

# Strategies for Injury Prevention While Practicing Dental Hygiene

The following recommendations are worth consideration for implementation while practicing dental hygiene to help prevent pain and injury and to enhance scaling efficacy while implementing biomechanical ergonomic principles.

## Proper Grasp while holding an instrument:

- ✚ Establish a modified pen grasp where the thumb and the index finger oppose one another. The instrument handle should be visible between the fingers
- ✚ All fingers should be close together in order to activate the instrument as a unit
- ✚ The instrument should be supported on the index finger as much as possible to prevent the thumb and index finger joints from collapsing on the instrument when applying pressure while scaling

## Proper position of hand wrist and arm while scaling:

- ✚ Always establish a neutral hand, wrist and arm position
- ✚ Avoid flexion and extension of the hand as much as possible
- ✚ Bring the dominant arm and elbow out and over the patient when scaling “surfaces towards” on the mandibular anterior teeth to keep a neutral hand, wrist and arm position
- ✚ Keep the scaling hand and wrist neutral to prevent radial and ulnar deviation while scaling
- ✚ Avoid sustained awkward wrist postures to prevent carpal tunnel syndrome

## Recommendations for ideal Fulcrums:

- ✚ Utilize both intraoral and extraoral fulcrum rests in order to establish a neutral position of the hand, wrist and arm
- ✚ Practice palm up fulcrums and avoid palm down fulcrums to prevent pain and strain on the hand and wrist
- ✚ Establish a “built-up” fulcrum keeping fingers together as a unit while scaling
- ✚ Keep the ring finger straight with the tip of the finger supporting the weight of the hand when using intraoral fulcrums
- ✚ Pivot on the fulcrum finger to support the hand which allows for hand repositioning
- ✚ Implement more fulcrum pressure if slipping off the tooth occurs while scaling

- ✚ The fulcrum pressure used must equal the fulcrum pressure of the instrument blade against the root surface being scaled

#### **Recommendations for ideal strokes:**

- ✚ Implement pull strokes instead of side-to-side wrist rocking strokes in order to enhance instrument placement to the epithelial attachment or pocket depth
- ✚ Make every stroke count in order to reduce repetitive motion injuries and to enhance time management
- ✚ Implement intermittent rests between strokes to prevent pain and injury

#### **Recommendations for implementing reinforced scaling techniques:**

- ✚ Incorporate the non-dominant hand by pressing on the instrument with the index finger for more lateral pressure, power and precision
- ✚ Implement thumb-to-thumb or thumb-to-instrument reinforcement for more stability and precision, and to engage the larger muscle groups in both arms while scaling
- ✚ Utilize advanced reinforced fulcrums using intraoral and extraoral rests to gain access to root surfaces and to prevent hand stress and strain
- ✚ When the non-dominant hand and the dominant hand work to together, the non-dominant hand will take the load off of the dominant hand which then allows for increased precision, power and prevention
- ✚ Two hands working together is better than one hand working alone to help prevent against injuries while scaling

#### **Recommendations for instrument usage:**

- ✚ Use wider instrument handles to reduce excessive pinch force while scaling
- ✚ Orient the instrument with the tooth surface to be instrumented by keeping the terminal shank parallel to the long axis of the tooth being scaled
- ✚ Use sharp instruments to minimize lateral pressure and to reduce the number of scaling strokes
- ✚ Consider using sharpen-free instruments to avoid the need to increase lateral pressure and to prevent burnishing calculus

#### **Stretch and exercise for career longevity:**

- ✚ Stretch your hands, arms and body routinely to prevent pain and injury
- ✚ Consider Yoga or Pilates to keep limber and to strengthen core musculature
- ✚ Stop and stretch if experiencing pain when practicing
- ✚ Listen to your body and take mini-breaks to avoid prolonged, static postures

### **Recommendations for improved postural ergonomics:**

- ✚ Keep your head, neck and spine in a neutral position as much as possible
- ✚ Keep your shoulders relaxed and down in a comfortable position
- ✚ Wear loupes and lights to allow for a more ideal neutral posture and improved visibility while practicing
- ✚ Alternate sitting and standing while scaling for improved access or if experiencing pain
- ✚ Adjust the patient and operator chair throughout the appointment to avoid compromising a neutral posture while practicing