A DENTAL PROTECTOR

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SUMMARY

A device is described for the protection of fragile or loose teeth, or dental protheses, during endotracheal intubation. The principle is that pressure on the incisors is avoided by placing a bridge between the bicuspids of both sides, thus providing a harmless rest for the laryngoscope plate. The device can be used when one or both bicuspids are missing. Its use does not lead to difficulty in visualizing the larynx or introducing the tube.

Textbooks are unanimous in warning of the danger of exerting lever action against the teeth when lifting the base of the tongue with the laryngoscope. Yet, this is easier said than done, as the deep grooves that can be seen on any used blade testify too well.

Many techniques have been devised to protect the teeth; they include extreme muscle relaxation, covering the teeth with rubber, and covering the blade with soft material.

Extreme relaxation, however, will not be enough in patients with short necks, micrognathism, or temporo-mandibular ankylosis. On the other hand, the interposition of soft material between the blade and the incisor teeth, though obviously preventing direct trauma to the dental surface, will not prevent the transmission of pressure to the roots of pyorrhoeic teeth, nor on the fixtures of fragile protheses. Furthermore, the pressure of the blade upon the teeth tends to push them forward, acting at an angle with their axis (fig. 1).

In an endeavour to surmount these shortcomings we have designed the protector shown in figure 2. This consists of a stainless steel blade (fig. 3(a)) with a notched central ridge (b), arising from the midsection and extending to one end.

This ridge is covered by a removable plastic cover (c), which can be cleaned and sterilized.

METHOD OF USE

From the point of view of tooth protection there are three possible situations: (A) The upper incisors are pyorrhoeic or fragile but the bicuspids are present; (B) as before, but with the bicuspids missing on one side; (C) as (A), but with bicuspids missing on both sides.

Example A. The protector blade should rest on both bicuspids and the laryngoscope will come to rest on the centre of the resultant bridge (fig. 4). Note that the laryngoscope does not touch
the incisors although it is close to them. The pressure of the protector on the bicuspid is exerted axially (fig. 5).

Example B. In this case the flat end of the blade will rest upon the remaining bicuspid, while the plastic-covered ridge will rest upon the gum in the place of the missing bicuspid (fig. 6).

Example C. Occasionally patients have lost both bicusps whilst retaining the incisors, which are usually in poor condition, being loose or fragile. In this instance the ridge should rest upon the gum of either side, while the blade supports the pressure of the laryngoscope (fig. 7).

TECHNIQUE

The use of the protector is in no way cumbersome nor time-consuming.

The procedure is as follows. The head is positioned as for intubation in the ordinary way. The laryngoscope is then inserted as usual, but no effort is made to lift the tongue by lever action. On the contrary, the proximal end of the blade is separated from the incisors to allow the protector to be placed between the blade and the incisors. The base of the tongue is lifted by lever action of the blade upon the protector and the glottis is visualized.

Though it might seem that the presence of the protector will restrict vision, or encumber introduction of the tube, such is not the case (fig. 5(a)).

UN PROTEGE-DENTS

SOMMAIRE

Description d'une méthode de protection dentaire en présence de dents fragiles ou faiblement attachées pendant l'intubation endotrachéale. Le principe consiste à éviter toute pression sur les incisives par la mise en place d'un pont entre les bicuspides des deux côtés ce qui permet d'appuyer sans aucun risque la lame du laryngoscope. La méthode peut être utilisée même si l'une ou les deux bicuspides manquent. L'usage du dispositif décrit n'entraîne pas du tout l'exposition du larynx ou l'introduction du tube.

EINE ZAHNSCHUTZVORRICHTUNG

ZUSAMMENFASSUNG