BASIC LIFE SUPPORT: PREGNANT PATIENTS

Supported by science reviews and guidelines of Obstetric Life Support™ (OBLS™)

BLS - 2020 VERSION

Note: If the fundus is below the umbilicus or fetal age is known to be < 20 weeks, follow Basic Life Support for Adults and Adolescents code card

Shock

- Assess for life-threatening bleeding. If at any time the patient has life-threatening bleeding, control the hemorrhage with any available resource (including the use of tourniquet or hemostatic dressing as appropriate)
- For obstetric hemorrhage, notify maternal resuscitation team for hemorrhage control interventions

Perform **rapid assessment**

Responsive?

YES

NO

- Start Obstetric Life Support™ (OBLS™)
- Activate maternal and neonatal resuscitation teams
- Check breathing and pulse for no more than 10 sec; at the same time, scan the body for life-threatening bleeding
- Remove fetal monitors (if present)

Breathing and pulse?

Not breathing (or ineffective ventilation) Pulse present

Respiratory Arrest
Respiratory Failure

- Deliver 1 **ventilation** every 6 sec

- Perform **primary assessment** (**A**irway, **B**reathing, **C**irculation, **D**isability, **E**xposure) and emergent/initial interventions, if not already done
- Continue to check breathing and pulse every 2 min; if pulse becomes absent, go to A
- Position patient as appropriate for clinical condition. If patient is placed on their back, perform LUD
- Perform **secondary assessment** as patient condition allows
- **Reassess** patient, **recognize** issues and provide **care** as needed

Not breathing (or only gasping breaths) Pulse absent

Cardiac Arrest

Continuous high-quality CPR and LUD‡

A

Start CPR*†

- Single and multiple providers 30:2
- In prehospital setting, transport ASAP to an appropriate facility following local protocols

- Use **AED** as soon as it is available
  - –Pads should not incorporate any breast tissue
- Continue **CPR** until AED is ready to analyze

Shockable rhythm?

NO

YES

- Resume CPR immediately for about 2 min or until the AED is ready to analyze

- Perform RCD if trained provider (goal is after 4 min CPR/2 cycles)§
  - –If no trained provider, continue care and perform ASAP
- Care for infant using neonatal resuscitation protocols
- Continue providing cycles of CPR/AED¶

Breathing Pulse present

- Perform **primary assessment** (**A**irway, **B**reathing, **C**irculation, **D**isability, **E**xposure) and emergent/initial interventions
- Position patient as appropriate for clinical condition. If patient is lying down and does not have a suspected head, neck, spinal or pelvic injury, place them in left lateral decubitus position
- Perform **secondary assessment** as patient condition allows
- **Reassess** patient, **recognize** issues and provide **care** as needed

Goals of Care

- Focus on maternal resuscitation
- Early transport as opposed to care on the scene of arrest (for OHCA)
- High-quality CPR
- Early involvement of obstetrical and neonatal teams

*If drowning is the suspected cause of cardiac arrest, deliver 2 initial ventilations before starting CPR.

†If an advanced airway is in place, deliver 1 ventilation every 6 sec and continuous chest compressions without pausing for ventilations.

‡Provide continuous LUD until the infant is delivered, even if ROSC is achieved.

§Although RCD should be performed at 4 min CPR/2 cycles, preparation needs to start as early in resuscitation as possible to allow this goal to be met.

¶Continue cycles of CPR/AED until the team leader tells you to stop, other trained providers arrive to relieve you, you see signs of ROSC, you are presented with a valid, DNR order, you are too exhausted to continue, or the situation becomes unsafe.

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Prehospital Assessment and Care

- Prioritize transport over care at the scene (follow local protocols for destination decision)
- Provide high-quality CPR, including airway management and continuous LUD during transport. Provide continuous LUD until the infant is delivered, even if ROSC is achieved
- Alert receiving hospital and follow protocols for maternal cardiac arrest arrival

Causes of Cardiac Arrest in Pregnancy (BAACC TO LIFE™)

B: bleeding

A: anesthesia

A: amniotic fluid embolism

C: cardiovascular/cardiomyopathy

C: clot/cerebrovascular

T: trauma

O: overdose (opioids, magnesium sulfate, other)

L: lung injury/acute respiratory distress syndrome

I: ions (glucose, potassium)

F: fever (sepsis)

E: eclampsia/emergency hypertension

Indications for Resuscitative Cesarean Delivery (RCD)

- No ROSC after 2 cycles of CPR in a pregnant patient with a fundus at or above umbilicus or fetal age known to be ≥ 20 weeks
- Intermittent ROSC after 2 cycles of CPR
- Nonshockable rhythm
- Immediately upon arrival to an emergency department without ROSC (for OHCA)

CPR Technique for Adults and Adolescents

Compression-to-ventilation ratio: 30:2

Compressions

- **Hand position:** Centered on the lower half of the sternum
- **Depth**: At least 2 inches (5 cm)
- **Rate**: 100 to 120 per min
- **Full chest recoil**: Compression and recoil times should be approximately equal

Switch CPR compressors
- Every 2 min
- During rhythm check
- If provider is fatigued

Ventilations

- Open airway to past-neutral position. Use modified jaw-thrust maneuver instead if you suspect head, neck or spinal injury.
- Each ventilation should last about 1 sec and make the chest begin to rise; allow the air to exit before delivering next ventilation.
- If an advanced airway is in place, one provider delivers 1 ventilation every 6 seconds, while the other provider delivers continuous chest compressions without pausing for ventilations.

Left Uterine Displacement (LUD)

- When the fundus is at or above the umbilicus, provide continuous LUD until the infant is delivered, even if return of spontaneous circulation (ROSC) is achieved
- LUD relieves pressure placed on the inferior vena cava by the gravid uterus, increasing venous return to the heart to maximize cardiac output
- In most cases, two hands are needed to provide the necessary displacement
- From the patient's left side, reach across the patient, place both hands on the right side of the uterus, and pull the uterus to the left and up **(Fig. 1)**
- From the patient's right side, place both hands on the right side of the uterus and push the uterus to the left and up **(Fig. 2)**

Fig 1.

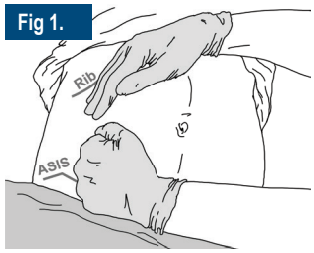
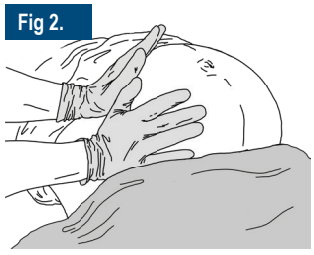


Fig 2.



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