Chest Pain in Children and Adolescents
Etiology

- Most chest pain in pediatric population is not caused by cardiac disease.
- **Implication of child having chest pain should not be underestimated.**
- Common causes of chest pain include:
  - Musculoskeletal pain and strain
  - Inflammation
  - Gastroesophageal irritation
  - Psychogenic origin
- Certain chronic conditions (sickle cell crisis, pulmonary disease, and malignancies may cause chest pain in children
- Congenital heart lesions, arrhythmias, and some acquired cardiac conditions may manifest as chest pain.
- Irritation of the pericardium may also result in chest pain (inflammatory processes caused by viruses, bacterial endocarditis, TB, pericarditis, and rheumatoid illnesses).
- Cardiomyopathy of any origin may cause chest pain related to either ischemia or arrhythmias.
Incidence

- Chest pain in children is rarely cardiac in origin
- Costochondritis is the most common cause of chest pain in children causing 20-75% of pain
- Musculoskeletal causes result in about 30% of chest pain in children
- Idiopathic chest pain is cause for 21-39% in children and adolescents
- Respiratory causes of chest pain is approximately 2% to 11%
- Gastrointestinal disorders account for 2-7% of cases of chest pain
- Anxiety and emotional distress account for as much as 9-20% of chest pain in adolescents
- Most common arrhythmia with chest pain in children is (SVT) supraventricular tachycardia
Tietze Syndrome

• Localized non-suppurative inflammation of costochondrial, costosternal, or sternoclavicular joint
• Cause unknown-recent URI with excessive coughing has been implicated
• Localized involvement of single joint along with warmth, tenderness, and swelling
Musculoskeletal or Chest-wall Pain

- Costochondritis - unilateral, sharp stabbing pain along upper two or more contiguous costochondral joints
  - Exacerbated by deep breathing
  - Lasts few seconds to few minutes
  - Chest wall tenderness can usually be reproduced by manual palpation over affected area
Idiopathic Chest Pain

- One of common causes of chest pain in children
- Pain-sharp, lasts for a few seconds to minutes, localizes in middle of sternum, or the inframammary area, and is exacerbated by deep breathing or by manual pressure on the sternum or rib cage
- No signs of inflammation
Slipping Rib Syndrome

- Intense pain in the lower chest or upper abdominal area caused by trauma or dislocation of the 8th, 9th, and 10th ribs

- These ribs do not attach to the sternum directly but are attached to each other via a cartilaginous cap or fibrous band, can be hypermobile and prone to injury
Trauma and Muscle Strain

• Chest wall injury can produce localized pain and tenderness, usually associated with swelling and erythema at the site of injury
• Teenagers with chest muscle strain usually give history of weight lifting
• History of significant trauma to the chest: severe chest pain, arrhythmias, and shortness of breath may indicate myocardial contusion or hemopericardium
Precordial Catch

• Known as “Texidor twinge” usually sudden and sharp, lasts for a few seconds, and localizes to one intercostal space along L. lower sternal border of to the cardiac apex
• Cause unknown-but has been related to poor posture and may be caused by pinched nerve
• Occurs at rest or with mild activity and is exacerbated by inspiration leading to shallow breathing in an effort to alleviate pain
Xiphoid Pain or Xiphoidynia

• A.K.A. hypersensitive xiphoid syndrome

• Localized pain or discomfort over the xiphoid process that can be exacerbated by eating a heavy meal, coughing, and bending or rotating movements

• Cause unknown

• Digital compression of the xiphoid elicits dull pain
TREATMENT FOR MUSCULOSKELETAL CHEST PAIN

• Reassurance, rest, and analgesics
• Allaying the fears of the patient and parents by counseling them about the benign nature of the condition helps to relieve concern for and reduce the degree of chest pain
• Severe Pain- warm compresses and non-steroidal anti-inflammatory drugs for 1 week
Asthma

- Bronchial asthma - inflammation of the airways, causing the muscles surrounding the airways to become tight and the lining of the air passages to swell:
  - Wheezing - usually begins suddenly; worse with exercise, breathing in cold air, heartburn, early morning or during night
  - Shortness of breath - worsens with exercise or activity
  - Chest tightness - retractions
  - Coughing with or w/o sputum
ASTHMA ACTION PLAN
Exercise Induced Asthma

- Exercise-induced asthma frequently causes chest pain, even in patients who have no audible wheezing.
- A study by Weins and associates analyzed pulmonary function during treadmill testing to a group of otherwise healthy children and teens who had chest pain and found that approximately 73% had laboratory evidence of asthma, so that the incidence of exercise-induced asthma may be greater than has been reported.
Exercise-Induced Asthma

- BY XOGABRIELLEOX

Oh no! What's wrong Barry?

