

Clinical Algorithms

Dizziness and vertigo

HAMISH M A TOWLER

Dizziness and vertigo are common complaints. The terms cover various sensations, and the distinction between the two is not clear. Careful inquiry into the patient's history is of paramount importance as this may establish the diagnosis when examination yields normal results.

Vertigo indicates vestibular dysfunction and is usually defined as a sense of rotation of either the patient or his environment. This rigid definition, however, excludes patients with vestibular dysfunction who feel only a sensation of imbalance or disequilibrium in the head. Imbalance felt in the legs usually results from a cerebellar or proprioceptive deficit or from weakness of the legs.

Dizziness, a feeling of impending loss of consciousness, is usually vascular in origin. Postural hypotension, cardiac dysrhythmia such as in Adams-Stokes disease, low cardiac output resulting from valvular disease, or ventricular dysfunction may all present in this manner. The remainder of patients with dizziness may describe their symptoms in vague terms, such as "light headedness," "a fear of falling," or "a swimming sensation"; a common aetiology here is emotional disturbance.

Vertigo of acute onset, and particularly when the labyrinth is affected, is characteristically rotatory and often associated with constitutional upset such as nausea, vomiting, or sweating. If the onset is gradual central compensation can occur and disequilibrium is the predominant complaint. The clinician should ask about symptoms of middle ear disease, deafness, tinnitus, headache, or focal neurological dysfunction and ascertain whether symptoms are provoked by specific movements—for example, of the head or neck—or changes of posture. The duration of symptoms and any particular pattern of recurrence should be established.

Many drugs may cause dizziness and, less commonly, vertigo. Drugs that are directly vestibulotoxic, such as aminoglycosides, tend to cause disequilibrium as damage is predominantly bilateral. Rotatory vertigo, however, may occasionally develop as a result of unilateral toxicity. The inappropriate use of labyrinthine sedatives may aggravate dizziness, particularly in elderly people.

Examination should be directed by history. Anaemia or polycythaemia may be apparent. The ears should be carefully examined, hearing tested, and tuning fork tests performed. The eyes should be examined closely for nystagmus or ocular paresis and the pupillary responses and corneal reflexes tested. Fundoscopy may show such abnormalities as papilloedema, papillitis, or optic atrophy.

Positional testing for nystagmus and vertigo should be performed as follows. The patient sits upright on a couch with his gaze fixed on the examiner's forehead; his head is then briskly and simultaneously rotated through 45° and lowered to 30° below horizontal beyond the end of the couch. Both directions of rotation are tested and the eyes scrutinised for nystagmus. There are two positive responses. Most commonly, severe vertigo and nystagmus towards the lower ear develop after a latent period, then fatigue within 30 seconds. On repeat testing adaptation occurs: both vertigo and nystagmus are diminished. This is benign paroxysmal vertigo, which is caused by a peripheral disorder of the bottom most labyrinth. In the other pattern of response nystagmus develops immediately on provocation, with no latent period, there is no fatigue or adaptation, and vertigo is usually mild or absent. Here the lesion is central, usually a posterior fossa tumour or, less commonly, vascular disease or

multiple sclerosis. The other cranial nerves should also be tested. There may be evidence of long tract motor or sensory damage or peripheral neuropathy. Gait should be observed and the patient tested for rombergism. Truncal ataxia on heel toe walking may be the only clinical evidence of midline cerebellar disease causing disequilibrium.

Cardiovascular examination may show dysrhythmia, valvular disease (particularly aortic stenosis), carotid or vertebral bruits, or cardiac failure. Erect and supine blood pressure must be measured. Disease of the middle or inner ear or focal neurological signs in a patient with vertigo merits prompt referral. Further investigations to establish the diagnosis may include audiometry, caloric testing, electronystagmography, and advanced radiology. Such cases are, however, rare.

