

Menu: Auscultate
Presents options for auscultation.

5-point auscultation
Listens to abdomen and both upper and lower lung zones to confirm proper airway device placement.
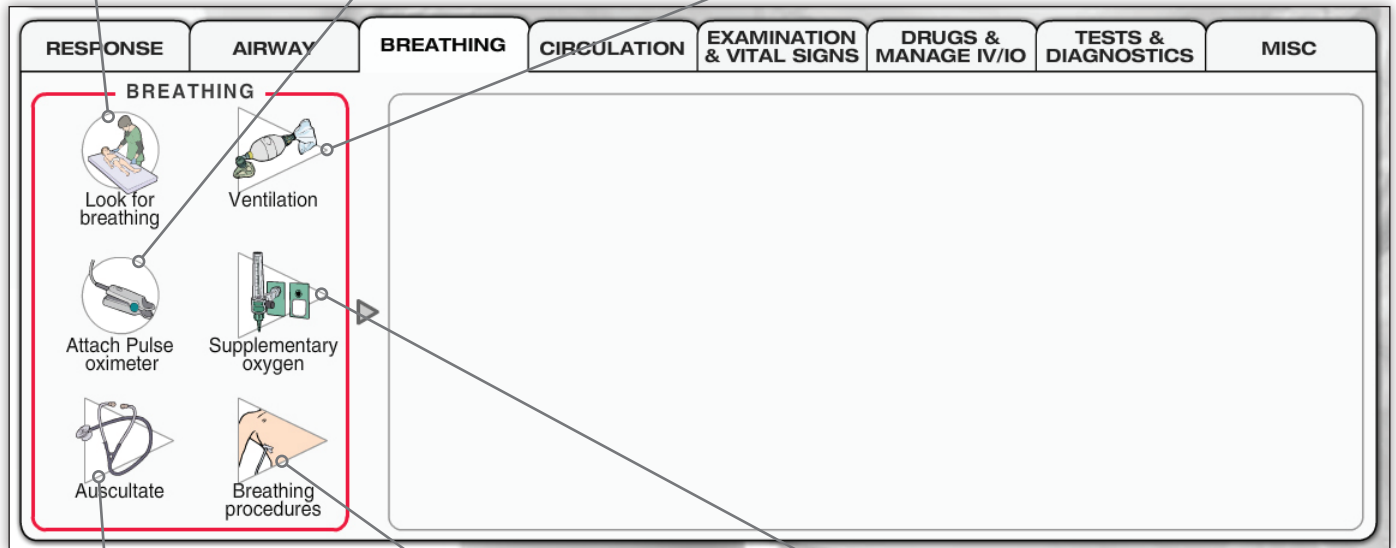
▶ Breathing

Look for breathing
Determines if the child is breathing by observing chest movement.

Attach pulse oximeter
Measures the oxygen saturation of the peripheral arterial blood and the peripheral pulse rate.

Menu: Ventilation
Presents options for ventilation.

| RESPONSE | AIRWAY | BREATHING | CIRCULATION | EXAMINATION & VITAL SIGNS | DRUGS & MANAGE IV/IO | TESTS & DIAGNOSTICS | MISC |

BREATHING

Look for breathing

Ventilation

Attach Pulse oximeter

Supplementary oxygen

Auscultate

Breathing procedures

Menu: Auscultate
Presents options for auscultation.
See page 6.

Menu: Breathing procedures
Presents options for treating pneumothorax.

Menu: Supplementary oxygen
Presents options for different oxygen supplements.

Breathing > Ventilation

Menu: Ventilation
Presents options for ventilation.

Attach capnometer
Attaches a dynamic CO_2 detector/capnograph.

Attach PEEP valve
Applies PEEP with standard settings that cannot be changed.

AIRWAY	BREATHING	CIRCULATION	EXAMINATION & VITAL SIGNS	DRUGS & MANAGE IV/IO	TESTS & DIAGNOSTICS	MISC

THING

VENTILATION

Ventilation

Supplementary oxygen

Breathing procedures

Start continuous ventilations

Attach Capnometer

Attach PEEP valve

Warm and humidify oxygen

Colorimetric CO2 detector

OXYGEN RATE
0 L/MIN

VENTILATION RATE
0 /MIN

Start continuous ventilations
Gives continuous ventilations with a self-inflating bag.

Warm and humidify oxygen
Reuse but change to child.

Colorimetric CO_2 detector
Detects exhaled CO_2 by colorimetry.

▶ Breathing > Supplementary oxygen

Menu: Supplementary oxygen
Presents options for different oxygen supplements.

Attach nasal cannula
Places a nasal cannula on the child, allowing for increased oxygen supply.

Attach CPAP
Places a CPAP mask on the child with standard settings that cannot be changed.

Attach T-piece
Places a T-piece on the endotracheal tube, allowing for spontaneous breathing and oxygen supply.

| AIRWAY | BREATHING | CIRCULATION | EXAMINATION & VITAL SIGNS | DRUGS & MANAGE IV/IO | TESTS & DIAGNOSTICS | MISC |

THING

SUPPLEMENTARY OXYGEN

Ventilation

Supplementary oxygen

Breathing procedures

Attach nasal cannula

Attach simple oxygen mask

Attach non-rebreather

Attach CPAP

Attach T-piece

OXYGEN RATE
0 L/MIN

Attach Capnometer

Warm and humidify oxygen

Attach PEEP valve

Attach capnometer
Attaches a dynamic CO_2 detector/capnograph.

