

MALINGERING TESTS

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The shortage of time at my disposal does not permit me to deal extensively with the various malingering tests known to-day. These will be discussed in more detail during the round-table conferences.

I believe; on the other hand, it to be useful to outline the various tests which can contribute to the detection of simulation, pointing out for each the advantages and the handicaps, as well as listing their comparative reliability.

Tests for monaural or binaural deafness.

The ideal test, in other words that which can be considered as absolutely objective, is the one that uses the so-called v. Békésy probe. The principle governing this test consists in measuring the possibilities of the mechanical parts of the middle ear to vibrate. This is accomplished by means of a special device capable of recording the vibrations of the tympanic membrane, without touching this, thus permitting a complete freedom of oscillation. A probe is introduced in the ear canal and placed in proximity of the drum which forms, with the probe, a condenser the capacity of which varies during the oscillations of the membrane. These variations can then be recorded. This test does not show up malingering directly, but allows the examiner to establish whether or not the membrane and the ossicular chain are working normally, quite independently from the will of the subject. The only fly in the ointment is the technical complexity of the apparatus.

A second series of tests that can be carried out to detect simulation of monaural or binaural deafness is that of mediate objective tests, based on automatic reactions beyond the control of the subject. These reactions are obtained with the stimulation of one or both the ears, and recorded with suitable equipments.

Psycho-galvanic, psycho-voltaic, sphygmomanometric and EEG tests belong to this category, as well as the tests based on the measure of the middle ear acoustic impedance. On the whole, these tests are extremely reliable and effective, and enable the examiner to establish the approximate hearing threshold level of the subject. Here again, unfortunately, we are faced with highly expensive apparatuses.

We now come to the subjective response tests. These exploit the mistakes made by the subject in remembering the amplitude which he has stated to be his simulated threshold, or in keeping this level in face of masking. Among these we recall the "repeated threshold test" (of average reliability), Carhart's test, based on the comparison of pure tone and speech threshold (fairly

reliable) and the Doerfler-Stewart's test (poor reliability) which establishes the speech threshold in the presence of noise by a special procedure.

All these tests can be carried out with an audiometer of the clinical type.

For detecting binaural, much more than monaural malingering, Lombard's test is also suitable. This is based on the principle that speech is monitored by the hearing. Any upset in this control will affect speech more or less seriously. Lombard's test is scarcely reliable, except in a limited number of cases. It is a simple enough procedure and can be carried out with any type of audiometer, provided it possesses masking facilities.

In this same category falls the "delayed speech test". This is also more useful in detecting binaural malingering, rather than monaural. It is based on the interference caused by a disturbance brought to the ear during speech. This disturbance is the voice of the subject played back to his ear with a delay of some tenths of a second. When the interference is actually perceived, it upsets the speech, so much so that the subject stammers, repeats syllables, increases the loudness of his voice and slows down the rate.

The test is highly reliable in establishing the existence of simulation, but does not permit to measure its extent. It requires a special and costly instrument.

Tests for monaural deafness only

The first group of these is based on contralateral masking. Among these the most efficient and by far the simplest is Stenger's.

Stenger's test is one of the few which allows in many cases to ascertain with good precision the actual threshold of the subject. The effectiveness of the test can even be increased considerably by adopting an interrupted instead of the steady sound.

Secondly we must list the test based on auditory localization or binaural loudness balance. The principle on which these tests are based is simple enough: it is well known that the localization of a sound source in the space rests on the unconscious evaluation of some parameters of the sound when it is received by both ears. In order to localize sound correctly, hearing must be perfect on both sides, alternatively the ears must both be evenly impaired. The malingerer very rarely is aware of this simple psychophysiological phenomenon and we can, as a result, carry out some effective tests. Among these, one of the more recent is Roeser's, based on the fact that if a sound reaches one ear later than the other beyond a definite time interval, the subject is convinced that the sound only reaches the ear which hears earlier. If this ear is the supposedly deaf one, the malingerer will think that the sound is only sent to that ear and will claim not to hear it, whilst in fact the sound also reaches the other ear, though delayed. Unfortunately, as in so many reliable tests, this one also requires expensive equipment.

Another test based on monaural loudness balance is Fournier's. This resembles vaguely Stenger's and enables us to establish the true threshold with fair approximation.

A series of new tests for establishing monaural malingering have lately been added to the list. These arose from studies on central summation and/or

synthesis. Among these the cleverest and most reliable is Calero's.

Another binaural summation test is the "apparent modulation test" which I developed. A loud steady sound is fed to the healthy ear, whilst the suspiciously deaf ear is hit by an interrupted sound of the same frequency, the amplitude of which is gradually increased, beginning from zero. When the loudness reaches the threshold of the supposedly deaf ear, the interrupted sound is not, apparently, perceived by this ear but it overlaps onto the sensation of the healthy ear, giving an ultimate sensation of a modulated sound. Since the subject does not suspect that in this pattern of sensation the deaf ear plays a part, he will claim that the sound has been switched to modulation. This information is elicited from the examinee, in fact and he is asked to indicate the actual moment when the modulation seems to begin. Obviously, the sensation of modulation will be absent if the suspected ear is in fact deaf.

Both Calero's and mine are tests which require inexpensive equipment, and can be relied upon to a great extent. Mine enables the examiner to ascertain the true threshold level within 5—10 db.

To close, may I be permitted to sum up with some observations born from my long experience in this field:

Firstly, it must be pointed out that none of the tests gives absolute values and certainty, except v. Békésy's, which, as previously mentioned has the drawback of requiring complicate and costly equipment. In addition it can only serve its full purpose to ascertain defects in the middle ear.

Secondly, a definite verdict of malingering can only be reached as a result of several positive tests, as many as can be carried out.

Thirdly, the examiner should always face the subject with a mind free of preconceived beliefs and consider the person as being deaf until his simulation can be proved beyond any reasonable doubt. On the other hand, the physician will do well to remember that cases of malingering are fairly frequent, particularly where there exists an underlying financial interest.

Further, it should also be born in mind that in the ever increasing cases of street accidents the deafness, in my own experience, is not always the result but sometimes the cause of the accident itself.

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