Oh...wheez... no...wheez!!

I think... wheez... my asthma.... wheez.... is kicking in.

Well, maybe if you took your inhaler like your doctor told you would be able to and still be able to be All at the same time!
Bronchitis

**Bronchitis** is an inflammation of the main passages (bronchi) to the lungs. Coughing often brings up yellow or green mucous. **Acute bronchitis,** often caused by the same viruses that cause colds, and usually starts as a sore throat, runny nose or sinus infection then spreads to the airways. It can cause a lingering cough but usually goes away on its own.

- Symptoms: Cough
- Shortness of breath
- Wheezing
- “Rattle” sensations in chest
- General ill feeling or malaise
- Slight fever
- Tickle feeling in back of throat that leads to soreness
- Chest pain, soreness, and tightness in chest
- Poor sleep
- Chills (uncommon)
Pleurisy

**Pleurisy**- also called pleuritis is an inflammation of the pleura which is the moist, double-layered membrane that surrounds the lungs and lines the rib cage. It can make breathing extremely painful. When the layers become inflamed, with every breath, sneeze, or cough, their roughened surfaces rub painfully together like two pieces of sandpaper. Viral infection usually the cause.
Pneumonia

- Pneumonia is an infection that inflames the air sacs in one or both lungs. These air sacs may fill with fluid or pus, causing cough with phlegm or pus, fever, chills and difficulty breathing. Bacteria, bacteria-like organisms (Mycoplasma pneumoniae), viruses, and fungi can cause pneumonia.
Pulmonary Tuberculosis

• If Tb infection becomes active, involves the lungs in 90% of cases.
• Symptoms: chest pain, and prolonged cough producing sputum. TB may become a chronic illness and cause excessive scarring in the upper lobes of the lungs.
Noncardiac Chest Pain (cont.)

- Diseases such as:
  - Systemic Lupus Erythematosus,
  - Rheumatoid Arthritis,
  - Cancer,
  - Liver Disease, and
  - Pulmonary embolism
- Drug Reactions
- Acute chest syndrome—students with sickle cell disease may have acute chest pain or pulmonary infarctions. Sickle red blood cells block blood vessels in the lungs
Miscellaneous Causes of Noncardiac Chest Pain

- **Psychogenic Chest Pain** - can result from anxiety or a conversion disorder triggered by recent stressors in personal or family life, can have other somatic complaints as well as sleep disturbances

- **Hyperventilation** - either due to anxiety or panic disorder can cause chest pain accompanied by difficulty in breathing, dizziness, or paresthesias. Spasm of the diaphragm, gastric distension caused by aerophagia, and coronary vasoconstriction due to hypocapnic alkalosis are postulated explanations for chest pain during hyperventilation

- **Breast-related conditions** - post-menarchal girls may complain of throbbing or burning chest pain caused by mastitis, fibrocystic disease, or pregnancy. Teenage males with gynecomastia occasionally complain of unilateral or bilateral chest pain

- **Herpes Zoster infection of the chest wall** - may have burning pain or paresthesia in a dermatomal pattern, sometimes preceding the rash by a few days

- **Spinal cord or nerve root compression** - children with scoliosis or other spinal deformities
Cardiac Chest Pain

Inflammatory:

**Pericarditis**-usually infectious in origin that presents as a sharp retrosternal chest pain that radiates to the left shoulder, aggravated when lying supine or taking a deep breath, relieved by bending forward

**Myocarditis**-is a condition where the muscular walls of the heart become inflamed, typically results in poor heart function. In children, viral infections are the most common causes for myocarditis. The most common viruses involved are:

- Parvovirus
- Influenza virus
- Adenovirus and coxsackie virus
- Viruses such as rubella, rubeola and HIV
- Infective viruses, bacteria
- Children with diseases such as lupus, rheumatoid arthritis, ulcerative colitis, and scleroderma (diseases that involve inflammation of many different organs of the body) may also develop myocarditis, but this is rare.