Attach PEEP valve
Applies PEEP with standard settings that cannot be changed.

Attach nonrebreather
Places a nonrebreathing mask on the child, allowing for increased oxygen supply.

Attach simple oxygen mask
Places a simple oxygen mask on the child, allowing for increased oxygen supply.

Warm and humidify oxygen
Reuse but change to child.

▶ Breathing > Breathing procedures

Needle decompression
Performs needle decompression
on the right side.

Insert chest tube
Inserts a chest tube on
the right side.

| AIRWAY | BREATHING | CIRCULATION | EXAMINATION & VITAL SIGNS | DRUGS & MANAGE IV/IO | TESTS & DIAGNOSTICS | MISC |

THING

CHEST TUBE

Ventilation

Needle decompression

Supplementary oxygen

Insert chest tube

Breathing procedures
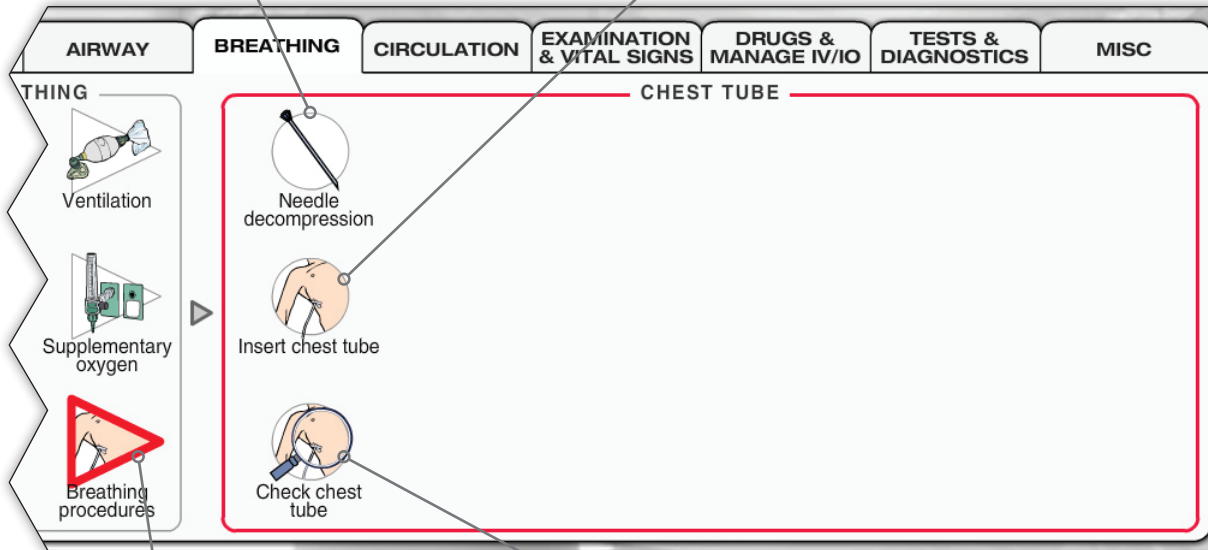
Check chest tube

Menu: Breathing procedures
Presents options for treating
pneumothorax.

Check chest tube
Checks if the chest tube is
functioning correctly.

▶ Circulation

Switch providers
Causes the rescuers to switch positions to prevent rescuer fatigue and maintain an adequate compression rate and depth.

CPR backboard
Places a rigid backboard to improve the quality of chest compressions.

Check carotid pulse
Performs a pulse check at the carotid artery.

Capillary refill time
Checks the capillary refill time of the child.

Menu: CPR
Presents options for CPR.

Valsalva maneuver
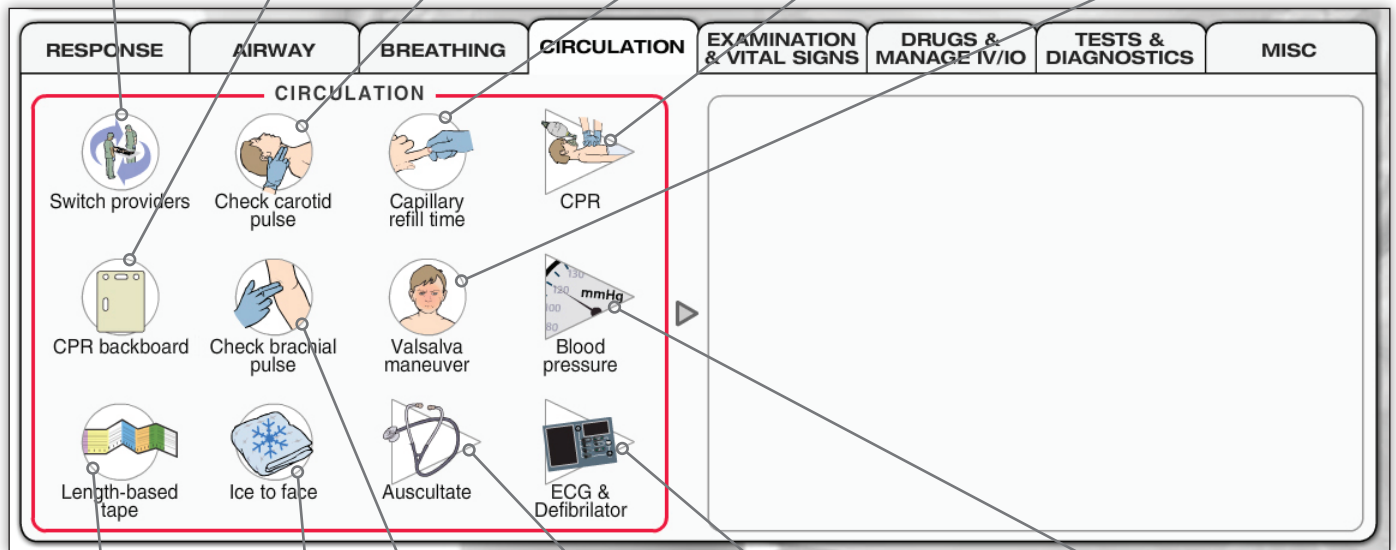The child performs the Valsalva maneuver to increase vagal tone.
Not available for infant.

