EDITORIAL

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# New European guidelines on pneumothorax: Copernican revolution or just reinvention of the wheel?

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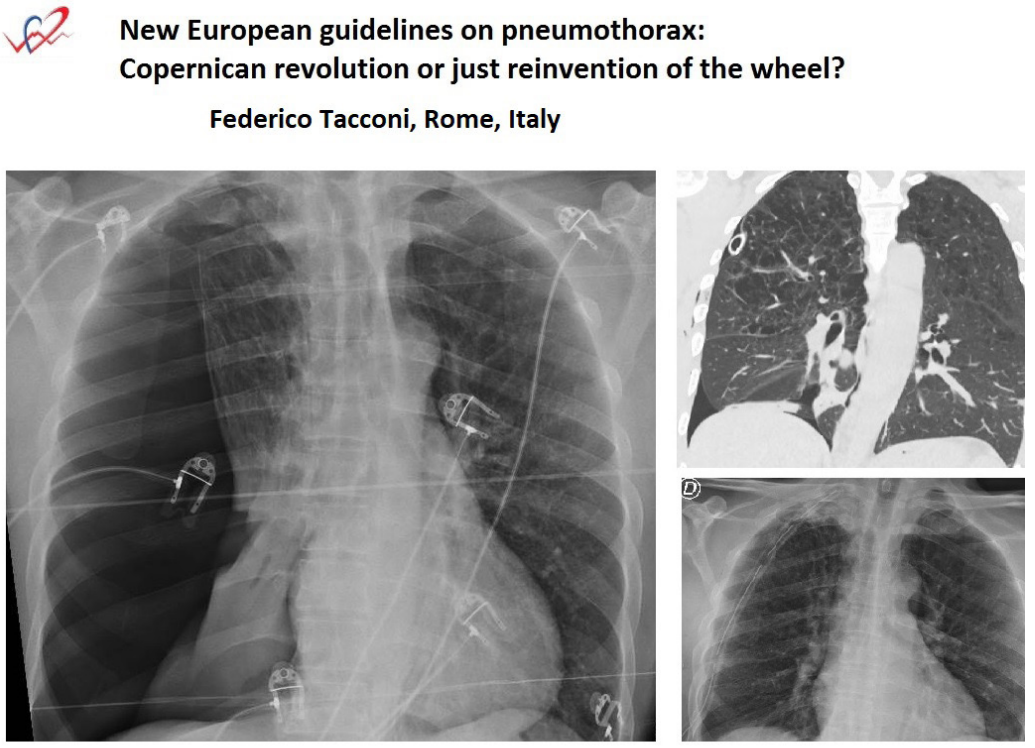


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Spontaneous pneumothorax, either primary or secondary to pre-existing lung diseases, represents a common clinical scenario to deal with in daily clinical care. In May 2024, the task force from the European Respiratory Society (ERS), European Society for Thoracic Surgery (ESTS) and European Association for Cardio-Thoracic Surgery (EACTS) issued an updated list of recommendations in this regard (1). The recommendations come some month after those issued from the British Thoracic Society in August 2023 (2).

First of all, we feel that all the colleagues who gave their contribution to this document should be credited for having systematically and rigorously addressed all the most important questions in this regard. Indeed, the authors not only focused on the immediate treatment of acute pneumothorax, but also on many other important points as prevention, patient education and management of complicated cases with persisting air-leak.

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Many of the issued recommendations are actually game-changers. For example, it emerges that early drainage of a primary spontaneous pneumothorax should be better avoided in favor of conservative management, provided that clinical presentation is mild and the patient stable. Although marked as "conditional recommendation with low quality level of evidence", this advice is based on the observation that drainage procedure can be more problematic due to longer hospital stay, increased costs and inherent risk of procedure-related complications. An impressive point in this regard is that the risk of recurrence seems to be even lower after conservative management, thus contradicting a popular dogma that early lung expansion and adhesions formation resulting from chest drain placement might translate into a protective "pleurodesis-like" effect, and hasten the healing of the air leak.