**Postpericardiotomy syndrome**-Symptoms of postpericardiotomy syndrome (PPS) usually develop within 1-6 weeks after surgery involving pericardiotomy. Malaise, chest pain, irritability, and decreased appetite are typical presenting symptoms. Patients may also report dyspnea and arthralgias. Children may report chest pain that worsens with inspiration and when in the supine position.
Myocarditis
Cardiac Chest Pain

- **Coronary Artery Abnormalities** - causes chest pain due to myocardial ischemia, are second only to hypertrophic cardiomyopathy in causing sudden death in adolescents presenting initially with anginal chest pain usually associated with exertion. Ischemic chest pain is described as a squeezing sensation, tightness, pressure, constrictions, burning, or fullness in the chest.

- **Congenital:**
  - ALCAPA (anomalous origin of L coronary artery from pulmonary artery)
  - ALCA (anomalous L coronary artery) from right coronary sinus - during exertion, the aorta and the pulmonary artery squeeze the L main coronary artery leading to myocardial ischemia and occasionally sudden death in teens.
  - Coronary fistula - a coronary artery fistula is an abnormal connection between one of the coronary arteries and a heart chamber or another blood vessel.

- **Acquired:**
  - Kawasaki disease - long term complication is coronary artery stenosis - Giant coronary aneurysms have a high risk for rupture, occlusions due to thrombosis, or stenosis causing ischemia or infarction

- **Postsurgical:**
  - Arterial Switch Operation - switching the 2 major vessels that carry blood away from the heart – the aorta and the pulmonary artery which are transposed at birth, are at risk of developing coronary artery ostial stenosis
  - Ross Procedure - aortic valve replacement using pulmonary autograft provides excellent hemodynamics flow characteristics, is capable of growth, and does not require anticoagulation,
  - Post Transplant Coronary Vasculopathy - diagnosis of CAV remains a challenge, (it is clinically silent due to denervation of the allograft), major cardiovascular events such as myocardial infarction, heart failure, and sudden death may occur without previous angina. The fact that it is a vasculopathy, affecting vessels in a diffuse manner, limits the use of non-invasive methods for early diagnosis that rely on the detection of lesions. Chest pain may be the first sign of rejection or CA

**Familial Hypercholesterolemia** - coronary artery disease may develop in the first 2 decades of life in patients with homozygous familial hypercholesterolemia (risk assessment q 2 yr. from age two-ten years of age, then annually).
Anomalous Left Coronary artery
Cardiac Chest Pain

Increased Myocardial Demand or Decreased Supply

- **Cardiomyopathy**: dilated or hypertrophic-Hypertrophic cardiomyopathy (HCM) is a condition in which the heart muscle becomes thick. Often, only one part of the heart is thicker than the other parts. The thickening can make it harder for blood to leave the heart, forcing the heart to work harder to pump blood.
  
  Symptoms are:
  
  - Shortness of breath, especially during exercise or exertion
  - Chest pain, especially during exercise or exertion
  - Fainting, especially during exercise or exertion
  - Dizziness
  - Fatigue
  - Heart palpitations — the sensation of rapid, fluttering or pounding

- **LVOT (L ventricular outflow tract) obstruction**: aortic stenosis, subaortic stenosis, supravalvular aortic stenosis

- **Arrhythmias**
Miscellaneous Cardiac Chest Pain

- Aortic dissection
- Rupture of aortic aneurysm
- Pulmonary hypertension
- Mitral valve prolapse
- Atrial myxomas
- Cardiac device/stent complications
Toxic Drug-Induced Cardiac Chest Pain

• Cocaine
• Marijuana
• Methamphetamines
• Sympathomimetic decongestants
Taking a History of Chest Pain

• When did the pain start and when does it occur?
• Can the student describe the type of pain (e.g., burning, stabbing, sharp, crushing)
• Does the pain worsen with breathing?
• Where is the pain located? Is it localized or diffuse?
• Does the pain radiate anywhere?
• How long does the pain last?
• Does the student have any other symptoms?
• Has the student had a recent fever or illness?
• Has there been chest wall trauma?
• Have there been any recent stressful life events?
• Is the pain exaggerated by deep breathing?
Past Medical /Family History

