

Case Study of Lateral Elbow Tendinopathy in Dental Surgeon

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Abstract: *In the following document I would like to present the case of a dental surgeon with elbow epicondylitis. It occurs in occupation where repeated wrist extension required. The purpose of this study was to develop an ergonomic program for dental surgeons using a participatory ergonomic approach and to explore the effectiveness of such program. (6-7)*

Keywords: Lateral Elbow Tendinopathy, Ergonomic, Ergonomic, dry needling

1. Report of case

A female dental surgeon 41 years old stated that she had been dealing with the pain for approximately 3 months in duration while she was performing extractions and Root canal procedures. She developed extreme disabling pain with tenderness in the right forearm.

2. Discussion

Lateral epicondylitis or commonly referred to as 'Tennis elbow' is thought to result from overuse of the extensor Carpi radialis brevis (ECRB) muscle. (2) Tendinosis can be difficult injury to get better from as there is no one treatment that works for patient universally. The nature of dentistry demands fine motor coordination of the dominant hand with finger flexion and frequent forceful pronation of the forearm musculature in the dominant arm is common in the most manual occupations. (3)

The dental surgeon was seen in physical therapy by Physiotherapist for six treatments over a 30 days period. After six additional visits with the use of dry needling the dental surgeon was able to improve objective and subjective measures. There is no widely accepted treatment for lateral epicondylitis and therefore multiple treatment techniques must be considered.

3. Prevention

Ergonomic recommendations for minimizing the risks of forearm injuries focus on improving working posture and equipment design. These include (2, 5)

- 1) **Change Posture** - Alternate between sitting and standing to reduce postural fatigue and maximize postural variety, which helps to reduce static muscle fatigue. (1)
- 2) **Safe reaching** - Avoid having to reach awkwardly to equipment and work close to the patient. Keep the items used most frequently within a distance of about 20 inches (50 cm). Use assistants to help move equipment into this zone.
- 3) **Normal arm posture** - Keep elbows and upper arms close to the body and don't raise and tense the shoulders when

working. Also, ensure that hand postures are not deviated because this could lead to wrist problems.

- 4) **Use Comfortable Equipment** - Use equipment that isn't too heavy, that can be used without awkward upper body posture, and that feels comfortable to use. Ergonomically designed equipment helps to minimize stresses on the upper extremities and the back. (1)
- 5) **Manage Time** - Avoid long appointments where possible, or intersperse these with frequent short rest breaks in which you change posture and relax the upper extremities.

4. Summary

A 41 years old dental surgeon develops pain in the right forearm and associated weakness in her hand. A diagnosis of lateral epicondylitis was made. A review of anatomy, pathophysiology and treatment of tennis elbow is given. The purpose of presenting this case is to alert dental surgeons regarding one of these occupational hazards. The occupational tasks performed during the delivery of dental services align with several risk factors associated with work-related musculoskeletal disorders (WRMSDs) as identified by OSHA. (6) The incidence and prevalence of WRMSDs among dental professionals was further confirmed through current literature. (7,8)

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