

# The Multi-factorial Nature of Pain in Dentistry: Why Ergonomic Equipment Alone May *Not* Be Enough!

By Dr. Bethany Valachi

One-third of dentists who retire early are forced to, due to a musculoskeletal disorder.<sup>1</sup> The prevalence of pain among dentists has changed little since 1946, when 65% of dentists complained of low back pain.<sup>2</sup> Recent studies examining the prevalence of pain in dentistry find similar-to-higher percentages of dentists experiencing pain (from 56% to 88%).<sup>3-6</sup>

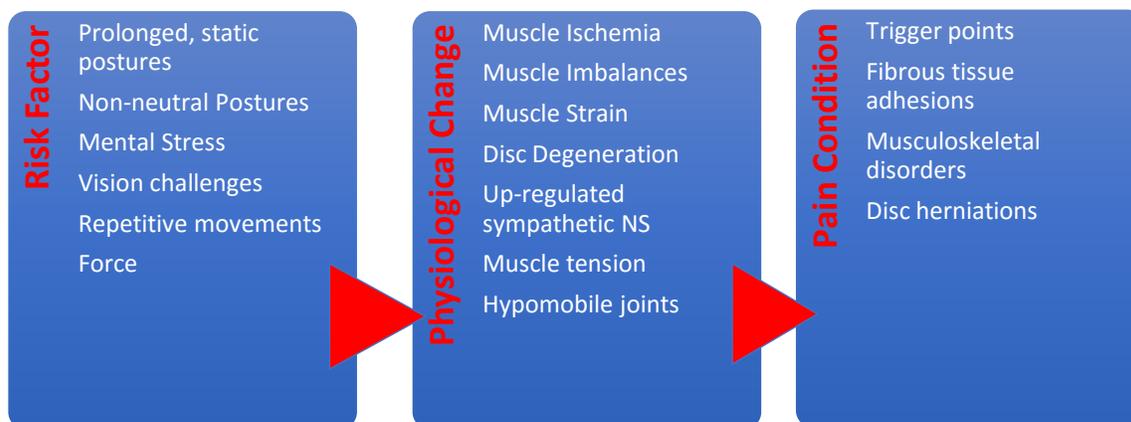
The perplexing question is, with all of our advances in science and technology, why has the prevalence of pain in dentistry not improved over a 70-year period? One answer is relatively simple. The *etiologies of the problem* have not been properly recognized by most researchers. Without accurate recognition of the etiology, it is impossible to implement effective interventions. Dentists would not dream of treating a patient without first properly identifying the etiology of the pain. Likewise, why would you purchase a particular dental stool, hire a personal trainer or chiropractor without first understanding the etiology of your pain syndrome?

Effectively prevent work-related pain in dentistry, requires 3 key components:

- 1) The etiology of the problem must be properly identified
- 2) The interventions must be targeted specifically to the etiologies
- 3) The interventions must be evidence-based

Pain is not a necessary by-product of delivering dental care. However, an unfortunate reality is that many dentists don't take preventive action until 'the painful episode'. By then, structural damage may have occurred—oftentimes irreversible. The good news is that most team members can effectively prevent and control work-related pain by addressing numerous risk factors, both inside and outside your operatory with evidence-based interventions.

**Risk Factors.** Identifying the etiology of work-related pain in dentistry is the first step in effectively controlling occupational pain.<sup>7</sup> This requires correctly identifying the risk factors. Prolonged, static postures, mental stress, awkward postures, vision challenges, repetitive movements and force are predisposing factors that lead to physical changes in the body that result in various pain syndromes. Understanding the resultant sequence is key to implementing effective interventions.



**Risk Factor Chart.** An effective evidence-based approach to preventing work-related pain in dentistry. Interventions must address Risk Factors and treatment/therapy must address specific Physiological Changes.