Specifically ask student/parent about past medical history:

- Asthma
- Sickle cell disease
- Rheumatic fever
- Cystic fibrosis
- Congenital heart disease with surgical repair
- Acquired heart disease

Family History

- Has anyone in family had any known cardiac history?
- Has anyone in family had any fainting or abnormal heart beats?
- Has anyone in family had a sudden or early death?
- Has anyone in the family had any genetic or connective tissue disorder?
- Has anyone in the family had cardiomyopathy?
Duration of Chest Pain

- Chest pain that lasts for hours or days points less to a cardiac origin
- Pain that starts and stops suddenly points to cardiac arrhythmia
- Pain that slowly resolves on its own more consistent with GI or musculoskeletal etiology
Type and Location of Chest Pain

Can be frustrating when asking a child as have vague descriptions

- Sharp “like a knife or needle,” often associated with costochondritis or other musculoskeletal causes-costochondritis can be located anywhere along costochondral junction; chest pain worsens with large deep breaths
- Lateral or posterior pain can result from upper back muscle strain
- Vague anterior chest wall pain can be caused by pectoral or shoulder muscle strain
- Sharp pain in the substernal are that radiates to the neck, back and shoulders can be associated with pneumomediastinum
- Burning sensation-may be associated with esophagitis or indigestion; pain worsens with lying down
- An adolescent with crushing pain should be taken very seriously as can be associated with cardiac etiology
Associated Symptoms

It is critical to ascertain whether the student has experienced palpitations, dizziness, or syncope with the chest pain - these symptoms are worrisome as are associated with cardiac causes of chest pain.

Flu-like symptoms or prolonged fever with new onset chest pain may point to endocarditis, pericarditis or myocarditis.
Precipitating Factors

Explore recent life events:

• Chest pain began with move to new neighborhood or new school

• Anxiety because of failing grades or bullying
  c/o chest pain during week but not on W/E

• Are there stressful life events in family: ill family member, death in family, impending divorce, or physical or sexual abuse?

• Question adolescent girls if taking birth control pills—rare pulmonary embolism associated with use

• Depression should be considered when reviewing stressors and any other factors contributing to psychosomatic pain
Family History

Family history is pivotal when examining a child or adolescent with chest pain

- Ask whether other family members have a history of acquired or congenital heart disease, Marfan Syndrome, or rhythm disturbances (many families do not realize that there is a familial component to these conditions)
- Most critical is clarifying whether there is a history of sudden, unexplained death. Idiopathic hypertrophic subaortic stenosis is an autosomal dominant disorder associated with chest pain and sudden death.
Severity of Chest Pain

Ask how severe pain is: Is this the worst pain ever experienced or is it only a 5 on a 1-10 pain scale? Faces pain scale for younger children

- Organic or psychogenic pain
  - Does it prevent you from partaking in favorite activity?
  - Does it occur every Monday morning before start of school week?
Onset of Chest Pain

- Is pain chronic or new complaint?
- When did it start and how often it occurs?
  (lifting heavier weights, fall from bicycle)
- Does it occur after spicy or heavy meal?
  (esophagitis, indigestion, or reflux)
- Did pain occur after ingestion of OTC meds-(pain relievers and cold remedies), tobacco, alcohol, illicit drugs?
Frequency of Chest Pain

• Does pain occur several times a day or just once a month?
• Does a particular activity contribute to pin onset? (climbing stairs or running) Cardiac or respiratory origin
• Does it occur only at rest? GI difficulties
PHYSICAL EXAM

A complete physical exam is fundamental in determining the precise cause of chest pain.

