# 1 Fetal Arrhythmias

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## 2 Dysrhythmias

- Normal fetal heart rate= 100-180 bpm
- · Record atrial and ventricular contractions simultaneously
  - Through the ventricle and atrial wall
- · Measure heart rate
  - Same point on two consecutive beats
- Evaluate for signs of hydrops
- · Follow dysrhythmias closely
- · Associated with structural disease
  - Evaluate fetus well

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## 3 Bradyarhythmias

- Fetal heart rate less than 100 bpm
- May be seen in brief periods
  - Increased transducer pressure
- Sustained
  - Cord compression
  - Fetal distress

## 4 Complete Heart Block

- Inlet chambers not beating at same time as outlet chambers
- Atria typically beating faster
  - Evaluate for intermittent atrial beats
- Evaluate for other fetal structural anomalies
  - 50% will have cardiac defects
- Typically occurs between 18-20 weeks

#### 5 Skipped Beats

- Arise from electrical impulses generated outside the sinoatrial node.
- Fetal echo will establish nature of dysrhythmias and rule out other anomalies
- · Supraventricular tachycardia may develop

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#### 6 Premature Atrial Contraction

- · Atrial contraction either blocked or conducted
  - Blocked
    - · Ventricular contraction will not follow
  - Conducted
    - Ventricular beat or contraction follows
- · Often foramen ovale bowed into left atrium
- · Can be isolated or repeated
  - Look for bigeminy and trigeminy

### 7 Premature Ventricular Contractions

- Ventricular contraction is not preceded by an atrial contraction
  - Isolated, typically not of significance

## 8 Tachycardia

- Heart rate over 180 bpm
- · Supraventricular Tachycardia
  - Heart beats over 200 bpm
  - Fetus soon develops hydrops
  - Mom given medication for fetal therapy

### 9 Tachycardia

- Causes
  - Supraventricular tachycardia
  - Atrial flutter
    - Atrial rate ranges 300-460 bpm
  - Atrial fibrillation
    - · Atrial rate of more than 400 bpm
    - Ventricular rate ranging from 120 to 200 bpm

## 10 Summary

- · Vast majority of fetal arrhythmias benign
- Hydropic fetus more difficult to treat
- · Fetal heart block
  - Poor prognosis
- · Supraventricular tachycardias
  - Treatment available

### 11 Definitions

- · Dysrhythmia
  - A disturbance of rhythm
- · Arrhythmia
  - Any disturbance in the rhythm of the heartbeat
- Bradyarrhythmia
  - A disturbance of the heart's rhythm resulting in a rate under 60 beats per minute.

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