

## The use of ergonomic chair in dentist's practice for prevention of musculoskeletal system diseases

*Použitie ergonomickej stoličky v zubnej ambulancii na prevenciu ochorení pohybového systému*

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**Subject:** The use of ergonomic chair in dentist's practice for prevention of musculoskeletal system diseases.

**The aim of investigation:** The aim of this theme is to introduce new technologies in designing ergonomic furniture in order to improve dentist's work and prevent diseases of the musculoskeletal system. **Relevance of the topic:** Dentist's work is not just a complex, but also unsafe profession. The working posture involves enormous burden for the musculoskeletal system, leading to diseases of the peripheral nervous system, musculoskeletal deformities, the defeat of the connective tissue, degenerative disc disease and disturbance of posture. Many dentists are affected by back problems; poor posture and circulation; shoulder tension; a shortage of oxygen; hip, knee and shoulder joints problems; or genital health problems. A large percentage of European dentists even retire early because of sitting disorders. For a dentist, muscle pressure at work in the standing position increases almost twice, in the sitting position with a slope of - 4 times, and in a standing position with a slope of - 10 times as compared with the load in a quiet sitting position. This causes a decrease in speed and accuracy of doctor's movements, as well as fatigue. **Material and methods** research: For most tendencies successful developments and efforts are held aimed at reducing the risk of occupational diseases among dentists. However, the conceptual changes in the dental chair design were not undertaken until the beginning of this millennium. The real breakthrough in this area was a series of saddle-chair of the Salli System Company. "Straight back, resting on the thigh, an unusual position (half sitting, half standing) - all

that seem unusual when you start working on a chair in the shape of the saddle - but quickly gives the way to fit the unusual sensation of comfort. And this is connected with the fact that the shift of reliance on the hip can straighten your back, not only in the lumbar, but the thoracic spine also". At the optimum position of the saddle-chair, thank for the form verified long-term trials, there is an involuntary control over the correctness of posture. Typically, working with the pedal, the doctor takes weight on the different leg. Therefore, working with the pedal does not create tension and discord, reduces the asymmetry in the doctor's posture. Complex equipment, chairs, seats for the doctor and an assistant, thanks to individual adjustment and use of accessories allow professionals to work both at the same level, regardless of differences in height. The chair of the Salli System company quickly and easily moves around the room without getting up, thanks to a reliable wheels, which are performed as antistatic, equipped with a brake that with a larger diameter. The chair has a special split saddle, allowing adequate ventilation in the groin area and relieves pressure on the men prostate, contributing to improve sexual health. The chair is versatile enough. Its equipment with special supports is comfortable for elbow muscles that allow to fix the position of the hands. With the same purpose the front support for assistants is made, it can be easily installed on any of the three basic models, whether it's a classical model, recommended only for women or generic model

for a standard or large complexion. It is easy to work on saddle-chairs in both the traditional position of "9 o'clock", and in, an increasingly popular, the position "of 12 o'clock." In both variants the possibility of observation patient's oral cavity increases. In addition, the height of the chair allows to perform the manipulation that had previously only been done while standing. If a dentist decides to switch to a saddle-chair, his or her body will need time to adjust to the new chair and there will be some temporary discomfort, the manufacturers advise. Learning to use the chair takes a few days and the so-called saddle soreness in the buttocks and the inner thighs and fatigue of the back muscles can last between two to 14 days. However, once the body has adapted to the new chair, it will benefit from the change.

**Conclusions:** Of course, the work of the dentist as it was, and remains one of the most difficult professions that require both psychological and physical stress. But the nowadays dentists need a more rational, ergonomic style of work. Replacing the old chair, you can change your creative life, extending it for many years. We analyzed the literature concerned musculoskeletal system diseases (dentists' in particular) caused by the incorrect posture during treatment. Having examined the benefits of the saddle-chair, we conclude that the use of this modern invention reduces the load on the spine, improves doctor's posture and prevents the diseases of musculoskeletal system. We recommend the saddle-chair for use in every dental clinic.

**Key words:** Musculoskeletal system. Prevention. Ergonomic chair.