We e-mailed self-administered surveys to American College of Chest Physicians members (in the Chest Infections and Critical Care Network) in 2004 to elucidate which of these admission guidelines and diagnostic criteria are utilized in practice.

The first questionnaire asked physicians which of the following ICU admission criteria they use: American Thoracic Society (ATS) 1993 and 2001,1 British Thoracic Society (BTS) CURB or CURB-65,1 pneumonia severity index (PSI) class IV and V,2 APACHE (acute physiology and chronic health evaluation) II or III, and simplified acute physiology score (SAPS) of 1 or 2.4 We compared academic vs nonacademic practitioners.

The second questionnaire involved diagnostic testing.1,2 We compared academic vs nonacademic clinicians and whether they work in closed vs open ICUs. Three hundred ninety-three questionnaires (19%) were returned. The most commonly stated admission criteria used were as follows: ATS 2001, 50%; APACHE II or III, 28%; and PSI class V, 27%. Responders were aware of SAPS (74%), ATS 1993 (68%), and APACHE (67%) but did not use them in clinical practice; 77% and 72% of responders were not aware or did not use the CURB and CURB-65 criteria, respectively. Differences were found when comparing academicians (n = 182) vs nonacademicians (n = 203). Academicians preferred the BTS guidelines (63% vs 51%, p = 0.04), PSI class IV (69% vs 56%, p = 0.02), and SAPS (87% vs 71%, p < 0.01).

The most common diagnostic tests selected for ICU patients with pneumonia were blood cultures (97%), sputum Gram stain (83%), Legionella urinary antigen (77%), and endotracheal aspirate (76%). Academic physicians ordered more endotracheal aspirates (79% vs 68%, p = 0.03) and Legionella cultures (37% vs 27%, p = 0.05) but fewer serologic tests for atypical pathogens (34% vs 46%, p = 0.03). Physicians working in closed ICUs (n = 139) ordered more blood cultures (99% vs 93%, p = 0.01) and Legionella sputum cultures (39% vs 26%, p = 0.01) than those working in open ICUs (n = 224).

It is evident that practice environment (academia vs private practice) has an effect on which ICU admission guidelines are followed.1,2 In addition, different diagnostic tests were ordered in open vs closed ICUs. This suggests that additional education and research are needed for severely ill CAP patients admitted to the ICU.

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REFERENCES

Electromagnetic Navigation
Diagnostic Bronchoscopy and Transbronchial Biopsy

To the Editor:

We read the article by Eberhardt et al1 (June 2007) with a lot of interest. The authors1 concluded that electromagnetic navigation diagnostic bronchoscopy (EMN) can be used as a stand-alone bronchoscopic technique without compromising diagnostic yield or increasing the risk of pneumothorax. In contrast to fluoroscopic guidance, the technique is not associated with radiation exposure, and the overall diagnostic yield reported for EMN1,2 is superior to rates reported previously for small peripheral pulmonary nodules with bronchoscopy.3,4 Thus, EMN may improve the diagnostic yield of transbronchial biopsy.

We seek the opinion of the authors on the following issues in order to further refine this technique. First, it is not yet clear whether the initial choice of registration points can improve further the diagnostic yield of EMN. Although in the study by Eberhardt et al1 the registration process did not affect diagnostic accuracy, in a recent investigation2 diagnostic accuracy was affected by registration error. We believe that there should be some criteria regarding the number and characteristics of registration points, especially in cases where registration error is important (as in the case of 34 patients in the study by Eberhardt et al1). These criteria could be defined by scientific consensus based on published evidence.

Second, in a study2 that assessed EMN without additional guidance, there was no difference in terms of diagnostic accuracy between bronchoscopists. Is this also the case in the study by Eberhardt et al1 especially considering that two centers participated in this investigation? In addition, was there a learning curve? If yes, an active participation of pulmonologists in educational courses should be greatly encouraged. Third, we would appreciate it if the authors could provide some additional data regarding the mean distance between the center of the lesion and the visceral pleura, so that we can have a better description of lesion characteristics.

