


**CITYWIDE AQUATICS
RECERTIFICATION
SUMMER 2021**



**ARC EMR/TITLE 22 REVIEW
AHA BLS CPR UPDATE**

**Rapid
Auscultation**



Responsive Patient

Inadequate Breathing

- * Perform Rapid Auscultation
- * Mid-Axillary lines



Inadequate Breathing

- ❖ PATIENTS WITH A DIFFICULTLY BREATHING SHOULD BE ADMINISTERED OXYGEN (ONLY FOR OPEN WATER)
- ❖ RESPIRATIONS FASTER THAN 24/MINUTE. GIVE HIGH-CONCENTRATION OXYGEN AND PREPARE TO VENTILATE

Inadequate Breathing

Responsive patient

- * If breathing is inadequate, ventilate with 100% oxygen.
- * If respirations are adequate but faster than 24/minute, give high-concentration oxygen

Oxygen Administration



Inadequate Breathing

Supplemental Oxygen

- Respiratory distress/Arrest
- Cardiac arrest
- Stroke
- Shock
- Blood loss/Fractures
- Many other conditions

Supplemental Oxygen

- ❖ Medical Grade Oxygen
Labeled Oxygen U.S.P.
- ❖ Green and white, solid green, or unpainted aluminium



Supplemental Oxygen

Position cylinder upright and remove the wrapper.



Supplemental Oxygen

❖ Remove replaceable washer and crack the cylinder's valve for 1 sec



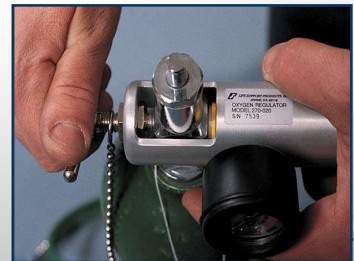
Supplemental Oxygen

❖ Select the appropriate regulator and place washer



Supplemental Oxygen

❖ Tighten screw by hand



Supplemental Oxygen

- ❖ Turn flow meter to zero or off



Supplemental Oxygen

- ❖ Safety with O₂
 - ❖ Inspect before using
 - ❖ Use non-sparking wrenches
 - ❖ Store and maintain cylinders properly
 - ❖ Do not drop cylinders or leave standing unsecured
 - ❖ Do not smoke or use near open flame

Supplemental Oxygen

Administering

- ❖ If the patient is not breathing or inadequate rate, use BVM connected to O₂
- ❖ If the patient is breathing and needs supplemental O₂, use: Non-Rebreather Mask or Nasal Cannula

Supplemental Oxygen

Non-Rebreather Mask

Can deliver up to 90% O₂

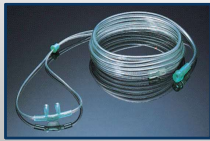
- ❖ Must fill bag before placing mask on patient
- ❖ Use setting of 8 – 15 lpm
- ❖ Adult, Child & Paediatric Sizes



Supplemental Oxygen

Nasal Cannula

- ❖ Delivers low-concentration O₂ (24%-44%)
- ❖ Useful for patients who do not tolerate mask
- ❖ Use a setting of 2-6 lpm



Special Consideration OPA/NPA



OROPHARYNGEAL AIRWAYS (OPA)

AN ORAL AIRWAY CAN HELP PREVENT THE TONGUE FROM OBSTRUCTING THE AIRWAY OF AN UNRESPONSIVE PATIENT.



RULES FOR AIRWAY ADJUNCTS (OPA)

UNCONSCIOUS PATIENT

- ENSURE THERE IS NO GAG REFLEX FOR ORAL AIRWAY, NO POSSIBLE SKULL FRACTURE FOR NASAL AIRWAY
- MAINTAIN MANUAL AIRWAY METHOD EVEN WITH AIRWAY IN PLACE
- DO NOT FORCE TONGUE INTO PHARYNX
- HAVE SUCTION AVAILABLE
- REMOVE ADJUNCT IF PATIENT GAGS OR REGAINS CONSCIOUSNESS

OROPHARYNGEAL AIRWAYS (OPA)

CONTRAINDICATIONS:

- CONSCIOUS OR SEMI-CONSCIOUS
- GAG REFLEX
- CLENCHED TEETH
- ORAL TRAUMA

OROPHARYNGEAL AIRWAYS (OPA)

- MEASURE OPA FROM PATIENT'S EARLOBE TO THE CORNER OF THE MOUTH.
- OPEN THE PATIENT'S MOUTH. USE THE CROSS-FINGER TECHNIQUE TO OPEN THE PATIENT'S MOUTH.

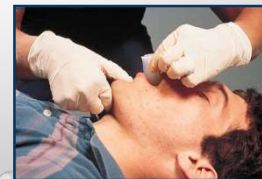


OROPHARYNGEAL AIRWAYS (OPA)

- INSERT AIRWAY ALONG THE HARD PALATE UNTIL YOU REACH THE SOFT PALATE, THEN ROTATE 180
- YOU CAN ALSO INSERT AN ORAL AIRWAY RIGHT-SIDE UP, IF YOU USE A TONGUE DEPRESSOR TO PRESS THE TONGUE DOWN AND FORWARD.
- IF ADJUNCT SEEMS TOO LONG OR SHORT, REMOVE IT AND SELECT A BETTER SIZE

OROPHARYNGEAL AIRWAYS (OPA)

- MEASURE
- OPEN AIRWAY (GRASP JAW WITH THUMB)
- INSERT OPA



NASOPHARYNGEAL AIRWAYS (NPA)

(NPA) KEEPS THE TONGUE OUT OF THE BACK OF THE THROAT, THEREBY KEEPING THE AIRWAY OPEN. AN NPA MAY BE USED ON A CONSCIOUS, RESPONSIVE PATIENT OR AN UNCONSCIOUS PATIENT. UNLIKE AN ORAL AIRWAY, THE NPA DOES NOT CAUSE THE PATIENT TO GAG.



NASOPHARYNGEAL AIRWAYS (OPA)

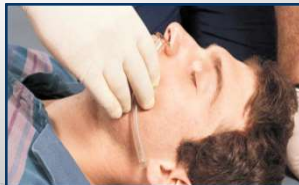
CONTRAINDICATIONS:

- ❖ INFANTS LESS 12 MONTHS
- ❖ HEAD INJURY WHEN CLEAR FLUIDS DRAINS FROM NOSE OR EARS
- ❖ HEAD INJURY WITH SUSPECTED FACIAL FRACTURES



OROPHARYNGEAL AIRWAYS (OPA)

- CHOOSE THE CORRECT SIZE
- MEASURE NPA FROM PATIENT'S EARLOBE TO THE TIP OF THE NOSE TAKE NOT THE NPA IS NOT LARGER THAN THE NOSTRIL.



OROPHARYNGEAL AIRWAYS (OPA)

- INSERT THE NPA, LUBRICATE THE AIRWAY WITH A WATER-SOLUBLE LUBRICANT.
- RIGHT NOSTRIL: NATURAL CURVE DOWN
- LEFT NOSTRIL: NATURAL CURVE UP



Special Consideration OPA/NPA Practice



Manual Suction Device



SUCTIONING

- THE GOAL OF SUCTIONING IS TO REMOVE ANY FOREIGN SUBSTANCE FROM THE AIRWAY
- WHEN YOU HEAR GURGLING...SUCTION!!

Manual Suction



RULES OF SUCTIONING

- SUCTION FOR NO MORE THAN 10 – 15 SECONDS AT A TIME (FEWER IN CHILDREN AND INFANTS) 5 – 10 SECONDS
- PLACE TIP OF CATHETER WHERE YOU WANT TO BEGIN SUCTIONING, AND SUCTION ON THE WAY OUT

SPECIAL CONSIDERATION

IF PATIENT IS PRODUCING FROTHY SPUTUM

- REMOVE CATHETER AS FAST AS YOU CAN
- VENTILATE FOR 2 MINUTES AND REPEAT

Manual Suction Device Practice



Baseline Vitals



Complete Baseline Vital Signs:

- * Blood Pressure
- * Eyes: P.E.R.L.
- * Lung sounds
- * L.O.C.
- * Skin
- * Respirations
- * Pulse

**Open
Water
Lifeguards**

Blood Pressure



Blood Pressure

Normal Systolic Blood Pressure

- Infant 80 – 100
- Child 80 – 110
- Adult 90 – 140

Normal Diastolic Blood Pressure

- Infant 60 - 80
- Child 65 - 80
- Adult 80 or less

Blood pressure is described
as:

Systolic or 120
Diastolic 80

MEASURING BLOOD PRESSURE

Auscultation



Palpation



BP - AUSCULTATION

- SET BELL OR DIAPHRAGM OVER PULSE SITE
- CLOSE VALVE AND INFLATE CUFF
- LISTEN FOR SOUNDS TO DISAPPEAR, INFLATE 30 MMHG BEYOND THAT POINT
- OPEN VALVE TO DEFLATE 2-3 MMHG/SEC
- LISTEN FOR START OF THUMP – SYSTOLIC
- LISTEN FOR END OF THUMP - DIASTOLIC



BP - PALPATION

- PALPATE THE RADIAL ARTERY
- CLOSE VALVE AND INFLATE CUFF
- FEEL FOR PULSE TO DISAPPEAR. INFLATE 30MMHG BEYOND THAT POINT
- FEEL FOR START OF PULSE – SYSTOLIC

WRITTEN: SYSTOLIC/P READ: SYSTOLIC OVER PALPATION



Blood Pressure Practice Auscultation Palpation

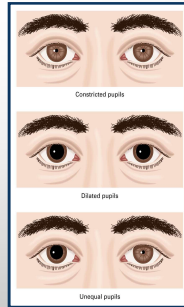


Eyes - Pupils



Pupils

- * Size
 - * Dilated
 - * Constricted
- * Equality
- * Reactivity
 - * To light
 - * Nonreactive (fixed)



