

# A cadaver larynx holder for teaching laryngomicrosurgery

ROBERT PACZONA, M.D.

## Abstract

Although many reports can be found in the literature about temporal bone holders for postgraduate temporal bone surgery courses, the author did not find any kind of suitable description of a larynx holder for laryngomicrosurgery courses. A cadaver larynx holder is presented, made by the author himself for individual and postgraduate teaching courses. This simple model has been proved already to be a unique and a very useful tool for a practising course on laryngomicrosurgery during two training courses and the instructional session of the IIIrd EUFOS Congress in Hungary in 1996.

**Key words:** Larynx; Teaching materials; Microsurgery

## Introduction

It is particularly important for the resident and young doctors before performing an operation on a real patient, to exercise the technique and to gain some manual skill with the aid of cadaver preparations. This larynx holder is adjustable and can imitate the position of the patient and the larynx during an endolaryngeal operation (Figure 1). It serves to fix securely and mechanically the human or animal cadaver larynx preparations. With this tool we can avoid performing practice work in the dissecting room at

the Department of Pathology or Anatomy during the postgraduate training course.

## Description of the larynx holder

The base of the holder is constructed of two wooden plates cut out by a circular saw, and joined together by a hinge as shown in Figure 2. The plates have a thickness of

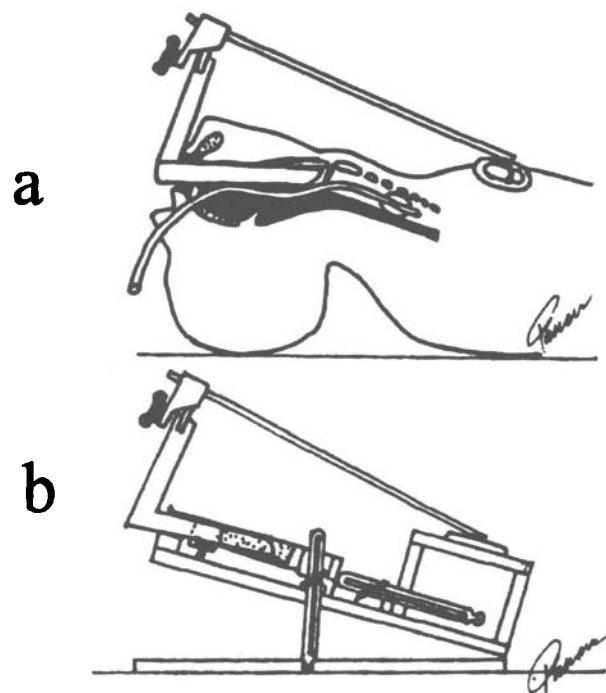


FIG. 1

The comparison of (a) the position of the patient during endolaryngeal microscopy and micro surgery and (b) the position of the cadaver larynx holder.

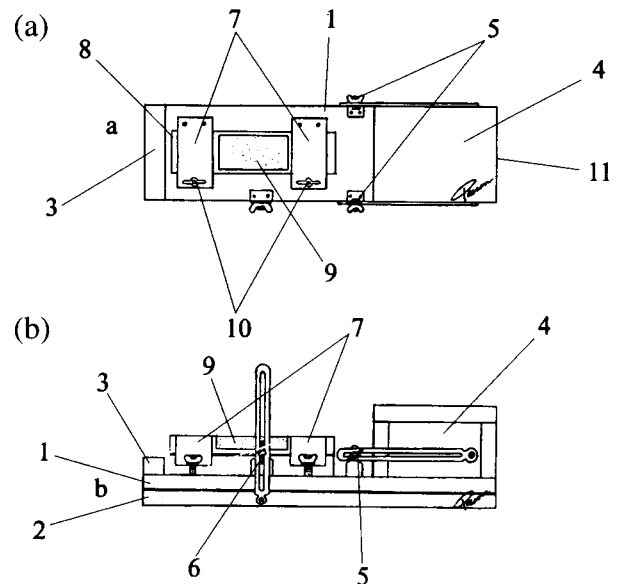
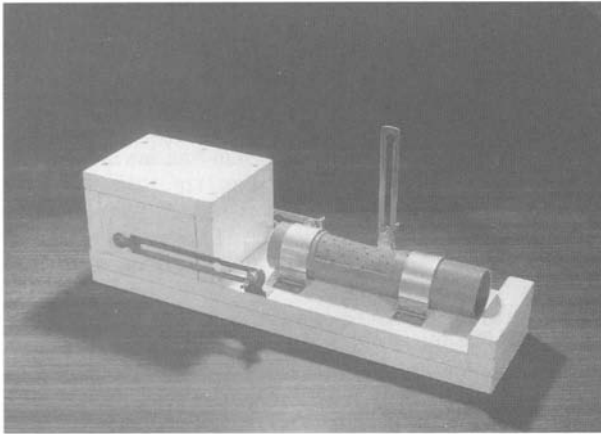


