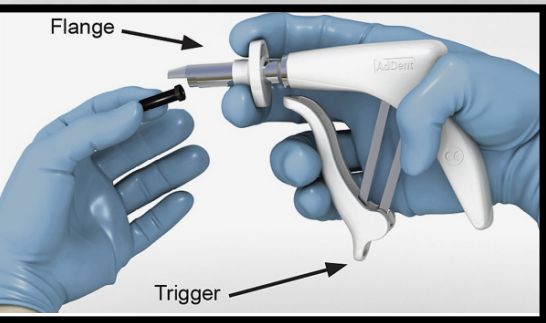


COMAX DISPENSER

MAKING A DIFFERENCE WITH ITS ERGONOMIC DESIGN

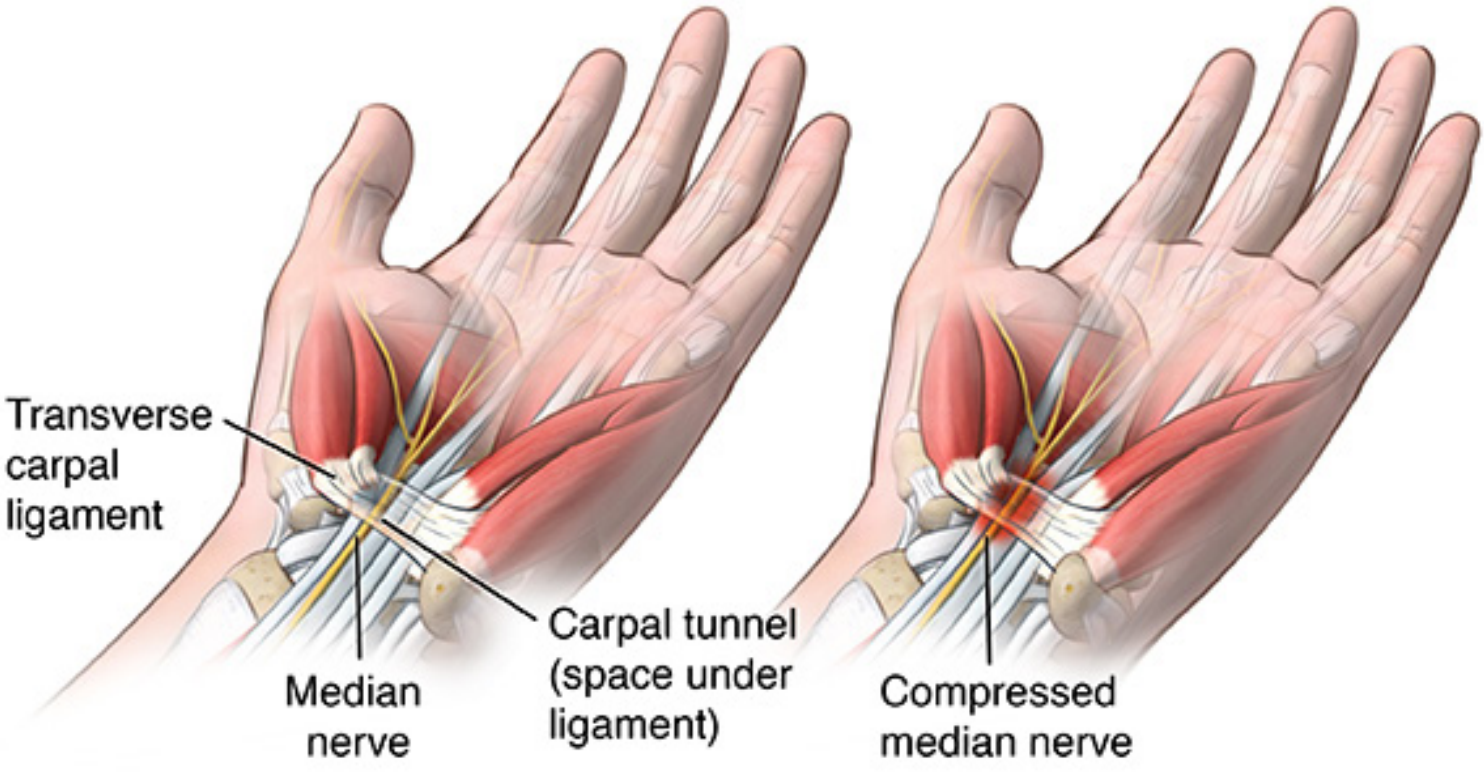
AdDent INCORPORATED

Advancing Dental Excellence

INTRODUCTION:

Dentistry is a demanding profession that requires long hours and close patient contact, leading to physical strain and potential injuries over time. Ergonomics is crucial because dental professionals frequently adopt awkward postures, perform repetitive motions, and use forceful gripping. If these factors are not managed properly, dental practitioners may develop musculoskeletal disorders (MSDs) such as neck and shoulder pain or carpal tunnel syndrome. By implementing ergonomic practices, dentists can reduce physical strain, enhance comfort, and maintain their productivity.[1]