Level of Consciousness

CONSIDER MENTAL STATUS

- NAME
- PLACE
- TIME

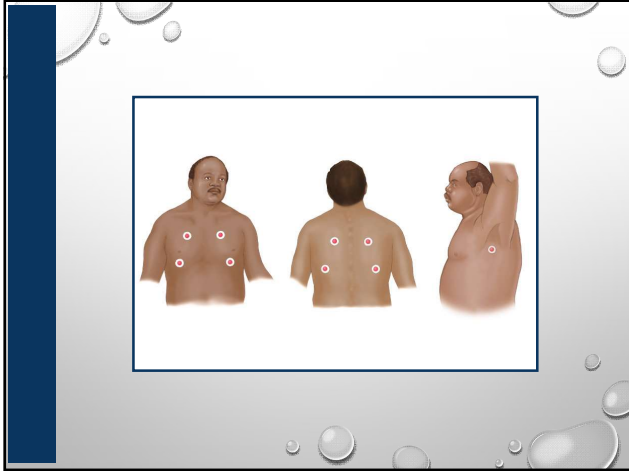
REPORT AS PATIENT IS ALERT AND ORIENTATED X THE NUMBER OF QUESTIONS ANSWERED

PUPILS / L.O.C PRACTICE



LUNG SOUNDS






LUNG SOUNDS PRACTICE

The logo for LA Lifeguard City, featuring a life preserver with two crossed lifeguard whistles. The text "LA" is at the top, "LIFEGUARD" is in the center, and "CITY" is at the bottom.

SKIN SIGNS

The logo for LA Lifeguard City, featuring a life preserver with two crossed lifeguard whistles. The text "LA" is at the top, "LIFEGUARD" is in the center, and "CITY" is at the bottom.

Check skin color, temperature, and condition.

A close-up photograph of a person's head and neck. A gloved hand is touching the person's forehead, likely checking for skin signs.

Abnormal Skin Colors

- Pale
- Cyanotic
- Flushed
- Jaundiced

Abnormal Skin Temperature

- Hot
- Cool
- Cold

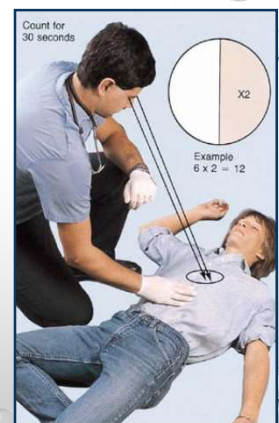
Abnormal Skin Condition

- Wet
- Very dry

Respirations

Normal Rates

- * Adults
 - * 12–20/min.
- * Children
 - * 15–30/min.
- * Infant
 - * 25–50/min.



Respiratory Quality

❖ Quality

- * Normal, Shallow,
- * Labored, Noisy

❖ Tidal Volume

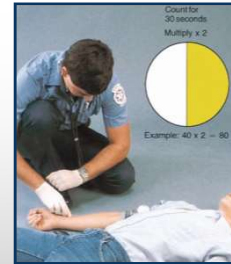
- * Normal, Increased,
- * Decreased

Pulse

❖ Rate

❖ Rhythm

❖ Quality



Pulse Rate

- Adults generally 60-100/minute.
- Tachycardia is pulse more than 100/minute.
- Bradycardia is pulse less than 60/minute.

More than 120 or less than 50 may be a critical finding.

Quality

- Strong or weak
- Regular or irregular

INTRODUCING NEW EQUIPMENT (OPEN WATER)



Pulse Oximetry

The **pulse oximeter** is an additional tool used to measure the percentage of oxygen saturation in the blood. The reading appears as a percentage of hemoglobin saturated with oxygen.



Pulse Oximetry

- Normal reading 95 to 100 percent
- Below 95 Percent Mild hypoxia 91 to 94 percent Administer O₂

Pulse Oximetry

General instruction for usage:

- Turn on device (allow for self test)
- (remove nail polish if applicable)
- Place probe on finger
- Record reading as % SpO₂

Pulse Oximetry

False readings may occur in the following situations:

- Hypoperfusion, poor perfusion (shock).
- Cardiac arrest
- Excessive motion
- Fingernail polish.
- Carbon monoxide poisoning
- Hypothermia or other cold-related illness.
- Sickle cell disease or anemia.
- Cigarette smokers
- Edema (swelling).
- Time lag in detection of respiratory

BASELINE VITALS

Practice



Physical Examination



Rules of Assessment

- * Explain to the patient what you are doing.
- * Expose areas before assessing
- * Visualize and palpate

Inspect and Palpate for DOTS

- D** = Deformities
- O** = Open injuries
- T** = Tenderness
- S** = Swelling

DCAP-BTLS

(WE ARE NOT TESTING)

- **DEFORMITIES & DISCOLORATIONS**
- **CONTUSIONS**
- **ABRASIONS**
- **PENETRATIONS & PUNCTURES**
- **BURNS**
- **TENDERNESS**
- **LACERATIONS**
- **SWELLING & SYMMETRY**

AREAS OF ASSESSMENT

- SCALP
- FACE
- EARS
- NECK
- SHOULDER
- TORSO
- ABDOMEN
- PELVIS
- LOWER & UPPER EXTREMITIES
- POSTERIOR

DETAILED PHYSICAL EXAMINATION

SCALP



DETAILED PHYSICAL EXAMINATION

Face, Nose, and Mouth

- TEETH
- OBSTRUCTIONS
- SWOLLEN OR LACERATED TONGUE
- ODORS
- DRAINAGE
- DISCOLORATION
- BLEEDING

DETAILED PHYSICAL EXAMINATION

EARS

- DRAINAGE



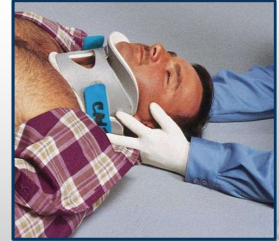
DETAILED PHYSICAL EXAMINATION

NECK

- DISTENTION
- TRACHEAL DEVIATION
- MED TAGS

SHOULDER

- D.O.T.S.



DETAILED PHYSICAL EXAMINATION

CHEST

- PARADOXICAL MOVEMENT – EQUAL CHEST RISE
- STERNUM
- CHEST EXPANSION



DETAILED PHYSICAL EXAMINATION

ABDOMEN


- FIRMNESS
- DISTENTION



DETAILED PHYSICAL EXAMINATION

PELVIS



- COMPRESS GENTLY



DETAILED PHYSICAL EXAMINATION

EXTREMITIES

- OFF-SET PRESSURE
- CIRCULATION
- BILATERAL
 - MOTOR FUNCTION
 - SENSATION
 - DISTAL PULSES



DETAILED PHYSICAL EXAMINATION

DISTAL PULSES



- POSTERIOR TIBIAL PULSE



DETAILED PHYSICAL EXAMINATION

DISTAL PULSES

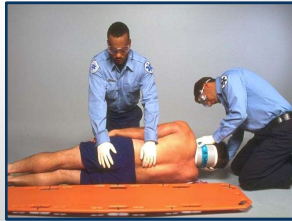
- DORSALIS PEDIS PULSE



DETAILED PHYSICAL EXAMINATION

POSTERIOR

- LUNG SOUNDS
- INCONTINENCE



OPQRST

(PAIN ASSESSMENT - WE ARE NOT TESTING)

- ONSET
- PROVOKE
- QUALITY
- REGION
- SEVERITY
- TIME

Detailed Physical Examination

Practice/ Switch



Medical, Legal, and Ethical Issues



Duty to Act

- While on duty lifeguards are obligated to respond to emergencies
- This is a legal obligation to act
- Lifeguards who act in cases where they are off-duty are considered to have acted under a moral obligation



Standard of Care

- Lifeguards are obligated to perform care based on their "Scope of Practice"
- As an Open water Lifeguard you are certified as an *Emergency Medical Responder*/ through the American Red Cross
- As a Pool Lifeguard you are certified with *Title 22* through the American Red Cross



LEGAL ISSUES

- ASSAULT
- BATTERY
- ABANDONMENT
- NEGLIGENCE



REQUIREMENTS FOR NEGLIGENCE

- THE LG HAD A DUTY TO ACT.
- THEY BREACHED THAT DUTY.
- THE PATIENT WAS INJURED DUE TO THE LG'S BREACH OF DUTY (PROXIMATE CAUSE).
- REAL HARM OR INJURY OCCURRED.

CONFIDENTIALITY AND PRIVACY

- HIPAA
 - PRIVACY PROTECTION FOR PROTECTED HEALTH INFORMATION (PHI)
 - WRITTEN CONSENT NECESSARY FOR RELEASE OF INFORMATION

CONSENT

LIFEGUARD, TO OBTAIN CONSENT YOU MUST—

- IDENTIFY YOURSELF TO THE PATIENT.
- STATE YOUR LEVEL OF TRAINING.
- ASK IF YOU MAY HELP.
- EXPLAIN OBSERVATIONS.
- EXPLAIN WHAT IS PLANNED.