Length-based tape
Uses a color-coded length-based resuscitation tape to determine correct drug dosages, equipment size, and defibrillation doses.

Check brachial pulse
Performs a pulse check at the brachial artery.

Menu: Auscultate
Presents options for auscultation.
*See page 6.*

Menu: ECG & defibrillator
Presents options for various electrophysiologic interventions and cardiac monitoring options.

Menu: Blood pressure
Presents options for measuring the blood pressure of the child.

Ice to face
Covers the child's forehead and eyes without obstructing the airway to elicit a vagal response that might terminate a supraventricular tachycardia.

Circulation > CPR

Menu: CPR
Presents options for CPR.
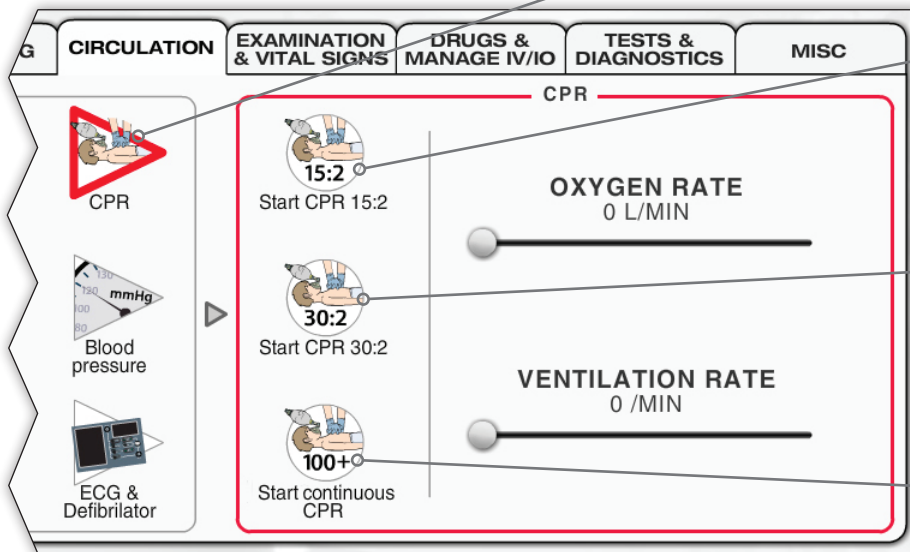
Start CPR 15:2
Performs CPR with cycles of 15 chest compressions and 2 ventilations. (Press button again to stop compressions.)

Start CPR 30:2
Performs CPR with cycles of 30 chest compressions and 2 ventilations. (Press button again to stop compressions.)

Start continuous CPR
Performs chest compressions at 100 compressions per minute continuously without pauses for ventilation. Meanwhile, the student should set the ventilation and oxygen rates delivered by the other provider (preferably 8 to 10 breaths per minute with high-flow oxygen).

Circulation > Blood pressure
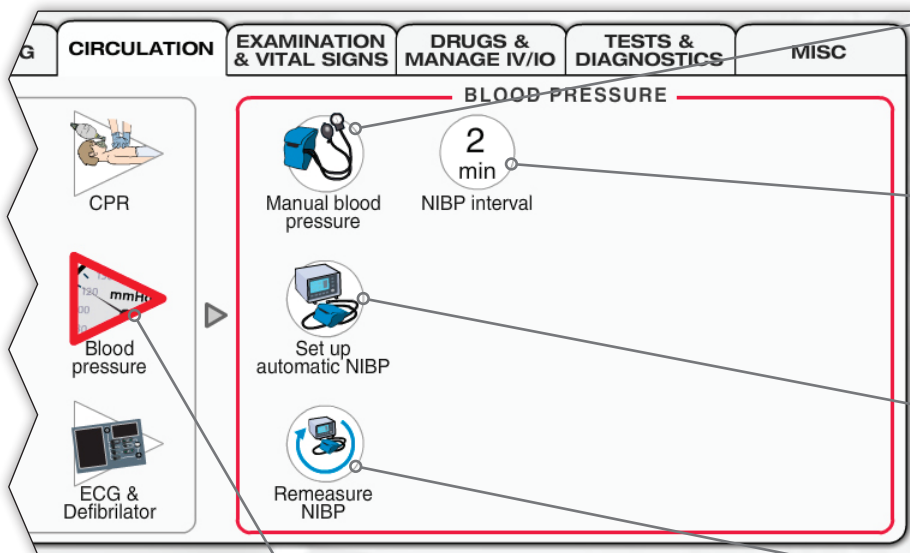
Manual blood pressure
Measures the blood pressure of the child manually.

