



The Physical Toll of Dentistry: Understanding Musculoskeletal Issues

by loose hands

This article is **aimed** at dental professionals who suffer from **musculoskeletal** issues resulting from working in the dental environment.

As dental professionals, we strive to provide the best possible care for our patients. In many cases, we are their heroes, saving their teeth and improving their life and **well-being** by making their smiles look and feel healthier. However, even heroes can experience pain. Many dental professionals suffer from **musculoskeletal** issues, living with intermittent or constant discomfort.



By being **proactive** and implementing small changes to your daily habits, you **don't have to** be one of them.



We invite you to recall a pivotal moment in your professional life. Imagine the day you completed your rigorous training—the demanding examinations, assessments, and tests were finally finished. That feeling of liberation was palpable, replaced by a confident readiness to apply your expertise and make a tangible difference. With that commitment, you began the essential clinical phase of your journey, working directly with your patients.



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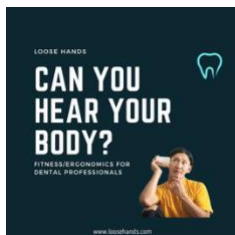
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In the initial years of practice, a slow but certain progression of discomfort often begins to emerge. These chronic symptoms frequently manifest as pain in the lower back, shoulders, or cervical spine. Such persistent physical issues naturally lead to profound professional contemplation: Is this condition permanent? Will managing this discomfort necessitate reducing clinical hours or, more critically, force premature retirement? This fear is grounded, as research indicates that 55% of dentists consider early retirement specifically because of musculoskeletal disorders. *

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Do not accept physical discomfort as an unavoidable aspect of your profession. The first essential step toward recovery is the **acknowledgment** that a problem exists. We must learn to actively **listen to the body** and recognize its signals.

When the body registers pain, it is attempting to communicate an urgent need for intervention. This phenomenon can be clearly compared to **gingival bleeding**. As dental professionals, we explain to our patients that bleeding gums are both good and bad: good because the symptom prompts them to seek our help, and bad because it confirms the presence of underlying inflammation.



The principle is identical regarding musculoskeletal pain. When your body is in discomfort, it is communicating that there is a fault, a structural misalignment, or a disruption in balance that requires immediate attention. Ignoring this warning is not an option.

While many self-improvement philosophies, such as the widely recognized "Just One Thing" by late podcaster Dr. Michael Mosley framework, advocate for singular, focused changes, the reality for dental professionals experiencing chronic pain is far more complex. We assert that pain is not caused by merely one factor. Instead, musculoskeletal disorders in dentistry emerge from the convergence of multiple, interconnected professional and personal variables.



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These factors can be broadly categorized as:

- **Physical and Ergonomic:** Issues related to poor **posture**, compromised **core** and **pelvic floor** stability, inadequate **body ergonomics**, and suboptimal **operator ergonomics** (room layout, **patient chair positioning**, and instrument selection).
- **Behavioral and Habitual:** Challenges arising from the **sedentary nature** of the profession, poor **working habits** (including harmful **twisting** movements), insufficient **stretching**, and lack of consistent **self-care** (such as regular massage or self-correction).
- **Systemic and Psychological:** Contributing elements like **stress**, **mental health overwhelms**, quality of **sleep**, maintaining **work-life balance**, and even issues related to **confidence** and experience.

Therefore, our focus must shift from searching for a single solution “NOT JUST ONE THING” to analyzing this complex interplay of causes. The following section will examine closely why we experience this multifaceted pain.



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CORE

Core Strength and Spinal Health

As Joseph Pilates wisely stated, "**A man is as young as his spinal column.**" This philosophy directly underscores the importance of a strong, stable core for longevity and professional performance in high-demand fields like dentistry.



Defining the Core

The core is not merely the abdominal muscles; it is a complex, integrated muscular cylinder that provides foundational stability for the entire body. It comprises the deep muscles of the **abdomen**, the **diaphragm**, the intrinsic muscles surrounding the **hips and pelvis**, and the crucial **stabilizing muscles along the spine** (the transversus abdominis, multifidus, and pelvic floor muscles).

Importance in Clinical Practice

Weak core musculature is a primary contributor to a cascade of problems, including **poor postural integrity**, chronic **lower back pain**, and increased susceptibility to **musculoskeletal injuries**. Conversely, cultivating a strong core is essential for maintaining optimal **posture and mobility**. A well-conditioned core provides the necessary biomechanical support to prevent pain, absorb repetitive stresses, and sustain long periods of focused clinical work without fatigue or injury.

Simple Core Strengthening for the Operatory | Dental Surgery

Integrating brief, subtle core exercises into your workday is a highly effective way to increase spinal stability and counteract the stresses of clinical dentistry. These movements can be performed without disruption while seated during administrative tasks or patient interactions.



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Level 1: Seated Knee Lifts (Subtle Engagement)

This exercise focuses on isolated core activation while maintaining a neutral, elongated spine.

1. **Setup:** Sit tall with your chin parallel to the floor, ensuring your feet are flat on the floor and your spine maintains its natural curves.
2. **Implementation:** **Inhale** deeply. As you **inhale**, gently draw your navel toward your spine to engage the deep core muscles, as you **exhale** fully lift one knee slightly off the floor.
3. **Return:** **Inhale** as you slowly lower the foot back down.
4. **Repetition:** Repeat, alternating the left and right knee. Ensure the lift and lower motion is controlled by the core, not momentum.

Level 2: Advanced Seated Core Hold

To increase intensity, incorporate a controlled lean-back, challenging the core's endurance.

