

## ***Avicenna, Bronchoscopy, Analgesia and Analgesics***

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*Avicenna (Abu Ali Sina in Persian) was a Persian polymath and the foremost physician and philosopher of his time and the ensuing decades. He was born around 980 in Greater Khorasan, to a Persian family. During the Islamic Golden Ages, Avicenna created an extensive corpus of works.*

*His greatest work was the Canon of Medicine which was a bible in the field of medicine. It was originally written in Arabic and was later translated into Latin by Gerard of Cremona. It was used as a text-book in the most famous universities for over 500 years. This book was an immense encyclopedia of medicine.*

*In the field of anesthesia and analgesia, Avicenna has most prominently commented on drug actions, pharmacotherapy, oropharyngeal intubation and tracheotomy. The pertaining information is scattered in the book.*

*The chapter on chest diseases deals with oropharyngeal intubation and tracheotomy to tackle problems such as stridor and respiratory distress. In the medical literature and history, this is the earliest mention of intubation of the upper airway.*

*"One of the problems and challenges to deal with was the need for clearing secretions of the upper airway to improve air entry. During painful conditions and before surgical interventions, a variety of analgesics and anesthetic recipes had been prescribed. Insertion of a long reed or similar instruments with an attached piece of cotton-wool should have been reduced. Dilating the air passage would have helped the process of clearing."*

*"Insertion of a silver or probably a gold tube into the pharynx would have also helped breathing. In cases of persistent stridor with failure of medications and risk of immediate death, the only way would be to cut the ligaments between two tracheal wings without injuring the cartilage. The head is extended and immobilized backwards and the skin is incised preferably after being stretched with a hook. After exposing the trachea, the incision should have been made along the incision of the skin between the two rings. The skin should have been out turned and stitched in order to be separated from the underlying tissue and trachea."*

*Regarding dental maladies Avicenna mentioned the following:*

*"The pure form of these agents could be taken but they are most effective when used as concoctions, plasters, poultices, packs, washes or fumigants .... Alternatively, dissolve one or two opium seeds in rose-oil and instill drops into the ear nearest to the painful tooth .... Another anesthetic agent that can cause no harm, although it may initially increase the pain, is ice-cold water taken sip by sip until the tooth is rendered painless."*

*Avicenna died in June 1037, at the age of 58, in the month of Ramadan and was buried in Hamedan, Iran.*



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