DISCUSSION ON THE EFFECT OF AURAL CONDITIONS ON
FITNESS FOR ACTIVE SERVICE.

[Contributions to the Discussion on the Effects of Aural Conditions on Fitness for Active Service at a Joint Meeting of the United Services and Otological Sections of the Royal Society of Medicine, held on February 5, 1937. Printed by permission of the Honorary Editors. For a report of this Discussion see Proc. Roy. Soc. Med., vol. xxx, p. 1528 Joint Discussion, No. 6.]

AURAL REQUIREMENTS OF THE REGULAR ARMY IN
TIME OF PEACE.

By MAJOR JOHN HARE, O.B.E.
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According to Army regulations, all officers and men serving in the regular Army must be fit for active service in any part of the world.

My remarks will be confined to the aural requirements of the regular Army in time of peace. Major Waggett will deal with the war aspect.

My main object is to attempt to prove by means of graphs and official figures that the present aural policy in the Army, adopted in 1926-27, has thoroughly justified itself by results and, therefore, to recommend its retention.

My purpose can be most usefully served by giving a brief history of the various aural standards in force in the Army since the year 1921. Before this date medical examiners of recruits were only required to ascertain if the hearing was good. In 1921, and because the incidence of aural disease was becoming serious, medical examiners of recruits were instructed to reject any recruit suffering from otitis media or a perforation of the drum. It is necessary to state here that the only instrument then issued to medical examiners of recruits was the non-electrical Brunton auriscope. At this time the electrical auriscope was non-existent.

As the aural position in the Army did not improve, but rather grew worse, the Conway Committee was formed by the War Office with terms of reference "High incidence of aural disease in recruits". Graph A shows that from the year 1919 to 1930 aural disease headed the list of main causes of invaliding from the Army, the second place being occupied by tuberculosis. The chief result emanating from this inquiry was that the recruiting regulations then in force were altered to exclude those men who were found to be suffering from a chronic suppurative otitis media, or who had undergone a radical mastoid operation.

Graph B shows that, despite this innovation, the aural position became so serious that during the year 1926 almost 400 men were invalided from India on account of chronic suppurative otitis media. Although this enormous rise was not entirely a true one, it was nevertheless true to the extent that this number of men were discovered to be suffering from this disease in India. Previous to this time it is highly probable that the disease was just as prevalent but fewer men were invalided and a greater number were allowed to serve on.

The aural position still remained a very serious one but had a happy result in calling for a further and immediate investigation.

The problem was referred to Major E. B. Waggett, C.B.E., D.S.O. (at that time Consulting Aurist to the War Office) and myself (in the capacity of Aural Specialist to Millbank Military Hospital) by General West, then Consulting-Surgeon to the Army, and we gave it as our considered opinion that the great majority of the cases invalided from India were not cases of aural disease occurring de novo in India, but were chiefly in men who had managed to get abroad through evading the aural vigilance of the recruiting medical examiners at home. This contention was fully borne out...
GRAPH A, showing the percentage of men invalided annually, suffering from aural disease, of the total invalided from all causes. (Figures provided by the Annual Reports on the Health of the Army, years 1923-1933.)*

GRAPH B, illustrating the total number of men invalided annually from India, suffering from aural disease. Continuous line—number invalided to the United Kingdom. Broken line—number permanently invalided from the Service.

* In all the graphs the period of my tour of inspection followed by the introduction of the electrical auroscope is denoted by the shaded column.
by the results obtained by me on a tour of inspection of all the depots in the British Isles, in which I examined and reported on the condition of the ears of every serving recruit. In all I examined 8,533 recruits (or 17,066 ears), and of these, 316 men—i.e. about 4%—were found to be suffering from unsuspected otitis media and were at once discharged from the service as unfit (see Table I).

It was found that the main reason why medical examiners of recruits were failing to detect aural disease, if present, was inadequate instrumentation. The Gallie Committee was then set up by the War Office to consider the situation and my interim reports, and its resultant recommendations were in the main as follows:

1. The immediate circularization by pamphlet of all medical examiners of recruits, emphasizing the seriousness of the aural position in the Army and stressing the fact that this position had mainly arisen through lack of care on their part in detecting aural disease, when present, and demanding that more care be exercised in the future. Further, it was stated that their work in this regard would be facilitated by

2. The universal issue of electrical auriscopes to all those whose duty was or included the medical examination of recruits.

During my tour of inspection one of my chief and most important duties was to demonstrate to medical officers the lesions found and which demanded rejection.

Graphs C and D and Table II show how immediately effective the above recommendations were and have happily continued to be. In consequence, in the year 1930, for the first time since the Great War, invaliding from aural disease fell from first place to second in the list of causes of invaliding, and has since remained in this improved position.
GRAPH C, showing the immediate and sustained rise in the percentage number of recruits rejected on account of aural disease since the date of the War Office Enquiry in 1926-27, and the introduction of the electrical auriscope.

GRAPH D, period 1926-35, showing the great decrease in the number of invalids finally discharged on account of aural disease. Figures for the British Army at home and abroad, including India.
Discussions on the Effect of Aural Conditions on Fitness

The combined Graph E is interesting in showing how, as the number of recruits annually rejected at home because of aural disease has risen, at the same time the number of men invalided from the Army from the same cause has fallen.

It is further of interest to examine Graph F, which shows that the number of men constantly sick from diseases of the ears and nose remained at a fairly steady level during the whole period under discussion. As during this period a tremendous number of men were invalided home suffering from otitis media, it is safe to assume that the majority of cases in India are of external otitis rather than otitis media. As in all tropical climates, of course, external otitis is extremely prevalent, and accounts for a great loss of working time and efficiency, through hospital attendance or admission.

