

VAPOR MASSAGE—ITS ORIGIN AND USES.

BY GEO. T. HAWLEY, M. D., CHICAGO.

Among the many improvements in our methods of treating affections of the ear, nose, throat and lungs that have been introduced during recent years, Vapor Massage is one of the most important.

Although comparatively little has been written on the subject, Vapor Massage is rapidly coming into general use, especially among that progressive class of physicians who are always on the lookout for improved therapeutic methods. As a result, many are attempting to employ this form of treatment without having a comprehensive knowledge, either of the form of apparatus or the details of manipulation which are essential to success; and as there are several inefficient outfits on the market, some have been disappointed in the results secured.

The credit for introducing this valuable method of treatment and for designing the first, and up to this time the only efficient apparatus for its administration unquestionably belongs to Dr. H. M. Dunlap, who states that in 1888 he began the experiments which lead to the complete development of the method of treatment to which he has applied the term "Vapor Massage," and which, according to his definition, consists in the application of nebulized vapor under pressure with more or less frequent interruptions, so as to produce a series of distinct and positive impulses.

The first complete apparatus designed by Dr. Dunlap for this purpose was constructed by the Globe Manufacturing Co., in 1895, and was exhibited by them in connection with the meeting of the Mississippi Valley Medical Association, held in Detroit in October of that year. This apparatus and methods of use were described by Dr. Dunlap in a paper read before the Michigan State Medical society in June, 1896.

A brief description of this apparatus and its essential features is necessary at this point for a thorough understanding of the subject.

The accompanying illustrations represent the apparatus that has been in use by the writer for some time, and is essentially the same as the original designed by Dr. Dunlap, and was made by the Globe Manufacturing Co., of Battle Creek, Mich.

Fig. 1 shows the complete instrument ready for connection with a compressed air cylinder by means of the usual air pressure tubing, which should be attached to the inlet valve "K."

"H" is a circular air supply tube to which the individual nebulizers "E" are attached. The air supply to each nebulizer is controlled by the valves "G," and each nebulizer is provided with a nebulizing or spray tube as shown in Fig. 2.

The nebulizing tube is a very essential part of the apparatus. It is so constructed that it will operate with very low air pressure, and will spray balsams, oils, and all other fluids without becoming clogged.

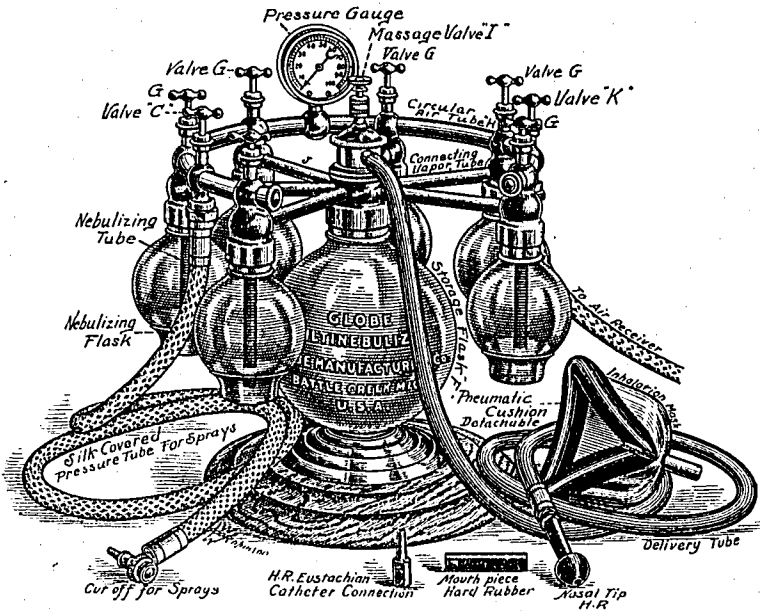


Fig. 1. Complete Four Flask Globe Multinebulizer.

The nebulized vapor from each nebulizer is discharged through separate tubes "J," which are lined with hard rubber, into the central flask "F." The provision of separate conducting tubes is important, as the condensation which always occurs, is deposited in the central flask, and when one common conducting tube is used the condensation from one nebulizer is deposited in adjoining ones, causing a mixing of the fluids.

The outlet of the central flask "F" is controlled by an ingenious valve "I," by means of which the nebulized vapor can be stored

and delivered under any desired pressure, either in a continuous or interrupted current, for the administration of Vapor Massage.

