

SURFERS EAR (EXOSTOSES OF THE EAR CANAL)

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Exostoses are smooth bony bulges or knobs in the ear canal which are initially symptom free, but progressive growth causes water trapping in the ear which may lead to painful and difficult to treat otitis externa. They are caused by cold water and air entering the ear canal which is protected by only a very thin layer of skin over periosteum and bone. With cumulative exposure to fluctuating cold temperatures, the periosteum lays down new bone. As this is a progressive condition, the time until symptoms develop depends on cumulative time spent swimming, surfing, windsurfing, water skiing and kite surfing. Typically, this affects men in their 30's onwards and because of our long coastline, is very common in New Zealand. Patients may present with difficulty clearing water from the ear, often having to resort to shaking the head or hopping. This predisposes to otitis externa which may be very slow to settle as the ear canal is narrow further by inflammation in the canal skin, making it even more difficult to clear infected debris. Usually temporary hearing loss and/or tinnitus may result until the infection settles. In the non-infected state, one may see multiple smooth, pale prominences in the canal (see photo). Occasionally, a solitary osteoma may mimic an exostosis.

Treatment is generally by prevention. This involves using ear plugs for all cold water sports. "Blu tac" works well, but "Doc's Pro Plugs" (available from audiology clinics) generally allow one to hear better while wearing them. Audiologists can also custom make ear plugs. Neoprene head gear or "ear wraps" (also available from audiology clinics) are also both protective and may prevent loss of ear plugs. "Vosol" or 2% acetic acid in 70% surgical spirit ear drops are good to use after water exposure. Both help displace moisture and evaporate quickly, leaving a slightly acidic protective residue. A good alternative is a half and half mixture of gin or vodka and vinegar!

Otitis externa is treated with antibiotic steroid drops, and may also require aural suction toilette. Generally "Sofradex" drops are a good first line, but if pseudomonas is suspected (because of its green tinged discharge, odour, history of recent swimming



Photos showing large exostoses on the left and a normal ear canal on the right.

pool use or because of a swab result) Ciproxin HC drops would be a good choice. Analgesia is usually required. Otowicks (which are usually marvellous for assisting treatment of otitis externa) are not easy to use when exostoses are present because of the inherently narrow ear canal. If symptoms don't begin to settle well within 48 hours, it may help to take a swab for microbiology, and to refer for suctioning to an ear nurse or to a specialist ear surgeon.

Surgical treatment is necessary when the exostoses are symptomatic with water trapping or ear infections and not manageable medically. If the exostoses are large and if on-going cold water exposure is anticipated, surgical treatment may also be recommended. Many surfers don't like wearing ear plugs and may elect to have large exostoses removed before too many problems begin.

Surgery is a safe and effective treatment for exostoses and involves peeling the ear canal skin off the exostoses and then drilling them away. The skin is then replaced and held in place with a dressing while it heals. Operations may be performed with either an incision in front of the ear, or behind, and are generally "day stay" procedures. Discomfort is mild afterwards, with the main frustration for many being the need to keep out of the water for up to 8 weeks afterwards until the canal has completely healed. Limited surgery to remove the exostoses may need to be repeated later in life, but repeated surgery is very rare if a complete ear canal widening (Canalplasty) is performed concomitantly.