A dentist's hands are essential for performing precise procedures, ranging from routine cleanings to complex surgeries. The skill, steadiness, and dexterity required to work in small, delicate areas are vital. However, the long-term effects of repetitive motions and strain can lead to injuries and other complications for dental professionals



Normal carpal tunnel

Median nerve compressed in the carpal tunnel

CHAPTER 1:
RISK-RELATED ISSUES FOR DENTAL PROFESSIONAL'S HANDS

Frequent flexion and extension of the wrist and fingers are significant contributors to repetitive motion-hand disorders. To help safeguard our musculoskeletal health, it is crucial to be mindful of how we use our hands. Engaging in chronic, repetitive movements—especially in a "pinch" position—can lead to discomfort and injury, so incorporating variety in our tasks is beneficial.

Another important aspect to consider is maintaining proper wrist alignment. Actions that place the wrist in awkward positions can increase the risk of injury, as can working for long periods without taking breaks. Regularly rotating the hand and forearm muscles can help alleviate strain and encourage recovery.

Moreover, being aware of the mechanical stress caused by gripping instruments, performing forceful tasks, and overusing vibratory tools can empower us to take preventative measures. By recognizing these factors and making appropriate adjustments, we can preserve the health and functionality of our hands, enabling us to continue enjoying the activities we love.[2]

Dental professionals, such as dentists, hygienists, and assistants, often experience significant wear and tear on their hands due to the repetitive nature of their work. From holding instruments for long periods to making precise, sometimes forceful movements, it can lead to strain and discomfort. Common issues include:

1. **Repetitive Strain Injuries (RSI):** Repetitive hand and wrist motions can lead to conditions like carpal tunnel syndrome or tendinitis.[3]
2. **Musculoskeletal Stress:** Extended periods of hand use can cause tension in the muscles of the hand, wrist, and even the shoulders or neck.
3. **Hand Numbness or Tingling:** The pressure from holding instruments in awkward positions can compress nerves, leading to numbness or tingling sensations.
4. **Joint and Finger Pain:** The fine motor skills required in dental procedures, often involving delicate movements, can wear on the joints in the fingers and hands.[4]

Hand and wrist complaints are common among dentists and dental hygienists. These issues rank just behind low back disorders in prevalence and tend to lead to a higher rate of chronic problems compared to other types of complaints.[5] Many dental professionals take proactive steps to reduce this risk, like using ergonomic equipment, stretching their hands and wrists, and taking regular breaks to avoid overuse.

CHAPTER 2:
CoMAX DISPENSER REDUCES HAND DISCOMFORT

The CoMax dispenser is specifically designed to minimize hand discomfort in dentistry, particularly during the dispensing of materials such as composites, cements, or adhesives. Its ergonomic design and user-friendly functionality are key features that contribute to reducing hand strain in dental practices. Here's how it helps:

1. Ergonomic Design:

- The CoMax dispenser is built with a handle that promotes a natural hand position, reducing stress on the fingers, wrists, and forearms.
- Its shape allows for a more comfortable grip, preventing the need for awkward or forced hand movements that lead to discomfort.

2. Reduced Effort:

- Unlike traditional dispensers that require a lot of force to push out materials, the CoMax minimizes the pressure needed. This makes it easier for dentists to work for longer periods without fatigue.
- The low-force mechanism helps prevent muscle strain or joint discomfort that could build up with repetitive use.

3. Complete Dispensing:

- Completly dispense entire contents of composite from compule

4. Controlled Dispensing:

- The CoMax provides smooth, consistent dispensing with less physical exertion. It's engineered to allow precise control over the flow of materials, which helps reduce unnecessary hand movements that can cause tension and discomfort.
- This precision is important during delicate procedures where accuracy is key, making it easier for professionals to focus on the task rather than on hand fatigue.

5. Decreased Repetitive Strain:

- The design of the CoMax dispenser encourages a more relaxed grip while working, preventing repetitive strain injuries (RSI) such as carpal tunnel syndrome, tendonitis, or arthritis that are common in dental professionals.
- The smoother action means less strain during long procedures, which is particularly helpful for dentists who need to use their hands for extended periods.

