

# ENDGAMES

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## ANATOMY QUIZ

### Axial computed tomography of the skull base

Which nervous structure(s) are located within or pass through each of the skull base openings labelled A, B, C, D, and E?

Submitted by Syed Kazim Ali Shan and Sundip D Udani

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## STATISTICAL QUESTION

### What is a crossover trial?

Researchers evaluated the effectiveness of the cannabinoid dronabinol on central neuropathic pain in patients with multiple sclerosis. The effectiveness of cannabinoids in relieving pain caused by central lesions in multiple sclerosis had not been investigated previously. A randomised double blind placebo controlled crossover trial study design was used. The intervention was orally administered dronabinol at a maximum dose of 10 mg daily or corresponding placebo. Each treatment period was for three weeks, separated by a three week washout period. All analgesic drugs, except for paracetamol, were discontinued at least one week before the start of the trial.

The primary outcome was spontaneous pain intensity in the last week of each treatment period measured using a numerical rating scale. The researchers reported that, when compared with placebo, dronabinol had a significant analgesic effect on central pain in patients with multiple sclerosis. Although the effects were modest they were clinically relevant. The number of patients with adverse events was higher during active treatment, especially in the first week of treatment. The functional ability of the patients with regard to their multiple sclerosis did not change.

Which of the following statements, if any, are true?

- All participants received both treatments in the same sequence order
- Each participant acted as his or her own control
- The purpose of the washout period was to allow the effects of the first treatment to dissipate before starting the second treatment
- The crossover study design required more participants than if a “between subjects” study design had been used to compare dronabinol and placebo

Submitted by Philip Sedgwick

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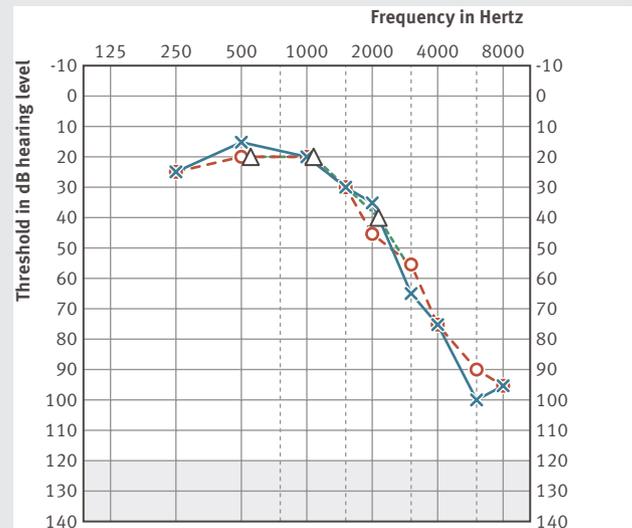
## PICTURE QUIZ

### A 68 year old woman with deteriorating hearing

A 68 year old woman presented to the ear, nose, and throat (ENT) clinic with gradually worsening bilateral hearing loss over at least the past five years. This was associated with some non-intrusive tinnitus but no other otological symptoms, history of vertigo, or associated systemic problems. She found that she was increasing the TV volume to a level that her family found uncomfortable, and she had started to avoid social situations because she struggled to hear conversation among the background noise. Her medical history was unremarkable except for well controlled hypertension, for which she was taking amlodipine. She also had no history of excessive noise exposure, no previous otological problems, and no family history of note.

The results of an ENT examination were unremarkable, with normal ear canals and tympanic membranes bilaterally. Tympanometry was also normal in both ears.

A pure tone audiogram was obtained .



- What is the likely diagnosis?
- What type of hearing loss does the pure tone audiogram show?
- When are similar presenting symptoms suspicious of underlying disease that warrants further investigation?
- What treatment options are available?

Submitted by Natalie Ronan and George Barrett

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