IMPLIED CONSENT

LIFEGUARDS MAY ACCEPT CONSENT AS IMPLIED IF :

- PATIENT IS UNCONSCIOUS, CONFUSED, MENTALLY IMPAIRED, SERIOUSLY INJURED OR SERIOUSLY ILL
- ASSUMPTION THAT THE PATIENT WOULD GIVE CONSENT IF ABLE TO DO SO

REFUSAL OF CARE

- MUST MEET CRITERIA TO REFUSE CARE
- MUST BE HONORED
- CONSIDER CONTACTING LOCAL EMS TO HAVE PATIENT SIGN AN "AGAINST MEDICAL ADVICE" RELEASE
- ENSURE YOU VERBALLY DOCUMENT THE INCIDENT ON THE DEPARTMENTAL FORM (I.E. SOLR)

EXCEPTIONS TO RESUSCITATION OBLIGATION

- **DO NOT RESUSCITATE (DNR) ORDER IS PRESENT ON SCENE**
- PATIENT WITH OBVIOUS SIGNS OF DEATH
 - TISSUE DECAY
 - RIGOR MORTIS
 - OBVIOUS MORTAL WOUNDS
 - DEPENDENT LIVIDITY
- SITUATION ENDANGERS EMR'S LIFE

SPECIAL SITUATIONS

- MEDICAL ID TAGS
- OBVIOUS DEATH
- ORGAN DONATION
- EVIDENCE PRESERVATION



The Human Body



MEDICAL TERMINOLOGY

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ COMBINING FORMS <ul style="list-style-type: none"> • CARDI/O- • NEUR/O- • ORO- • ARTERI/O- • HEM/O- • THERM/O- • VAS/O- | <ul style="list-style-type: none"> ▪ COMMON PREFIXES <ul style="list-style-type: none"> • HYPER/HYPO- • TACHY/BRADY- ▪ COMMON SUFFIXES <ul style="list-style-type: none"> • -EMIA • -A OR -IA |
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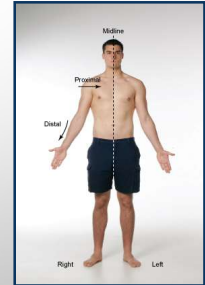
DIRECTIONS AND LOCATIONS

- ANTERIOR/POSTERIOR
- SUPERIOR/INFERIOR
- FRONTAL OR CORONAL PLANE
- SAGITTAL OR LATERAL PLANE
- TRANSVERSE OR AXIAL PLANE



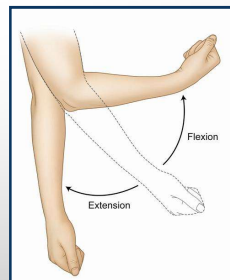
DIRECTIONS AND LOCATIONS

- MEDIAL/LATERAL
- PROXIMAL/DISTAL
- SUPERFICIAL/DEEP
- INTERNAL/EXTERNAL
- RIGHT/LEFT



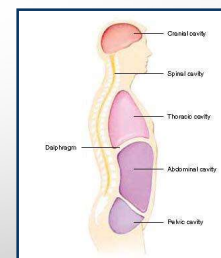
MOVEMENTS

- FLEXION
- EXTENSION



MAJOR BODY CAVITIES

- CRANIAL
- SPINAL
- THORACIC
- ABDOMINAL
- PELVIC



BODY SYSTEMS

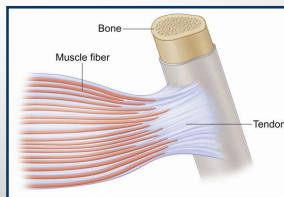
- BODY SYSTEMS ARE DEPENDENT ON EACH OTHER TO FUNCTION PROPERLY.
- THE HEART, BRAIN AND LUNGS ARE VITAL ORGANS ESSENTIAL FOR LIFE.
- ALL SYSTEMS MUST WORK WELL TOGETHER TO ENSURE BODY FUNCTION.

FUNCTIONS OF THE MUSCULOSKELETAL SYSTEM

- SUPPORTS THE BODY
- PROTECTS INTERNAL ORGANS
- ALLOWS MOVEMENT
- STORES MINERALS
- PRODUCES BLOOD CELLS
- PRODUCES HEAT

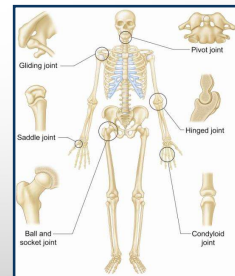
TYPES OF MUSCLES

- SKELETAL/VOLUNTARY
- SMOOTH/INVOLUNTARY
- CARDIAC



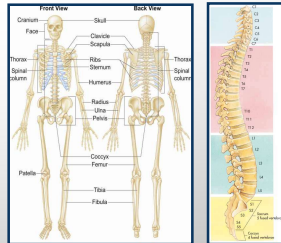
TYPES OF JOINTS

- BALL-AND-SOCKET
- HINGED
- PIVOT
- GLIDING
- SADDLE
- CONDYLOID



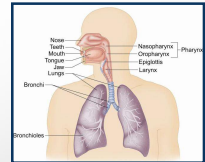
SIX SECTIONS OF THE SKELETON

- SKULL
- SPINAL COLUMN
- THORAX
- PELVIS
- UPPER EXTREMITIES
- LOWER EXTREMITIES



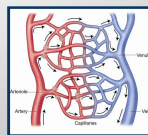
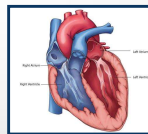
RESPIRATORY SYSTEM

- STRUCTURES
 - UPPER AIRWAY STRUCTURES
 - LOWER AIRWAY STRUCTURES
 - SUPPORTING STRUCTURES
 - ACCESSORY MUSCLES
- FUNCTIONS
 - EXTERNAL RESPIRATION (VENT.)
 - INTERNAL RESPIRATION
 - GAS EXCHANGE



CIRCULATORY SYSTEM

- STRUCTURES
 - HEART (RIGHT AND LEFT ATRIA AND VENTRICLES)
 - BLOOD VESSELS (ARTERIES, VEINS AND CAPILLARIES)
 - BLOOD (RED AND WHITE BLOOD CELLS, PLATELETS AND PLASMA)
- FUNCTIONS
 - PULSE/BLOOD PRESSURE
 - PERFUSION
 - BLOOD CLOTTING

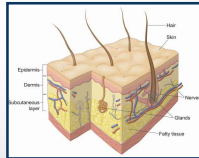


NERVOUS SYSTEM

- ANATOMICAL SYSTEMS
 - CENTRAL NERVOUS SYSTEM (BRAIN AND SPINAL CORD)
 - PERIPHERAL NERVOUS SYSTEM (NERVES)
- FUNCTIONAL SYSTEMS
 - VOLUNTARY SYSTEM
 - AUTONOMIC (INVOLUNTARY) SYSTEM
 - SYMPATHETIC NERVOUS SYSTEM
 - PARASYMPATHETIC NERVOUS SYSTEM

INTEGUMENTARY SYSTEM

- STRUCTURES
 - SKIN
 - HAIR
 - NAILS
 - SWEAT AND OIL GLANDS



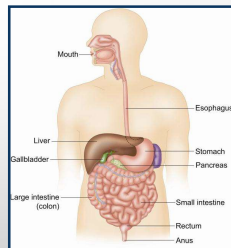
- FUNCTIONS
 - REGULATION OF FLUID BALANCE AND BODY TEMPERATURE
 - VITAMIN D PRODUCTION; MINERAL STORAGE

ENDOCRINE SYSTEM

- STRUCTURES
 - DUCTLESS GLANDS
- FUNCTIONS
 - CONTROL OF BLOOD GLUCOSE LEVELS
 - REGULATION OF SYMPATHETIC NERVOUS SYSTEM
 - REGULATION OF WATER AND ELECTROLYTE BALANCE

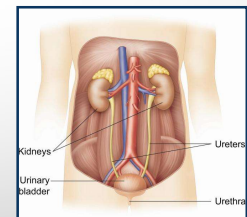
DIGESTIVE SYSTEM

- STRUCTURES
 - ALIMENTARY TRACT
 - ACCESSORY ORGANS
- FUNCTION
 - DIGESTION



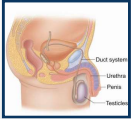
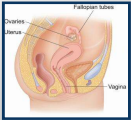
URINARY SYSTEM

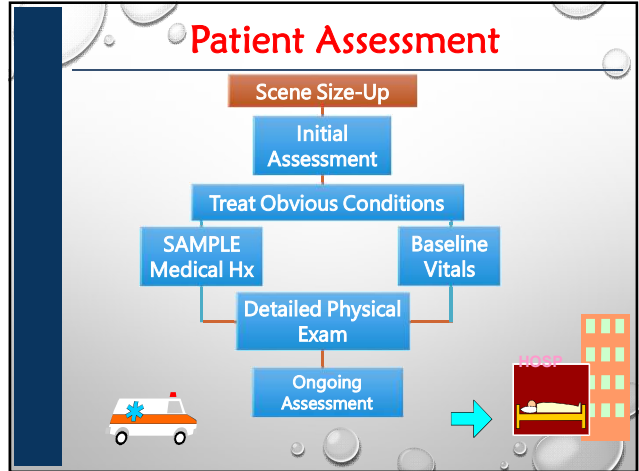
- STRUCTURES
 - KIDNEYS
 - URETERS
 - BLADDER
 - URETHRA
- FUNCTIONS
 - WASTE REMOVAL
 - MAINTENANCE OF FLUID AND ELECTROLYTE BALANCE



REPRODUCTIVE SYSTEM

- MALE REPRODUCTIVE STRUCTURES
 - TESTES
 - DUCT SYSTEM
 - PENIS
- FEMALE REPRODUCTIVE STRUCTURES
 - OVARIES
 - FALLOPIAN TUBES
 - UTERUS
 - VAGINA



The Basics

- ✳ All patients receive an initial assessment and care for life-threatening injuries.
- ✳ Do not be distracted by gruesome injuries or the serious nature of the call.

Key Term

Scene Size-Up

Determining any threats to your own safety or to the safety of your patients or bystanders, to determine the nature of the injury, and to decide if you will need additional help.

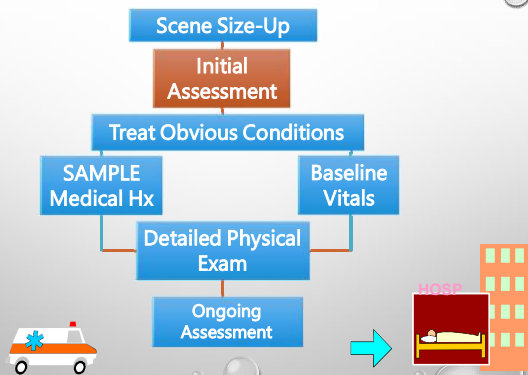
BSI Precautions

- * Equipment and procedures that protect you from the blood and body fluids of the patients and vice versa.
- * Always wear your PPE's. Don't become a victim due to negligence. Your safety is paramount to the safety of your victim.

