

Red Flag Symptoms: When to Worry

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Can you look at my rash?



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Chickenpox (Varicella)

1. **Description:** Itchy, blister-like rash that starts on the torso and spreads to other parts of the body.
2. **Progression:** Lesions start as red spots, (teardrop) develop into fluid-filled blisters, and eventually crust over.
3. Vaccinated Children have mild illness a lesions may not be widespread

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Erythema Migrans (Lyme Disease Rash)

- **Appearance:**
 - **Initial Presentation:** The rash typically begins as a small red spot at the site of the tick bite.
 - **Expansion:** It gradually expands over several days, forming a circular or oval-shaped rash.
 - **Characteristic Feature:** Often described as a "bull's-eye" appearance, with a red outer ring surrounding a clear area and a red center. However, this classic pattern is not always present; the rash can be uniformly red and may vary in shape and size.
- **Size:**
 - The rash can vary significantly in size, often reaching up to 12 inches (30 centimeters) in diameter.
- **Location:**
 - Commonly appears at the site of the tick bite but can also occur at other body sites.
- **Symptoms:**
 - The rash itself is usually not itchy or painful, but it may feel warm to the touch.
 - It is often accompanied by flu-like symptoms such as fever, chills, fatigue, body aches, and swollen lymph nodes.
- **Timing:**
 - The rash typically appears 3 to 30 days after the tick bite, with an average onset of about 7 days.

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Petechiae and Purpura

Meningococcal Disease – Fever, Headache, Neck Stiffness

Henoch Schonlein Purpura – purpuric rash on extremities, pain, swelling

Immune Thrombocytopenic Purpura (ITP)--Petechiae and Bruising, Purpura

Facial Petechiae alone--vomiting or coughing

Malignancy--always has to be ruled out

Immediate Medical Evaluation

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Immune Thrombocytopenic Purpura (ITP)


ITP is an autoimmune disorder characterized by low platelet counts, leading to increased bleeding risk

Petechial Rash present, will be well-appearing

Safety during school activities: Monitor for signs of bleeding and ensure that emergency protocols are in place.

- **No-contact sports and high-risk activities (e.g., climbing) are advised for children with platelet counts less than 50**
- **Headache--emergency--intracranial bleed**

Avoid NSAIDs (e.g., ibuprofen) due to antiplatelet effects; use acetaminophen for pain/fever



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Henoch-Schönlein Purpura (HSP)

HSP, also known as IgA vasculitis, is a complex immune-mediated vasculitis that primarily affects small blood vessels in the skin, joints, gastrointestinal tract, and kidneys

Clinical Presentation: HSP typically presents with skin purpura, often on the lower extremities and buttocks, joint pain (especially in the knees and ankles), abdominal pain, blood in the urine

Complications and Monitoring: Be aware of potential complications, such as intussusception. Monitoring for signs of these complications and ensuring prompt medical evaluation if they occur is essential. Any child with known HSP with abdominal pain needs immediate attention.

Symptom Monitoring: Regularly check for signs of worsening symptoms, such as increased abdominal pain, pain management



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“My Belly Hurts”



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Common Causes

“Frequent Flyers”

Constipation

Gastritis

Stress and Anxiety

Refer to PCP

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Urgent

Right Lower Quadrant Pain-Appendicitis
Kidney Stones-Lower -Intense-Blood in Urine
UTI-Lower-Dysuria, Fever

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Kidney Stones

Overview:

- Kidney stones (renal calculi, nephrolithiasis) are solid concretions formed in the kidneys from minerals and salts.
- Affect about 8-10% of the population, with increasing incidence in children and adolescents, especially adolescent females
- Recurrence is common: ~50% chance of a second stone within 5-7 years after the first

Causes and Risk Factors

- Dehydration and low fluid intake are major contributors.
- Soda, Energy Drinks
- Rare inherited metabolic disorders (e.g., cystinuria) can cause stones in children
- Associated with metabolic syndrome and diabetes, which may increase risk of kidney damage

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Kidney Stones

Symptoms:

Sudden, severe flank or abdominal pain

Pain may radiate to the groin or genitals.

Hematuria (blood in urine), nausea, vomiting, and urinary urgency or frequency.

Prevention:

Support students with known kidney stone history in managing hydration during school hours.

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Appendicitis

Clinical Presentation

- Initial symptom: generalized or periumbilical abdominal pain that later localizes to the right lower quadrant (RLQ)
- Associated symptoms: anorexia, nausea, vomiting, diarrhea, malaise, urinary frequency or urgency
- Pain typically develops acutely within 24 hours but can be more gradual if abscess forms
- In children, symptoms may be less specific and harder to localize.