FIG. 2

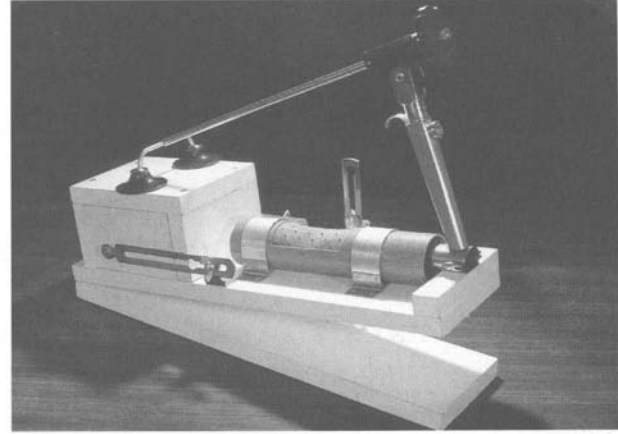
Different views of the cadaver larynx holder.

a: view from above; b: lateral view; 1: upper plate; 2: base plate; 3: upper alveolar arch and the teeth of the 'patient'; 4: chest of the 'patient'; 5: rails and wing nuts to fix the adjustable part number 4; 6: rail to fix the upper plate (1) after adjustment; 7: two aluminium brackets to fix plastic tube (8); 8: plastic tube; 9: window covered with a thin rubber sheet; 10: wing nuts to fix the aluminium brackets; 11: hinge attached to base and upper plates.

From the Department of Otorhinolaryngology, Albert Szent-Györgyi Medical University, Szeged, Hungary.  
Accepted for publication: 20 October 1996.



(a)



(b)

FIG. 3a and b  
Pictures of the larynx holder.

2 cm, width of 12 cm and length of 45 cm. The angle can be adjusted with a special rail from a  $0^\circ$  to a  $45^\circ$  degree angle and is fixed by wing nuts. A thin rubber strip on the under surface of the base secures a firm grip in order to eliminate slipping. As Figure 2 shows, the pieces of the cube are also wooden plates attached by screws. The dimensions are: 12 cm wide, 16 cm long and 13 cm high. Two special rails can be found on each lateral side and with them it is adjustable and fixed along the upper plate by wing nuts. This part serves to hold the distal end of the chestholder of the laryngoscope tube and so imitates the patient's chest. The part is fixed on the basal plate, has length of 2.5 cm, width of 2 cm and represents the upper alveolar arch and teeth of the patient. The proximal end of the laryngoscope leans against this part of the holder. The most important part of the model is a plastic tube which has a diameter of 5 cm cut in half with the parts attached together by two hinges. The distal end of this tube is closed by circular plastic sheet to restrain the tissue fluid flowing out from the preparation. A piece has a length of 8 cm and width of 5 cm, and it is cut out from the centre of the upper half. This window covered with a thin rubber sheet allows us to exercise for example: a., better exposition of the anterior commissure by compression of the laryngeal specimen; b., a translaryngeal operative technique like the use of the endo-extralaryngeal needle suture technique.

Either fresh or fixed formaldehyde, human or animal (pig or dog) cadaver laryngeal specimens can be used in the larynx holder. Before placing the larynx into the holder it is advisable to cut off the unnecessary tissues, like the prelaryngeal muscles etc. Then the larynx should be placed onto the lower part of the tube and the upper half closed. As can be seen in Figure 2, the tube is fixed on upper basal plate with two specially adapted aluminium hinge and wing nuts. Afterwards the laryngoscope should be introduced into the larynx from the proximal end of the plastic tube and fixed by the chestholder. After that the model is ready for work.

It can be used under an operating microscope combined with video-camera and monitor with or without a  $\text{CO}_2$  laser, to practise EMS techniques.

Address for correspondence:  
Robert Paczona, M.D.,  
Albert Szent-Györgyi Medical University,  
Clinic of Otorhinolaryngology,  
6725, Szeged, Tisza Lajos krt. 111.,  
Hungary.

Fax: 36/62/310-141