Components of Scene Size-up

- **SCENE SAFETY**
(PERSONAL/PATIENT SAFETY & ENVIRONMENTAL HAZARDS)
- **NUMBER OF PATIENTS**
(NUMBER OF PATIENTS)
- **MECHANISM OF INJURY/NATURE OF ILLNESS**
(MECHANISM OF INJURY)
- **RESOURCES**
(ADDITIONAL RESOURCE & NEED FOR EXTRICATION)

Initial Assessment



The Basic Interview Strategies

- ✓ Position yourself appropriately
- ✓ Identify yourself
- ✓ Speak in a normal voice
- ✓ Use your patient's name

Components of Initial Assessment

- * General Impression
- * Obtain Consent
- * Assess Mental Status
- * Assess Airway
- * Assess Breathing
- * Assess Circulation
- * Identify Priority Patients
(need to contact 911 or advance life-support)

Additional Components of Initial Assessment

- ASSESS FOR DEFORMITIES
- IDENTIFY NEED FOR SPINAL IMMOBILIZATION AND ADDITIONAL RESOURCES
- FORMULATE AN ACTION PLAN

General Impression



Form a General Impression

- * Environment/scene clues
- * Chief complaint
- * Age
- * Sex
- * Look/listen/smell
- * Obvious life threats?

Assess Mental Status

- * Alert
- * Verbal stimulus
- * Painful stimulus
- * Unresponsive

this is not a continuous scale

Assess the Airway



Opening the Airway

Goal is to establish and maintain a patent (clear and open) airway!

Assessing the Airway

- Is patient able to maintain their own airway?
- Determine possible steps to maintain a clear airway. Special consideration for trauma and medical patients



Open and Maintain Airway

Trauma Patients:

- * Immobilize the head manually.
- * Use jaw thrust as necessary.
- * Suction and insert oral or nasal airway as necessary.
- * Do not use a nasal airway on head trauma patient

Open and Maintain Airway

Medical Patients:

- * Use head-tilt, chin-lift.
- * Suction and insert oral or nasal airway as necessary.
- * Consider inserting an oral or nasal airway for unconscious patients

Assess Breathing

NO MORE THAN 10 SECONDS



Assess Breathing

Adequate breathing?

or

Inadequate breathing?

Assessing for Adequate Breathing

* Look for obvious signs of life

- * Does chest rise and fall equally?
- * What is the skin color?
- * Does air pass easily through nose & mouth?
- * Any abnormal noises in lungs?

Adequate Breathing: Normal Rates

- * Adults
 - * 12–20/min.
- * Children
 - * 15–30/min.
- * Infant
 - * 25–50/min.

Unresponsive Patient

Inadequate breathing

- * Begin AHA CPR Protocol C.A.B.



Assess Circulation

NO MORE THAN 10 SECONDS



ASSESS CIRCULATION

- ❖ LIFEGUARDS SHOULD AT A MINIMUM BE PERFORMING A PULSE CHECK FOR RHYTHM AND QUALITY (ONLY)
- ❖ THIS IS NOT THE TIME TO PERFORM A FULL PULSE CHECK

Complete Circulation Assessment

(only required to assess for pulse)

- C** - Capillary Refill
- O** - Obvious Bleeding
- P** - Pulse
- S** - Skins Signs

C O P S

Check Capillary Refill

- Works best on Infants/Children
- Does not work in cold environments



Assess Circulation

Unresponsive

- ✳ In adults and children, check carotid pulse.
- ✳ In infants, check brachial pulse



Assess Circulation

Responsive

- * In adults and children, check radial
- * In infants, check brachial pulse



Assess for Obvious Bleeding



Skin Signs


Check at the same time as checking pulse to determine:

- * Color
- * Temperature
- * Condition

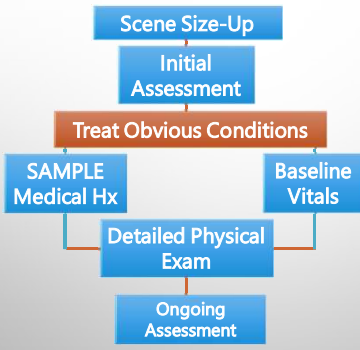
IDENTIFY PRIORITY PATIENTS

LIFEGUARDS NEED TO DETERMINE WHETHER TO CONTACT 911 BY THIS TIME

This completes the Initial Assessment



Secondary Assessment

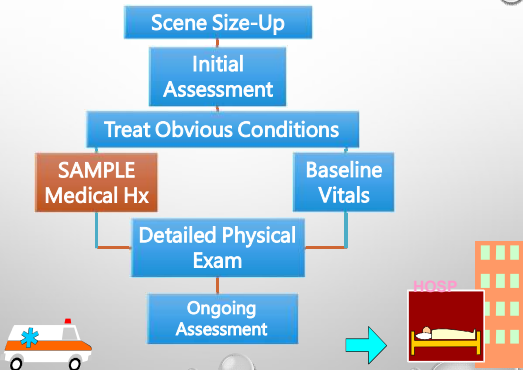


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    graph TD
      A[Scene Size-Up] --> B[Initial Assessment]
      B --> C[Treat Obvious Conditions]
      C --> D[SAMPLE Medical Hx]
      C --> E[Baseline Vitals]
      D --> F[Detailed Physical Exam]
      E --> F
      F --> G[Ongoing Assessment]
  
```

Step by Step Reference Guide	
Trauma	Medical
Treat Obvious Conditions	
1. Detailed Physical Exam	1. SAMPLE Medical Hx
2. Baseline Vitals	2. Baseline Vitals
3. SAMPLE Medical Hx	3. Detailed Physical Exam
On-going Assessment	


Secondary Assessment



