

Correspondence

Protection protocol in intubation of suspected SARS patients

To the Editor:

As of April 28, 2003, there are 344 probable or suspect severe acute respiratory syndrome (SARS) cases in Canada; 264 cases in Ontario.¹ Worldwide, 5050 probable cases and 321 deaths are reported.² The mechanism of virus transmission is thought to be secondary to respiratory droplet or contact.³ Anesthesiologists are a particularly high-risk group in contracting respiratory infections due to exposure to bodily secretions. In Toronto, there are at least three anesthesiologists who have contracted SARS from patient care. Particularly disturbing is that many healthcare workers contracted SARS despite taking traditional respiratory precautions. We report here our institutionally developed protection protocol in intubation of suspected SARS patients.

1. Patient placed in isolation room, preferably negative pressure room.
2. Most experienced anesthesiologist/physician

3. to perform intubation.
3. Experienced respiratory therapist (RT) assistance.
4. Ventilator with PALL® filter mounted.
5. Intubator and RT wear cap, shoe cover, goggles, N95 facemask, double gown, double glove in ante-room or outside patient's room.
6. Facial/ocular protection with powered air-purifying respirators (PAPR) systems described below (Air-Mate® PAPR, 3M, St. Paul, MN, USA).
7. If PAPR system is not available, use head gear with full face shield.
8. Minimize dispersal of respiratory secretions: preoxygenate, avoid positive pressure ventilation prior to intubation, avoid patient coughing.
9. Perform intubation after adequate sedation (propofol) and paralysis (succinylcholine) if no contraindications.
10. Verify endotracheal tube location. Stabilize patient.
11. Remove airway equipment for decontamination and disposal.



FIGURE (left) PAPR battery powered blower filtration unit with built in HEPA filter; (right) powered air-purifying respirators (PAPR) head-piece.

12. Remove personal protection equipment in ante-room or inside patient's room.

The PAPR system consists of a belt-mounted powered air purifier (Figure, left) with a HEPA filter, connected via a tube to a light-weight head-piece (Figure, right). The HEPA filter removes particles of 0.3–15 mm with an efficiency of 98–100%.⁴ We have several years experience in using the PAPR system in the bronchoscopy suite and there are no documentation of disease transmission to health-care workers. The PAPR system has been suggested by the World Health Organization and the Center for Disease Control for SARS protection.

It takes time to setup properly (steps 1–7). Therefore, it is crucial to have advance warning of patients requiring intubation. Furthermore, staff involved in intubation must be trained and familiar with the personal protection equipment so that it can be applied properly and expediently (steps 5–7); and removed properly to avoid contamination.

As traditional respiratory and contact precautions have been shown to provide inadequate protection against SARS, we have developed this protocol which offers improved protection. The intubation protection protocol should be utilized whenever suspected SARS or infectious patients are encountered.

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Desmopressin before liver transplantation

To the Editor:

We read the well-conducted study by Wong *et al.*¹ with interest. They found that desmopressin in patients undergoing hepatectomy (including those with cirrhosis) increased factor VIII and von Willebrand factor levels, marginally shortened the partial thromboplastin time (PTT) and had no effect on blood loss. We too had anticipated a beneficial effect of desmopressin in surgical patients with cirrhosis based on results in the medical cirrhotic population^{2,3} and *in vitro* results in patients undergoing liver transplantation (LT).⁴

After Institutional approval and patient consent, we administered desmopressin (0.3 µg·kg⁻¹) after anesthetic induction to nine patients undergoing LT. Baseline coagulation tests (prothrombin time, PTT, platelet count, thrombelastograph and Sonoclot analysis) were performed immediately prior to desmopressin and after 15 and 30 min. Data collection was completed before surgical incision and the possible confounding effects on coagulation.

Surprisingly, we found no short-term change in any of the measured variables ($P > 0.2$), including those that were abnormal at baseline. Although effects of desmopressin have been demonstrated within 30 min, this period may have been insufficient in our population, and there is data to suggest that a dose > 0.3 µg·kg⁻¹ may be more beneficial.² However, given these findings, we did not proceed with a prospective, randomized study.

Until Wong *et al.*'s study, there had been no systematic investigation of desmopressin in a surgical population with liver disease, and their data will be useful for clinicians who have had to rely on either *in vitro* data, data from non-surgical patients or preliminary studies such as ours.

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