The construction of this massive valve "I" is shown in Fig. 2, having a section cut away. When the instrument is to be used for inhalations, etc., the valve is held open by screwing down the collar "N." If it is to be used for massage, the collar "N" is screwed

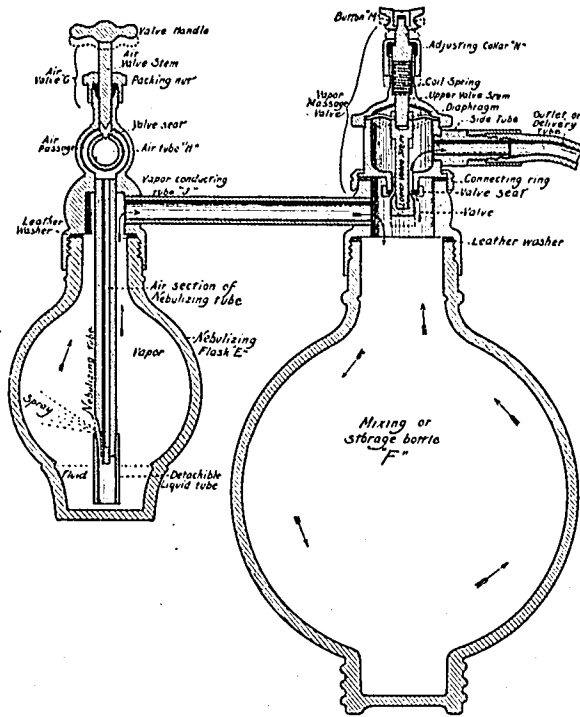


Fig. 2. Nebulizer—Sectional View.

up until the valve is closed by action of the coiled spring, and the vapor is then stored under pressure, but may be released by pressing or tapping on the button "M," which opens the valve; but is again closed by the spring the moment the button "M" is released. When a very gentle effect is desired, it is not necessary to reduce the initial air pressure with which the instrument is operated, but is only necessary to screw the collar "N" up until it comes almost in contact with button "M," serving as a stop to limit the opening

of the valve. In this way the vapor can be delivered in the gentlest zephyr, or with a hammer-like impulse, regardless of the frequency of the impulses, and without varying the initial pressure. Without this perfect valve control, and an elastic volume of compressed vapor as provided by the large central flask, Vapor Massage cannot be safely and successfully administered. And in selecting an outfit, these points should be the first and most important consideration.

An inhalation mask, hard rubber mouth and nasal tip, and catheter connection, are provided as shown in Fig. 1. This style of instrument has all of the metal parts protected from contact with the medicinal agents, either fluid or vapor, which is very desirable as it prevents chemical action or corrosion. Taken as a whole, it is all that could be desired for the purpose.

Vapor Massage, when properly administered, combines the therapeutic action of judiciously selected medicaments, applied directly to the affected tissues, with that of manipulation, the effect of which on the circulation, absorption, nutrition and other vital processes is well known through the benefit derived from the use of the ordinary manual massage when applied to the accessible parts of the body, Vapor Massage reaching those points which are inaccessible to the ordinary forms of manipulation.

With a suitably constructed apparatus, both the medication and manipulation can be efficiently applied to the naso-pharynx and connecting sinuses, the middle ear and Eustachian tubes, the larynx, bronchial tubes and lungs, giving a very wide range of usefulness.

In affections of the naso-pharynx, the parts should first be cleansed with a warm (never cold) antiseptic alkaline wash applied by means of a spray or douche. This may be followed by any ordinary form of application, if desired; then by Vapor Massage in which the medication can be made to meet the requirements in each individual case, either sedative, stimulant, astringent, or alterative, or a combination as may be necessary. The application of the vapor under pressure with the vibratory manipulation adds very materially to the action of the medicinal agents in reducing congestion and restoring normal circulation; also in stimulating absorption of exudates, etc. It brings about a healthy and normal action of the mucous membrane, acting also on the submucous structures. It opens the canals leading to the various sinuses where they are obstructed by congestion or thickening of the lining membrane, and carries the medication to those cavities which are

very difficult to reach by other means, but are frequently the seat of catarrhal conditions which sometimes produce obscure and very annoying symptoms. Catarrhal obstruction of the Lachrymal ducts is often materially benefited by persistent treatment. Many cases of hypertrophy of the turbinated bodies can be cured without the use of cauterization or other operation, thus avoiding all destruction of tissue, which is very desirable. Adenoid growths can often be reduced by using strongly astringent and alterative remedies.

In applying Vapor Massage to the naso-pharynx, the massage valve "I" should be adjusted so it will close, retaining the vapor under pressure in the central storage flask, but will open just sufficiently to produce a decided impulse when the button "M" is suddenly pressed downward. The nasal tip "C" is attached to the delivery tube and applied firmly in one nostril, the other being closed with the finger. The patient should now be instructed to repeatedly pronounce the word "hook," "hook," "hook," and each time the button "M" of the massage valve should receive several light, sharp strokes with the hand, each stroke briefly opening the valve and allowing the escape of enough of the compressed vapor to produce a decided impulse in the naso-pharynx.