- Be alert to signs of severe distress, pain, or anxiety
- Quick assessment of: general appearance, gait, coordination, speech, physical deformities, congenital anomalies, skin-inspection for color, cyanosis, digital clubbing, edema, neck vein prominence or distention, and neurologic function for defect in mentation or motor function

- Are the vital signs within normal limits for the student’s age, is there appropriate weight gain?
  - Temperature
  - Blood pressure with appropriate sized cuff
  - Pulse auscultating for rate, rhythm listening for 1\textsuperscript{st} and 2\textsuperscript{nd} heart sounds and presence of abnormal heart sounds
  - Respirations assessing rate, symmetry of chest movement; auscultating all aspects of lungs assessing for crackles, rhonchi, wheezing, symmetry of breath sounds
- Inspect student’s pattern of breathing to assess for splinting, distress, or any other abnormalities.
- Inspection of the student for bruising, rash, trauma, chest heave, an abnormal shape of the chest, scoliosis, or a syndromic appearance
Chest Auscultation
Auscultating Heart Sounds
# Pediatric Vital Signs - Normal Ranges

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<thead>
<tr>
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<th>Infant</th>
<th>Toddler</th>
<th>School-Age</th>
<th>Adolescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>80-150</td>
<td>70-110</td>
<td>60-110</td>
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<td></td>
<td>100</td>
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<tr>
<td>Respiratory Rate</td>
<td>24-38</td>
<td>22-30</td>
<td>14-22</td>
<td>12-22</td>
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<tr>
<td>Systolic B/P</td>
<td>65-100</td>
<td>90-105</td>
<td>90-120</td>
<td>110-125</td>
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<tr>
<td>Diastolic B/P</td>
<td>45 - 65</td>
<td>55-70</td>
<td>60-75</td>
<td>65-85</td>
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</tbody>
</table>
Palpation

• Palpate the chest wall to locate the source of chest pain or reproduce the pain (include clavicles, entire chest wall, breasts, and xiphoid area)
• Assess the student for palpable heave or RV heave
• Palpate the abdomen to elicit tenderness and hepatosplenomegaly
• Palpate the extremities for warmth and general perfusion, assess pulses in all four extremities for equality and strength
Auscultation

Heart sounds:

• S1 is the sound which marks the approximate beginning of systole and is created when the intraventricular pressure during contraction exceeds the pressure within the atria, causing a sudden closing of the tricuspid and mitral or atrial valves. The ventricles continue to contract throughout systole forcing blood through the aortic and pulmonary or semilunar valves.

• S2 is diastole, occurring as the ventricles begin to relax, the pressures in the heart become less than the aorta and pulmonary artery, and a brief backflow of blood causes the semilunar valves to snap shut, producing S2.

• Is there persistent tachycardia present?

• Auscultate all lung fields, both anteriorly and posteriorly, assessing for wheezes, rales, or asymmetry of breath sounds
Systole and Diastole

Diastole (filling)

Systole (pumping)
Murmurs

A heart murmur is an extra or unusual sound heard during a heart beat. Murmurs range from very faint to very loud. Sometimes they sound like a whooshing or swishing noise.

Systolic- heard during ventricular systole
Diastolic- is a sound of some duration occurring during diastole, (all diastolic murmurs imply some alteration of anatomy or function of the cardiovascular structures)
Continuous- heard during systole and diastole
Vary with timing, location, quality-coarse, harsh, blowing, high pitched

Grade:
• I-faint, may not be heard sitting
• II-readily heard with stethoscope
• III- loud, with stethoscope, no thrill
• IV-loud with stethoscope, thrill
• V-loud with stethoscope barely to chest, thrill
• VI-loud with stethoscope not touching chest, thrill
Functional Murmurs

- Change or disappear with position change (usually loudest when supine)
- Low grade, soft, or musical
- Intensity range from I-III/VI
- Systolic (never diastolic)
- Do not radiate
- Occur in absence of significant heart disease or structural abnormality
Red Flags on Physical Exam

• **Inspection:** obvious, severe distress, pain or anxiety; ill appearance; signs of trauma, bruising, rash; heaving of chest; abnormal breathing pattern; asymmetry of chest wall; scars consistent with previous chest surgery; syndromic appearance; recent weight loss

• **Auscultation:** dysrhythmia, tachycardia, murmur, abnormal heart sounds, rub, gallop, rales, wheezing, asymmetry of breath sounds

• **Palpation:** Thrill or R ventricular heave; tenderness of costochondral borders or other areas of chest or abdomen; subcutaneous emphysema; decreased femoral pulses; hepatosplenomegaly
TRIAGING CHEST PAIN