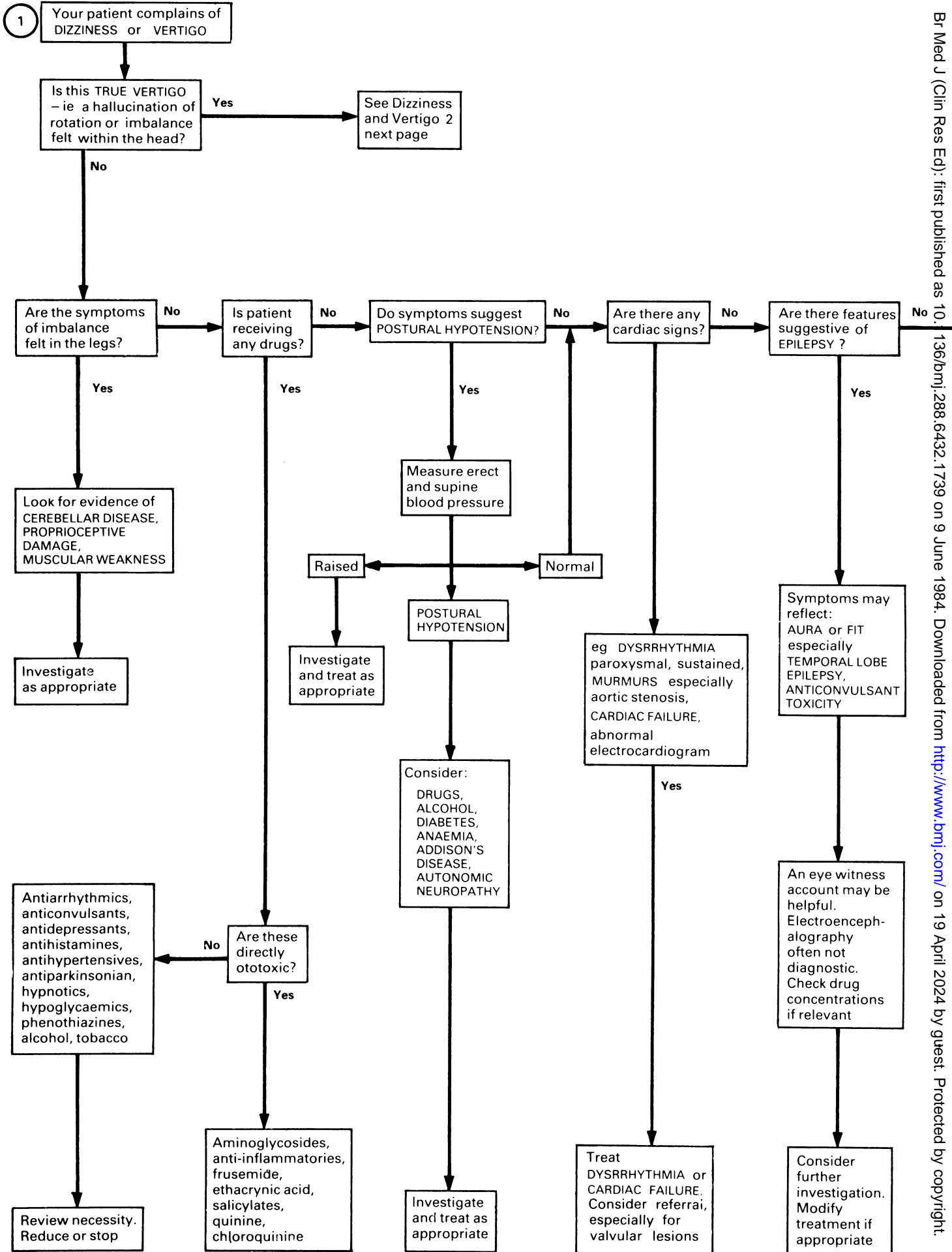
The commonest cause of acute vertigo in young people is sudden vestibular failure (acute labyrinthitis), possibly due to recent viral infection. It may also be caused by head injury, migraine, or multiple sclerosis and, in older patients, vertebrobasilar disease. Transient ischaemic attacks or infarction in the vertebrobasilar territory rarely cause vertigo or tinnitus without other focal neurological symptoms such as diplopia, dysarthria, weakness, or sensory disturbance. In patients aged over 50 benign positional vertigo is more common than Menière's disease, though Menière's disease is often mistakenly diagnosed. The main features of Menière's disease are the recurrent paroxysms of vertigo, tinnitus, and progressive hearing loss. Cervical spondylosis is common in old people and too often blamed for symptoms. It should be considered only when vertigo is clearly associated with movements of the neck (not the head) and appreciable radiological changes. Vasculitis may simulate vertebrobasilar arteriosclerosis, and, although they are rare, cranial arteritis, polyarteritis nodosum, systemic lupus erythematosus, and syphilis should not be forgotten.