It will be generally agreed that the results of adopting the recommendations of the Gallie Committee are very good and striking, as demonstrated by Graph B, which shows that whereas nearly 400 men were invalided from India in the year 1926 there was a fall in the year 1930 to the very low figure of 13, which satisfactory low level is being maintained. This would seem a matter for congratulation, but it must be realized that the present strict aural standard now in force which has brought about this commendable state of affairs results annually in a great loss of potential recruits.
for the Army, in fact 3,000 men a year, or approximately 6% of the total number of recruits presenting themselves for enlistment (see Table III).

**Table III.** Medical Examination of Recruits at Home.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of prospective recruits examined by E.M.O.s</th>
<th>Rejected on account of ear trouble primary examination</th>
<th>Number rejected within 6 months</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1931/32</td>
<td>54,159</td>
<td>2,773†</td>
<td>294</td>
<td>3,283</td>
<td>6.06</td>
</tr>
<tr>
<td>1932/33</td>
<td>56,768</td>
<td>2,914†</td>
<td>261</td>
<td>3,283</td>
<td>5.97</td>
</tr>
<tr>
<td>1933/34</td>
<td>47,382</td>
<td>2,926†</td>
<td>203</td>
<td>2,647</td>
<td>5.58</td>
</tr>
<tr>
<td>1934/35</td>
<td>45,200</td>
<td>2,902†</td>
<td>284</td>
<td>2,686</td>
<td>5.88</td>
</tr>
<tr>
<td>Total</td>
<td>205,519</td>
<td>Total 11,981</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Diseases of middle ear. † Other diseases of the ear.

The present aural requirements in a recruit are as follows: A recruit shall not be enlisted who suffers from any of the following defects:

1. Deafness, as defined below.
2. Perforation with or without discharge from the middle ear.
3. The presence of polypus or granulations.
4. Post-aural scar with absence of the drum, indicative of a radical mastoid operation (a simple mastoid operation with healed intact drum and good hearing is no bar to enlistment and all such should be accepted).
5. Dermatitis of the meatus (eczematous or desquamative).

The following will be taken to constitute deafness: Inability to hear with either ear, at a distance of 20 ft., a series of numbers including at random intervals the figures 66 (high note), 25 (medium note), and 44 (low note) uttered in a strong whisper.

The examination will consist of two parts (of which the former is considered the more important): (1) Auriscopic scrutiny, (2) a hearing test, as above.
To those unaware of the conditions of service in the regular Army this wholesale rejection of men who are found to be suffering from a perforated ear-drum, but who have adequate hearing, would seem to be an act of extreme folly to say the least, especially when it is taken into consideration that these men were found to be otherwise healthy and fit for enlistment. It has, however, already been shown how prevalent external otitis is among troops serving abroad. Given a tympanic cavity vulnerable to infection by virtue of an unhealed perforation, an infection of the tympanic mucosa occurs in the great majority of cases. This re-infection proves very resistant to treatment under tropical conditions and consequently a high percentage of those afflicted are invalided annually to the United Kingdom. This results in the loss of a great number of trained soldiers to the Army and a great financial loss to the State. To a lesser extent the same consideration applies regarding service at home, in that re-infection of the tympanum in the presence of a perforation frequently occurs at bathing parades, which are a compulsory exercise, in spite of measures taken to prevent such an occurrence.

In conclusion, therefore, it is contended that conditions of service being what they are in the regular Army, which requires a man to be fit for service in any part of the world, the present aural standard should be adhered to and that, although it might be criticized as being too strict in its requirements, results have amply justified its adoption and retention.

“EARS” ON ACTIVE SERVICE.

By MAJOR E. B. WAGGETT, C.B.E., D.S.O.
Consulting Aural Surgeon, Charing Cross Hospital.

I shall confine my remarks, in the main, to ear conditions in an army on active service; if my thesis is maintained, details of army recruiting regulations for national emergency follow as a rational consequence. And I speak as a soldier—that is to say I do not regard a period of active service as a suitable occasion for the performance of operations and elaborate treatments proper enough in peace time. The function of a medical officer in war is to keep fighting units as near up to strength as in him lies.

I shall attempt to show that the prominence accorded to ear disease in the Army of 1914–18 was quite unnecessary and grossly exaggerated, and this was owing to the fact that medical officers were unfamiliar with the elements of otology and anticipated grave complications in all cases of otorrhoea. In any future national war we may look forward to a much more favourable state of things, for otology has now become compulsory for the qualifying examinations of the R.C.P. and the R.C.S., while the largely increased numbers of genuine aurists should supply an expert, at least, to every casualty clearing station.

The aural invaliding and recruiting crisis into which Major Hare and myself were detailed to inquire a few years ago was really a financial affair and somewhat different from our present problem, but certain points in Major Hare’s results are worthy of special notice here. Of genuine ear cases, 90% of the men heard quite well on parade. In a certain year, India sent back invalided 404 ear cases. They were nearly all old perforation cases with mucopurulent catarrh set up by Service conditions, notably by compulsory bathing. It was then arranged that no man with a perforation should bathe without an ear-plug and a subsequent visit to the unit inspection room for the instillation of bineiodide and spirit drops. The invaliding dropped to 13, and has remained thereabouts. The most important point for us in Major Hare’s report is that if all applicants with ear trouble were rejected by the recruiting medical officer, we should lose at least 6%—he estimated at the time that the figure would be 10%