Autoinflation for treatment of Otitis Media with Effusion
A Review of the Literature

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Introduction
Otitis media with effusion (OME) is caused by accumulation of fluid in the middle ear, without the signs or symptoms of an acute infection. Autoinflation is based on forced introduction of the air into the Eustachian tube for middle ear ventilation. The purpose of this study was to evaluate the different options of autoinflation for treatment of OME in children.

Material & Methods
A literature review including MEDLINE, PubMed, Google Scholar and patent databases with publications from 1968 to 2016 were taken into consideration.

Results
The history of a non-surgical treatment for maintenance of a “healthy” middle ear by autoinflation goes back to the 17th century by the description of the Eustachian tube and a manoeuver to open it by Valsalva. In the 19th century, the Politzer method was introduced as an attempt to perform autoinflation in children (Fig. 1). However none of these methods gained ground for the treatment of OME in children due to difficulties in performing the methods.

In 1968 Hunt-Williams introduced a method involving a plastic tube connected to a carnival or ordinary balloon (Fig. 2). This was later developed to the Otovent® device, by which an automated air pump based on the Politzer method. One randomised controlled study shows reduction of middle ear effusion using the Otovent® device. Moniri® is a new device allowing modified Valsalva and Politzer manoeuvres, performed as a game for children from one year of age (Fig 4 & 5). One randomised controlled cross-over study with a 12-month follow-up shows compliance and effect both on hearing and middle ear effusion in the short- and long-term with an effect size equivalent to grommet surgery.

Conclusions
Recent studies on autoinflation indicate improvement of hearing and middle ear effusion in children from one year of age. It may be reasonable to consider autoinflation as a first-line treatment for OME to improve the quality of life and avoid surgical intervention with grommets.

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