KEY ASSESSMENT POINTS FOR CHEST PAIN

- Cardiac
- Respiratory
- Musculoskeletal
- Trauma
- Psychosocial stress

DETERMINE TRIAGE CATEGORY AND ACTIVATE EMS AS SOON AS NEED BECOMES APPARENT!
EMERGENT Chest Pain

EMERGENT

- Severe chest pain
- Bradycardia/tachycardia
- Cyanosis of lips and nail beds
- Decreased LOC
- Palpitations
- Dyspnea
- Peripheral pulses weak/ thready/ absent
- Diaphoresis: clammy, cool skin
- Restlessness
- Hypotension
- Nausea
- Weakness
- Capillary refill exceeds 2 seconds

INTERVENTIONS

- Support ABCs
- Activate EMS
- Have AED readily available
- Maintain position of comfort
- Directly and carefully observe student
- Reassess vital signs every 5 minutes
- Contact parent or guardian
- Notify school administrator
URGENT Chest Pain

Urgent

- Moderate persistent chest pain
- Anxiety
- Stable vital signs
- No history of
  - recent chest trauma
  - recent asthma attack, or
  - recent loss of consciousness

Interventions

- Support ABCs
- Determine need for EMS
- Maintain position of support
- Observe student closely
- Reassess vital signs
- Contact parent/guardian to transport student to medical care or home
- Follow Up
NONURGENT

• Mild chest pain
• Normal vital signs
• No history of
  • recent chest pain
  • recent asthma attack, or
  • loss of consciousness

INTERVENTIONS

• Support ABCs
• Maintain position of comfort
• Monitor closely
• Contact parent or guardian
• Return student to class or send home as indicated
• Follow up
Referring the Student with Chest Pain

To the Emergency Department:
• Acute distress, crushing pain, significant trauma
• Esophageal foreign body or ingestion of caustic substance
• Pneumothorax, pleural effusion
• Pain with syncope, dizziness, palpations, exertion
• Significant emotional disturbance

To a Pediatric Cardiologist:
• Family history of sudden death or syncope
• Family history of congenital or acquired heart disease
• Student with history of cardiac surgery or Kawasaki disease
Auscultating Heart Sounds

- The Auscultation Assistant—hear Heart Murmurs, Heart Sounds, and Breath Sounds

http://www.wilkes.med.ucla.edu/net.htm
PREFPARTICIPATION PHYSICAL EVALUATION -- MEDICAL HISTORY

This MEDICAL HISTORY FORM must be completed annually by parent (or guardian) and student in order for the student to participate in athletic activities. These questions are designed to determine if the student has developed any condition which would make it hazardous to participate in an athletic event.

Student's Name: ______________________ Sex: ______________________ Age: __________ Date of Birth: __________

Address: ________________________________ Grade: __________ Personal Physician: _______________________

School: ________________________________ Phone: ______________________ Phone: ______________________

In case of emergency, contact: Name: ______________________ Relationship: ______________________ Phone (H): __________ Phone (W): __________

Explode "Yes" answers in the box below. Circle questions you don't know the answers to. Any Yes answer to questions 1, 2, 3, 4, 5, or 6 requires further medical evaluation which may include a physical examination. Written clearance from a physician, physician assistant, chiropractor, or nurse practitioner is required before any participation in P.E. classes, games or matches.

1. Have you had a medical illness or injury since your last check up or sports physical? Yes No
2. Have you been hospitalized overnight in the past year? Yes No
3. Have you ever had surgery? Yes No
4. Have you ever passed out during or after exercise? Yes No
5. Have you ever had chest pain during or after exercise? Yes No
6. Have you ever had your heart or skipped heartbeats? Yes No
7. Have you had high blood pressure or high cholesterol? Yes No
8. Have you ever been told you have a heart murmur? Yes No
9. Has any family member or relative died of heart problems or of sudden unexpected death before age 50? Yes No
10. Has any family member been diagnosed with heart disease, hypertension, or other heart condition (like Marfan's syndrome, etc.)? Yes No
11. Have you ever had a severe viral infection (for example, myocarditis or mononucleosis) within the last month? Yes No
12. Has a physician ever diagnosed or restricted your participation in sports for any heart problems? Yes No

4. Have you ever had a head injury or concussion? Yes No
5. Have you ever been knocked out, become unconscious, or lost your memory? Yes No
6. How many times? ____________________________
7. When was the last concussion? ____________

