
Musikphysiologie und Musikermedizin in anderen Publikationen

Englischsprachige Abstracts

Central retinal venous pressure is higher than intraocular pressure during amateur trumpet playing

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Abstract: Background: It has been shown in the literature that the Valsalva manoeuvre influences ocular perfusion by changing intraocular pressure and central retinal venous pressure (CRVP). High-resistance wind instrument (HRWI) playing is a common situation resembling a Valsalva manoeuvre. The aim of this investigation was to explore the influence of amateur trumpet playing on CRVP.

Methods: The left eyes of 20 healthy non-professional trumpet players (median age 26, range 19–52 years; 17 males, 3 females) were included in this investigation. Subjects, sitting at a slit lamp, were asked to play the tone b' flat with their own mouthpiece on the same trumpet for at least 30 s with moderate loudness. The following data were obtained: intraocular pressure (IOP) by applanation tonometry before and during playing, CRVP by contact lens dynamometry before and during playing, airway pressure (AirP) using a pressure sensor during playing and blood pressure and heart rate using the common cuff method before and during playing.

Results: The results are presented as the medians before vs during playing: a calculated mean ophthalmic artery pressure of 66 vs 72 mmHg, heart rate of 76 vs 82 beats per minute, airway pressure of 0 vs 17 mmHg, IOP 12 vs 13 mmHg and CRVP of 24 vs 55 mmHg (Wilcoxon test: $p = 0.00009$), respectively. A correlation between the CRVP during playing and the height of the spontaneous CRVP is noted (Spearman rank correlation coefficient: $\rho = 0.68$).

Conclusions: Amateur trumpet playing increases CRVP, airway pressure and IOP. The increase in CRVP is greater than that of the intraocular pressure. The increase in CRVP seems to be more important for retinal perfusion changes during trumpet playing than the increase of IOP. It can be hypothesised that high airway pressure during playing may cause a permanent increase in CRVP, at least in a subgroup of trumpet players.

Are vocalists prone to temporomandibular disorders?

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Abstract: BACKGROUND: As vocalists demand high physical strains of the masticatory system, singing is frequently mentioned as a risk factor for temporomandibular disorders (TMDs).