

RHINOLOGY — IN ODENSE 1970

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We are here from many countries of the world to participate in a trio of medical activities devoted exclusively to rhinology. This week's surgical seminar, symposium and congress constitutes the first such presentation in Scandinavia. We are all privileged and proud to be included in what seems to us will be an historic milestone in medical progress, an inspiration to all here assembled and a boon to all our patients. We are indebted to the Odense University officials, Professor Mogens Brøndsted, Professor Franz Bierring, M.D., Professor Jørgen Fabricius, M.D., Professor Otto Jepsen, M.D., Professor Søren Jørgensen, M.D., Professor Jørgen Ringsted, M.D., and especially to our friend, colleague and host, Doctor Poul Stoksted, for their generous and gracious hospitality in making these activities possible in such a beautiful, peaceful and inspiring atmosphere of liberty and learning.

To understand fully the significance of this occasion requires a brief look at the present status of those aspects of our specialty which seem of most importance to us at this time. How have they evolved and what in the near future must be added to provide that improvement that even now seems imperative.

In the year 1820, rhinology could be said to consist of the medical treatment of various vasomotor, infectious and granulomatous illnesses, the removal of polyps and total rhinoplasty. Surprisingly enough the important contributions of the next fifty years were chiefly by general physiologists who were interested in the field of nasal functions because of their reflex influence on heart and lung functions. After this time as examination of the nasal interior became facilitated by the use of head mirrors and reflected light, the eradication of septum deformities occupied the interest of the nose specialists.

When, in the first decade of this century, the submucous resection of the septum was finalized by Freer and Killian, and Joseph had written his book on cosmetic rhinoplasty, the profession took over these two forms of nasal surgery and utilized them widely for the following fifty years without much substantial or fundamental changes in concept or execution. The impetus of these many massive years of such unchanging practice developed a formidable static status which became identified with such adjectives as classical and traditional.

During the last two decades two lines of investigation gradually appeared which have started to shake the foundations on which the infallibility and sanctity of the operations in question were erected.

One was simply that investigators had begun to study many patients operated

twenty to forty years earlier and the second was that electronic equipment had created a renewed widespread interest in assessing cardio-pulmonary illness which in turn was stimulating similar forms of study of nasal functions and objective testing for their evaluation.

Twenty years of growing in rhinology under these influences brings us to this very moment, here and now, and we must see what, if any, developments have occurred which justifiably impels us to modify or change the customary practices of the present or of the near and distant past, and perhaps encourage us to see in what ways a foreseeable future evolution can be fostered and enhanced that will bring even greater progressive benefits to the sick nose.

I believe it is fair to say that submucous resection of the nasal septum should, in general (with rare exceptions), be replaced by the concept of submucous reconstruction and that the maxilla-premaxilla approach (Cottle, Loring, Fischer and Gaynon, 1958) is nearly always the method of choice. This methodology has been taught to and adopted by thousands of specialists in nearly every part of the world where rhinologic surgery is performed and has been universally found to be a constant and effective surgical procedure. Books and articles (Montserrat Viladiu, 1969; Stoksted, 1969; Wayoff and Perrin, 1968, and Wexler, 1963) have been published in many languages. Courses have been given by many in many countries; a universal appraisal has been made and it is not too early to say that the method has been found good. This will be demonstrated this week and taught during the next two weeks in Leiden.

Thirty known functions of the nose have also received further attention during the last twenty years. Primarily at this time special attention is being directed to the several ways in which studies of nasal pressures and flow rates of the air streams can serve as objective aids and guides in diagnosis and evaluation of surgical and/or medical therapy.

In every day use are the following: (Cottle, 1968)

1. The graphic recording of nasal breathing pressure curves in the upright and sleeping positions. Amplitudes, rates of breathing, ratios, the duration and intensity of the respiratory and expiratory phases of each breath, regularity of rhythm and variations in pattern are a few of the sources of information provided.
2. Rhino-revma-sphygmomanometry reveals the capacity of the nose to inhale or exhale 8 liters of air a minute (through a measuring system of tubes whose diameter is 5 mm.) without producing a resistance of more than 100 mm. of water.
3. Flow-pressure relation determinations during normal breathing efforts offer valuable information relating to the inner nose and especially of the middle turbinate areas.
4. Naso-antral pressure studies tell about the permeability of the maxillary ostia and the efficiency of the ventilation of the antra.
5. Spirometry contributes information concerning tidal volume which can often be observed ranging from 200 to 1200 ml. per breath. (Uni- and binasal).

6. From pressure curves, two helpful indices can be deduced:
 - a. The work coefficient, which is the average of the height of inspiration pressure (in millimeters of water) of several consecutive breaths multiplied by the rate of breathing per minute, is usually between 150-250.
 - b. The average of 4 consecutive (highest) pressures of inspiration multiplied by the time in seconds required to take these 4 breaths gives a "4 breath factor". This purely dimensional number should be in the range of the work coefficient. A marked disparity points to nasal disturbance.
7. From the pressure curves and the tidal volume the work of breathing through the nose can be determined in the awake (upright) and asleep (supine as when lying in bed) positions according to the simplest formula $W/m = PVR$, work per minute equals the pressure (of inspiration) multiplied by the tidal volume and the rate of breathing per minute. From these studies can also be deduced the equivalent in changes of oxygen consumption, all of which in turn can be compared with the work and oxygen requirements of breathing through the mouth.

It has now already become quite evident that further investigation of these rather simple methods of examination and the immediate incorporation of them into the general practice of rhinology in clinics and offices has become imperative. Especially is this true for evaluating the surgical treatment of rhinologic problems.

Now is also the moment to see that through evaluation of the teachings of the past and the enlightenment provided by the two areas of interest just described that nasal surgery is now justifiably changing from being predicated upon anatomical, morphological indications to indications deeply rooted in functional aberrations. Thus, the functions of the nose must be more fully known by the surgeon and their objective measurements integrated into the fullest understanding of the disturbances present.

In other words, the issue of the moment is that all surgical corrections of the nose (be they for cosmetic, obstructive, neurologic, respiratory or other reasons) must be basically physiologically oriented. This means, in the final analysis, that the functional capacities of the nose (as far as they can be determined, or even suspected) be preserved, or restored, or as is often possible even improved.

For this reason the concepts described in "An Introduction to Conservative Septum-Pyramid Surgery" (Cottle, 1964) should be seriously studied, learned, and applied, and eventually expanded into an approach to corrective surgery that will ensure a truly beneficial physiological improvement to each and every patient. I am sure that another twenty years will be necessary to bring about a wider appreciation and utilization of such conservative and conserving surgical procedures, but a very good beginning has been made. The technics have been described and their application to specific problems have been demonstrated in many surgical seminars and will again be presented this week in Odense thanks to the outstanding facilities provided by our generous hosts. The course in Leiden will continue this educational program in a further series of didactic lectures and anatomical and surgical exercises.

By means of our efforts here in Odense and Leiden, and by the many similar teachings and publications of our colleagues of the International, American, and European Rhinologic Societies in so many countries near and far, we of the fading present and the near past, hope to ensure through you a growing, resplendent, future for the role of rhinology in the great service that medicine brings to mankind.

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