8. Have you ever had an asthma condition? Yes No
9. Do you have frequent or severe headaches? Yes No
10. Have you ever had a bout of or tingling in your arms, hands, legs, or feet? Yes No
11. Have you ever had a stiff neck, or pinched nerve? Yes No
12. Are you under a doctor's care? Yes No
13. Are you currently taking any prescription or non-prescription anticonvulsant medication or pills or using an inhaler? Yes No
14. Do you have any current skin problems (for example, itching, rash, acne, warts, fungus, or lesions)? Yes No
15. Have you ever been told you have a skin condition? Yes No
16. Have you had any problems with your eyes or vision? Yes No

It is understood that even though protective equipment is worn by the athlete, whenever needed, the possibility of an accident still remains. Neither the University Interscholastic League nor the school assumes any responsibility in case an accident occurs.

If, in the judgment of any representative of the school, the above student should meet immediate care and treatment as a result of any injury or sickness, I do hereby request, authorize, and consent to such care and treatment as may be given said student by any physician, athletic trainer, nurse or school representative. I do hereby agree to indemnify and save harmless the school and any school or hospital representative from any claim by any person on account of such care and treatment of said student.

If, between this date and the beginning of athletic competition, any illness or injury should occur that may limit this student's participation, I agree to notify the school authorities of such illness or injury.

I hereby state that, to the best of my knowledge, my answers to the above questions are complete and correct. Failure to provide truthful responses could subject the student in question to penalties determined by the UIL.

Student’s signature: __________________________ Date: __________

This form must be on file prior to participation in any practice, scrimmage or contest before, during or after school.

For School Use Only: This Medical History Form was reviewed by: __________________________ Printed Name: __________________________ Date: __________ Signature: __________________________
# Preparticipation Physical Evaluation — Physical Examination

**Student’s Name:**

**Sex**

**Age**

**Date of Birth:**

**Height:**

**Weight:**

**% Body Fat (optional):**

**Pulse:**

**BP:**

**BP (optional):**

**Papillae:**

**Equal,**

**Unequal:**

As a minimum requirement, this Physical Examination Form must be completed prior to junior high athletic participation and again prior to first and third years of high school athletic participation. It must be completed if there are yes answers to specific questions on the student’s MEDICAL HISTORY FORM on the reverse side. *Local district policy may require an annual physical exam.*

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<th>Normal</th>
<th>Abnormal Findings</th>
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<tr>
<td>Eyes/Ears/Nose/Throat</td>
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<td>Lymph Nodes</td>
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<td>Heart-Assculation of the heart in the supine position</td>
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<td>Heart-Assculation of the heart in the standing position</td>
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<td>Heart Lower extremity pulses</td>
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<td>Pulses</td>
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<td>Genitalia (males only)</td>
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<td>Marfan’s stigmata (arachnodactyly, pectus excavatum, joint hypermobility, scoliosis)</td>
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<td>Neck</td>
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<td>Back</td>
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<tr>
<td>Shoulder/Arm</td>
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<tr>
<td>Elbow/Forearm</td>
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<tr>
<td>Wrist/Hand</td>
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<tr>
<td>Hip/Thigh</td>
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<td>Knee</td>
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<td>Leg/Ankle</td>
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*station-based examination only

## Clearance

☐ Cleared

☐ Cleared after completing evaluation/rehabilitation for:

☐ Not cleared for: __________________________

Reason: __________________________

Recommendations: __________________________

The following information must be filled in and signed by either a Physician, a Physician Assistant licensed by a State Board of Physician Assistant Examiners, a Registered Nurse recognized as an Advanced Practice Nurse by the Board of Nurse Examiners, or a Doctor of Chiropractic. Examination forms signed by any other health care practitioner, will not be accepted.

**Name (print/type):**

**Address:**

**Phone Number:**

**Signature:**

Must be completed before a student participates in any practice, before, during or after school, (both in-season and out-of-season) or games/matches.
Thanks for all that you do!
References

• Chest Pain in Children. Pediatric Views- Children’s Hospital Boston.  
  www.childrenshospital.org/views/feb04/chestpain.html

• Guidelines for the Nurse in the School Setting.  


• Lawrence, P.R., Delaney, A.E. (2004): Chest pain in children and adolescents. Advance for NP’s and PA’s, 12, 61-68.
References


• Google Images for photos and cartoons