```

    graph TD
      A[Scene Size-Up] --> B[Initial Assessment]
      B --> C[Treat Obvious Conditions]
      C --> D[SAMPLE Medical Hx]
      C --> E[Baseline Vitals]
      D --> F[Detailed Physical Exam]
      E --> F
      F --> G[Ongoing Assessment]
  
```

SAMPLE Medical History



Lifeguards Should:

- * Position themselves appropriately.
- * Speak in a normal voice.
- * Use your patient's name if possible
- * Lifeguards do not need to go in order so follow along to ensure they determine all the necessary information

Medical History

- S** = Signs and symptoms
- A** = Allergies
- M** = Medications
- P** = Pertinent past history
- L** = Last oral intake
- E** = Events leading to injury or illness

Signs and Symptoms



Signs: smell, seen, feel, hear
Symptoms: cannot observe – patient tells you

Allergies

- To medications
- To foods
- To environment



Medications

Prescription & Non-prescription

- * Current
- * Recent
- * Birth control pills
- * If relevant to the emergency ask patient if they have the medication with them



Pertinent past history should include medical, surgical, and trauma factors.

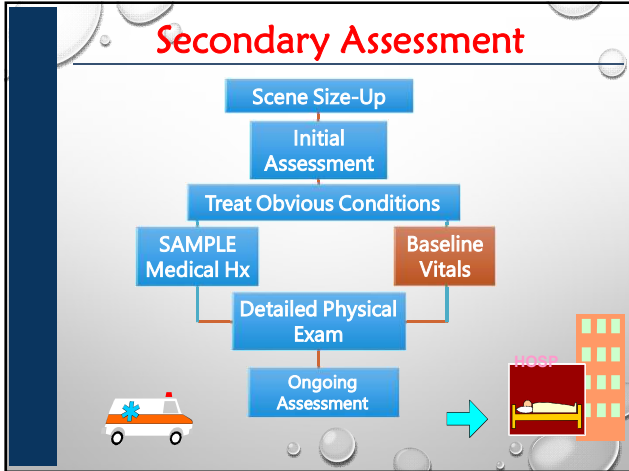


Last Oral Intake

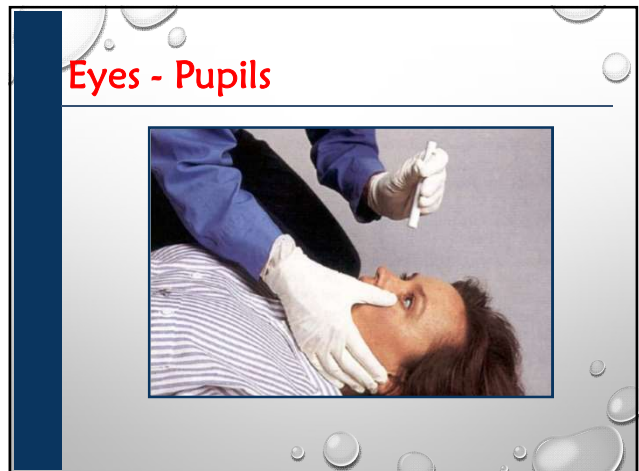


Events Leading to Illness or Injury

Sequence of events that led to illness or injury

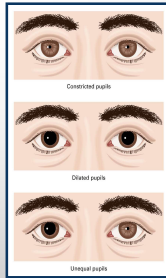


- ### BASELINE VITAL SIGNS
- * EYES: P.E.R.L.
 - * L.O.C.
 - * SKIN
 - * RESPIRATIONS
 - * PULSE
- Pool Lifeguards**



Pupils

- * Size
 - * Dilated
 - * Constricted
- * Equality
- * Reactivity
 - * To light
 - * Nonreactive (fixed)



Level of Consciousness

CONSIDER MENTAL STATUS

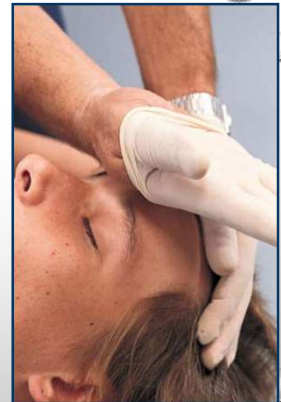
- NAME
- PLACE
- TIME

REPORT AS PATIENT IS ALERT AND ORIENTATED X THE NUMBER OF QUESTIONS ANSWERED

SKIN SIGNS



Check skin color, temperature, and condition.



Abnormal Skin Colors

- Pale
- Cyanotic
- Flushed
- Jaundiced

Abnormal Skin Temperature

- Hot
- Warm
- Cold

Abnormal Skin Condition

- Wet
- Very dry

Respirations



Adequate Breathing: Normal Rates

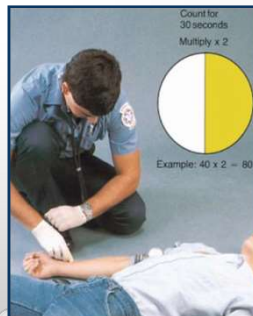
- * Adults
 - * 12–20/min.
- * Children
 - * 15–30/min.
- * Infant
 - * 25–50/min.

Respiratory Quality

- ❖ Quality
 - * Normal, Shallow,
 - * Labored, Noisy
- ❖ Tidal Volume
 - * Normal, Increased,
 - * Decreased

Pulse:

- ❖ Rate
- ❖ Rhythm
- ❖ Quality



Pulse Rate

- Adults generally 60-100/minute.
- Tachycardia is pulse more than 100/minute.
- Bradycardia is pulse less than 60/minute.

More than 120 or less than 50 may be a critical finding.

Quality

- Strong or weak
- Regular or irregular

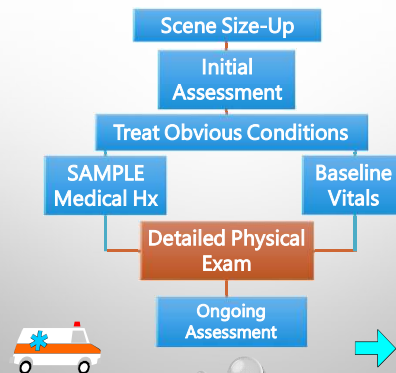
SKIN SIGNS, RESPIRATIONS, & PULSE Practice



BASELINE VITALS Practice



Secondary Assessment



Detailed Physical Examination



Rules of Assessment

- * Explain to the patient what you are doing.
- * Expose areas before assessing
- * Visualize and palpate

Inspect and Palpate for DOTS

- D** = Deformities
- O** = Open injuries
- T** = Tenderness
- S** = Swelling

DCAP-BTLS

(WE ARE NOT TESTING)

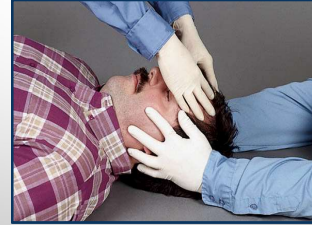
- **DEFORMITIES & DISCOLORATIONS**
- **CONTUSIONS**
- **ABRASIONS**
- **PENETRATIONS & PUNCTURES**
- **BURNS**
- **TENDERNES**
- **LACERATIONS**
- **SWELLING & SYMMETRY**

AREAS OF ASSESSMENT

- SCALP
- FACE
- EARS
- NECK
- SHOULDER
- TORSO
- ABDOMEN
- PELVIS
- LOWER & UPPER EXTREMITIES
- POSTERIOR

DETAILED PHYSICAL EXAMINATION

SCALP



DETAILED PHYSICAL EXAMINATION

Face, Nose, and Mouth

- TEETH
- OBSTRUCTIONS
- SWOLLEN OR LACERATED TONGUE
- ODORS
- DRAINAGE
- DISCOLORATION
- BLEEDING

DETAILED PHYSICAL EXAMINATION

EARS

- DRAINAGE



DETAILED PHYSICAL EXAMINATION

NECK

- DISTENTION
- TRACHEAL DEVIATION
- MED TAGS

SHOULDER

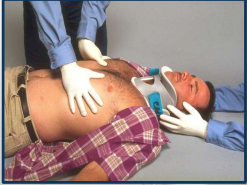
- D.O.T.S.



DETAILED PHYSICAL EXAMINATION

CHEST


- PARADOXICAL MOVEMENT – EQUAL CHEST RISE
- STERNUM
- CHEST EXPANSION



DETAILED PHYSICAL EXAMINATION

ABDOMEN


- FIRMNESS
- DISTENTION



DETAILED PHYSICAL EXAMINATION

PELVIS

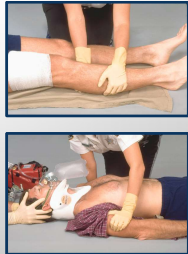
- COMPRESS GENTLY



DETAILED PHYSICAL EXAMINATION

EXTREMITIES


- OFF-SET PRESSURE
- CIRCULATION
- BILATERAL
 - MOTOR FUNCTION
 - SENSATION
 - DISTAL PULSES



DETAILED PHYSICAL EXAMINATION

DISTAL PULSES

- POSTERIOR TIBIAL PULSE



DETAILED PHYSICAL EXAMINATION

DISTAL PULSES

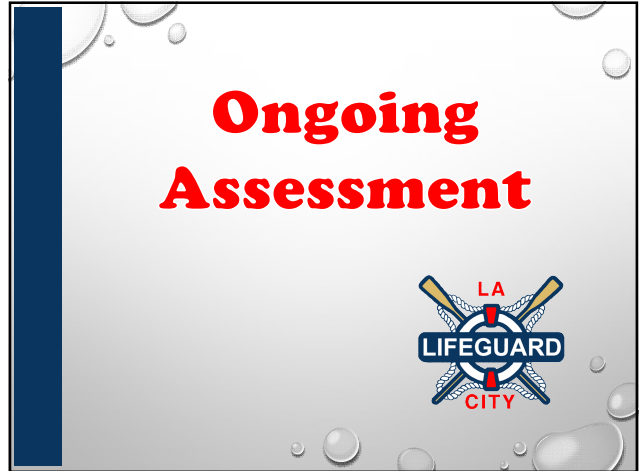
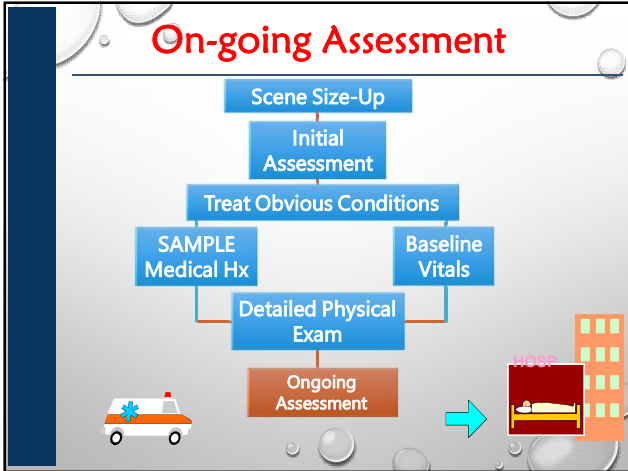
- DORSALIS PEDIS PULSE



OPQRST

(WE ARE NOT TESTING)

- ONSET
- PROVOKE
- QUALITY
- REGION
- SEVERITY
- TIME

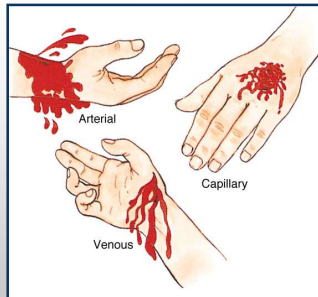


REASSESSMENT

<p><i>Stable?</i></p> <p>Reassess at least every 15 minutes.</p>	<p><i>Unstable?</i></p> <p>Reassess at least every 5 minutes.</p>
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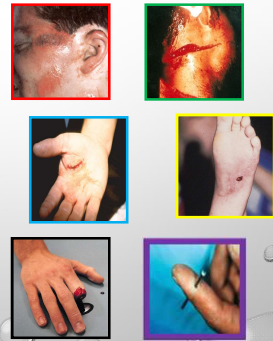


TYPES OF BLEEDING




TYPES OF WOUNDS

- ABRASIONS
- CUTS
 - LACERATION
 - INCISION
- PENETRATIONS
 - IMPALED OBJECT
- AMPUTATIONS



BLEEDING

- BANDAGE 
- DRESSING 
- BANDAGE COMPRESS 
- TRIANGULAR BANDAGE 

BLEEDING

- NOSE BLEED
- PINCH NOSE WITH GAUZE
- LEAN FORWARD



INTERNAL BLEEDING

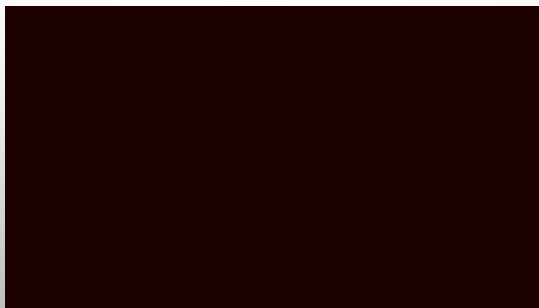
SIGNS AND SYMPTOMS

- DISCOLORATION OF THE SKIN AROUND THE AREA.
- NAUSEA, VOMITING OR COUGHING UP BLOOD
- DISCOLORED, PAINFUL, TENDER, SWOLLEN OR FIRM TISSUE
- TENDERNESS AND GUARDING (PROTECTING THE AREA)
- ANXIETY OR RESTLESSNESS
- RAPID, WEAK PULSE; RAPID BREATHING
- COOL OR MOIST, PALE, ASHEN OR BLUIISH SKIN
- DECLINING LEVEL OF CONSCIOUSNESS (LOC)
- DROP IN BLOOD PRESSURE

BLEEDING CONTROL

- PROVIDE CARE
 - APPLY DRESSING AND DIRECT PRESSURE
 - APPLY BANDAGE TO SECURE THE DRESSING
- IF BLEEDING CONTINUES
 - APPLY ADDITIONAL DRESSING AND BANDAGE
 - CONTINUE TO APPLY DIRECT PRESSURE
- TREAT FOR SHOCK /CALL 911

BLEEDING CONTROL



BLEEDING

- BANDAGING - SPIRAL
 - ANCHORING THE BANDAGE
- OVERLAPPING TURNS
- SECURING THE BANDAGE

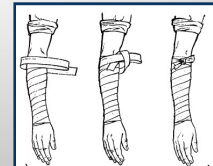
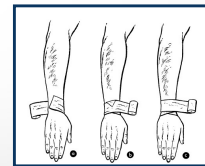


FIGURE 8 BANDAGING



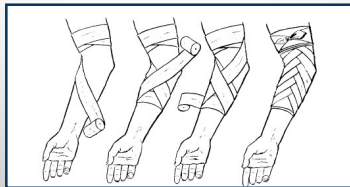
BLEEDING

FOREHEAD OR SCALP - TRIANGULAR



BLEEDING

ELBOW – FIGURE “8”



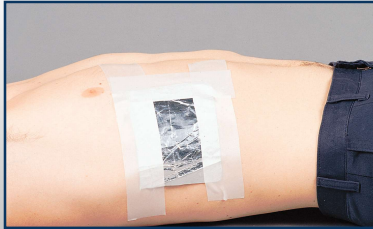
BLEEDING

- IMPALED OBJECT
- EXPOSE THE ARE
- APPLY BULKY DRESSING AROUND OBJECT
- SECURE DRESSING IN PLACE



BLEEDING

SUCKING CHEST WOUND



BLEEDING

EVISCERATION



BLEEDING