NIBP interval
Sets the time interval for repeated automatic NIBP measurement.

Set up automatic NIBP
Initiates automatic noninvasive blood pressure (NIBP) measurement.

Remeasure NIBP
Triggers remeasurement of the NIBP.

Menu: Blood pressure
Presents options for measuring the blood pressure of the child.

Circulation > ECG & defibrillator

Attach 3-lead ECG
Attaches a 3-lead ECG monitor.
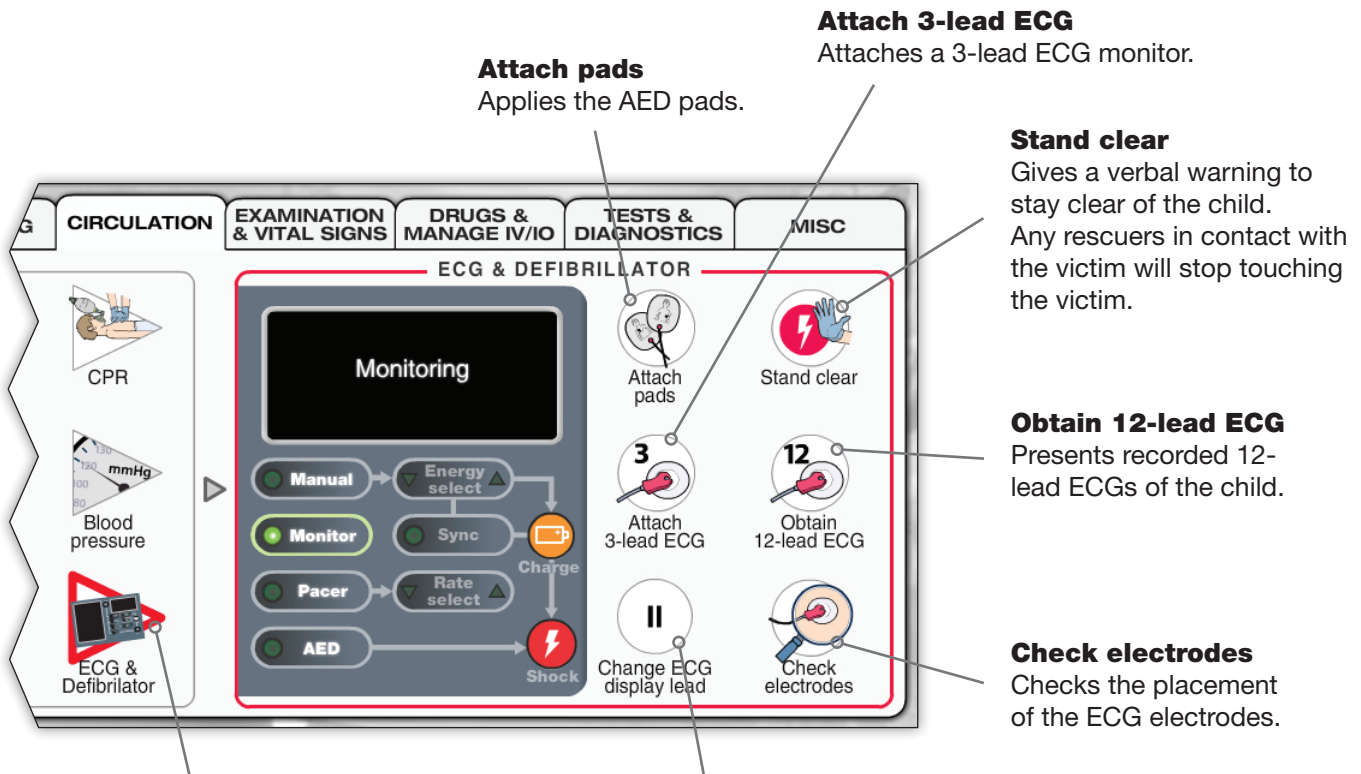
Attach pads
Applies the AED pads.

Stand clear
Gives a verbal warning to stay clear of the child.
Any rescuers in contact with the victim will stop touching the victim.

Obtain 12-lead ECG
Presents recorded 12-lead ECGs of the child.

Check electrodes
Checks the placement of the ECG electrodes.

Menu: ECG & defibrillator
Presents options for various electrophysiologic interventions and cardiac monitoring options.

Change ECG display lead
Changes the ECG lead displayed on the monitor.

Examination & Vital Signs

Examine ears
Examines the ears with an otoscopic procedure. Might reveal relevant information about possible etiology of an infection.

