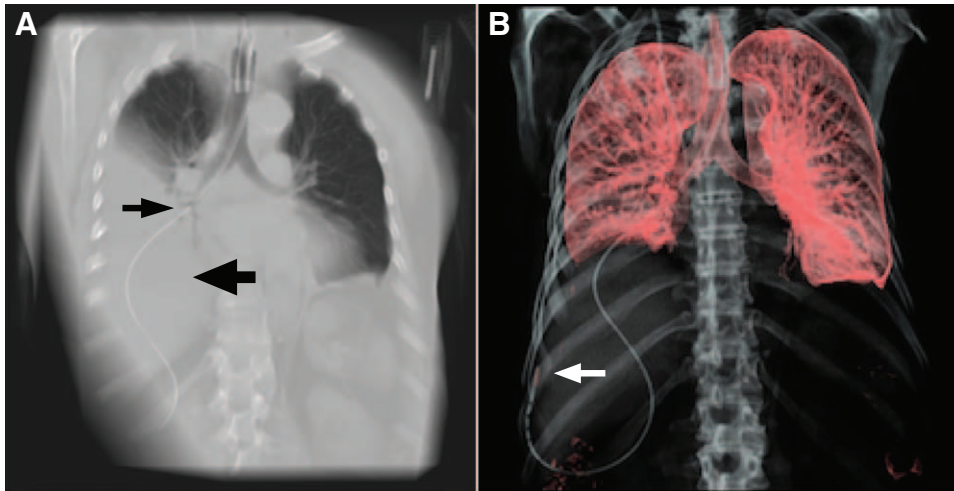


# Images in Anesthesiology: Bronchopleural Fistula Caused by the Incorrect Placement of the Enteral Feeding Tube

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**T**HE positioning of a nasogastric feeding tube (NET) in critically ill patients is usually considered to be an easy and safe procedure, but it may be the cause of severe complications such as transbronchial intubation, pneumonia, esophageal perforation, pneumothorax, pulmonary hemorrhage, and intracranial placement.<sup>1</sup>

Computed tomography scans without contrast (fig. A and B) describe a tracheobronchial insertion

of the NET, complicated by a bronchopleural fistula. A multiplanar reconstruction image (fig. A) shows the NET advancing beyond the tracheostomy tube into the right inferior bronchus (thin arrow) and an associated moderate right pleural effusion (big arrow). A volume rendering technique image (fig. B) highlights the aerated lungs (pink areas) and shows the NET penetrating through the lung, with its tip reaching the pleural space into the costophrenic recess (white arrow).

According to the literature, tube placement errors vary from 1.3 to 50% in adults.<sup>2</sup> The correct position should always be checked before feeding is started. Among the methods suggested for confirming the correct positioning of the NET, the most widely used are auscultation of borborygmus during air injection with examination of the visual characteristics of aspirate, chest radiograph, and evaluation of gastric content with measurement of the pH, bilirubin, pepsin, trypsin, and carbon dioxide.<sup>3</sup> The National Patient Safety Agency guidelines highlight the unreliability of certain methods, but recommend testing with a pH indicator paper (pH between 1 and 5.5 as the safe range) and chest radiograph images as the first-line check.<sup>2</sup>

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## Competing Interests

The authors declare no competing interests.

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