

# Workshop "Rhinomanometry"

## Introduction

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### CLINICAL APPLICATIONS OF RHINOMANOMETRY

At the present time the major applications of rhinomanometry in clinical rhinology are for the diagnosis of nasal obstruction and evaluation of treatment. Rhinomanometry assists nasal diagnosis by accurately quantitating the degree of nasal obstruction and determining the response to intervention such as decongestion or nasal challenge. Treatment evaluation is provided by comparison of pre and post treatment nasal resistance measurements. The results of either medical or surgical treatment can be determined in this way.

In recent years there have been rapid advances in the application of rhinomanometry. I can relate these advances to two major developments in the field. First, basic research has led to a better understanding of the dynamics of nasal airflow. This advance in the basic understanding of nasal airflow has led in turn to improved equipment and testing procedures with more consistent and reliable results. At several institutions, rhinomanometry data have been computerized for more detailed analysis. At the Mayo Clinic, our current system for rhinomanometry consists of an Apple II Microcomputer connected to two sensitive pressure transducers through an analog to digital converter for data collection. The nasal pressure and airflow data is stored on magnetic disks and printed on a standard report sheet. Data is presented in graphic and numeric form and normal ranges for the data are included to permit comparison. Such computer analysis permits removal of artifacts, averaging of multiple breaths and comparison of individual patient data with norms collected on individuals with no nasal pathology. This technique has permitted more efficient testing, more accurate results and easy access to large volumes of data for clinical studies. The continued reduction in costs of microcomputers and improved availability should make these systems available and cost effective for the practitioner within the next few years. Before information can be effectively communicated to colleagues, standardization is required in the collection and presentation of rhinomanometric data. This has been the second significant advance in the field. Recent efforts have led to

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international agreement on basic techniques for rhinomanometry. Further advances in the field of rhinomanometry will require cooperation between institutions and this can be accomplished only if data is recorded and presented in a consistent fashion. This is an ongoing effort and hopefully will soon lead to international standards on the reporting of nasal resistance data. The following reports will focus on various aspects of rhinomanometry as it is clinically applied today.

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