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## Bronchoscopy Through the Mask? A Renaissance!

*To the Editor:*—A method for performing fiberoptic bronchoscopy through a face mask was described by Mallios in 1980,<sup>1</sup> and by Patil *et al.* in 1982,<sup>2</sup> subsequent to which this method has been referred to by several authors.<sup>3-6</sup> No mention, however, has yet been made of an earlier report describing a similar technique for use with the rigid bronchoscope. This early predecessor of the Patil-Syracuse mask was designed by W. Brünings in 1910.<sup>7</sup>

Prof. Dr. med. et phil. Wilhelm Brünings was chairman of otolaryngology at the universities of Greifswald (1917–1926), Jena (1926–1930), and Munich (1930–1950). He graduated from medical school at Tübingen in 1901, and was awarded the *Venia Legendi* in physiology 1904 in Zurich before joining Gustav Killian's department of otolaryngology, becoming professor of that specialty in 1908.<sup>8</sup> It was Gustav Killian, himself a pioneer of bronchoscopy, who stimulated Wilhelm Brünings' interest in refining and improving endoscopic techniques. Although bronchoscopy was usually carried out under topical cocaine anesthesia, general anesthesia was required in 3% of adults and in all children.<sup>7</sup> This was performed by open drip administration of ether or, preferably, chloroform, *via* the Schimmelbusch mask. This device, although suitable for induction, had its limitations during bronchoscopy, which according to Brünings, were:

1. The shape of the mask did not accommodate the bronchoscope, thus making the administered dose unpredictable.
2. The mask was subject to contamination from expectorated secretion, requiring a cumbersome and time consuming replacement of the gauze.

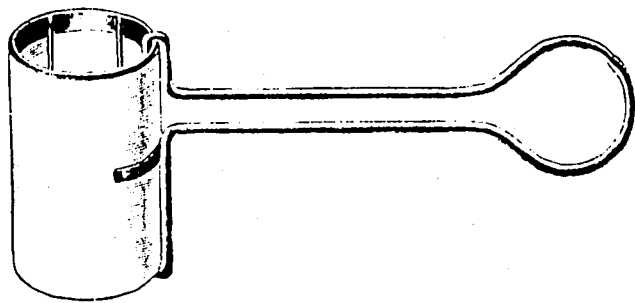


FIG. 1. Wilhelm Brünings' Rohrmaske (Reprinted from Brünings W: *Die direkte Laryngoskopie, Bronchoskopie und Oesophagoskopie. Ein Handbuch für die Technik der direkten okularen Methoden.* Wiesbaden, Verlag von JF Bergmann, 1910, with permission).

The contemporary solution for these problems was to use small gauze pads instead of the Schimmelbusch mask. These pads were soaked with chloroform and held in front of the ocular end of the rigid bronchoscope. The depth of anesthesia was controlled by altering the distance between swab and scope. This naturally interfered with vision of the endoscopist and, hence, required an alternating sequence of bronchoscopic examination and administration of the volatile agent. In addition, the evaporating surface often proved to be inadequate. All these tribulations were overcome by the introduction of "Brünings' Rohrmaske" (pipe-mask) (fig. 1). A layer of gauze was wrapped around a cylindrical wire mask and held in place by the mask handle. The gauze was saturated with chloroform and the mask was then adapted to the ocular end of the bronchoscope. This construction offered "unobscured vision, a large evaporating surface ( $\approx 60\text{cm}^2$ ), a clear airway and some protection against contamination."

To our knowledge, this was the first description of bronchoscopy, performed during simultaneous administration of a volatile anesthetic agent through a mask.

Wilhelm Brünings died on October 3rd, 1958, at the age of 82.

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