Check skin
Checks the condition of the child by inspecting clinical signs of the skin.

Capillary refill time
Checks the capillary refill time of the child.

Menu: Vital signs
Presents options for checking the vital signs in one place.

| RESPONSE | AIRWAY | BREATHING | CIRCULATION | EXAMINATION & VITAL SIGNS | DRUGS & MANAGE IV/IO | TESTS & DIAGNOSTICS | MISC |

EXAMINATIONS & VITAL SIGNS

Check skin
Capillary refill time
Vital signs
Examine ears
Examine eyes
Length-based tape
Auscultate
Head-to-toe examination

Length-based tape
Uses a color-coded length-based resuscitation tape to determine correct drug dosages, equipment size, and defibrillation doses.

Menu: Head-to-toe examination
Allows for full-body clinical examination, including findings from inspection and palpation of the different regions of the body.

Menu: Examine eyes
Presents options for examining the eyes of the child.

Menu: Auscultate
Presents options for auscultation.
See page 6.

Examination & Vital Signs > Vital signs

Look for breathing
Determines if the child is breathing by observing chest movement.

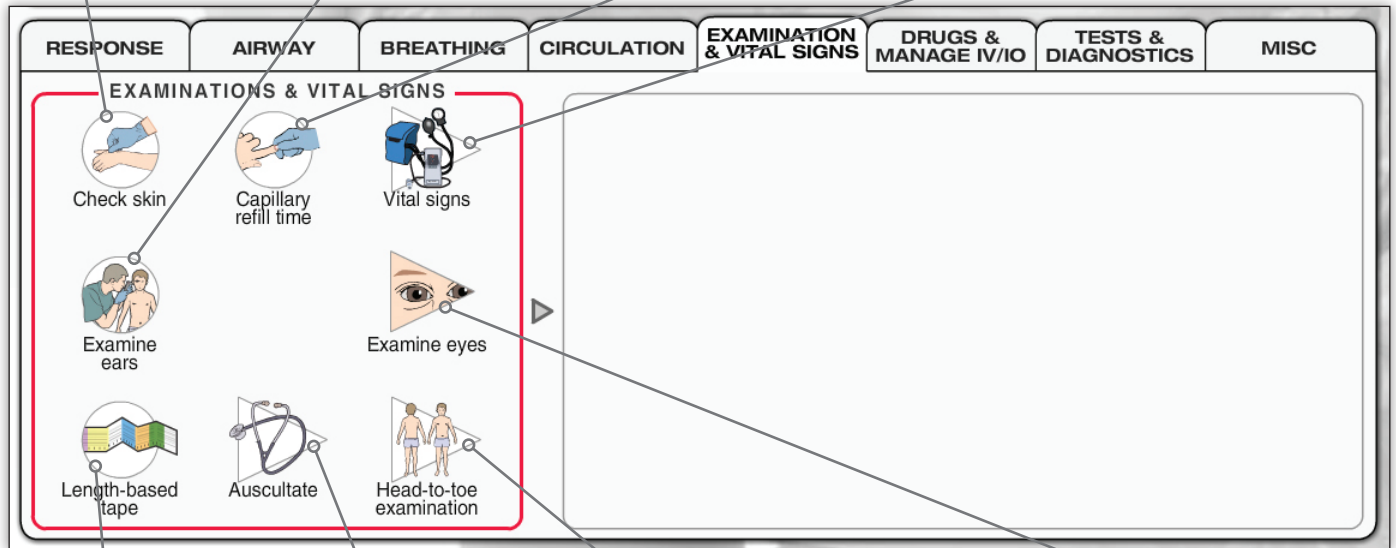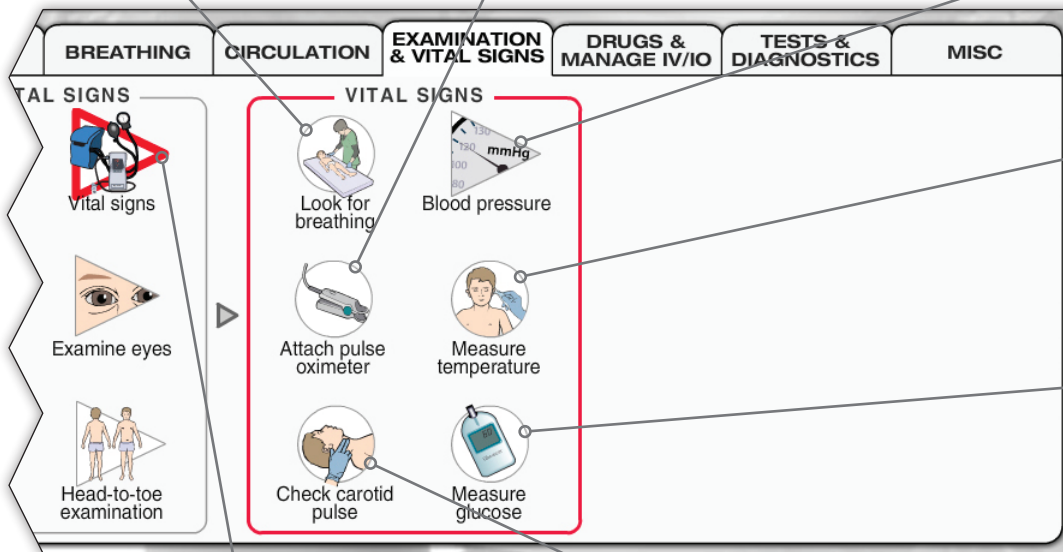**Attach pulse oximeter**
Measures the oxygen saturation of the peripheral arterial blood and the peripheral pulse rate.

