

**EE033**

**PEDIATRIC CHEST X-RAY FINDINGS GUIDE WISE CHOICES FOR SECONDARY INVESTIGATION**

**Authors:** *Naoya Shatani, Heather Bray, Helen Nadel, Jim Potts*

**LEARNING OBJECTIVES:**

1. To illustrate chest x-ray findings that localize and characterize pediatric intra-thoracic masses.
2. To review the differential diagnosis of pediatric intra-thoracic masses by location and radiographic density of the lesion.
3. To present the characteristic imaging findings of representative benign and malignant pediatric intra-thoracic masses.
4. To discuss appropriate use of advanced imaging modalities (US, CT, MRI, PET-CT and mIBG SPECT-CT) to investigate and stage pediatric thoracic masses.

**BACKGROUND:** Chest x-ray remains the first line imaging investigation for children with symptoms or signs of a thoracic abnormality. In 2016, several advanced imaging modalities, including US, CT, MRI PET-CT and mIBG SPECT-CT, are available secondary evaluation of masses detected on chest x-ray. Each of these imaging modalities has advantages and disadvantages. None is the “gold standard” for all lesions. Chest x-ray findings described years ago remain useful to localize and characterize intra-thoracic masses and to guide development of a differential diagnosis. Decisions for further imaging should be based on “most likely diagnosis” given the clinical presentation and chest x-ray findings.

**CONCLUSION:** Classically-described chest x-ray findings aid localization and characterization of pediatric intra-thoracic masses. These findings guide differential diagnosis and selective use of US, CT, MRI, PET-CT and mIBG SPECT-CT studies to further investigate.

**EE031**

**HEREDITARY DISORDERS OF CONNECTIVE TISSUE: A REVIEW FOR RADIOLOGISTS**

**Authors:** *Marie-Michele Theriault, James R. Clarke, James D. Fraser, Robert M. Miller, Bruce X. Precious*

**LEARNING OBJECTIVES:**

1. Define the large spectrum of hereditary disorders of connective tissue.
2. Recognize the radiologic manifestations of Marfan syndrome and other hereditary disorders of connective tissue.
3. Integrate this knowledge into their practice to make concise and comprehensive reports when assessing patients with known or suspected hereditary disorder of connective tissue.

**BACKGROUND:** Marfan syndrome is a well know and common disorder of connective tissue, but there are more than thirty distinct heritable disorders of connective tissue that share overlapping features, including Ehler-Danlos Syndrome, Loeys-Dietz Syndrome, Bicuspid Aortic Valve and Familial Thoracic Aortic Aneurysm and/or Dissection. Radiologist awareness of the spectrum of findings seen in this group of disorders is important as imaging plays a central role in the diagnosis and follow-up patients with these conditions.

**CONCLUSION:** A global understanding of, and a specific approach to, hereditary disorders of connective tissue will help the radiologist make concise and comprehensive reports when assessing patient with known or suspected hereditary disorders of connective tissue.