MÈNIERÈ’S DISEASE

THE BALANCE MECHANISM

The balance or vestibular mechanism forms part of the inner ear. It consists of three semi-circular canals or small loops, and two small cavities, the saccule and utricle. The semi-circular canals are at right angles to each other, covering three spatial dimensions, and contain fluid (perilymph and endolymph). The two cavities contain fluid and also tiny granules, called otoliths. Movement of the head and changes in orientation cause the fluid in the canals and the granules in the cavities to move. These provide the individual with information about bodily movement and orientation in relation to gravity.

Please refer to ‘Our Ears and How We Hear’ Fact Sheet for ear anatomy and physiology.

WHAT IS MÈNIERÈ’S DISEASE?

The balance organ and hearing organ (cochlea) are connected, with the same membranous lining and the same fluid (endolymph and perilymph). Together they form the inner ear. It appears that in Ménière’s Disease there is a build up of the endolymphatic fluid, causing increased pressure in both the hearing and balance mechanisms. This leads to a number of symptoms.

What are the symptoms?

- **Vertigo**: a feeling of spinning which lasts for at least 20 minutes and may persist for several hours. With severe vertigo there may also be nausea, vomiting, diarrhoea and sweating. Vertigo is usually the most distressing and debilitating symptom.

- **Tinnitus**: noises in the ear or head may increase prior to the attack. Usually this has a roaring quality.

- **Hearing loss**: a reduction in hearing levels. Typically the change in hearing affects the lower pitches. Sounds may be experienced as ‘tinny’ and sounds may appear to be distorted.

- **Sound sensitivity** may develop resulting in a change in tolerance for loud sounds.

- A sensation of **ear fullness** or pressure in the ear may precede the attacks.

- Some people experience **vision disturbance** during attacks of vertigo, which may persist for a few days.

HOW COMMON IS IT?

According to the 2005 Australian Population Health Survey, Ménière’s Disease occurs in one in every 606 people. It is equally common in both sexes. It is most common in the age range of 30 to 60 years, with 65% of initial attacks occurring before the age of 50 years.

There are individual variations in the pattern of symptoms. A hearing loss may not necessarily be noticed or, there may be periods of hearing loss without any associated attacks of vertigo.

Ménière’s Disease is considered to have three stages of progression, with the second stage being ‘classic’ Ménière’s.

**Stage 1:**

Symptoms may occur in any combination and pattern over the period of an “attack”. Vertigo attacks may last from half an hour to twenty-four hours. For some, the attacks occur in clusters and are followed by periods of freedom (remission) from symptoms.

Remission may last for months or even years, though for 50% of people the symptoms will progress through the next stages of Ménière’s Disease.

**Stage 2:**

Vertigo attacks fluctuate with periods of remission, however, the hearing loss is now measurable, hearing does not return to normal levels and tinnitus may be permanent. Hearing loss initially affects the low tones and then progresses to mid and high frequency sounds. Typically there is a
gradual increase in the frequency of attacks to a maximum point reached over the years.

**Stage 3:**
The frequency of attacks decrease as the disease runs its course. This final stage is often called ‘burnt – out Ménière’s’ as the vertigo ultimately diminishes; for some there can be residual ongoing unsteadiness. Hearing may be severely affected.

A very small number of people experience Tumarkin Crises or ‘drop attacks’, momentarily, without warning losing their balance and falling to the ground.

**When you feel a vertigo attack starting:**
- Lie down on a firm surface in a darkened room,
- Stay still, keep your eyes open and focus on a stationary object,
- Take medications prescribed for attacks,
- Wait until the spinning passes and then get up slowly,
- Rest in a comfortable place or sleep for several hours after vertigo attack, until you regain your balance.

http://www.entdr.com/menieres.html

**WHAT CAN BE DONE ABOUT MÉNIERÈ’S DISEASE?**

**Assessment**
Patient history is important in reaching a diagnosis. Some tests may also be conducted, such as physical examination, blood tests, CT scan or MRI scan, hearing and balance assessments.

These tests may be repeated to monitor changes in the disease and the effect of treatment.

**Hearing Tests**
- Hearing assessment with pure tones and speech discrimination.
- Electrocochleography measures the electrical response of the inner ear to clicks using probe in the ear canal.
- Glycerol tests (dehydration test) of the hearing and/or electrical behaviour of the ear before and after the introduction of fluid reducing agents may occasionally be conducted.

**Balance Tests**
Functioning of the vestibular (balance) mechanism is assessed using:
- Caloric testing that measures eye movement patterns in response to warm and cold stimulation of the inner ear (the horizontal semicircular canal).
- Harmonic acceleration tests check whether the balance system is detecting body and head movement, by sitting the patient in a rotating chair with the lights off.