Menu: Blood pressure
Presents options for measuring the blood pressure of the child.

Measure temperature
Measures the temperature of the child.

Measure glucose
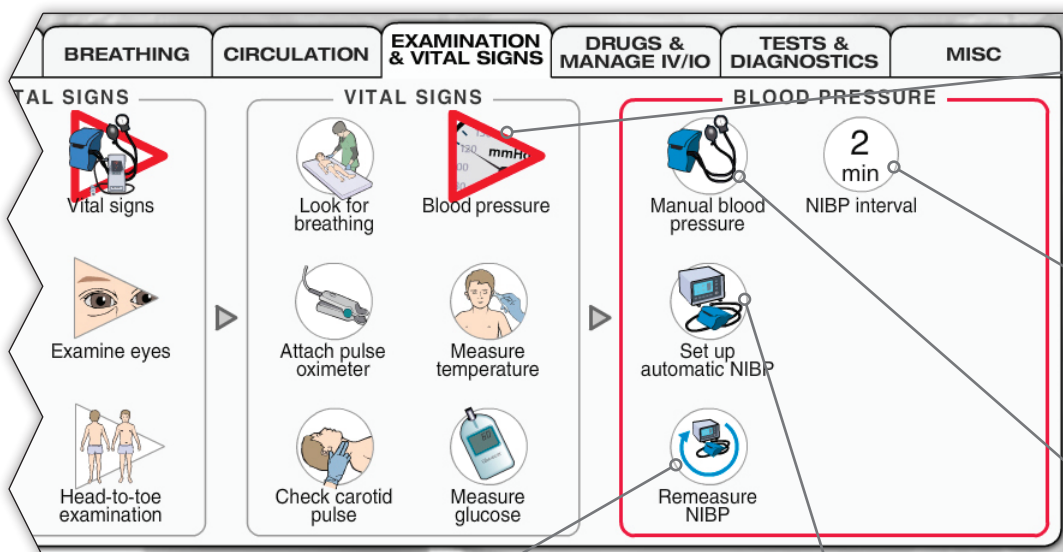Checks the capillary glucose level.

Menu: Vital signs
Presents options for checking the vital signs in one place.

Check carotid pulse
Performs a pulse check at the carotid artery.

Examination & Vital Signs > Vital signs > Blood pressure

Menu: Blood pressure
Presents options for measuring the blood pressure of the child.

NIBP interval
Sets the time interval for repeated automatic NIBP measurement.

Manual blood pressure
Measures the blood pressure of the child manually.

Remeasure NIBP
Triggers remeasurement of the NIBP.

Set up automatic NIBP
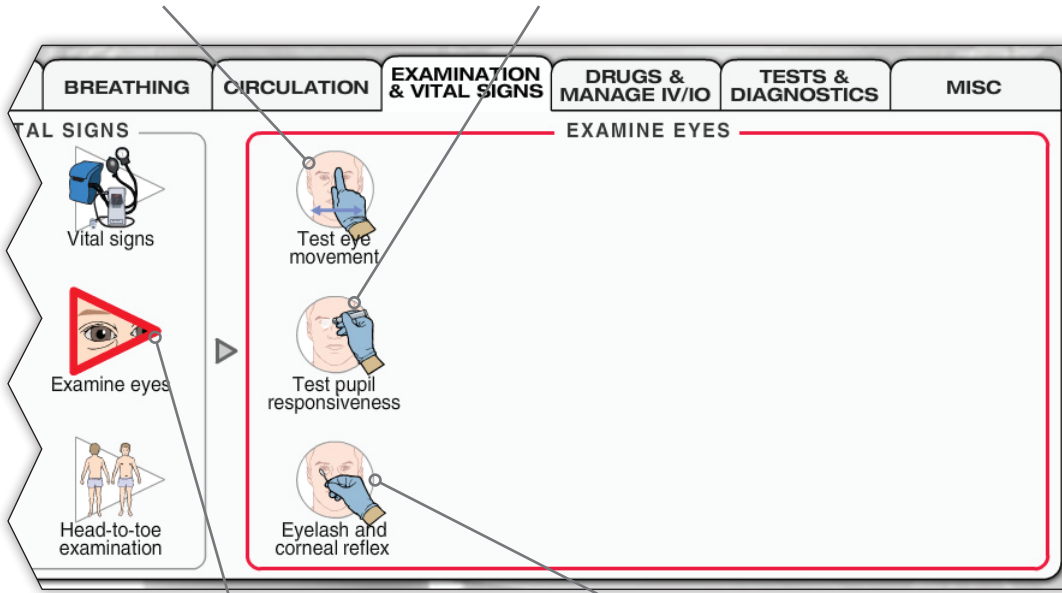Initiates automatic noninvasive blood pressure (NIBP) measurement.

