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SCHIZOPHRENIA AND EARPLUGS

DEAR SIR,

As hinted at by McGuffin (*Journal*, June 1979, **134**, 651), the wearing of earplugs by schizophrenics may not be as eccentric as first appears. Intolerance to noise is a common symptom in an ENT clinic as well as among psychiatric patients. The classic feature is that the patient has to turn down the volume if he enters a room where others are watching TV. Regardless of who exhibits this symptom (autistic children, children recovering from otitis media, early otosclerotics, patients with Menière's disease, etc), there is the same correlate on testing with an acoustic impedance meter—a reversal of middle ear stapedial reflexes. Instead of the normal decrease of middle ear compliance on acoustic stimulation, there is an increase. This has the effect of amplifying instead of attenuating loud noises.

Over the last few years I can recall seeing 3 West Indian patients in an ENT clinic with a psychiatric diagnosis of schizophrenia. All had audiological features of Menière's syndrome and positive blood tests for syphilis. In such patients the symptoms often start after minor head injury or pressure changes, as during plane flights. A very common symptom of Menière's disease is an annoying feeling of pressure or blockage in the ears, which may have been the basis

for the patient's delusion that "Half of my brain is linked to the Moon".

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DEAR SIR,

Dr McGuffin's letter (*Journal*, June 1979, **134**, 651) includes incidental observations of the effects of wearing earplugs upon the condition of schizophrenic patients. In particular, he quotes the patient who found that wearing earplugs helped him to 'hear more clear' (sic).

Our own research provides a rationale for improvements in speech comprehension as a result of wearing an earplug in one ear or the other but not in both (Green, 1978a; 1978b; 1978c; Green *et al*, 1979). This research shows that schizophrenics suffer from defective information transfer between the cerebral hemispheres and that the transfer deficit interferes with speech comprehension. Acute schizophrenics with left hemisphere speech representation are significantly better at understanding speech presented to the right ear than to the left. More important, however, is that they are normally able to comprehend speech presented to the right ear only at least twice as well as under normal conditions of binaural speech reception. The wearing of an earplug in the left ear, therefore, leads to significantly increased levels of speech comprehension compared with everyday binaural listening. In cases of right hemisphere speech, the effect is similar but in the reverse direction and a right earplug would be expected to increase speech comprehension.

An additional effect of a single earplug which we are investigating is a decreased frequency of auditory hallucinations which re-appear if the patient removes the earplug. For further information about the experimental work leading to the discovery of these effects, reference may be made to the following articles which are available from the author on request.

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