Signs to Watch For in School Setting

- Sudden onset abdominal pain, especially around the belly button or RLQ.
- Loss of appetite and nausea.
- Vomiting or diarrhea.
- Fever and general malaise.
- Difficulty walking or reluctance to move due to pain.

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Pyelonephritis

- Classic triad: high fever, flank pain, nausea or vomiting (not all symptoms always present)
- Other symptoms: chills, malaise, abdominal pain,
- In children, systemic signs like high fever and vomiting are prominent

Signs to look out for:

- Fever $>38.5^{\circ}\text{C}$
- Flank or abdominal pain
- Nausea, vomiting
- Costovertebral angle tenderness

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Intussusception

- Medical emergency: part of the intestine folds into an adjacent section, causing obstruction and potentially cutting off blood supply.
- Young children
- Sudden, severe abdominal pain that may come and go, vomiting, bloating, and sometimes bloody stools

Early detection and prompt referral to emergency care can prevent serious complications like intestinal ischemia or perforation. Key clinical features to watch for include:

- Sudden onset of intermittent, severe abdominal pain (child may draw knees up or cry inconsolably)
- Vomiting
- Abdominal swelling or bloating
- Presence of bloody or "currant jelly" stools (a mixture of mucus and blood)
- Lethargy or pallor in the child
- Complication of HSP

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In Adolescent Females

Lower threshold for urgent evaluation:

Ruptured Ovarian Cyst-Acute lower abdominal pain, pelvic pain, nausea/vomiting

Pelvic Inflammatory Disease - Acute lower abdominal pain, pelvic pain, fever, discharge

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Testicular Pain

“It hurts down there”



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Testicular Pain

Rule Out: Testicular Torsion-Pain is severe, unilateral, swelling - Emergency

Other causes:

Epididymitis -can occur in any age, swelling associated and is typically unilateral-Needs urgent visit-antibiotics

Other causes: can have pain from malignancy, but will usually feel a lump or size difference

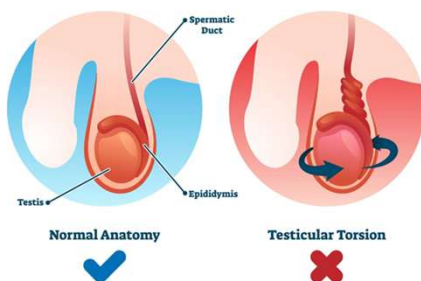
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Testicular Torsion

- Definition and Urgency: Testicular torsion is a surgical emergency where the testicle rotates, cutting off its blood supply. Prompt diagnosis and treatment within 6 to 8 hours are crucial to prevent irreversible damage and potential loss of the testicle
- Symptoms:
 - Sudden onset of severe unilateral testicular pain
 - Swelling of the scrotum
 - Nausea and vomiting
 - Abdominal pain
- Incidence: Most common in adolescents, but can occur in elementary aged children
- Action Plan:
 - Recognize symptoms quickly
 - Advise immediate medical attention if symptoms are present
 - Educate students about testicular torsion

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TESTICULAR TORSION

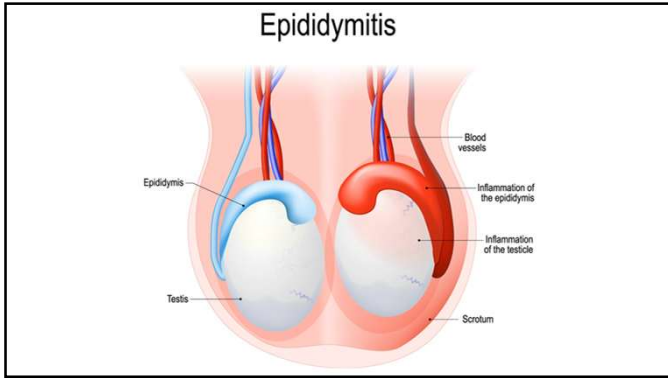


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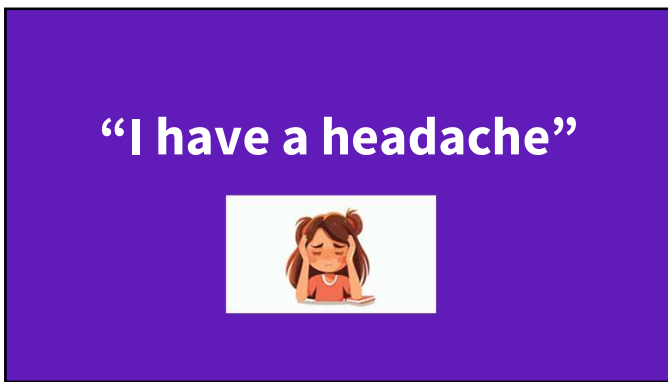
Epididymitis