Examination & Vital Signs > Examine eyes

Test eye movement
Checks the eye movements of the child.

Test pupil responsiveness
Checks the pupillary light reflex of the child.

Menu: Examine eyes
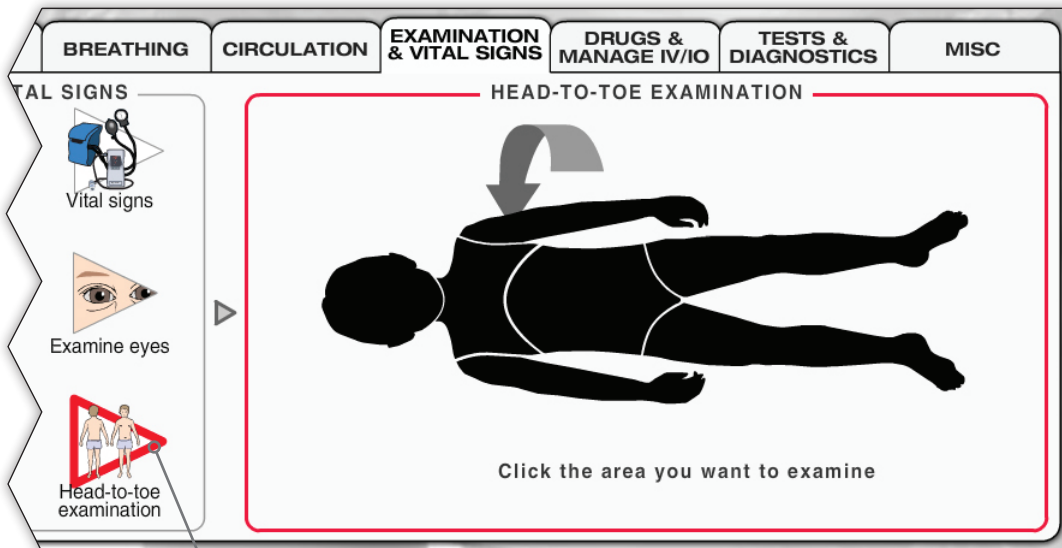Presents options for examining the eyes of the child.

Eyelash and corneal reflex
Checks the ciliary and/or corneal reflex of the child.

Examination & Vital Signs > Head-to-toe examination

Click the area you want to examine

Menu: Head-to-toe examination
Allows for full-body clinical examination, including findings from inspection and palpation of the different regions of the body.

Drugs & Manage IV/IO

Menu: Administer drugs and fluids
Presents the various drugs and fluids available for treating the child.

Menu: Manage IV/IO
Presents options for placing intravenous (IV) and/or intraosseous (IO) cannulas at different sites.

Length-based tape
Uses a color-coded length-based resuscitation tape to determine correct drug dosages, equipment size, and defibrillation doses.

Tests & Diagnostics

View lab results
Allows the student to study the results of the blood tests ordered.

Arterial blood gases
Performs an arterial blood gas test. The results are returned in the medical record after a short while.
Not available for infant
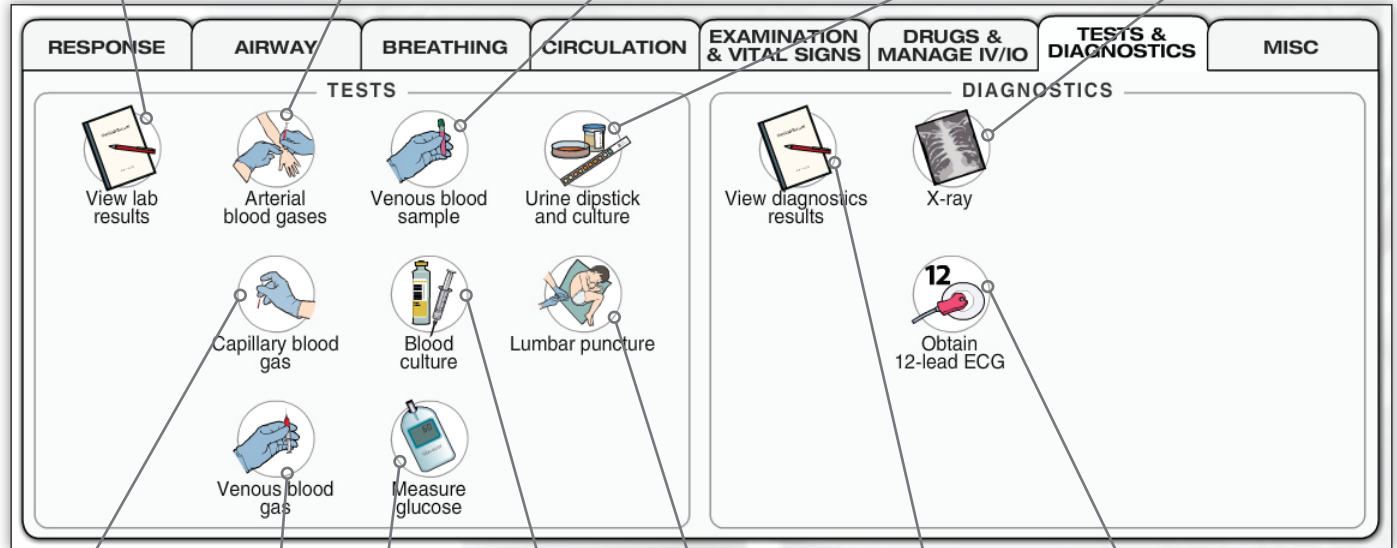
Venous blood sample
Collects venous blood samples. The results are returned in the medical record after a short while.

