

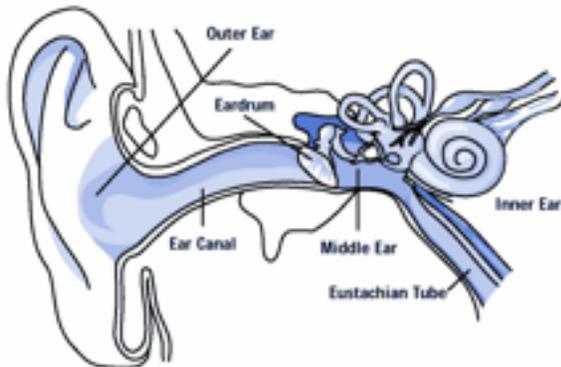


Medicine for Managers

Dr Paul Lambden BSc MB BS BDS FDSRCSEng MRCS LRCP DRCOG MHSM FRSM

Ménière's Disease

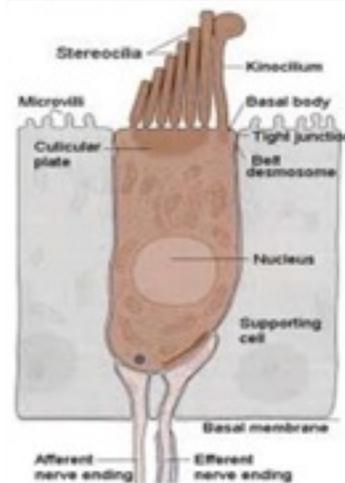
Ménière's Disease is a progressive, often long-term, debilitating condition with which sufferers experience problems with balance and hearing. The characteristic symptoms are tinnitus, vertigo, increasing deafness and unpleasant feelings of pressure deep in the ear. It comes in attacks which last from hours to days and the symptoms vary widely from person to



The condition affects the *inner ear*. The diagram above illustrates the main components of the ear. Sound impinges on the *ear canal* and strikes the *tympanic membrane* (eardrum), which vibrates. Attached to and inside the ear drum (in the *middle ear*) are three small bones (*ossicles*) called the hammer, anvil and stirrup which act as a system of levers magnifying the sound, which is converted from auditory to electronic impulses and transmitted to the brain through the auditory nerve. The inner ear contains the *cochlear labyrinth* and the *semi-circular canals*. The cochlear labyrinth detects low frequency (bass) sounds and the semi-circular canals (three canals at right angles to ear other) are lined with sensitive cells which detect movement (see diagram).

Both structures contain fluid called *endolymph* which

is vital for normal function. In the semi-circular canals, the endolymph moves with head



The stylised diagram shows a cell lining the semi-circular canal. Fine hair-like structures called *cilia* move when the fluid moves. Movement is converted to a nerve impulse which passes to the brain

movement and the cells lining the canals detect the fluid movement which is transmitted to the brain.

The actual cause of Ménière's Disease is not really understood. It is believed to be something to do with increased pressure of the endolymph but other causes such as allergic factors have also been proposed. It may be that too much endolymph is

produced causing the rise in pressure. Factors increasing the likelihood of experiencing the condition have been identified and include having a family history of the condition, suffering from vascular conditions such as migraine, some disorders which involve disturbances in body electrolyte balance and infections such as meningitis.

The development of the disease is broken down into stages:

- **Stage 1** is characterised by intermittent episodes of vertigo which may be sudden and without warning and which may last for minutes or hours. There may be disturbances in hearing and symptoms described by sufferers as a fullness or pressure in the affected ear. Attacks are unpredictable but, in between episodes, the symptoms disappear and the hearing and balance return to normal.
- **Stage 2** is recognised by the increasing prominence of tinnitus and it may vary in severity during the attacks. Episodes of loss of balance and giddiness which may compromise movement may occur before or after attacks.
- **Stage 3** is the period where the symptoms worsen and become more established. Hearing loss increases with associated distortion and loud noises may be distressing. Tinnitus is more persistent, vertiginous episodes are less frequent but balance problems become persistent and significant, particularly in the dark when visual fixation is not available.

