

## Tracheostomy teams — filling a void

Antony E Tobin

The introduction of percutaneous tracheostomy to intensive care units has enabled intensivists to perform tracheostomies in a safe and timely manner.<sup>1</sup> A factor in the decision to place a tracheostomy may be its potential to shorten ICU stay, assisting bed management in a system with limited resources.<sup>2,3</sup> In some institutions, this has resulted in increasing numbers of patients being discharged to general wards with a tracheostomy tube in situ.<sup>4,5</sup> Tracheostomy care in the ward has traditionally been the responsibility of the surgical unit that performed the procedure, but, for percutaneous tracheostomy, responsibility falls to a disparate group of treating teams, who may have little or no experience in their management. As a result, patients may receive suboptimal or delayed care, with resulting morbidity and mortality.<sup>4,6</sup>

Management of patients with tracheostomies involves input from multiple disciplines and requires specific knowledge and training. Additionally, in the case of ICU patients, care generally needs to be delivered in sympathy with inter-related, resolving organ failures. It has been reported that both medical and nursing staff in general wards have poor knowledge of tracheostomy management,<sup>4,7-9</sup> and that care in the wards is suboptimal.<sup>5,10</sup>

The concept of the ICU “without walls”,<sup>11</sup> and the use of multidisciplinary teams to manage complex problems<sup>12</sup> may help solve this problem. It is recognised that patients discharged from the ICU with higher levels of dependency are more likely to develop complications, and that the risk can be reduced by delivery of intermediate care.<sup>13</sup> Rather than delivering this care in a fixed location, such as a high dependency unit, the liaison nurse brings ICU expertise to the wards, a practice that has been associated with improved outcomes.<sup>14,15</sup> The medical emergency team (MET) system, which delivers ICU expertise to patients with physiological instability in the wards, is based on a similar philosophy and has been enthusiastically embraced in Australia and New Zealand.<sup>16</sup> Similarly, the practice of multidisciplinary teams meeting and conducting rounds together to manage complex problems is now widespread in hospitals. These teams are seen in cancer management, pain management, stroke units and aged care.

Based on these principles, tracheostomy teams have been developed. These multidisciplinary review and management teams are designed to improve tracheostomy care by bringing ICU expertise to the wards and coordinating the care delivered by multiple clinicians. In this issue of the Journal (page 14), Cameron and colleagues<sup>17</sup> contribute to

the literature on tracheostomy management outside the ICU. The management of tracheostomy patients with neurological disease is particularly challenging and highlights the need for complex multidisciplinary care. Cameron et al showed that their consultative team of speech pathologists, nurse consultants, physiotherapists and respiratory and ICU doctors improved care, as measured by time to decannulation, use of one-way speaking valves, and length of stay for patients with spinal cord damage and tracheostomies. This study adds additional weight to the small body of evidence supporting better outcomes for ward tracheostomy patients managed by such teams.<sup>5,10,18</sup>

The make-up of tracheostomy teams varies between institutions, but I believe the fundamental elements are a doctor with expertise in managing tracheostomy patients with multisystem disease, a critical care nurse, a speech pathologist and a physiotherapist. The role of the doctor is important not only in overseeing and coordinating care, but also in providing the auspices of authority under which the other members of the team can act. This is particularly the case for allied health staff, whose opinions and recommendations may not receive equal hearing from parent teams. The inclusion of a critical care nurse enables more frequent review of both tracheostomy care and medical and nursing issues than allowed by routine rounds, and importantly provides education and support for ward nurses. Education of ward nurses is of paramount importance in providing a safe ward environment, where they have the knowledge and confidence to manage tracheostomies and to identify problems that require review by more experienced practitioners.

To date, the evidence supporting tracheostomy teams comes from uncontrolled before-and-after studies that use outcomes such as time to decannulation and length of stay as surrogates for improved care. While these outcomes are important for patients and hospitals, the studies may be criticised for their lack of controls, and of hard mortality or morbidity data. However, as the MERIT (Medical Early Response Intervention and Therapy) study<sup>19</sup> demonstrated, more rigorous trials are difficult to perform and, when the results are at odds with what many believe, we look to “lesser” levels of evidence and to experience for assurance, as reflected by the rise in MET teams.<sup>16,20</sup> Based on current practices in other areas and the knowledge we have gained from studies such as that reported by Cameron and colleagues in this issue, rejection of tracheostomy teams for lack of evidence would be obtuse.

Tracheostomy care on the wards has been identified as problematic in some institutions, and tracheostomy teams appear a reasonable approach to address the need, based on current hospital practices and the limited evidence available. Whether other hospitals adopt this approach depends on many factors, including case-mix, ICU and high-dependency unit bed numbers, ICU staffing, local use of tracheostomy to manage bed demand, and nursing and medical skills in the wards. Where teams are implemented, they should be subject to audit and performance evaluation, and appropriate financial support should be made available to operate the service.

### Author details

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