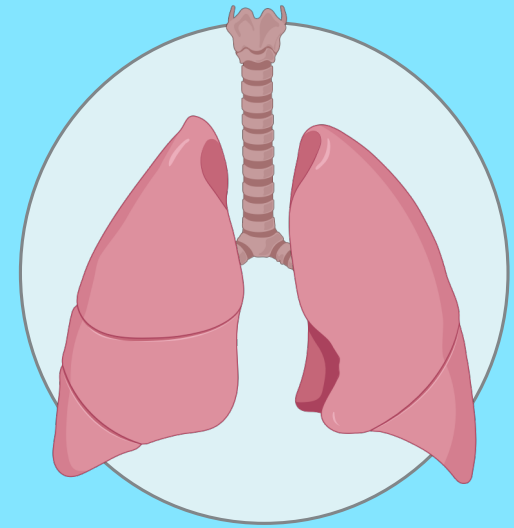
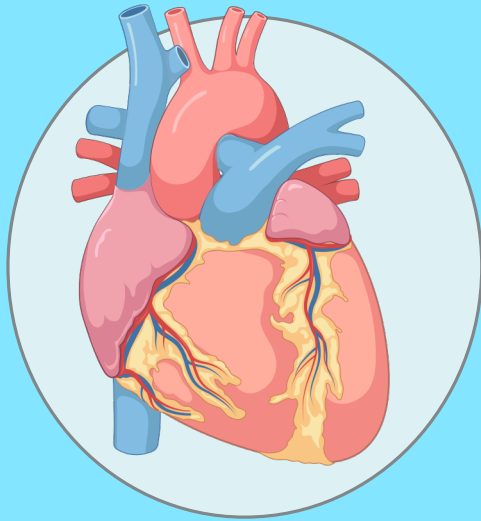


CHANGES SEEN IN THE OBSTETRIC POPULATION

QUICK REFERENCE

PG-ELITE-NCE PREP.COM

The obstetric patient undergoes physiologic changes during pregnancy that involve every major organ system. It is vital that the anesthesia provider understands these changes in order to provide the highest level of care. Below are some of the typical changes seen in the cardiovascular and respiratory systems of the obstetric patient.



CARDIOVASCULAR

INCREASED

Cardiac Output **50%**
Blood Volume **35%**
Plasma Volume **45-55%**
RBC Volume **30%**
Stroke Volume **25-30%**
Heart Rate **15-25%**
LVEDV
Ejection Fraction

DECREASED

Systemic Vascular Resistance **20%**
Peripheral Vascular Resistance **15%**
MAP **~15mmHg**
SBP **~15mmHg**
DBP **~10-20mmHg**
Hgb
Hct

UNCHANGED

LVESV
CVP
PCWP
PA Diastolic Pressure

- Increased heart rate and decrease in SVR can increase cardiac output up to 40% in the first trimester
- Anemia during pregnancy is a result of a greater increase in plasma volume
- Blood volume increases by ~1000ml at term
- Cardiac output in the post partum phase can increase up to 80% for the following 2 weeks
- SV increases after delivery of the baby

RESPIRATORY

INCREASED

Tidal Volume **45%**
Dead Space **45%**
Minute Ventilation **45%**
Alveolar Ventilation **45%**
Oxygen Consumption **20%**
Inspiratory Capacity **15%**
Inspiratory Reserve Volume **5%**
Diaphragmatic Excursion

DECREASED

Pulmonary Resistance **50%**
Chest Wall Compliance **45%**
Airway Resistance **35%**
Expiratory Reserve Volume **25%**
Functional Residual Capacity **20%**
Residual Volume **15%**
Total Lung Capacity **5%**
Chest Wall Excursion

UNCHANGED

Vital Capacity
Closing Volume
Lung Compliance
FEV₁ and FEV₁/FVC
Diffusing Capacity

- Hypocarbica from hyperventilation will cause uterine vasoconstriction
- Apnea will result in quicker hypoxemia due to an increased maternal oxygen consumption
- Obstetric patients may be more difficult to intubate secondary to edematous tissues and body habitus. A smaller than normal ETT may be necessary