

Intraoral Pressure in Ethnic Wind Instruments

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Abstract:

High intraoral pressure generated when playing some wind instruments has been linked to a variety of health issues. Prior research has focused on Western classical instruments, but no work has been published on ethnic wind instruments. This study measured intraoral pressure when playing six classes of ethnic wind instruments (N = 149): Native American flutes (n = 71) and smaller samples of ethnic duct flutes, reed instruments, reedpipes, overtone whistles, and overtone flutes. Results are presented in the context of a survey of prior studies, providing a composite view of the intraoral pressure requirements of a broad range of wind instruments. Mean intraoral pressure was 8.37 mBar across all ethnic wind instruments and 5.21 ± 2.16 mBar for Native American flutes. The range of pressure in Native American flutes closely matches pressure reported in other studies for normal speech, and the maximum intraoral pressure, 20.55 mBar, is below the highest subglottal pressure reported in other studies during singing. Results show that ethnic wind instruments, with the exception of ethnic reed instruments, have generally lower intraoral pressure requirements than Western classical wind instruments. This implies a lower risk of the health issues related to high intraoral pressure.