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Dr. Makris received 2,000 Euros for direction of a Super Dimension (Europe) GmbH clinical course in Germany. Reproduction of this article is prohibited without written permission from the American College of Chest Physicians (www.chestjournal.org/misc/reprints.shtml).

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Grading Recommendations

A Matter of Interpretation

To the Editor:

We would like to compliment the authors of the article “Pulmonary Rehabilitation: Joint ACCP/AACVPR Evidence-Based Clinical Practice Guidelines” (May 2007)\(^1\) for their comprehensive review of the literature and their effort to formulate up-to-date, evidence-based recommendations for clinical practice. However, we have concerns about the grading of recommendations concerning upper extremity training (UET) and inspiratory muscle training (IMT). It is surprising to us that the current recommendations grade the quality of evidence for UET as “high” (A), whereas the quality of evidence for IMT is graded as “moderate” (B). Further, it is unclear to us why (unsupported) UET is strongly recommended (grade 1), whereas the use of IMT is not recommended (grade 1). This would mean that the benefits outweigh the burdens for UET, while the opposite is true for IMT. This is, in our opinion, not a balanced summary of the available evidence.

From the studies quoted in the systematic review, it can be concluded that both UET and IMT specifically improve the strength and endurance of the muscle groups that are trained.\(^1\) For both interventions, however, the evidence concerning improvements in health-related quality of life or whole-body functional exercise capacity is either conflicting or absent. In addition, the evidence for both interventions comes from small single-center trials of mostly moderate methodological quality. Besides the expected benefits and methodological quality of the studies, the burdens of interventions are also taken into account to grade the strengths of recommendations.\(^2\) In the systematic review of the literature,\(^1\) however, no potential burdens are discussed for either IMT or UET.

Consequently, we feel that IMT and UET should both be recommended with the same strength of grading (1B), since the benefits of both IMT and UET should outweigh the burdens for the patients (grade 1) and recommendations can only be based on qualitative moderate (B) evidence for both interventions (not on high [A] evidence as the guidelines conclude for UET). IMT should in our opinion be recommended for a selected group of patients, probably those with reduced inspiratory muscle strength who experience symptoms of dyspnea during activities of daily living, while UET should probably be recommended for those patients with reduced upper extremity exercise capacity leading to functional limitations in activities of daily living. We hope that our comments will stimulate a debate on the grading of the strength of the recommendations concerning these two specific aspects of exercise training during pulmonary rehabilitation.

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Stenting for Tracheobronchomalacia

Treating Images?

To the Editor:

We read with interest, and some astonishment, the careful study by Ernst and colleagues\(^3\) in a recent issue of CHEST (August 2007) on airway stenting for “severe tracheobronchomalacia.” The only function of airway stenting is the palliation of airway narrowing.

Airway narrowing is a normal event during expiration, and stenting therefore should be considered only when excessive and/or premature narrowing results in airflow limitation. Whereas Ernst and colleagues, to their credit, made every effort to document airway narrowing, airflow limitation was either poorly documented or not documented at all in their study. Only 42 of the 58 patients underwent pulmonary function tests before stenting, and only 10 patients (17%) underwent both prestenting and poststenting pulmonary function tests; in these10 patients, an absolute (nonsignificant) decrease in the median FEV\(_1\) value was observed. Regarding the “significant” improvements in dyspnea and other quality-of-life scores, their interpretation is delicate as 50 to 60% of patients did not have prestenting and poststenting comparisons and, as the authors acknowledge, there was no control group for these rather subjective values.

From a physiology point of view, the frontier between normal and abnormal narrowing of the central airways is far from established. Even a 90% reduction in the tracheal section at the end of a forced expiration, when the flow in central airways physiologically nears zero, may well be within normal limits. Also, airway narrowing during cough efforts is pivotal to the efficacy of airway clearance, and this might well explain some of the 21 stent obstructions that Ernst and colleagues observed.

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