Information is available from the
Mènière's Society at:
The Rookery,
Surrey Hills Business Park,
Wootton, Surrey RH5 6QT
Tel: 01306 876883
e-mail: info@menieres.org.uk

The incidence of the condition is about one in every 1,600 people of which 7-10% have a family history of the disease.

Diagnosis of the condition may be difficult, particularly in the early stages because tinnitus, disturbances in balance and hearing loss may be caused by a variety of other conditions such as viral illnesses, migraine, general deterioration in hearing or because of causes, the aetiology of which is unknown. If Mènière's Disease is suspected, the GP will often make a referral to an ENT specialist who will firstly establish that the pattern of symptoms is consistent with the diagnosis; that is measurable hearing loss, tinnitus (ringing or buzzing in the ear) and attacks of vertigo associated with the other symptoms during episodes of suspected Mènière's Disease.

The ENT surgeon will undertake one or several of a variety of tests to assess the disability caused by the condition.

- Hearing tests
- Balance testing. This is done by a technique called *caloric testing* where warm or cool water is placed in the ear for about thirty seconds. This influences the balance mechanism and the degree to which it is impaired can be measured.
- MRI scan. This is used principally to eliminate other causes of the symptoms
- Sometimes more specialist tests are carried out to check nerve activity.

Treatment of Mènière's Disease depends in part on the nature and severity of individual symptoms. It may therefore be directed predominantly at the vertigo, the hearing loss or the disturbed balance or it may be directed more generally at preventing or treating attacks. Drugs such as prochlorperazine (*Stemetil*) and

antihistamines such as cinnarizine may be helpful in treating actual attacks. They may control symptoms of vertigo, nausea and vomiting and are relatively devoid of side effects at therapeutic doses. For severe attacks the medication may need to be given by injection.

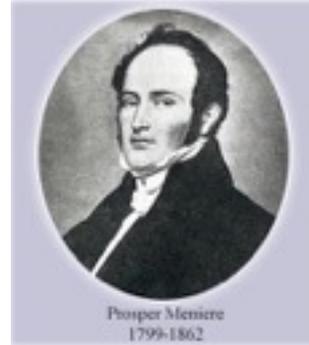
Treatment is available to help prevent attacks or reduce the severity of an attack.

- Low salt diets appear to reduce the symptoms in some people.
- Betahistine, prescribed as a three-times-a-day tablet, may ease symptoms, possibly by reducing pressure in the middle ear.
- The tinnitus symptom is extremely distressing for some people. It may be treated by sound therapy, involving sound to distract from the tinnitus itself, relaxation therapy or cognitive behavioural therapy
- Hearing loss may be addressed by a variety of hearing aids and may be best addressed at specialist hearing centres.
- Balance disturbances may be controlled through specialist physiotherapy staff but the treatment is not available in all areas.
- For very severe cases and those resistant to other forms of treatment or management and it may be destructive or non-destructive in nature. The non-destructive surgery attempts to reduce the pressure in the ear, to insert grommets or to inject medication directly into the required location. Destructive surgery tends to be used for those patients in whom only one ear is affected. The procedure is aimed at destroying the part of the ear associated with the development of vertigo, but hearing loss is an often inevitable result as well.

Many sufferers will have some treatment but will live with the troublesome and

often distressing effects of the condition. They should try to avoid activities which may place them at risk, such as climbing ladders and operating heavy machinery because symptoms may strike suddenly. Also, any patient suffering any vertiginous symptoms must notify the DVLA and, if the attacks are sudden, he or she will probably not be allowed to drive.

Ménière's Disease was first identified by



the French doctor who bears the name. There is in fact some debate about whether he actually spelled his own name 'Ménière'. Born in 1799 he first identified the triad of symptoms; tinnitus, vertigo

and hearing loss to which he first made reference in his paper "*On a particular kind of hearing loss resulting from lesions of the inner ear*". He was honoured, not for his aural work, but for his work to control cholera for which he received the *Ordre national de la Légion d'honneur*. He died in 1862.