

BLACK (G. M.)

A New Instrument for Vibratory
Massage of the Nasal
Mucous Membrane.

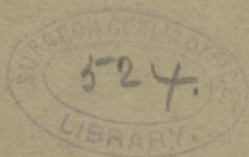
BY

G. MELVILLE BLACK, M. D.,
DENVER.

Professor of Laryngology and Rhinology, Colorado School of
Medicine; ex-House Surgeon, Manhattan Eye and
Ear Hospital, New York.

REPRINTED FROM THE

New York Medical Journal
for December 22, 1894.



*Reprinted from the New York Medical Journal
for December 22, 1894.*



A NEW INSTRUMENT FOR VIBRATORY MASSAGE OF THE
NASAL MUCOUS MEMBRANE.*

BY G. MELVILLE BLACK, M. D.,
DENVER,

PROFESSOR OF LARYNGOLOGY AND RHINOLOGY, COLORADO SCHOOL OF MEDICINE;
EX-HOUSE SURGEON, MANHATTAN EYE AND EAR HOSPITAL, NEW YORK.

VIBRATORY massage of the nasal mucous membrane was first brought to my attention about two years and a half ago by an extract from a paper read by Dr. Michele Braun, of Trieste, before the International Medical Congress at Berlin. The method appealed to me as one worthy of a trial; particularly so, as I am a firm believer that the major part of the efficacy of local applications to mucous membranes of the nose is due to the thoroughness that the said mucous membranes are freed from secretion and effete matters, either by virtue of the stimulating effect upon the secretion or otherwise. I at once tried the method as directed by Braun in a case of atrophic rhinitis. This was a case in which I had found it to be especially difficult to free the nasal mucous membrane of all secretion. After first cleansing the nasal passages as formerly, I for the first time practiced vibratory massage. I found the technique somewhat difficult and tiresome, but was much gratified to find that after its application, and then cleansing

* Read before the Denver and Arapahoe Medical Society, November 22, 1894.

the nose as before, the mucous membrane was absolutely free from all secretion. My conclusions were that if it did nothing more, it was a vast adjunct to our means of rendering a case of atrophic rhinitis perfectly clean, and, as that was the object I had been striving for, benefit must follow. I continued to practice it upon the said case, as well as on several others of a like kind, in all of which the prominent feature was the ease with which all secretion was removed. In all of these cases more benefit was obtained than by any other method I had ever practiced.

In our climate, where the humidity is low and the mucous membranes of the nose have to perform increased function to supply to the inspired air sufficient moisture to render it in a state of saturation to be received by the lungs, we find a great number of people complaining of an accumulation of scabs in the anterior nares and of stringy secretion in the nasal chambers which is either blown out anteriorly or drops back into the nasopharynx. Upon examination we find the turbinated bodies neither in a state of marked hypertrophy nor atrophy, but a condition somewhere between—from a previous hypertrophy resulting in a reduction in the size of the part from contraction of the newly formed connective tissue, thereby interfering with its secretory function, especially the serous fluid derived from the vascular plexuses, which have been bound down by the said contraction. These people would be comparatively free from annoyance in a humid climate, but not so in ours. Why? Because it is impossible for such nasal mucous membranes to throw out enough fluid to supply the inspired air with the proper amount of moisture. The tendency is for the surface of the mucous membrane to become dry; hence cell desquamation, formation of thick secretion, and scabs. As I saw the turbinated bodies building up under the vibratory massage, evidently from absorption of the connective tissue which had replaced the normal elements of the part and regeneration of the cellular elements and vascular plexuses, it occurred to me that in those cases of fibroid contraction from hypertrophy vibratory massage would be of special value.

I gave it an extended trial in a large number of just such

cases, with most gratifying results in all, where the patients were willing to come regularly and submit to it.

The great objection to the method was that it was very tiring to the operator. I looked about to find an instrument that would relieve the method of this objectionable feature. Every instrument I could find was cumbersome, expensive, and did not reproduce the vibrations produced by hand.

One day, as I was using a nasal trephine, an idea struck me that the dental hand piece could be made a vehicle to attach a probe to, and the latter be made to vibrate by a shaft inserted into the hand piece fashioned after a trephine and made to carry a piece of leather that would flap against the probe as the shaft revolved.

The following diagram is a fairly good cut of the instrument, it being two thirds of the normal in size.

