

## Pregnant Cardiac Patient Assessment

In a normal pregnant woman, the cardiovascular system undergoes many changes. These changes include increased intravascular volume, increase in oxygen requirements, decreased systemic vascular resistance, weight gain, and the hemodynamic changes that occur during labor. The healthy heart is able to compensate for these changes and respond appropriately; however, the woman with preexisting heart issues has difficulty adapting and may progress to cardiac decompensation and heart failure. Under the added stress, the heart is unable to maintain an adequate cardiac output. When the woman progresses to cardiac decompensation she may experience a frequent cough, feeling of smothering, palpitations, excessive fatigue, tachycardia, and crackles. The highest incidence of problems associated with cardiac decompensation occur during 28-32 weeks, as the blood volume expands.



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### Mechanism

#### Cardiac Decompensation

##### Heart Decomposed

When the woman with cardiac issues becomes pregnant, their heart endures increased stress due to increased blood volume and decreased afterload resulting in a decrease in cardiac output. Decreased cardiac output can lead to further cardiac decompensation and heart failure as the heart is not able to pump enough blood to meet the demands of the body.

### Signs and Symptoms

#### Frequent Cough

##### Coughing Coughing Coffee-pot

As cardiac output decreases and heart failure progresses, fluid backs up into the lungs resulting in increased sensation to cough.

#### Dyspnea

##### Disc-P-lungs

Dyspnea, orthopnea, rapid respirations ( $>25$  breaths/min), and cyanosis of lips and nailbeds characterize signs of cardiac decompensation. When the pregnant patient with cardiac problems complains of a feeling of smothering, this often characterizes an early symptom of pulmonary edema. The health care provider should be alerted when this type of complaint is made by the patient.

#### Palpitations

##### Heart with Palpitating-paw

The woman with cardiac insufficiency during pregnancy may start feeling as though their heart is racing. This occurs because the heart is trying to compensate by beating faster and harder to keep up with the increased blood supply.

#### Excessive Fatigue

##### Sleepy-guy

As cardiac output decreases and the heart is no longer able to supply blood and oxygen throughout the body, the woman may feel more fatigued.

#### Pulse $> 100$ bpm

##### Heart-timer with (100) Dollar-bill

In an attempt to compensate, the heart beats faster to keep up with the demands of the body.

#### Crackles

##### Crackers

The woman with cardiac insufficiency during pregnancy may exhibit crackles in the bases of the lungs. This occurs due to fluid buildup in the lungs as a result of the heart being unable to pump fluid adequately.