For middle ear affections the massage valve should be adjusted with the collar or stop "N" very close to the button "M" at first, so as to give a very slight opening; and if the catheter is to be used it should be passed in the usual manner, and the delivery tube attached by means of the connection provided for this purpose. A single pressure on the button "M" will produce inflation, as with the Politzer Bag, while a series of quick, sharp strokes will produce the massage or vibration effect. The diagnostic tube should be used; and if at first the pressure is insufficient to produce the desired results, the adjustment of the valve should be changed to give a slightly increased pressure as may be necessary.

In this way there is no danger of using too much pressure, as it can be regulated according to the results desired in each individual case; and for this purpose the adjustable valve is very essential.

There are various conditions of the middle ear in which Vapor Massage is very useful. It assists in overcoming adhesions, rigidity of the ossicles and contraction of ligaments just as manual massage will benefit similar conditions of an elbow or knee joint. It is especially valuable in acute otitis media, either catarrhal or purulent. If employed early, using camphor menthol and cocaine in oil, with very gentle pressure—just enough to keep the tubes open

—will generally reduce the pain and inflammation and prevent rupture; and if rupture occurs, is the best possible means of keeping the drum aseptic and free from discharge; also prevents adhesions and other complications.

Vapor Massage can be applied to the middle ear very efficiently in a great many cases without the use of the catheter, the manipulation being the same as for naso-pharynx. In every instance, whether the catheter, is used or not the naso-pharynx should first be thoroughly cleansed with an antiseptic alkaline wash. This is very important. In many cases of so-called middle ear catarrh it is necessary to apply the treatment frequently and with as high a pressure as can be tolerated without producing soreness or discomfort; unsuccessful results are often due to a want of vigor in pushing the treatment. But in all acute inflammatory conditions, the applications must be made with extreme gentleness, using just enough pressure to keep the tubes open and carry the soothing and sedative vapor into the ear drum. The use of Vapor Massage applied in this way, together with thorough, hot douching of the external canal, will control almost every case of acute inflammation if the treatment is commenced before suppuration actually begins.

In pulmonary affections Vapor Massage finds one of its greatest fields of usefulness. The effect on the pulmonary circulation is most decided; congestion is promptly relieved; irritation of the mucous membrane is allayed; the products of inflammatory action are more rapidly absorbed and eliminated; and the nutrition of the tissues is greatly improved by the combined action of manipulation and suitable medicinal agents directly and efficiently applied to the affected parts. Collapsed and inactive portions of the lungs are brought into activity; accumulated secretions are thrown off; expansion and respiratory action are increased with a correspondingly increased oxygenation of the blood.

Having in mind the action of Pulmonary Vapor Massage as outlined above, it will at once be seen that this is one of the most rational methods of treatment for pulmonary tuberculosis in which all of the normal functions of the affected tissues are deranged, and where, also, the efficient application of antiseptic agents is so urgently indicated. The manipulation favors the absorption of the antiseptic into the tissues, thus exerting a more direct action on the encapsulated bacilli. While it may not be possible in this way to destroy the bacilli, a strong inhibitory action is certainly exerted, and the surrounding uninvolved tissues are fortified to re-

sist the advance of the disease into new areas. If at the same time everything possible is done to build up the general nutrition, the chances of recovery are greatly increased.

The action of Vapor Massage in bronchitis, broncho-pneumonia, and in all congestive or inflammatory affections of the lungs and bronchi is very prompt and satisfactory. It is especially serviceable in cases of unresolved pneumonia, and restores the functions of a collapsed lung after pleural effusion. Is also useful in many other conditions which will readily suggest themselves.

In cases of bronchial and pulmonary congestion, there is very frequently a sense of oppression, as if there was a heavy weight on the chest. This is promptly relieved by Vapor Massage, giving way to a feeling of buoyancy which is very much appreciated by patients.

The importance of promptly removing congestion or inflammation of the lungs in every instance cannot be too strongly insisted upon, not so much on account of the immediate gravity of the condition, but because in these conditions the vitality and resistance of the tissues are impaired, and therefore susceptible to tubercular infection. Careful observation reveals the fact that very many cases of tuberculosis begin with a mild attack of "cold in the lungs," or an attack of "grippe," the prompt relief of which would have prevented the development of the more serious condition in many instances.

For Pulmonary Vapor Massage the collar "N" is adjusted so as to allow the valve "I" to close, and yet permit a free flow of vapor when the valve is opened, having the vapor stored at 15 or 20 pounds pressure. The patient holds the mouth-piece with the lips, closing the nose with thumb and finger, and inhales while the operator slowly opens the valve "I" permitting the outflow of compressed vapor, until the patient's lungs are fully expanded almost to the point of forcing the mouth piece from the lips. The valve is then allowed to close for a few seconds; is then given several sharp strokes, the impulses of which are transmitted through the medium of the compressed vapor to the entire pulmonary area. This process should be repeated several times at each sitting.

The application of Vapor Massage should, in most instances, be preceded with an application of the vapor at normal atmospheric pressure of several minutes' duration, so as to insure thorough medication of the parts. It is also advisable to supplement the office treatment by having the patient use a hand nebulizer several times daily.