

An 8-year-old boy is brought to the emergency department by his mother. Two weeks ago, he developed a low-grade fever followed by a persistent cough. He occasionally has severe paroxysms of cough that are precipitated by eating and do not resolve with antitussive medications. On physical examination, extensive subcutaneous emphysema over the anterior chest is noted. What is the most appropriate next step in the management of this patient?

- ☐ A. Chest x-ray
- ☐ B. Throat culture
- ☐ C. Ear examination
- ☐ D. CT scan of head
- ☐ E. Blood cultures

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- ☒ A. Chest x-ray [80%]
- ☐ B. Throat culture [11%]
- ☐ C. Ear examination [2%]
- ☐ D. CT scan of head [2%]
- ☐ E. Blood cultures [5%]

[Proceed to Next Item](#)**Explanation:**

User Id: [REDACTED]

Severe coughing paroxysms may result in subcutaneous emphysema, wherein air leaks from the chest wall into the subcutaneous tissues due to the high intraalveolar pressure provoked by the cough. By a similar process, pneumothorax can occur; therefore, in such patients (i.e., those with apparent subcutaneous emphysema secondary to severe coughing paroxysms), chest x-rays must be obtained emergently to rule out pneumothorax.

(Choice B) Cultures of the throat may be relevant in this case for diagnosis, but pneumothorax should still be ruled out first.

(Choice C) An ear infection could have caused this child's condition via oropharyngeal transmission, but this information is still not as important as the absence/presence of a pneumothorax.

(Choice D) In this child, there is no reason for a CT scan of the head since there are no neurologic findings.

(Choice E) Blood cultures are not warranted in this child. Throat cultures should be done first before blood cultures.

Educational Objective:

In patients with apparent subcutaneous emphysema secondary to severe coughing

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