

HOSPITAL PHYSICIAN®

CRITICAL CARE MEDICINE BOARD REVIEW MANUAL

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Critical Care of the Obstetric Patient

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I. CARDIOPULMONARY CONSIDERATIONS

Many anatomic and physiologic changes occur in pregnant women. An understanding of some of the cardiopulmonary alterations that occur during pregnancy is important for the critical care physician because these changes can greatly impact management strategies.

Anatomic changes occur in the airway itself, in both the upper and lower respiratory tracts. Most notable are airway mucosal congestion and edema. Mucosal edema peaks by the middle of the third trimester and is primarily the result of increased estrogen production, which causes capillary congestion, hyperplasia, and hypersecretion by mucous glands. Many pregnant women have sinus pain, headaches, sneezing, and a

nagging cough. Polyposis of the upper respiratory tract may recur in patients who have a history of this condition. Nasal obstruction may cause a variety of practical problems in caring for the critically ill patient. Administration of anesthesia may be hampered, and the patient may be intolerant of face masks. Nasal appliances such as nasogastric tubes, nasal trumpets, and nasal endotracheal tubes may be difficult to use. These appliances should be well lubricated because nasal membranes are quite friable.

The major anatomic changes that occur in the thoracic cavity are secondary to the gravid uterus' pushing upward on the diaphragm. This effect, along with a widening of the lower rib cage, increases the thoracic anteroposterior diameter. In addition, abdominal musculature is more relaxed during pregnancy, which allows increased inspiratory capacity.