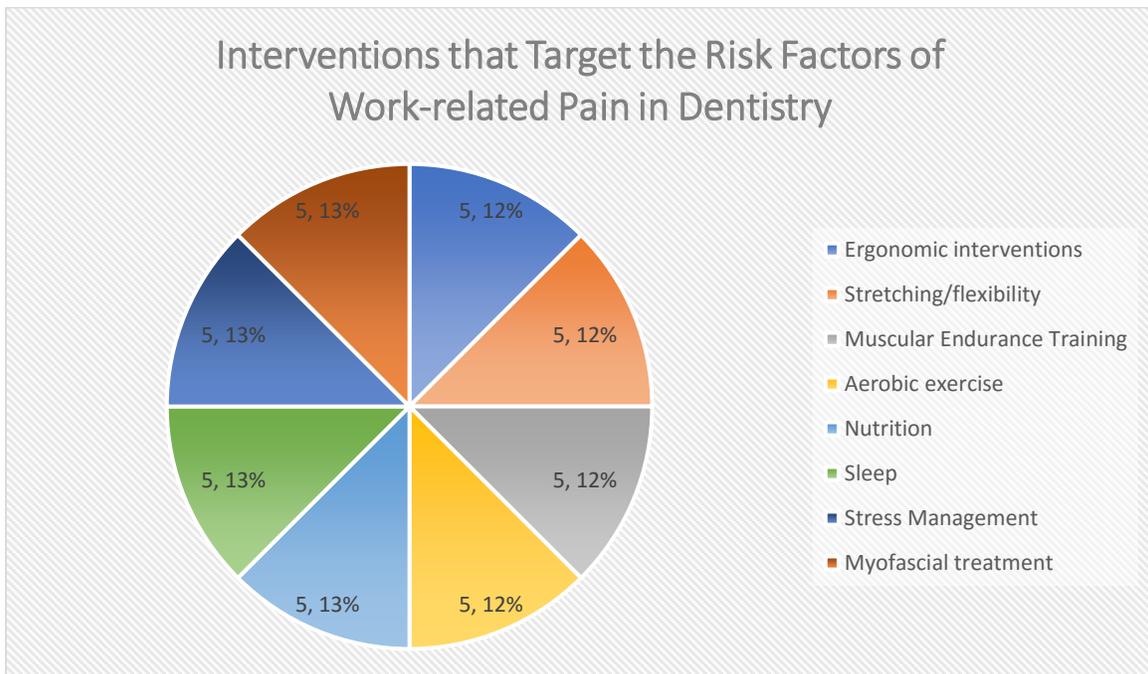
## Implementing Change.

Take a moment to look at The Risk Factor Chart and ask yourself the following questions:

- *How many* of the Risk Factors does a particular intervention (equipment, adjustment, operatory layout) address?
- *How effectively* does an intervention (stretching, trigger point therapy, weight lifting) address a particular Physiological Change or Pain Syndrome?

For example:

- 1) A dentist who purchases a new ergonomic stool (addressing only one risk factor: non-neutral posture) may not experience complete resolution of their pain.
- 2) A dentist who embarks upon a program of anaerobic heavy weight training may throw them into the vicious pain cycle, as it may exacerbate existing muscle ischemia and muscle imbalances!
- 3) A dentist who selects dry needling therapy may experience complete resolution of their neck pain as it addresses 4 of the physiological changes in a single intervention and is highly supported in the research.



Correct operatory ergonomics is only one of many interventions required to effectively prevent work-related pain in dentistry. Correcting imbalances to which dentists are uniquely prone with specific muscular endurance training is equally as important, as is self-treatment of trigger points and myofascial work.

Dr. Valachi developed the [Wellness System for Dental Professionals](#) to thoroughly and effectively target ALL the risk factors leading to work-related pain in dentistry. It allows the operator to:

- Select & adjust ergonomic equipment to fit their needs.
- Properly position operator and patient to preserve optimal posture.
- Locate the creme de la creme healthcare professionals in your local area.
- Self-treat your painful trigger points.
- Perform specific chairside stretches during the workday.
- Implement a corrective exercise routine to prevent painful muscle imbalances.