Acoustic neuromas and other tumours of the cerebellopontine angle are rare and cause unilateral deafness and tinnitus initially, disequilibrium less often, and rotatory vertigo only when well advanced. Impairment of the corneal reflex is an important sign, but small tumours are identified only if there is a strong index of suspicion in patients with unilateral sensorineural deafness and prompt referral for investigation.

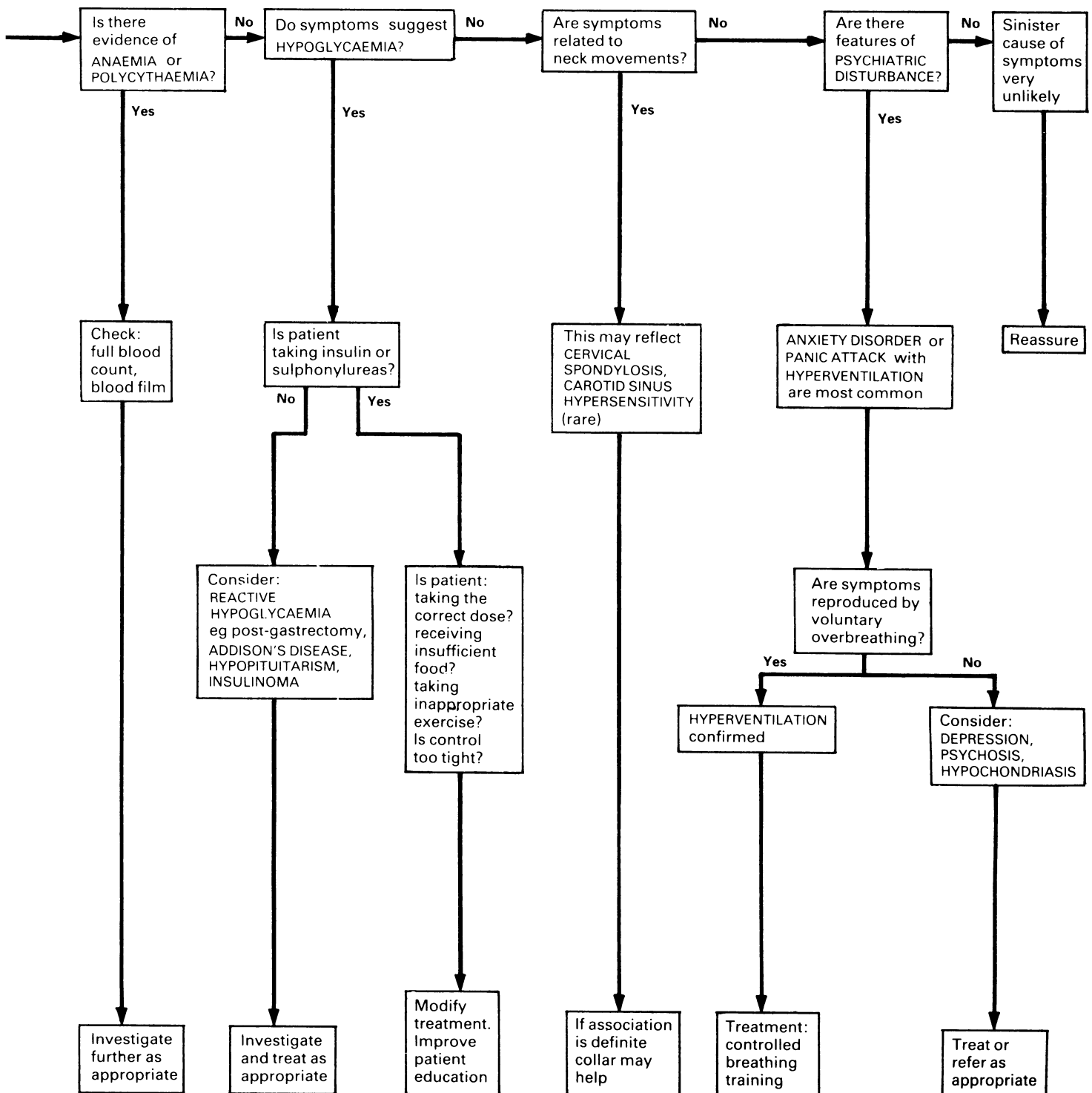
Psychiatric and emotional problems are a common cause of dizziness. Hyperventilation can be confirmed if the patient's symptoms are provoked by voluntary overbreathing for three minutes. Chronic continuous dizziness may be a sign of depressive illness. Emotional factors may influence symptoms of organic origin—for example, stress may provoke bouts of Menière's disease as it does asthma and migraine.