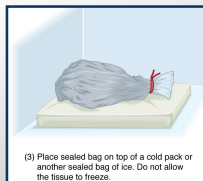
AMPUTATION



(1) Wrap completely in saline-moistened sterile dressings.



(2) Place in plastic bag and seal shut.



(3) Place sealed bag on top of a cold pack or another sealed bag of ice. Do not allow the tissue to freeze.

USING A COMMERCIAL TOURNIQUET



Step 1

Step 1 - Place the tourniquet around the limb, approximately 2 inches above the wound. Avoid placing the tourniquet over a joint.

Step 2 - Route the tag end of the strap through the buckle of the tourniquet, if necessary

USING A COMMERCIAL TOURNIQUET



Step 3

Step 4

Step 5

Step 3 - Pull the strap tightly and secure it in place.

Step 4 - Tighten the tourniquet by twisting the rod (windlass) until the flow of bleeding stops and then secure the rod in place. Do not cover the tourniquet with clothing.

Step 5 - Note and record the time that you applied the tourniquet, and give this information to the transporting personnel when they arrive to take over care.

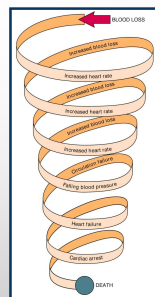
GENITAL INJURIES

- MALE (INJURY TO THE PENIS):
 - FOR A CLOSED WOUND, WRAP THE PENIS IN A SOFT, STERILE SALINE-MOISTENED DRESSING.
 - FOR AN OPEN WOUND, APPLY A STERILE DRESSING AND DIRECT PRESSURE.
 - APPLY A COLD PACK.
- FEMALE:
 - CONTROL BLEEDING WITH PRESSURE USING SALINE-MOISTENED COMPRESSES.
 - USE A DIAPER-LIKE DRESSING FOR THE WOUND.
 - APPLY COLD PACKS OVER THE DRESSING.

SHOCK

SIGNS AND SYMPTOMS

- RESTLESSNESS, IRRITABILITY
- ANXIETY
- RAPID, WEAK PULSE
- RAPID, SHALLOW RESPIRATIONS
- MENTAL STATUS CHANGE
- PALE, COOL, MOIST SKIN



SPLINTING



MUSCULOSKELETAL INJURIES

- ROLE OF SPLINTING
- SPLINTING JOINTS
- SPLINTING BONE
- TYPES OF SPLINTS

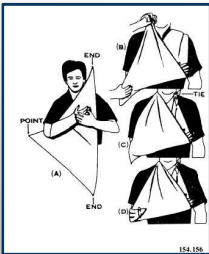


MUSCULOSKELETAL INJURY

- APPLYING A SPLINT
 - MEASURE THE SPLINT TO THE UNINJURED BODY PART
 - GET THE SPLINT READY FOR APPLICATION
 - ASSESS CMS
 - PLACE SPLINT AND SECURE
 - ASSESS CMS

MUSCULOSKELETAL INJURY

- APPLYING A SLING AND SWATHE



SPLINTING FOREARM WITH SLING



Burns



Types of Burns

- Thermal
- Chemical
- Electrical
- Radiation

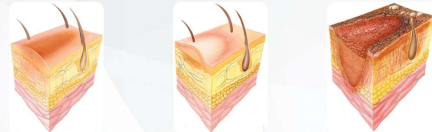
Burns

Severity of a burn depends on the:

- Temperature of the source of the burn.
- Length of exposure to the source.
- Location of the burn.
- Size of the burn.
- Patient's age and medical condition.

Depth of Burns

- Superficial: involves epidermis
- Partial thickness: involves epidermis and dermis
- Full thickness: destroys epidermis and dermis and any or all underlying structures (fat, muscle, bones and nerves)

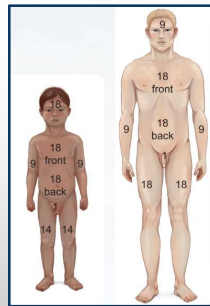


Extent of Burn

Rule of Nine:

- 11 sections, each comprising about 9% of the body's skin coverage
- 1% of the genital area

Lund-Browder diagram for children



MEDICAL EMERGENCIES



Syncope (Fainting)

- When the brain is suddenly deprived of normal blood flow and momentarily shuts down.
- Can be triggered by emotional shock, pain, standing for a long period of time or overexertion
- May happen without warning
- Can result in a fall that could injure the patient
- If EMR cannot determine cause, it indicates the need for more advanced medical care and activation of EMS system

Seizures

Signs and Symptoms

- A disorder in the brain's electrical activity, sometimes marked by loss of consciousness and often by uncontrollable muscle movement; also called a convulsion

Care

- Protecting the patient from injury
- Managing the airway

Diabetes

Two major types: Type 1 & Type 2

- Hyperglycemia (glucose too high; insulin too low)
- Hypoglycemia (glucose too low; insulin too high)

Care for Diabetic Emergencies

- Conscious patient who is alert and able to swallow:
 - Give them sugar
- Unconscious patient:
 - Monitor the patient's condition
 - Prevent them from getting chilled or overheated
 - Call 911 and give supplemental O₂ based on local protocols.

Stroke

Signs and Symptoms:

- Looking or feeling ill (common)
- Weakness or numbness (face, arm or leg)
- Facial drooping or drooling
- Speech difficulties
- Visual disturbances or loss
- Dizziness, confusion, agitation or loss of consciousness
- Loss of balance or coordination
- Incontinence
- Abnormal behavior
- Sudden severe headache

Stroke

Causes

- Blood clots blocking blood flow to the brain
- Rupture and bleeding of arteries in the brain

FAST:

- Face
- Arm
- Speech
- Time

Care for Stroke

- If the patient is conscious:
 - Monitor and offer comfort.
 - Do not give the patient anything by mouth.
- If the patient is unresponsive:
 - Ensure an open airway.
 - Position the patient in the recovery position to allow any fluids to drain out of their mouth.

Environmental Emergencies

Heat-Related Illnesses

- Dehydration
- Exercise-associated muscle cramps
- Exertional heat exhaustion
- Heat stroke

Cold-Related Emergencies

- Hypothermia: generalized cold exposure
- Frostbite: localized cold exposure

Poison

- Any substance that causes injury, illness or death if it enters the body is a poison.
- Toxins are poisonous substances produced by microorganisms that can cause certain diseases but are also capable of stimulating neutralizing antibodies or antitoxins.

Substance Abuse and Misuse

- Abuse is the deliberate, persistent and excessive use of a substance without regard to health concerns or accepted medical practices.
 - Misuse is the use of a substance for unintended purposes or for appropriate purposes but in improper amounts or doses.
 - Abuse and misuse include the use of illegal (or illicit or controlled) substances and legal substances, such as nicotine, alcohol and over-the-counter (OTC) medications, such as sleeping pills and diet pills.

EMERGENCY CHILD BIRTH



NORMAL PREGNANCY

- 9-MONTH PERIOD (38 WEEKS)
- DUE DATE CALCULATED AS 40 WEEKS FROM THE WOMAN'S LAST MENSTRUAL PERIOD
- THREE TRIMESTERS, EACH ABOUT 3 MONTHS LONG

PREGNANCY TRIMESTERS

- FIRST TRIMESTER: IMPLANTATION AND RAPID EMBRYO DEVELOPMENT
- SECOND TRIMESTER: FEELINGS OF BEING RE-ENERGIZED; BEGINNING TO "SHOW" WITH WOMAN'S WEIGHT GAIN
- THIRD TRIMESTER: TIME OF GREATEST FETAL WEIGHT GAIN; EXPANSION OF WOMAN'S ABDOMEN

STAGES OF LABOR

- FIRST STAGE: DILATION
- SECOND STAGE: EXPULSION
- THIRD STAGE: PLACENTAL DELIVERY
- FOURTH STAGE: STABILIZATION

LABOR ASSESSMENT

- NAME AND AGE
- FIRST BIRTH
- PRENATAL CARE
- FEEL THE URGE TO MOVE BOWEL
- LAST CONTRACTION
