Posture in dentists: Sitting vs. standing positions during dentistry work – An EMG study

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References:

Abstract:
Introduction
Adequate working posture is important for overall health. Inappropriate posture may increase fatigue, decrease efficiency, and eventually lead to injuries.

Objective
The purpose was to examine posture positions used during dentistry work.

Methods
In order to quantify different posture positions, we recorded muscle activity and positions of body segments. The position (inclination) data of the back was used to assess two postures: sitting and standing during standard dental interventions.

Results
During standard interventions, whether sitting or standing, a tilt of less than 20 degrees was most prevalent in the forward and lateral flexion directions. Amplitude of electromyography signals corresponding to the level of muscle activity were higher in sitting compared with the electromyography in standing position for all muscle groups on the left and right side of the body. Significant difference between muscle activity in two working postures was evident in splenius capitis muscle on the left (p = 0.032), on the right side of the body (p = 0.049) and in muscle activity of mastoid muscle on the left side (p = 0.029).

Conclusion
These findings show that risk for increased fatigue and possible injuries can be reduced by combining the sitting and standing occupational postures.

Keywords:
work posture; electromyography; inclinometers; ergonomics; occupational health