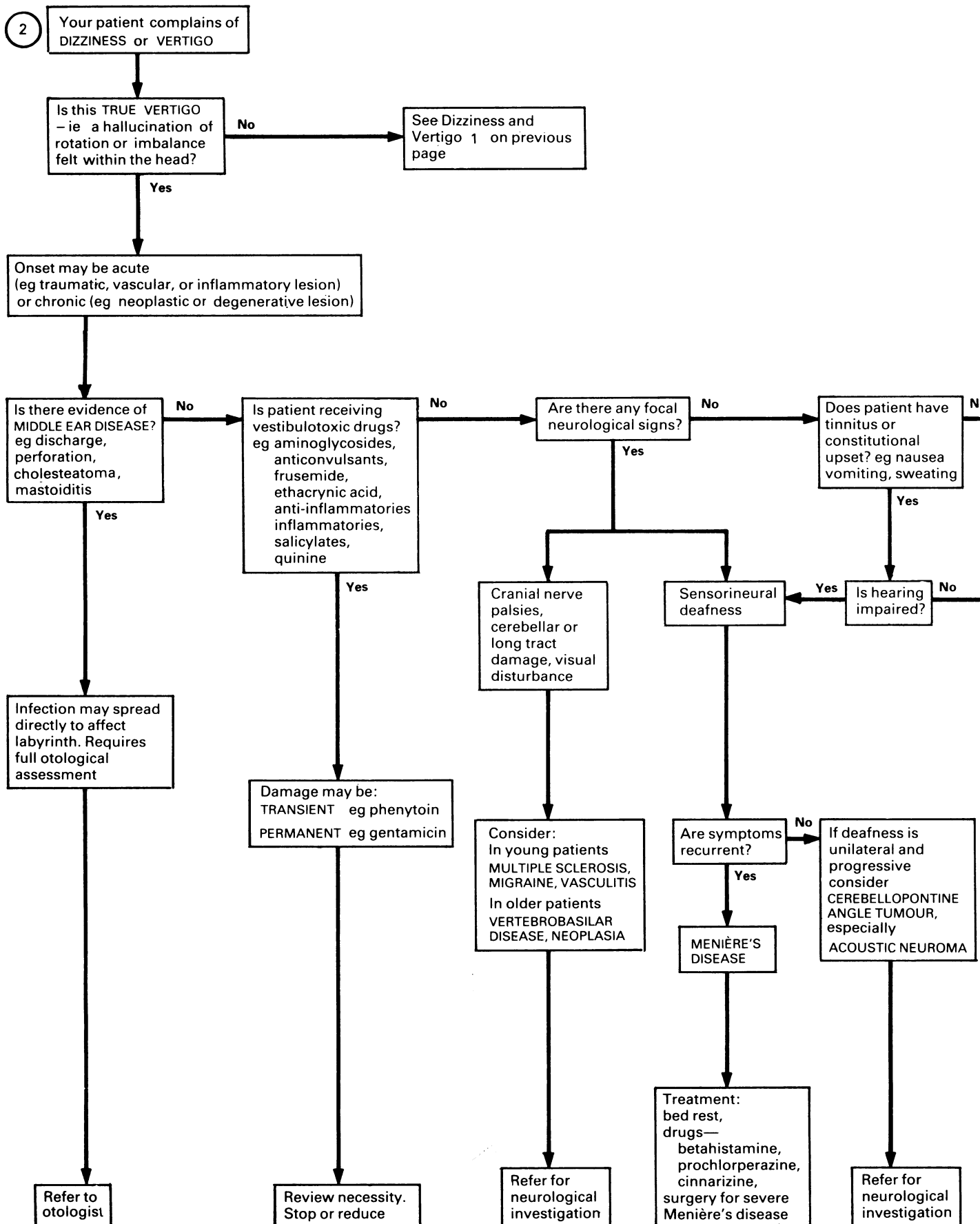
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Dizziness and vertigo 1





Dizziness and vertigo 2