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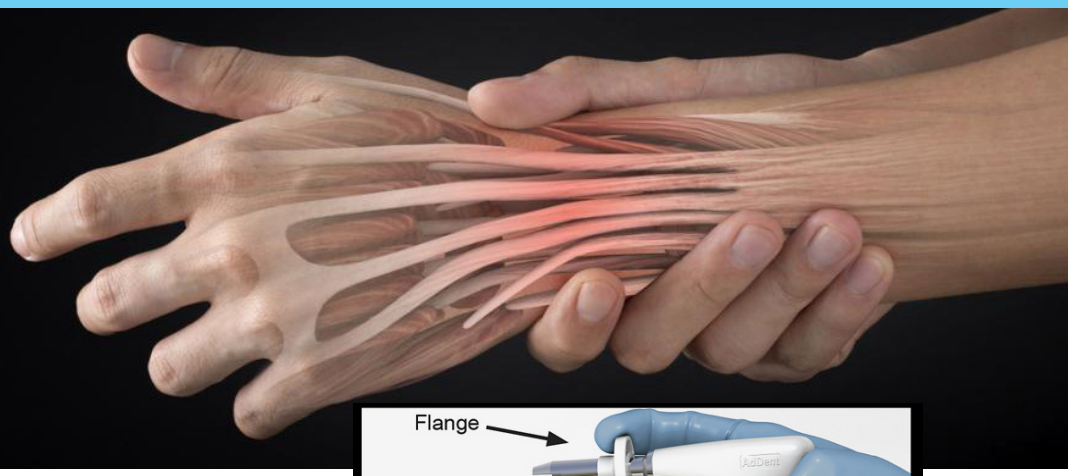
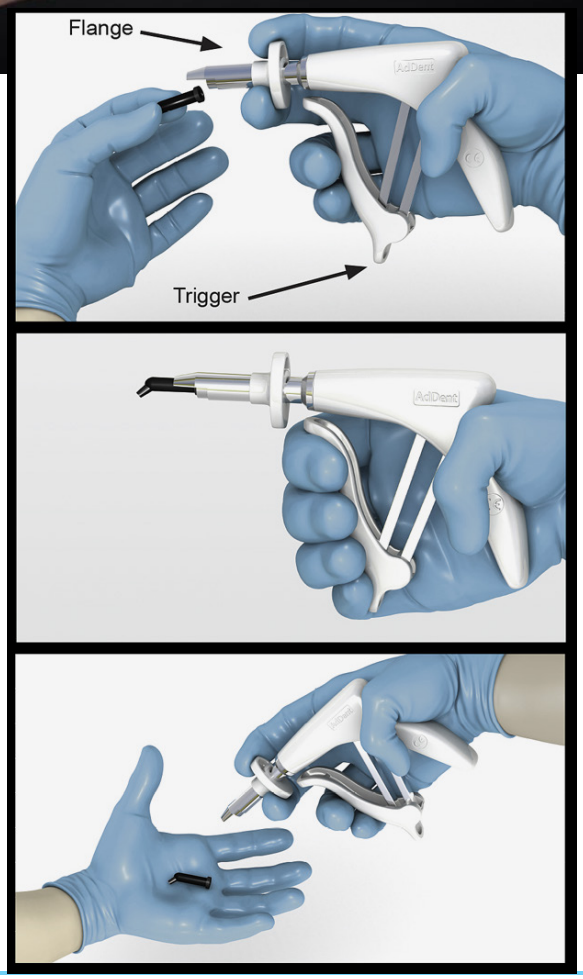
CoMAX DISPENSER REDUCES HAND DISCOMFORT





By reducing the effort needed for dispensing materials and improving overall hand positioning, the **CoMax dispenser** helps create a more comfortable and sustainable working experience for dental professionals, allowing them to focus on patient care without being distracted by discomfort. The **CoMax Composite Dispenser** is intended for use with most standard composite compules.

References:

1. Ergonomics and Posture Guidelines for Oral Health Professionals – FDI_HSDW
   https://www.fdiworlddental.org/sites/default/files/2021-04/FDI_HSDW_ergonomics_and_posture_guidelines_eng_2021.pdf
2. Ergonomics in Dentistry - Anshul Gupta, Manohar Bhat, Tahir Mohammed, Nikita, Bansal, Gaurav Gupta
   https://pmc.ncbi.nlm.nih.gov/articles/PMC4144062/
3. Repetitive Strain Injury: Types, Causes and How to Treat Them – Stephen E. Marcaccio, MD
   https://www.brownhealth.org/be-well/repetitive-strain-injury-types-causes-and-how-treat-them
4. Musculoskeletal Disorders: Anatomy of an Injury – Univ. of Pittsburg, Environmental Health & Safety
   https://www.safety.pitt.edu/ehs/ergonomics/musculoskeletal-disorders-anatomy-injury#:~:text=Small%2C%20repetitive%20movements%20can%20disturb%20the%20delicate,repetitive%2Dstrain%20injuries%20(RSIs)%20or%20musculoskeletal%20disorder%20(MSDs).
5. Occupational hazards to dental staff - Jamshid Ayatollahi, Fatemah Ayatollahi, Ali Mellat Ardekani, Rezvan Bahrololoomi, Jahangir Ayatollahi, Ali Ayatollahi, and Mohammad Bagher Owlia
   https://pmc.ncbi.nlm.nih.gov/articles/PMC3283973/?utm_source=Customer+Contacts&utm_campaign=6cf1813e3f

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