the number of good sputum specimens collected before and after rinsing the mouth with tap water three times (p = 0.16; \( x^2 = 0.05 \) level of significance). We surmise that rinsing the mouth with tap water prior to sputum collection does not improve specimen quality. It is possible that brushing the teeth and/or removing dentures might yield more favorable results. However, it may be virtually impossible to prevent external "contamination" of the sputum bolus during expectoration.

D. J. Flournoy, PhD
Louis A. Galarza, BS
University of Oklahoma Health Sciences Center
Oklahoma City, OK

Correspondence to: D. J. Flournoy, PhD, Microbiology Section, Pathology and Laboratory Medicine Service, 921 N.E. 13th St, Veterans Affairs Medical Center, Oklahoma City, OK 73104

REFERENCES


Exercise Testing in the Consulting Room

To the Editor:

We read with interest the article by Hadeli et al (July 2001) concerning oxygen desaturation during submaximal exercise testing in a pulmonary function laboratory. We use a slightly different exercise protocol during medical consultations with patients who attend our chest clinic because of breathlessness. Patients climb on and off a 18-cm high exercise step in the consulting room while being monitored by pulse oximetry. Patients are instructed to climb the steps as quickly as they find comfortable and to stop if they are breathless, fatigued, or distressed in any other way. We reviewed the records of 119 patients with mixed lung disorders (mostly asthma, COPD, or pulmonary fibrosis) who had undergone laboratory lung function tests (Jaeger; Wurzburg, Germany) in addition to a clinical exercise test. There was a strong relationship between the transfer coefficient (KCO) and the patient's oxygen saturation level (Table 1).

These data support the finding of Hadeli et al that reduced gas transfer is predictive of oxygen desaturation during exercise (and vice versa), whether the diffusing capacity of the lung for carbon monoxide or KCO is used to assess gas transfer. Our data also support their suggestion that a gas transfer below a threshold of about 60% is strongly predictive of oxygen desaturation during everyday tasks such as stair climbing. Our findings also support the use of a threshold of >3% oxygen desaturation as a clinically meaningful change from baseline oxygen saturation during exercise. Minor oxygen desaturation (or fluctuation in the oximeter reading) was common in subjects with normal gas transfer values, but a fall of >3% was uncommon in the absence of significant lung disease. However, care must be taken to avoid motion or pressure artifacts. Excessive motion of the patient's hand or pressure on the fingertip can cause significant artifacts in the oximeter reading.

Our results indicate that this simple test can be extended from the pulmonary function laboratory to the clinical consulting room where the clinician can gain useful information about the patient's cardiopulmonary function. The test also allows the physician to assess the patient's motivation and noncardiopulmonary limiting factors such as arthritis or physical deconditioning. This assessment takes only 2 or 3 min to perform, and it is much more convenient in routine clinical practice than a 6-min walking test or shuttle walking test. We recommend the use of exercise oximetry in the consulting room as a routine component of consultations for breathless patients.

Emma Flynn, MB
Ronan O'Driscoll, MD
Hope Hospital
Salford, UK

Correspondence to: Ronan O'Driscoll, MD, Consultant Chest Physician, Department of Cardio-Respiratory Medicine, H3 Teaching Block, Hope Hospital, Stott Lane, Salford, M6 8HD United Kingdom; e-mail: Ronan.O'Driscoll@SRHT.NHS.UK

REFERENCE


Immersion Pulmonary Edema in Special Forces Combat Swimmers

To the Editor:

We thoroughly enjoyed the review of pulmonary edema associated with scuba diving by Slade et al, in the November issue of

Table 1—Changes in Oxygen Saturation During Exercise in 119 Patients Grouped According to KCO

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Group 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCO, % predicted</td>
<td>&lt; 40%</td>
<td>40–60%</td>
<td>60–80%</td>
<td>80–100%</td>
<td>&gt; 100%</td>
</tr>
<tr>
<td>Subjects, No.</td>
<td>10</td>
<td>29</td>
<td>32</td>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>Any fall in SpO2, %</td>
<td>100</td>
<td>100</td>
<td>87</td>
<td>40</td>
<td>33</td>
</tr>
<tr>
<td>SpO2 fall &gt;3%, %</td>
<td>100</td>
<td>97</td>
<td>53</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Mean fall in SpO2, % (95% CI)</td>
<td>11.3 (9.2–13.4)</td>
<td>6.9 (6.0–7.8)</td>
<td>3.6 (2.7–4.5)</td>
<td>1.1 (0.5–1.8)</td>
<td>0.9 (0.1–1.9)</td>
</tr>
</tbody>
</table>

*SpO2 = pulse oximetric saturation; CI = confidence interval.