In explanation of it, the motor power is derived from an eighth horse-power electro-motor, to which is attached a White's dental shaft and hand piece. This part of it almost all rhinologists are supplied with to run trephines and burrs for removing sæptal excrescences and other purposes. To the hand piece is attached the probe carrier which slips over the hand piece by two rings and is held in place by thumbscrews. The probe (which is of the regulation size recommended by Braun, made of copper and with a bulbous end) slips into a tube soldered to the two rings and held fast by another thumbscrew. Introduced into the hand piece is a shaft which carries a piece of leather. As the shaft revolves the leather strikes against the probe during each revolution and causes it to vibrate. The vibrations are very gentle and even. Any number of vibrations can



be obtained up to several thousand a minute, according to the capacity of the motor.

According to Braun, Laker, Demme, Dionisio, and others the number of vibrations by an expert hand varies from four to eight hundred a minute, and that these vibrations should be extremely even. I believe that all concede that the greater number of vibrations to the minute the better the results obtained with the method. With my intranasal vibrator any number of vibrations can be had, according to the judgment of the operator in each case, by regulating the amount of the electrical current to the motor.

Pieces of leather can be kept on hand of different sizes, which fasten into the revolving shaft, whereby the force of the vibrations can be augmented or diminished at will. A piece of leather about three quarters of an inch square and about one millimetre in thickness I find to answer my purpose for general use best. A piece of russet leather (so popular now for shoes) I find to be of about the best stiffness.

It was my custom when using vibratory massage by hand to first use a probe carrying a thin winding of cotton dipped in a four-per-cent. solution of cocaine to render the nasal cavity tolerant to further massage, then to proceed with probes wound with cotton carrying whatever application was thought to be indicated.

With the intranasal vibrator I have found that the use of cocaine was unnecessary, as the vibrations were so gentle and regular that the patients rarely complained. The ease with which it can be accomplished makes it now a pleasure, whereas by hand it was extremely irksome. Further, the greater number of vibrations to the minute with the intranasal vibrator over those by hand has decreased the number of sittings required to almost one half.

It has not been my intention to enter into a report of the general technique of vibratory nasal massage, or to go into a general discussion of its merits or demerits. It has many advocates, and to those who have not used it I would say, do not condemn it until you have once given it a fair trial. If you want more knowledge on this subject I would refer you to an article

of Braun's in the May, 1894, number of the *Journal of Laryngology, Rhinology, and Otology*, London.

It has simply been my desire to bring to the attention of those engaged in nasal work an instrument which I believe comes nearer to reproducing the hand vibrations than any other on the market. I desire to thank Mr. E. B. Meyrowitz, of New York, for the careful manner in which he has followed out my instructions as to its construction.



The New York Medical Journal.

A WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M.D.

THE PHYSICIAN who would keep abreast with the advances in medical science must read a *live* weekly medical journal, in which scientific facts are presented in a clear manner; one for which the articles are written by men of learning, and by those who are good and accurate observers; a journal that is stripped of every feature irrelevant to medical science, and gives evidence of being carefully and conscientiously edited; one that bears upon every page the stamp of desire to elevate the standard of the profession of medicine. Such a journal fulfills its mission—that of educator—to the highest degree, for not only does it inform its readers of all that is new in theory and practice, but, by means of its correct editing, instructs them in the very important yet much-neglected art of expressing their thoughts and ideas in a clear and correct manner. Too much stress can not be laid upon this feature, so utterly ignored by the “average” medical periodical.

Without making invidious comparisons, it can be truthfully stated that no medical journal in this country occupies the place, in these particulars, that is held by THE NEW YORK MEDICAL JOURNAL. No other journal is edited with the care that is bestowed on this; none contains articles of such high scientific value, coming as they do from the pens of the brightest and most learned medical men of America. A glance at the list of contributors to any volume, or an examination of any issue of the JOURNAL, will attest the truth of these statements. It is a journal for the masses of the profession, for the country as well as for the city practitioner; it covers the entire range of medicine and surgery. A very important feature of the JOURNAL is the number and character of its illustrations, which are unequalled by those of any other journal in the world. They appear in frequent issues, whenever called for by the article which they accompany, and no expense is spared to make them of superior excellence.

Subscription price, \$5.00 per annum. Volumes begin in January and July.

PUBLISHED BY

D. APPLETON & CO., 72 Fifth Avenue, New York.