1. **Setup:** Sit halfway forward on your chair. Engage your core (navel to spine) as you inhale. Maintain a long, neutral spine throughout.
2. **Hold:** **Exhale** and slowly lean your entire upper body backward a few degrees, keeping the spinal curve constant. Hold this leaning position.
3. **Challenge:** While holding the backward lean, slowly lift and lower one knee at a time, inhaling with each lift. Exhale as you lower your knee down. This sustained lean significantly increases the demand on your stabilizing muscles.
4. **Recognizing when to stop:** Continue alternating legs until you can no longer maintain your neutral spinal posture. Rest and repeat as desired.

Workplace Applicability

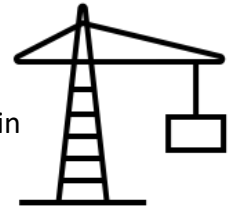
These exercises are designed to be subtle enough for professionals—such as dental nurses or receptionists—to perform discreetly while on the phone, completing documentation, or waiting for a procedure to conclude. Make core strengthening a simple, seamless part of your daily routine



POSTURE

Beyond Equipment: Body Ergonomics

Even with significant advancements in ergonomic instrumentation and equipment offered by numerous companies, the high prevalence of musculoskeletal disorders in dentistry suggests that these external solutions are insufficient alone. The critical, often overlooked element lies in the **ergonomic utilization of the body itself as a tool**. For every dental professional, establishing and maintaining a **consistently neutral posture** is the most foundational and vital habit for career longevity and pain prevention.



Achieving and Sustaining Neutral Posture

The Practice of Self-Assessment



Achieving postural discipline throughout the workday begins with **consistent self-assessment**. We recommend implementing a simple, proactive habit: before treating your first patient each day, pause and ask yourself,

"How is my posture?"

This cognitive prompt serves as a critical, internal reminder. Since the principles of correct posture are inherently known, this simple check often triggers an immediate, natural correction, ensuring you begin the clinical session from a position of spinal neutrality.



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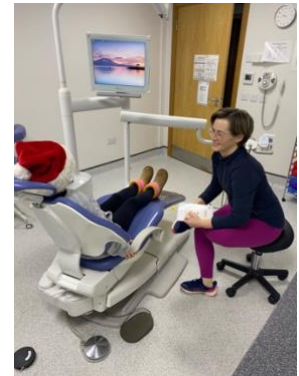
Key Steps to Neutral Posture

Follow these simple steps to achieve and maintain a safe, neutral working posture, whether seated or standing:

1. **Spinal Elongation:** Sit or stand with a proud, upright bearing. Visualize an invisible string gently pulling the crown of your head toward the ceiling to ensure an **elongated spine** and **natural spinal curvature** (lumbar, thoracic, and cervical).
2. **Cervical Alignment:** Maintain your **chin parallel to the floor** with your gaze directed straight ahead, minimizing strain on the cervical spine.
3. **Shoulder Placement:** Actively relax your **shoulders down** and away from your ears. Gently retract (squeeze) your shoulder blades together to stabilize the upper back.
4. **Comfort Check:** The final posture must feel **effortlessly natural, not forced**. If you feel tension or excessive muscle effort, slightly relax the position until it is sustainable and comfortable for extended periods.

Posture During Patient Communication

Significant portion of the dental professional's workday is dedicated to non-procedural patient communication and education. This time is spent on essential activities such as explaining diagnoses, interpreting radiographs, and providing detailed oral hygiene instruction (e.g., demonstrating the proper use of electric brushes, interdental aids, and floss). This substantial, low-stress portion of the schedule offers an excellent opportunity to proactively engage in **self-assessment** and practice maintaining the required **neutral posture** before returning to intense clinical activity.



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BAD HABITS

Common Postural Errors and Corrective Seating

Even when aiming for a neutral posture, dental professionals often develop two highly detrimental habits: elevating the shoulders and performing harmful trunk twists. Awareness of these "bad twists" and "shoulders up" habits is critical for long-term spinal health.

Eliminating Detrimental Habits



- **Elevated Shoulders:** Repetitive stress or prolonged periods of tension cause the shoulders to lift toward the ears. This shortens the neck muscles (trapezius and levator scapulae), leading to chronic neck, head, and shoulder pain. Proactively relax and drop your shoulders throughout the day.
- **Harmful Twists:** Avoid excessive twisting of the trunk to access instruments. Significant, repetitive spinal rotation is a major cause of disc and muscular injury. Instead of twisting, use your core to pivot your entire body as a single unit.



Seating Tips for Neutral Posture

To maintain a balanced, safe posture while seated in the operatory | surgery, adhere to these fundamental ergonomic principles:

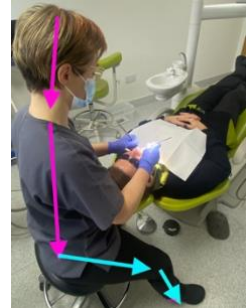


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1. **Trunk Alignment:** Ensure your **head, shoulders, and hips** are vertically aligned on the same plane, keeping the spine straight and elongated.
2. **Hip Positioning:** Adjust your seat height so that your **hips are positioned slightly higher than your knees** (the thigh-to-torso angle should be approximately 120°–135°). This open angle helps maintain the natural lordotic curve of the lumbar spine.
3. **Foot Support:** Keep your **feet flat on the floor**.

By consistently applying these seating rules and actively correcting the tendency to elevate your shoulders or twist, you significantly contribute to sustaining a correct neutral posture throughout the day.



SUMMARY:

To remain pain-free while working in dentistry, it is important to maintain a neutral posture, practice proper ergonomics, utilize your body efficiently, and strengthen your core muscles to support your optimal health.

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No Dental Professional Should be in pain
Contact me for a free assessment if you suffer musculoskeletal issues.

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References: * <https://www.nature.com/articles/sj.bdj.2010.813>

