

Introduction to function tests of the nose and sinuses

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The most important function of the nose is that of a passage for the air. During this passage the air is heated, humidified and cleansed from foreign particles. The nose has furthermore a function for resonance and for olfaction, but these two functions will not be discussed during this symposium.

Rhinomanometry in various kinds measures the resistance of the air-passage. Studies of air temperature and humidity is required when the heating and humidifying function shall be estimated, but so far only few clinical studies have been done in this field. The best known is that performed by Ingelstedt, who measured the air temperature and humidity in the subglottic region in human beings, but this method has never been used as a clinical function test. The cleansing function of the nose can be studied by mucociliary transport studies. Connected to this function are studies of the composition of the nasal secretion, for example its content of enzymes. It is worth to stress that the panel of this symposium in the concluding discussion emphasized that enzymatic studies are not only of great medical and clinical value, but they have also very small medical or technical drawbacks and they will thus be some of the most promising tests for the future.

Function tests dealing with pathological changes in the nose are for example cytological studies of cell pathology and various studies of allergy for example intranasal provocation test.

The function of the paranasal sinuses is considerably less known than that of the nose. So far nobody has been able to describe any function of the paranasal sinuses of such importance that the existance of the sinuses could be explained. There are therefore neither any pure physiological nor any pure pathological test but patho-physiological studies for example concerning the patency of the ostium of the various paranasal sinuses. The gas content in the sinuses is also of interest. The mucociliary transport in the paranasal sinuses is furthermore of utmost importance and has been studied principally by Messerklinger. However, most of his studies are not really function tests but studies in cadavers or animals and not especially suitable for studies in ordinary human beings except during operations.