When evacuation of the air collection is required for a primary spontaneous pneumothorax, the new European guidelines still favor minimalistic procedures as ambulatory devices or just needle aspiration, in lieu of intercostal drain placement. In this regard, they slightly differ from the British Thoracic Society recommendations, where needle aspiration and percutaneous intercostal drain with Seldinger technique are deemed to be almost equivalent procedures.

Yet another interesting point is that, in patients with persistent air leak after intercostal chest drain insertion for secondary pneumothorax, pleurodesis with autologous blood patch (ABP) might be considered, especially in patients who are unfit for surgical management. Although there is just weak evidence in favour of ABP, it is reassuring that it is now definitely included in the therapeutic armamentarium as a reliable option, rather than a sort of "grandmother remedy" without a real scientific fundament. A further important novelty is the consideration of early surgery in patients with primary spontaneous pneumothorax who present with a high-risk of recurrence, and/or whom recurrence could be hazardous due to occupational issues. This point is worth mentioning, as the indication to preventive surgery (most commonly, VATS blebectomy and pleurodesis, either mechanical or chemical) has been traditionally restricted to patients who had already at least 1 previous pneumothorax episode.

The other side of the coin is that, although all the issued recommendations seem reasonable and wise, there is a surprising lack of high-quality evidences with respect to many points of pneumothorax management. The most frequent problems with clinical studies on pneumothorax are the relatively small sample sizes leading to underpowered analysis, and the general difficulty of obtaining adequately controlled and bias-free observational conditions. For example, secondary spontaneous pneumothorax is an extremely heterogeneous entity, with great variability in terms of type and amount of the underlying lung disease. This fact makes the interpretation of clinical data extremely difficult, and it is not surprising that many points on secondary pneumothorax management remain unsolved.

Other than the lack of high-quality studies, generalizability of recommendations in the real world it is a difficult task as well. Indeed, interventional approaches to pneumothorax are expected to be affected by personal physician preferences, local policies, hospital availability of devices and facilities, and many other confounding factors. For example, the safety profile of a simple procedure as Seldinger chest drain insertion greatly vary according to the training level and competences of the practitioner (3, 4). Therefore, it seems reasonable that treatment strategies might have different results in different contexts. For example, in Italy it is a common practice that a thoracic surgeon advice is required soon after a patient with primary spontaneous pneumothorax comes to observation. As a consequence, when evacuation of the pneumothorax is indicated, the procedure is often performed by the thoracic surgeons themselves, or by surgical trainees under strict supervision, a circumstance that makes the probability of serious complication very low, even when a large bore drain is used instead of a percutaneous technique. Just to give some reference figures, at the Tor Vergata University Hospital in Rome, no case of major complication with chest drain insertion for primary spontaneous pneumothorax was reported over a 25-year time span (unpublished data). All the procedures were performed by surgical trainees and even by attending thoracic surgeons in some circumstances.

To conclude, we again are grateful to the European task force for providing the chest medicine community with refreshed perspective and updates regarding pneumothorax management. The auspice is that with the support of all the professionals involved, stronger evidence in this regard will rapidly become available in order to offer the best possible care in terms of efficiency and safety.

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**References**

1. Walker S, Hallifax R, Ricciardi S, Fitzerald D, Keijzers M, LAUK o, et al. Joint ERS/EACTS/ESTS clinical practice guidelines on adults with spontaneous pneumothorax. Eur Respir J 2024; 63: 2300797 doi: 10.1183/ 13993003.00797-2023

2. Roberts ME, Rahman NM, Maskell NA, Bibby AC, blyth KG, Corcoran JP, et al. British Thoracic Society guideline for pleural disease. Thorax 2023; 78: 1143-56.

3. Probyn B, Daneshvar C, Price T. Training, experience, and perceptions of chest tube insertion by higher speciality trainees: implications for training, patient safety, and service delivery. BMC Med Educ 2024; 24: 12. doi: 10.1186/s12909-023-04978-8

4. Griffith JR, Roberts N. Do junior doctors know where to insert chest drain safely? Postgrad Med J 2005;81:456-8.