**Awake blind nasal intubation**

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Awake blind nasal endotracheal intubation is a modification of Sir Ivan Magill's technique of blind nasal intubation under ether anaesthesia.¹ The introduction of neuromuscular blocking agents, facilitating oral intubation under direct vision, led to a decline in popularity of Magill's method and it is now used sparingly, if at all.² Where the sedated patient remains awake and co-operative, the technique still deserves greater attention.³ The indications vary from the elective to the mandatory and include:

- Deformities of the mouth or temporomandibular joints (rheumatoid arthritis, ankylosing spondylitis⁴), Ludwig's angina or any potential cause of upper airway obstruction.
- Gastrointestinal obstruction or bleeding.
- Unfasted patients or cases in which rapid intubation techniques may be hazardous (perforating eye injuries, poor risk patients).
- Dental problems such as extensive reconstruction.

Three cases are described which illustrate the contribution that this technique can make to a patient's anaesthetic management.

**Case 1**

A 47-year-old woman was admitted with a second recurrence of a right parotid carcinoma. The two previous anaesthetics, with oral intubation, were uneventful, the more recent having been 10 months previously. On pre-operative examination she was found to have a right lower motor VIIth nerve palsy, a firm swelling over the temporomandibular joint and a receding chin. Mouth opening was limited to approximately 3 cm because of pain from the joint area. There were no other significant findings and she was premedicated with 10 mg of oral diazepam. After preoxygenation in theatre, sodium thiopentone 300 mg was administered followed by suxamethonium 70 mg. Because of trismus of the jaw, relaxation was not sufficient to permit oral intubation. A good airway could be maintained and the patient was allowed to waken up. Blind nasal intubation was decided upon and the situation explained to the patient who was then sedated with ketamine 10 mg and diazepam emulsion (Diazemuls) 5 mg. She was positioned with a 45° head uptilt and the left nares was carefully swabbed with viscous lignocaine 4% plain, several minutes being allowed for it to take effect. The oropharynx was then sprayed carefully and slowly from above downwards with 4% lignocaine plain, care being taken not to exceed the toxic dose

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(3mg/kg). A further 1.5ml of 2% lignocaine plain was injected rapidly through the crico-thyroid membrane at the end of maximum expiration, the cough following inspiration spreading the solution over the sublaryngeal area. A size 7.0 cuffed Portex endotracheal tube, softened in warm water, and lubricated with lignocaine jelly was then slowly and gently passed through the left nares, and using breath sounds as a guide the trachea was entered easily. Anaesthesia was then induced with thiopentone 200mg and the operation proceeded uneventfully.

Case 2

A 64-year-old man presented for an excision biopsy of a large right submandibular swelling (Fig 1), later shown to be a salivary gland adenocarcinoma. He had previously been rejected as unfit for surgery due to chronic obstructive airways disease, obesity and continued heavy smoking. He could walk only 50 metres and previous admissions included an episode of respiratory failure requiring ventilatory support. The lesion had recently begun to enlarge rapidly, forcing intervention. He was premedicated with temazepam 20mg orally. In theatre both nasopharynx and oropharynx were carefully sprayed with 4% lignocaine, but the larynx could not be visualised. Droperidol 5mg, diazepam emulsion 5mg and ketamine 10mg were given intravenously and the nares swabbed with the viscous lignocaine. An injection of 2ml 2% lignocaine plain was given rapidly through the crico-thyroid membrane. Some difficulty was encountered due to nasal obstruction but after several attempts a softened cuffed 6.5 Portex tube was passed and the trachea entered. Anaesthesia was induced uneventfully and following elective overnight ventilation the patient was weaned from the ventilator and extubated without difficulty.
Case 3
A 54-year-old man was admitted with signs of a large bowel obstruction. He was vomiting and dehydrated and had marked abdominal distension. Four years previously he had undergone fast neutron radiotherapy for a squamous carcinoma of the tongue. This had resulted in marked fibrosis of the cervical and mandibular regions allowing only limited neck extension and mouth opening (Fig 2). Following initial resuscitation and the same preparation and medication as Case 2, a softened 7.5 endotracheal tube lubricated with lignocaine jelly was passed through the left nostril and the trachea entered. Anaesthesia was induced uneventfully and a colonic carcinoma resected. Despite pre-operative suction of the patient's naso-gastric tube, a total of 900ml of fluid was aspirated intraoperatively out of the stomach underlining the danger of aspiration into the bronchial tree.

COMMENT
All these patients were drowsy but co-operative, responding readily to commands. In no case was the airway in danger at any time. Important points in this technique are:

Position: The table is broken with a 45° head up tilt. This allows easy manipulation of the head and neck and is comfortable for the patient although the anaesthetist may have to stand on a platform. The tilt may also help prevent regurgitation of stomach contents.

Adequate sedation: The patient must be calm and tolerant. The combination of drugs was designed to calm the patient while retaining co-operation for deep breathing. Droperidol is a sedative widely used in neuroleptic techniques while diazepam has useful sedative and amnesic actions and ketamine is a potent analgesic.

Despite good sedation, the procedure will be unpleasant if topical analgesia is inadequate. The application of this must be painstaking and, in particular, time must be allowed for it to take effect. This technique is not suitable if rapid intubation is required. Cocaine as a 10% solution may also be used for topical anaesthesia and has the advantage of producing shrinkage of the nasal mucosa. Crico-thyroid puncture with the injection of 1 – 2ml of lignocaine plain is a useful adjunct provided that the neck can be extended sufficiently. It provides sublaryngeal anaesthesia and diminishes the explosive coughing which can accompany the entrance of the endotracheal tube into the trachea.

Patient acceptance: The patients were interviewed post-operatively and none had found the experience particularly unpleasant. This is important since repeat anaesthesia may be necessary. All three cases required further surgery.

Fears have been expressed concerning the danger of aspiration due to depression of protective laryngeal reflexes. It is our experience that the patients cough as the tube enters the larynx, indicating that the reflexes, although modified, are not completely obtunded and we have not experienced any problems in this respect. Fibreoptic laryngoscopy may be used as a refinement of this technique but requires equipment and training.

Awake blind nasal intubation offers a safe, simple and effective method of intubation in difficult cases.

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