- EXPECTED COMPLICATIONS

LABOR ASSESSMENT

- TRUE VERSUS FALSE LABOR CONTRACTIONS
- TIMING OF CONTRACTIONS (LENGTH, DURATION, FREQUENCY)
 - IF 5 MINUTES APART, TRANSPORT TO MEDICAL FACILITY
 - IF 2 MINUTES APART, PREPARE FOR IMMINENT DELIVERY
 - CROWNING

SIGNS OF IMMINENT BIRTH

- INTENSE CONTRACTIONS 2 MINUTES APART OR LESS, LASTING 60 TO 90 SECONDS
- VERY TIGHT AND HARD ABDOMEN
- REPORT OF FEELING INFANT'S HEAD MOVING DOWN BIRTH CANAL; FEELING OF THE URGE TO DEFECATE
- CROWNING
- MOTHER WITH A STRONG URGE TO PUSH

IMMINENT BIRTH WITH CROWNING

- APPLY LIGHT PRESSURE ON TOP OF THE BABY'S HEAD
- ENCOURAGE WOMAN TO BREATHE AND STOP PUSHING
- PUNCTURE THE AMNIOTIC SAC IF NECESSARY
- CHECK FOR UMBILICAL CORD LOOPING; GENTLY SLIP IT OVER THE HEAD OR SHOULDERS
- GUIDE ONE SHOULDER OUT AT A TIME; DO NOT PULL
- USE A CLEAN TOWEL TO RECEIVE OR HOLD THE BABY
- PLACE BABY ON ITS SIDE BETWEEN MOTHER AND YOU
- NOTE THE TIME OF BIRTH

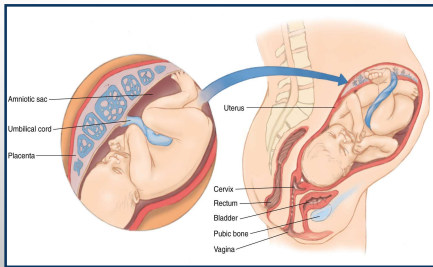
POSSIBLE COMPLICATIONS DURING PREGNANCY

- SPONTANEOUS ABORTION (MISCARRIAGE)
- ECTOPIC (TUBAL) PREGNANCY
- PRE-ECLAMPSIA (TOXEMIA) AND ECLAMPSIA (PREGNANCY-INDUCED HYPERTENSION)
- VAGINAL BLEEDING
- TRAUMA

POSSIBLE COMPLICATIONS DURING DELIVERY

- HEMORRHAGE (POSTPARTUM HEMORRHAGE)
- PROLAPSED UMBILICAL CORD
- BREECH BIRTH
- LIMB PRESENTATION
- MULTIPLE BIRTHS
- PREMATURE BIRTH
- MECONIUM ASPIRATION

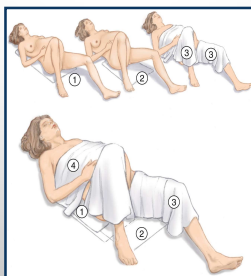
Anatomy



Childbirth Delivery Kit



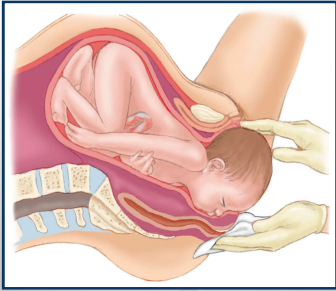
Create sterile field around vaginal opening.



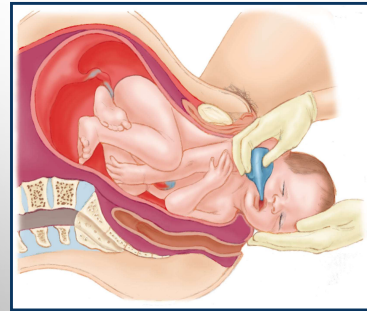
Crowning of Infant's Head



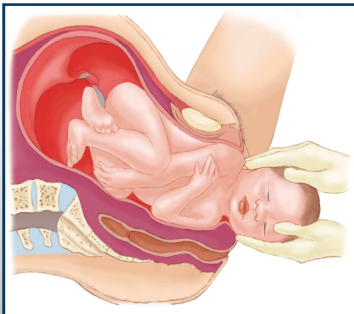
Delivery of the Head-Prevent explosive delivery.



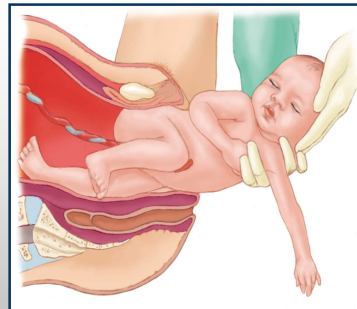
Suction mouth, then nose.



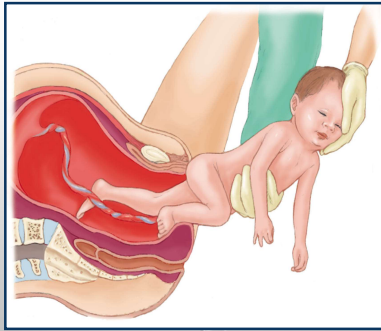
Aid in birth of upper shoulder.



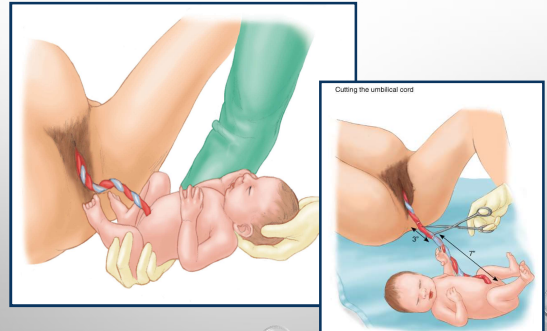
Support the trunk.



Support the legs.



Clamp or tie cord; then cut.



CARE FOR A NEWBORN



Suctioning the Newborn



Stimulating the Newborn to Breathe



NEWBORN CARE

- CLAMP/TIE UMBILICAL CORD
- ASSESS APGAR SCORE AT 1 MINUTE AFTER BIRTH AND 5 MINUTES AFTER BIRTH
- SUPPORT HEAD DURING HANDLING
- CLEAR MOUTH AND NASAL PASSAGES (SUCTION MOUTH BEFORE NOSE)
- KEEP THE NEWBORN INFANT WARM AND DRY (TO PREVENT HEAT LOSS)

APGAR SCORE

- **A** – APPEARANCE
- **P** – PULSE
- **G** – GRIMACE
- **A** – ACTIVITY
- **R** – RESPIRATION

Appearance

Cyanotic (blue) skin appearance all over	0
Cyanotic limbs but pink body	1
Pink body all over	2

Pulse (Count the heart rate for 30 seconds. If possible, use a stethoscope. If not, measure the pulse where the umbilical cord meets the abdomen or at the brachial artery.)

No pulse	0
Pulse rate less than 100 beats per minute	1
Pulse rate more than 100 beats per minute	2

Grimace (reflex irritability) (Gently flick the soles of the newborn's feet, or observe during suctioning.)

No activity or reflex	0
Some facial grimace	1
Grimace and cough, sneeze or cry	2

Activity (Observe movement/reflexes of the extremities or the degree of flexion of the extremities and the resistance to straightening them.)

Limp, with no movement of extremities	0
Some flexion, without active movement	1
Actively moving around	2

Respirations (Observe for regular breathing and a vigorous cry. Poor signs include irregular, shallow, gasping or absent respirations.)

No respiratory effort	0
Slow or irregular breathing effort with weak cry	1
Good respirations and strong cry	2

INTERPRETING APGAR SCORE

- 7 TO 10 POINTS: ACTIVE AND VIGOROUS NEWBORN, READY FOR **ROUTINE CARE**.
- 4 TO 6 POINTS: MODERATELY DEPRESSED; PROVIDE **STIMULATION AND OXYGEN**.
- 1 TO 3 POINTS: SEVERELY DEPRESSED; PROVIDE EXTENSIVE CARE INCLUDING **ADMINISTERING EMERGENCY OXYGEN WITH BAG-VALVE-MASK VENTILATIONS AND CPR**.

WHEN TO BEGIN IMMEDIATE NEWBORN RESUSCITATION

- RESPIRATIONS FALL TO LESS THAN 30 PER MINUTE OR THE NEWBORN IS GASPING OR NOT BREATHING
- PULSE IS LESS THAN 100 BPM
- CYANOSIS (BLUISH SKIN) PERSISTS AROUND THE CHEST AND ABDOMEN DESPITE HAVING ADMINISTERED EMERGENCY OXYGEN

MECONIUM ASPIRATION

- THE PRESENCE OF MECONIUM STAINED AMNIOTIC FLUID IS AN INDICATION THAT THE BABY EXPERIENCED A PERIOD OF **OXYGEN DEPRIVATION (HYPOXIA)**, WHICH MAY CAUSE THE BABY TO HAVE A BOWEL MOVEMENT.
- THE PRIMARY **DANGER** IS THAT THE **BABY CAN ASPIRATE** THE CONTAMINATED FLUID, WHICH CAN **RESULT IN COMPLICATIONS INCLUDING A BLOCKED AIRWAY OR RESPIRATORY DISTRESS, PNEUMONIA AND INFECTION**.

TREATMENT OF MECONIUM STAINING

- AMNIOTIC FLUID THAT IS CONTAMINATED WITH MECONIUM WILL BE GREENISH OR BROWNISH YELLOW INSTEAD OF CLEAR.
- SUCTION THE BABY'S MOUTH AND NOSE WITH A BULB SYRINGE OR SUCTION CATHETER AS SOON AS THE BABY EMERGES FROM THE BIRTH CANAL.

DELIVERY OF THE PLACENTA

- PLACENTA REMAINS IN UTERUS ATTACHED TO THE BABY BY THE UMBILICAL CORD AFTER DELIVERY
- UTERINE CONTRACTIONS USUALLY EXPEL THE PLACENTA WITHIN 10 MINUTES OF DELIVERY, USUALLY WITHIN 30 MINUTES
- ADDITIONAL VAGINAL BLEEDING OCCURS WITH PLACENTA EXPULSION

DELIVERING THE PLACENTA



Emergency Care of Meconium Staining

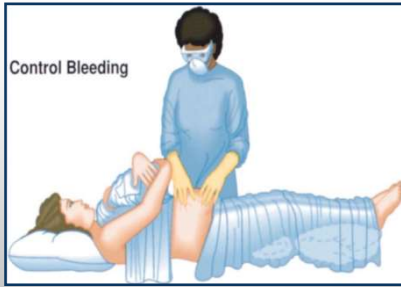
- Do not stimulate before suctioning.
- Suction.
- Maintain airway.
- Ventilate if necessary.
- Transport as soon as possible.

After-Delivery Procedures

Vaginal Bleeding

- * A loss of 500 cc is well tolerated.
- * If blood loss is excessive, massage the uterus.
- * Treat for shock.

Massage uterus to control bleeding.

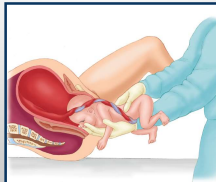


ABNORMAL DELIVERIES

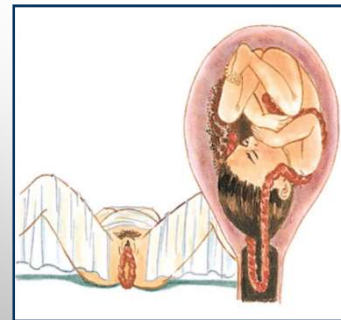


Breech Presentation

- * Baby's buttocks or lower extremities presenting
- * Greater risk of trauma, prolapsed cord

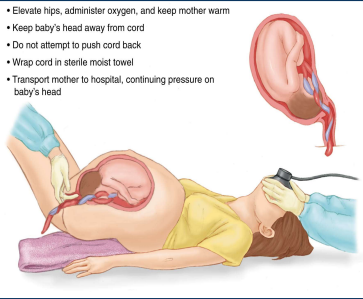


Prolapsed Cord

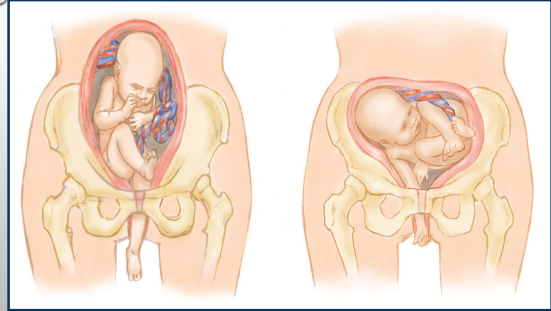


Care for Prolapsed Cord

- Elevate hips, administer oxygen, and keep mother warm
- Keep baby's head away from cord
- Do not attempt to push cord back
- Wrap cord in sterile moist towel
- Transport mother to hospital, continuing pressure on baby's head



Limb Presentation



Emergency Care for Limb Presentation

- Place mother in head-down position with hips elevated.
- Care is similar to prolapsed cord.

Multiple Births

- Delivery procedure is the same for each.
- Prepare for multiple resuscitations.
- Call for assistance.