Urine dipstick and culture
Performs a urine dipstick test, reports the immediate findings, and sends the sample for culturing.

X-ray
Performs on-site chest x-ray.

| RESPONSE | AIRWAY | BREATHING | CIRCULATION | EXAMINATION & VITAL SIGNS | DRUGS & MANAGE IV/IO | TESTS & DIAGNOSTICS | MISC |

TESTS

- View lab results
- Arterial blood gases
- Venous blood sample
- Urine dipstick and culture
- Capillary blood gas
- Blood culture
- Lumbar puncture
- Venous blood gas
- Measure glucose

DIAGNOSTICS

- View diagnostics results
- X-ray
- **12** Obtain 12-lead ECG

Capillary blood gas
Performs a capillary blood gas test. The results are returned in the medical record after a short while.

Measure glucose
Checks the capillary glucose level.

Lumbar puncture
Performs a lumbar puncture, reports the immediate findings, and sends the sample for culturing.

Obtain 12-lead ECG
Presents recorded 12-lead ECGs of the child.

Venous blood gas
Performs a venous blood gas test. The results are returned in the medical record after a short while.

Blood culture
Obtains a blood culture. Results are not returned during the simulation.

View diagnostics results
Presents results of the diagnostics performed during simulation.

Misc

Blanket
Places a blanket on the child.

Supine
Places the child in a supine position.

Ice to face
Covers the child's forehead and eyes without obstructing the airway to elicit a vagal response that might terminate a supraventricular tachycardia.

Measure temperature
Measures the temperature of the child.

Insert nasogastric tube
Inserts a nasogastric tube.

Open Handbook
Pauses the simulation and shows the *2010 Handbook of Emergency Cardiovascular Care for Healthcare Providers.*

| RESPONSE | AIRWAY | BREATHING | CIRCULATION | EXAMINATION & VITAL SIGNS | DRUGS & MANAGE IV/IO | TESTS & DIAGNOSTICS | MISC |

POSITION PATIENT — Supine, Sit up
EXPOSURE — Blanket, Measure temperature, Ice to face, Therapeutic hypothermia
VARIOUS CATHETERS — Insert nasogastric tube, Insert urinary catheter, Check catheter output
HELP — Call MET, Open handbook, Consult Cardiology, Consult Neurosurgery

Sit up
Places the child in a sitting position.

Therapeutic hypothermia
Begins preparation for post–cardiac arrest therapeutic hypothermia.

Insert urinary catheter
Places a urinary catheter in the bladder of the child.

Check catheter output
Checks the urinary output from the child.

Consult Cardiology
Calls for cardiologic consultation. This gives the learner the option to emphasize the need to consult relevant expertise; however, there will be no response to this action during the simulation.

Call MET
Activates the medical emergency team. This gives the learner the option to emphasize the need to call for help; however, there will be no response to this action during the simulation.

Consult Neurology
Calls for neurologic consultation. This gives the learner the option to emphasize the need to consult relevant expertise; however, there will be no response to this action during the simulation.

▶ Other Actions

Call code
Activates the emergency response system, resulting in emergence of 2 additional rescuers to assist with CPR later.
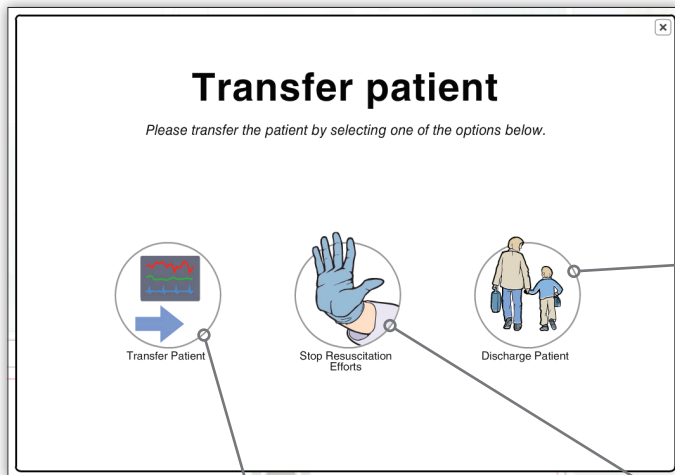
Medical record
Opens the medical record to review the child's history, clinical signs, and lab findings obtained during the case.

Transfer patient
Ends the scenario by transferring the child. Presents options for ending the simulation.

Call code   Medical record   Transfer patient

Transfer patient

Please transfer the patient by selecting one of the options below.

Transfer Patient   Stop Resuscitation Efforts   Discharge Patient

Discharge patient
Ends the scenario by discharging the child from the hospital.

Transfer patient
Ends the scenario by transferring the child. Presents options for ending the simulation.

Stop resuscitation efforts
Ends the scenario by aborting all interventions and withholding further treatment.