Fire in airway during laser surgery
(04HDC04340, 19 May 2006)

Anaesthetist ~ Surgeon ~ Public hospital ~ District health board ~ Stenosis ~ Laser surgery ~ Airway fire ~ ACC ~ Documentation ~ Vicarious liability ~ Rights 4(1), 4(2), 6(1)(b), 6(1)(d), 7(1)

A woman had required a number of procedures since birth to treat a severe narrowing of her airway. The surgeon managing her care recommended laser surgery to treat the stenosis. The woman insisted that she not have a tracheostomy performed, although it was the surgeon's and anaesthetist's first choice, and it was agreed to proceed, in the hope that a laser-proof endotracheal tube of a sufficiently small size could be used.

After the woman was anaesthetised, it was found that the stenosis was more severe than assessed at the preoperative clinic, and that the smallest size of laser-proof endotracheal tube available was too large to be used. Consequently, a non-laser-proof tube was introduced and the decision was made to continue with the procedure without waking the woman and informing her. A surgical registrar performed the procedure under the surgeon's supervision. The woman had not consented to the involvement of the registrar in her surgery.

During the procedure an airway fire occurred, resulting in full thickness mucosal burns to the subglottis, glottis, and laryngeal surface of the epiglottis with minor burns to the tracheal mucosa, mucosa of the main bronchi and the oropharynx. In addition, the endotracheal tube melted in the fire, with 2cm of the distal end falling into the bronchus, beyond reach of the equipment available. A further attempt to retrieve the lost portion of tube failed. The following day the woman gave her consent to a tracheostomy to recover the lost portion of tube. This attempt was successful, and the woman was eventually discharged.

ACC found "medical error" on the part of both the surgeon and the anaesthetist.

It was held that the surgeon breached Rights 6(1)(b) and 7(1) as he failed to fully inform the woman of the risk of airway fire associated with the procedure. The surgeon did not document the registrar's involvement, breaching Right 4(2) by failing to keep adequate records, and he breached Right 6(1)(d), as the woman was not informed of the registrar's involvement.

Both the surgeon and the anaesthetist failed to document their preoperative discussions, breaching Right 4(2). They both breached Right 4(1) by proceeding with the surgery in the presence of an escalating level of risk.

The public hospital was found not vicariously liable for the surgeon's and the anaesthetist's breaches of the Code.