For every 1°C rise in temperature, heart rate rises by approx 10 bpm.

Tachycardia is the earliest manifestation of shock in a pediatric patient.

About 99.5% are noncardiac:
- 60% musculoskeletal
- 15% respiratory
- 25% miscellaneous
  - infectious
  - pulmonary
  - gastrointestinal
  - psychiatric
  - hematologic
  - oncologic (mediastinal mass, breast tissue)

Edward's Twinges/Precondial Chest Syndrome
- acute, sudden onset, non-radiating left-sided chest pain in an adolescent
- exacerbated during inspiration and resolves in a few minutes

Benign Causes

ABCs, features of hemodynamic compromise, and compromised cardiac output (failure)
- Use fluids judiciously - about 10 ml/kg bolus or maintenance fluids
- Consider inotropes and vasopressors early on if required
- Consider fever, pain, dehydration, agitation, anxiety, crying, and medication effects while evaluating heart rate; if required re-evaluate regularly
- Routinely obtain chest x-rays or EKGs if the clinical examination is suggestive of noncardiac etiology
- Obtain troponins, D-dimers, coagulants, brain natriuretic peptides (BNP), and fibrinogen routinely, unless otherwise indicated

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**INQUIRE**

- Congenital or acquired cardiac disease
- Family history of heart disease
- Fever
- Constitutional symptoms or other symptoms
- Skin pallor
- Lymphadenopathy
- Strawberry tongue

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**IDENTIFY**

Tachycardia worsening after a fluid bolus is suggestive of cardiac failure.

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**DO**

- Do ABCs, features of hemorrhagic or non-hemorrhagic shock
- Do not fluids judiciously - about 10 ml/kg bolus or maintenance fluids
- Do not consider inotropes and vasopressors early on if required
- Do not consider fever, pain, dehydration, agitation, anxiety, crying, and medication effects while evaluating heart rate; if required re-evaluate regularly
- Do not obtain chest x-rays or EKGs if the clinical examination is suggestive of noncardiac etiology
- Do not obtain troponins, D-dimers, coagulants, brain natriuretic peptides (BNP), and fibrinogen routinely, unless otherwise indicated

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**DISPOSITION**

- Benign Causes
- Serious Presentations

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**PE NUGGETS**

- For every 1°C rise in temperature, heart rate rises by approx 10 bpm.
- Tachycardia is the earliest manifestation of shock in a pediatric patient.
- Tachycardia worsening after a fluid bolus is suggestive of cardiac failure.
- Cardiac disease in an otherwise healthy child who appears clinically well is very rare.

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