

## The Hot-Air Treatment of Chronic Deafness.

By MACLEOD YEARSLEY, F.R.C.S.,  
*Surgeon to The Royal Ear Hospital, etc.*

One of the most common forms of deafness is that which is due to chronic catarrh of the tympanum. This, when treated in its earlier stages, can be relieved to a very considerable extent, but when it has been allowed to progress until the whole of the sound conducting portion of the organ has become bound down, and the movements of the chain of small bones impeded by the adhesions which result from long continued inflammation, the hope of relief is very proportionately diminished. It is this class of case which has hitherto baffled the otologist, and has done much to discourage sufferers from deafness from seeking special advice. The fault lies chiefly with the public, who neglect to avail themselves of treatment until it is too late, or who prefer to place themselves in the hands of quacks rather than to seek legitimate means of relief.

Recently, however, an American surgeon, Hopkins, of Cleveland, Ohio, has devised a method of treatment based upon the successful use of super-heated air in cases of stiff joints. After four years' work, he published certain results which were so successful as to lead one to believe that a method had at last been found by which relief could be afforded to sufferers hitherto considered beyond cure. It is with this treatment, and with the results which I have obtained therewith, that this short article has to deal.

The primary difficulty in the treatment lies in the means of applying the hot-air to an organ lying so deeply situated as the ear, but this has to a large extent been met by the apparatus which I am about to describe. This apparatus consists of a copper stove or heater, worked by gas. It is cylindrical in shape, and terminates in a funnel-shaped chimney, from which the hot-air is conducted to the ear by means of an asbestos sleeve. This sleeve is pierced with holes at its aural end to ensure a perfect draught of air. By means of a gas tap the heat can be regulated and applied to a temperature of from 350 to 400 degrees Fahrenheit.

The ear under treatment is prepared by the use of spirit drops, for the purpose of rendering it as dry as possible, and so to allow of the use of high temperatures. Before applying the super-heated air the ear itself and the surrounding neighbourhood are carefully padded to prevent burning. The patient is seated in a comfortable chair, and the asbestos sleeve adjusted. The heat is then applied and gradually raised to a

temperature of from 300 to 400 degrees. The application lasts half-an-hour, and is very comfortably borne. Immediately after, the drum-head and small bones are massaged by means of a compressed air masseur, the ear is then plugged with wool, and the patient allowed to return home. The method is applied to both ears on alternate days.

Of course, it is at the same time necessary to pay attention to the original cause of the deafness, and to rectify as far as is possible any condition of the nose and throat which is responsible for the maintenance of the diseased condition.

The treatment necessarily consumes a great deal of time. I have found in the majority of my cases that but little result is appreciable for at least a fortnight, and the applications require to be continued regularly for a period extending over from two to three months.

My first case was that of a hospital patient, a sergeant in the Metropolitan Police, who was in danger of being forced to relinquish his occupation on account of his increasing deafness. He was a man aged 36, and had become gradually deaf from frequent colds. Both ears were affected, and the deafness was accompanied by buzzing noises. He presented the symptom of hearing better in a noise, a phenomenon which is due to the binding together of the joints of the chain of small bones, and which is characteristic of this form of deafness. When first seen he could only hear the voice when raised, and the watch only when pressed against the ear. As he was the subject of adenoid growths, he was advised to have them removed. This was done, and he then underwent a course of ordinary treatment, extending over two months, without obtaining relief. He was then subjected to the super-heated air method, with excellent results. He is now able to hear ordinary conversation, the whisper at 86 inches, and the acoumeter (an instrument which is used in place of the watch as giving a more uniform result) at 62 inches. He has since returned to duty, and the result of the treatment has so far been well maintained.

The second case completed was that of a nurse, aged 32, who had been under me for some time, but who, owing to neglect due to her necessary absence on duty, had become much worse. At the commencement of the treatment by super-heated air, her hearing was as follows:—Whisper 24 inches, acoumeter 29 inches. After one month, when the treatment was discontinued on account of her professional duties, she had so far improved as to be able to hear a whisper at 74 inches, and the acoumeter at 62 inches. It is interesting to note in this case that the symptom of hearing better in a noise gradually disappeared towards the end of the month.

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