- Presentation:
 - Pain: Gradual onset of unilateral scrotal pain, often starting in the epididymis (posterior/superior testis)
 - Swelling: Epididymal tenderness on palpation; may progress to testicular involvement (epididymo-orchitis)
 - Associated symptoms: Dysuria, urinary frequency, or urethral discharge (if sexually transmitted; Fever is uncommon unless severe)
 - Antibiotics:
 - Sexually transmitted (adolescents): Doxycycline.
 - Urinary pathogens (prepubescent): Trimethoprim-sulfamethoxazole (Bactrim)
 - Supportive care: Scrotal elevation, NSAIDs (e.g., ibuprofen), ice packs
 - Referral
- Education:
 - Prevention: STI protection (condoms), hydration, and prompt UTI treatment
 - Self-exam: Teach testicular self-examination (TSE) to detect abnormalities early

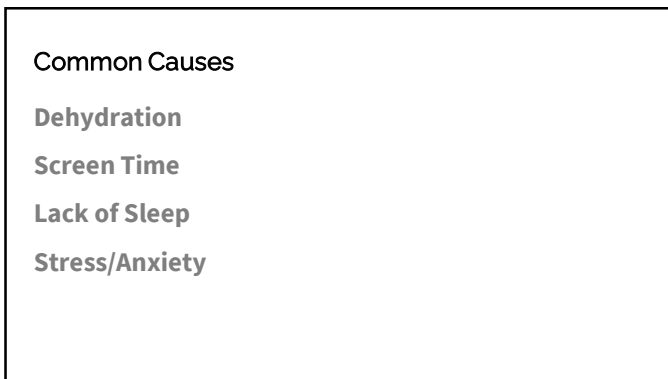
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Headache-Red Flags

Sudden Onset

Neurological Symptoms: Changes in Vision, New Weakness/Numbness, Slurred Speech, Balance Issues, Confusion-altered mental status

Systemic Symptoms: Fever, Weight Loss

Positional Headache: Worsen when laying down or when suddenly standing up

Triggered by Physical Activity (including sneezing, coughing)

Associated with Vomiting

History of Head Trauma-worsening headache

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“My Chest Hurts”



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Chest Pain

Most chest pain in school aged children and teens is not due to serious cause warranting urgent medical evaluation

Musculoskeletal-Costochondritis

Gastroesophageal Reflux

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Chest Pain

- **Unrelenting chest pain:** Pain that does not subside with rest or typical interventions.
- **Associated symptoms:** Such as **dyspnea tachypnea, tachycardia hypotension** (low blood pressure), **nausea, vomiting, or sweating**.
- **Exertional chest pain:** Pain that occurs or worsens with physical activity and is relieved by rest.
- **Existing Cardiac Condition**
- **Tall, Thin Build–Marfan’s (undiagnosed)**
- **Sudden Onset–Sharp Pain with Dyspnea, worse with deep breathing and radiating to back–Pneumothorax**
- **Oral Contraceptives**

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ENT and Neck Conditions



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Cervical Lymph Nodes

Cervical nodes are most common in school-age infections (strep, mono);

Benign features: Soft, mobile, tender nodes often resolve within 1-2 weeks

Concerning features: Hard consistency, immobility, coalescence (clustering), or size >1 cm persisting >4 weeks

Refer urgently if nodes are painless, firm, rapidly growing, or accompanied by systemic symptoms (e.g., night sweats, weight loss)

Lymphadenitis: Tender, large, fluctuant; Refer immediately–antibiotics

Document: Size, location, consistency, mobility, and associated symptoms

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Mastoiditis

Complication of Acute Otitis Media in which purulent material accumulates in the mastoid cavities (air cells).

- Ear pain
- Tympanic membrane exam consistent with Acute OM
- Posterior auricular redness, swelling, tenderness
- Displacement of auricle upwards and outwards

Requires immediate medical evaluation/IV antibiotics/ENT.



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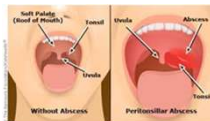
Peritonsillar Cellulitis/Abscess

School-age children and teens

Symptoms: Severe Sore Throat Dysphagia, Fever, Malaise Earache

Physical Exam Findings: Enlarged Cervical Node (one side), Drooling, Erythema, Enlarged tonsil with uvula deviated to contralateral side, Muffled voice

Immediate medical attention and antibiotic treatment—severe cases need emergency evaluation ENT



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Thank you!
Questions?

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