


# Nasogastric tube placement in critically ill patients—stay alert!

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## CLINICAL CASE

Misplacement of nasogastric tubes occurs in 1% of cases, as positioning of tubes is mostly performed “blindly.”<sup>1</sup> Confirmation of correct positioning via chest X-ray is mandatory to avoid fatal complications such as intra-pulmonary feeding.

This is a 71-year-old male patient on the third postoperative day after mitral-valve repair who was readmitted to the intensive care ward due to respiratory failure requiring intubation and placement of a nasogastric tube. Initial epigastric auscultation did not raise suspicion of incorrect tube placement. On the first chest x-ray, mispositioning of the nasogastric tube in the right lower pulmonary lobe can be seen (Figure 1A, \*). However, this went unnoticed and feeding was administered through the tube. A second chest X-ray was performed several hours later, with progressive pulmonary infiltrates visible around the mispositioned tube (Figure 1B, arrows). The tube was repositioned thereafter. Due to worsening hypoxemic respiratory failure secondary to the progression of ARDS and hemodynamic instability the patient eventually required AV ECMO support. Although weaning from ECMO therapy was possible, the patient ultimately died from multiorgan failure. Even when performing

common interventions such as nasogastric tube placement, one must remain alert and react immediately to avoid potentially fatal outcomes. Epigastric auscultation after air-infusion through an oro- or nasogastric tube may indicate a mispositioning early on but can be misleading due to good thoracoabdominal sound transmission. Therefore, careful review of radiographic imaging to visually confirm placement below the diaphragm is mandatory in preventing adverse events.

## CONFLICT OF INTERESTS

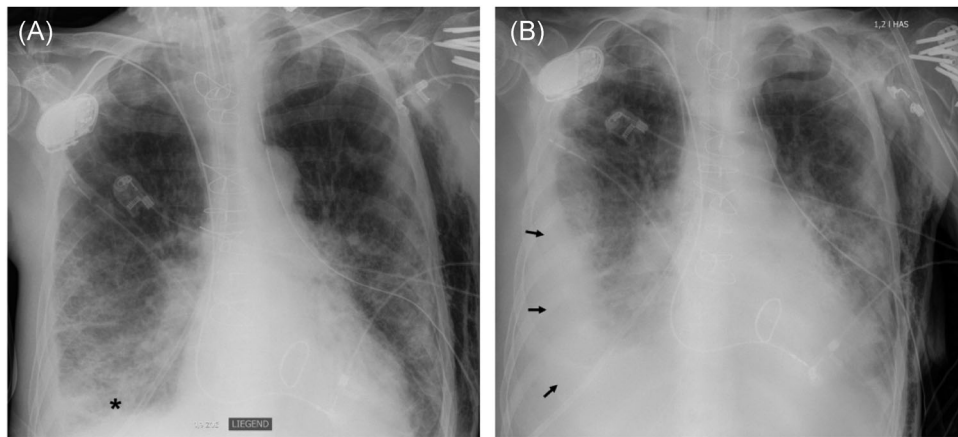
The authors declare that there are no conflict of interests.

## AUTHOR CONTRIBUTIONS

Paul Werner was responsible for conceptualization, data curation, project administration, visualization and writing of the original draft as well as review and editing. Martin H. Bernardi was responsible for data acquisition and review and editing of the original draft. Guenther Laufer was participating in supervision, review and editing of the original draft. Dominik Wiedemann was responsible for conceptualization, formal analysis, project administration, acquisition of resource, and review and editing of the original manuscript.

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**FIGURE 1** (A) Chest X-ray images after nasogastric tube placement with the tip of the tube projected on the right lower lobe (\*) and (B) with progressive right sided pulmonary infiltrates (arrows) several hours later after administration of feeding

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#### REFERENCE

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