FOREIGN BODY AIRWAY OBSTRUCTION



Foreign Body Airway Obstruction

- * Partial Obstruction
- * Complete Obstruction
 - Responsive
 - Unresponsive



Responsive Patient Partial Foreign Body Airway Obstruction



Condition

- * Patient remains responsive
- * May be able to speak
- * Can cough forcefully
- * May be wheezing between coughs

FOREIGN BODY

AIRWAY

- UNIVERSAL SIGN: A CONSCIOUS PERSON WHO IS CLUTCHING THE THROAT
- MILD OR PARTIAL FBAO
 - ABILITY TO MOVE SOME AIR TO AND FROM THE LUNGS
 - FORCIBLY COUGHING, WHICH IS ENCOURAGED
- SEVERE FBAO
 - INABILITY TO COUGH, SPEAK, CRY OR BREATHE
 - IMMEDIATE ACTION IS NECESSARY



MEASURES TO RELIEVE FBAO

- CONSCIOUS PATIENT
 - CONTINUED FORCIBLE COUGHING
 - BACK BLOWS
 - ABDOMINAL THRUSTS (ADULTS AND CHILDREN)
 - CHEST THRUSTS (FOR INFANTS, PREGNANT WOMEN AND PATIENTS TOO LARGE TO REACH AROUND)
- UNCONSCIOUS PATIENT
 - CHEST COMPRESSIONS
 - FINGER SWEEP IF OBJECT IS VISIBLE IN THE MOUTH

Procedure: Complete FBAO – Adult/Child

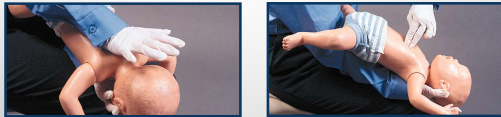
Special Situations



Conditions – Infant

- * Remains responsive
- * May be able to cry
- * Cyanosis

Procedure: Complete FBAO – Infant



Premature Birth

- Increased risk of hypothermia
- Usually requires resuscitation
 - Should be performed unless physically impossible

AHA BLS UPDATE



2020 BLS UPDATE



2020 BLS Science Summary Table

This table compares 2015 science with 2020 science, providing a quick reference to what has changed and what is new in the science of basic life support.

BLS topic	2015	2020
Chains of Survival	5 links in the IHCA and OHCA Chains of Survival for adults and pediatric	A sixth link, Recovery, was added to the IHCA and OHCA Chains of Survival for adults and pediatric.
Early Initiation of CPR by Lay Rescuers	Lay rescuers should not check for a pulse and should assume cardiac arrest if an adult suddenly collapses or an unresponsive victim is not breathing normally.	Laypersons should initiate CPR for presumed cardiac arrest because the risk of harm to the patient is low if the patient is not in cardiac arrest.
Changes to the Pediatric Assisted Ventilation Rate	<ul style="list-style-type: none"> • Rescue breathing: If there is a palpable pulse 60/min or greater but there is inadequate breathing, give rescue breaths at a rate of about 12 to 20/min (1 breath every 3-5 seconds) until spontaneous breathing resumes. • Infant or child CPR with an advanced airway: Ventilate at a rate of about 1 breath every 6 seconds (10/min) without interrupting chest compressions. 	<ul style="list-style-type: none"> • For infants and children with a pulse but absent or inadequate respiratory effort: Give 1 breath every 2 to 3 seconds (20 to 30 breaths/min). • CPR in infants and children with an advanced airway: Target a respiratory rate range of 1 breath every 2 to 3 seconds (20-30 breaths/min), accounting for age and clinical condition. Rates exceeding these recommendations may compromise hemodynamics.


2020 BLS UPDATE

BLS topic	2020
Opioid Overdose	Two new opioid-associated emergency algorithms have been added for lay rescuers and trained rescuers.
Cardiac Arrest in Pregnancy	A new cardiac arrest in pregnancy algorithm has been added to address these special cases.
Real-Time Audiovisual Feedback	Use audiovisual feedback devices during CPR for real-time optimization of CPR performance.
Systems of Care	<ul style="list-style-type: none"> Mobile phone technology can be used for emergency dispatch systems to alert bystanders to nearby events that may require CPR or AED. Organizations that treat patients with cardiac arrest should collect processes-of-care data and outcomes.
Debriefing for Rescuers	Consider debriefing and follow-up for emotional support for lay rescuers, EMS providers, and hospital-based healthcare workers after cardiac arrest events.
Infant Compressions	<ul style="list-style-type: none"> Single rescuers should compress the sternum with 2 fingers or 2 thumbs placed just below the nipple line. If the rescuer is unable to achieve appropriate depth for infants with 2 fingers or 2 thumbs, use the heel of 1 hand.

Abbreviations: AED, automated external defibrillator; BLS, basic life support; CPR, cardiopulmonary resuscitation; EMS, emergency medical services; IHCA, in-hospital cardiac arrest; OHCA, out-of-hospital cardiac arrest; PALS, pediatric advanced life support; PBL, pediatric basic life support.

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2020 BLS UPDATE



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		
Compression-ventilation ratio without advanced airway	1 or 2 rescuers 30:2	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 with advanced airway	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)	

2020 BLS UPDATE

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 1 1/2 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.
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2020 BLS UPDATE

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Resuscitation Triangle Roles

- Compressor**
 - Assess the patient.
 - Perform compressions according to local protocols.
 - Rotate every 2 minutes or earlier if fatigued.
- Monitor/Defibrillator/First Responder**
 - Bring and operates the AED/monitor/defibrillator and acts as the CPR Coach if designated.
 - If a monitor is present, places it in a position where it can be seen by the Team Leader (and most of the team).
- Airway**
 - Opens the airway.
 - Provides bag-mask ventilation.
 - Adjusts airway adjuncts as appropriate.

The team owns the tasks. No team member leaves the triangle except in an emergency or to get help.

Positions for 6-Person High-Performance Teams*

Leadership Roles

- Team Leader**
 - Every resuscitation team must have a defined leader.
 - Assigns roles to team members.
 - Makes equipment decisions.
 - Provides feedback to the rest of the team as needed.
 - Assumes responsibility for roles not defined.
- Team Medication**
 - An ALS provider role.
 - Initiates IV/IO access.
 - Administer medications.
- Team 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.
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2020 BLS UPDATE

BLS Healthcare Provider Adult Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients

Updated April 2020

2020 BLS UPDATE

Water Based Emergencies

