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## Where there's smoke there's fire—ear candling in a 4-year-old girl

Jeremy Hornibrook

### Abstract

It is estimated that one-third of the United States population subscribes to alternative medical therapies (Eisenberg et al, NEJM 1993;328:246–252). Ear candles are popular products promoted by alternative health practitioners, and sold by health shops and even over the Internet. They have been promoted for ear and sinus discomfort, rhinitis, sinusitis, glue ear, colds, flu, migraine, tinnitus, but particularly for removal of ear wax (cerumen). In this case report, a 4-year-old girl in New Zealand presents with otitis media and during the course of the ear examination white deposits were noticed on her eardrum; this was confirmed as being caused by ear candling.

Ear candling involves placing hollow beeswax candle (Figure 1) in the external auditory canal and allowing it to burn for about 15 minutes. The promoted theory is that the candle creates a vacuum which draws out cerumen, which collects in the stub of the candle.

Experiments using ear candles have been performed in model ears and in patient ears.<sup>1</sup> In the ear model, gas chromatography showed that a powder deposit left on a plastic membrane had the spectrogram of multiples alkanes which are found in candle wax. No human cerumen constituents were found.

In the human ears where there was cerumen there was no evidence of its removal. In cerumen-free ears the ear candles deposited candle wax in the open ear canal. Consequently there have been reports of outer ear and eardrum damage from ear candling. However it is seldom stressed that while burning the candles emit a profuse plume of 'smoke'. It has never been reported that the lasting presence of the 'smoke' in the ear canal and on the eardrum can be a vital clue that a patient is using ear candling.

**Figure 1. A pair of beeswax candles (length 30 cm) sold in New Zealand**

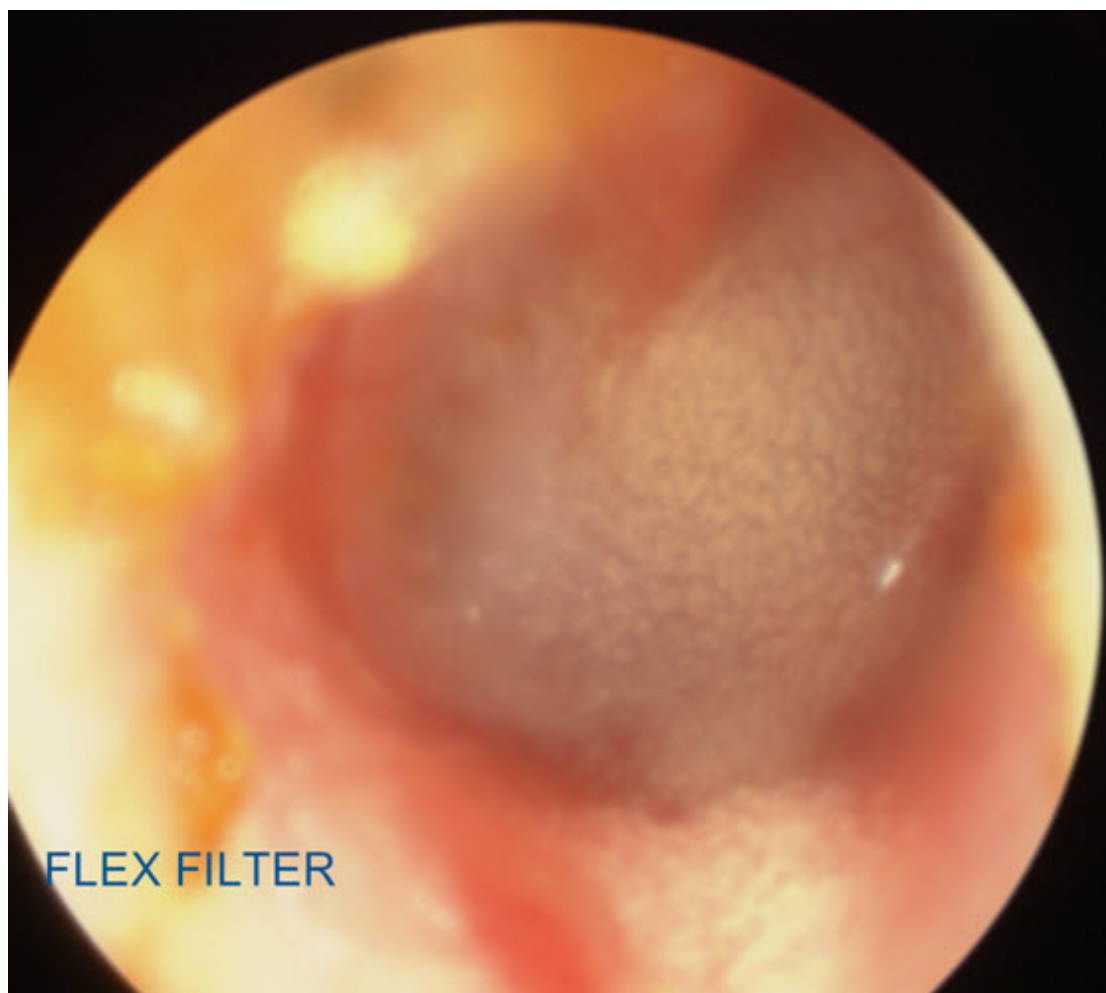


## Case history

Over some years the author noted an apparently asymptomatic particulate deposit in the ear canals and on the eardrums of adult patients. Eventually one was questioned about the use of an ear candle and this was confirmed. The following case history is presented with the permission of the hospital institutional board.

A 4-year-old girl with otitis media with effusion was being examined before planned tympanostomy tube insertion. There was a white particulate deposit covering the medial ear canal and the eardrum (Figure 2). Her mother was asked if the child had been treated with an ear candle and she confirmed that it was their regular practice for ear cleaning and had occurred 1 week prior.

**Figure 2. Right ear canal in a 4-year-old girl with “glue ear”, showing a particulate deposit covering the floor of the ear canal and ear drum**



## Discussion

A questionnaire returned by 122 U.S. Otolaryngologists<sup>1</sup> established that one-third were 'aware' of ear candle use amongst one or more of their patients. Fourteen had treated complications of ear candling, including 13 burns of the auricle and canal, 7 partial canal occlusions from candle wax and 1 eardrum perforation. These injuries have been specifically detailed by others.<sup>2-4</sup> This is the first photo-documented report that stresses that the particulate deposit from the ear candle 'smoke' could indicate the use of ear candling.

In summary, the profuse smoke from an ear candle can leave a lasting particulate deposit in the ear canal and on the eardrum, a clue that ear candling has occurred. While doctors might assume that this is being used only on adults, this case confirms that ear candling is also being used by parents on their children.

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