**TREATMENT FOR MÉNIERÈ’S DISEASE**
Early diagnosis is important as it underpins appropriate treatment aiming to reduce damage to both hearing and balance. The actual treatment will vary from person to person, depending on the stage the disease has reached.

Good general health is important to cope with and control the symptoms of Ménière’s so pre-existing conditions and illnesses need to be managed well.

In the early stages of Ménière’s, *life style changes and medication* are important. As there is too much fluid in the inner ear and *sodium (salt)* retains fluid, a low salt diet is very important. In some people stress appears to precipitate attacks, *stress management* is therefore another important area to review.

Lifestyle and medical treatments aim to prevent progression of the disease process as much as possible, as well as reducing severity of symptoms. The majority will be helped by *lifestyle and medical treatment* alone; only a small percentage may require surgery.

**Treatment** options in suggested order:
- Lifestyle management including low salt diet, and the reduction of stress, caffeine and nicotine intake
- Medication for both acute and ongoing symptoms
- Amplification (i.e. hearing aid/s) to assist with resultant hearing loss and tinnitus
- Meniett Pressure Pulse device
- Chemical ablation (see ‘surgery’ below)
• Surgical options (usually not considered until 12 months post treatment)

Medical Treatment (Acute)
Symptom suppression during an attack involves anti-nausea and anti-dizziness medications. Bed rest may be advised. Occasionally, vestibular sedatives or tranquillisers may also be used.

Ongoing Management
Minimising the progression of the disease involves reducing fluid retention (with diuretics or naturally with a low salt diet) and improving the circulation to the hearing and balance mechanisms (with vasodilators). Dietary changes aimed at producing the same effects involve eliminating salt from the diet (to reduce fluid retention) and reducing or eliminating caffeine, alcohol and cigarette consumption and cholesterol intake (to improve circulation). In addition, anything that triggers or aggravates the symptoms needs to be assessed.

Local over-pressure treatment
A portable low pressure pulse generator called the Meniett is a conservative treatment that aims to normalise fluid pressure within the inner ear. This relieves Ménière's symptoms for some people. It requires the placement of a grommet which is a small hollow tube inserted in the ear drum.

Surgery
Non-destructive surgery aims to limit the progression of the disease and reduce the symptoms without altering hearing or balance functioning. Some people find that grommet insertion relieves the sensation of aural (ear) fullness and shortens episodes of vertigo. This reversible procedure can be carried out under general or local anaesthetic and is often a precursor to treatment with the Meniett device or chemical ablation.

Endolymphatic sac decompression is a procedure that involves operating on the endolymphatic fluid system.

Destructive surgery is only considered when the vertigo is severe and cannot be controlled by other means.

Chemical ablation involves introduction of antibiotics or steroids that are toxic to the nerve endings in the inner ear (such as Intratympanic Gentamycin or Dexamethasone treatment) via direct injection, grommet or surgical wick.

Vestibular Nerve Section (cutting the balance nerve) aims to control the vertigo by destroying the balance function of one ear, leaving the other ear to compensate.

A Labrynthectomy surgically destroys the inner ear. It is rarely undertaken, as total loss of hearing is resultant, and consequently, there is a possibility of persistent tinnitus.

WHERE CAN I GET HELP?
The audiologist conducting the hearing tests will advise on hearing aid(s), hearing devices for use in the home (such as telephone and television aids, special door bells, etc) and strategies to optimise communication, as necessary.

A physiotherapist specialising in vestibular rehabilitation can provide an exercise program to assist in the management of residual imbalance. This treatment aims for vestibular habituation, whereby repeated exposure to movements that previously caused dizziness, lessens symptoms.

An audiologist or tinnitus management specialist may also be consulted to advise on strategies and devices for minimising the impact of the tinnitus, as necessary.

Vicdeaf has Speech Pathologists who specialise in tinnitus management.

Contrary to popular belief people can learn to manage their response to tinnitus. For appointments ph: 1300 30 20 31

SUPPORT GROUPS
The Ménière’s Support Group of Victoria is a not for profit, self help organisation offering a range of services including counselling, resource centre and community awareness.

Location: Suite 4, 18-28 Skye Rd (cnr Skye Rd and Farrell St) Frankston, VIC, 3199
Phone: (03) 9783 9233
Email: info@menieres.org.au
Website: http://www.menieres.org.au

WHAT ARE CURRENT RESEARCH FINDINGS?
Research is currently being conducted into the benefit of using ‘alternative’ therapies in the management of Ménière's Disease in the UK. It is
advisable to inform your GP or specialist if you receive any other treatment.

**Related Information Sheet Titles:**

- Introduction to Ménière’s Disease
- Our Ears and How We Hear
- Living with Dizziness
- Introduction to Tinnitus
- Tinnitus (detailed)

Vicdeaf regularly updates our information sheets. To ensure that your information is current, or for further information about Vicdeaf and the services offered, please visit our website or contact us:

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