

PILATES AND STRETCHES FOR THE DENTAL PROFESSIONAL



West Coast District Dental Assoc.

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Course Overview:

This course reviews postural considerations for the seated dental professional, including: the prevalence of neck and shoulder injuries, spine and hip positioning, neutral seated posture, and the importance of movement. Pilates and specific seated exercises & stretches, which can be done chair side, to help combat poor posture, are presented.

Objectives:

At the end of the session, the attendee will be able to:

- Identify the cause of forward flexion of the spine while seated.
- Discuss the prevalence of neck and shoulder injuries for the dental professional.
- Explain neutral pelvic position while seated, including neutral spinal alignment.
- Recommend appropriate strategies for sitting as well as ergonomic strategies in the dental treatment room to minimize physical strain or injury.
- Demonstrate at least five exercises, specific for the dental professional, that can be performed chairside, to help prevent or maintain musculoskeletal health.

What is Pilates?



- Pilates is actually the name of a person who created the Pilates Method of exercising.
- Every exercise focuses on abdominal strength and corresponding oppositional stretching.
- The primary benefit is postural alignment and a balanced body.

Have you ever seen a dentist with a hunched back? Or even women who have osteoporosis? These postures epitomize muscles, bones and joints that are imbalanced and weak....

So the operative question is: Are you sitting with your back straight?....

Why not?



The dental professional, more than any other, is notorious for slouching.

It seems almost inherent in our work as we need to get closer to a patient to see better or reach over a patient for better access. Even the receptionist who is required to use a computer keyboard is often found in a slumped position.

Gravity alone wreaks havoc on our backs and shoulders.

It is really no wonder why we are prone to such severe back ailments.

Something to think about



When the muscles of the back (erector spinae) are weaker than the muscles of the front (abdominals) you will slump and slouch.

Believe it or not!

Because Dental Professionals are in forward flexion most of the day, their abdominal muscles are *relatively* stronger, *compared* to the back muscles.

HOWEVER....the rectus abdominis is often short AND weak---like the neck and hips.

Dental Professionals Beware:

Studies have shown that dental professionals have not been dealing with back, neck, shoulder and other posture related problems very well!

Study by Oberg and Oberg:

62% of the subjects reported complaints of the neck.

81% reported complaints of one or both shoulders during the previous 12 months.

Neck and shoulder complaints showed a clear predominance over other locations. *

- 1994 study, Visser and Straker:
Since the 1960's-the introduction of the sitting posture, which was recommended to decrease lower-extremity problems, has not eliminated musculoskeletal injuries.
- The study further showed that hygienists experienced discomfort associated with work, especially the back, neck and shoulder areas.



“Four-handed dentistry” began in the late 1960’s in some of the more progressive dental schools, because dental professionals were complaining about back strain. Equipment designers began making chairs for “sit-down dentistry.”

Sit-down, four-handed dentistry may have increased production, but it did not reduce the number of problems that dental professionals faced regarding musculoskeletal disorders....

It may have had an inverse effect.



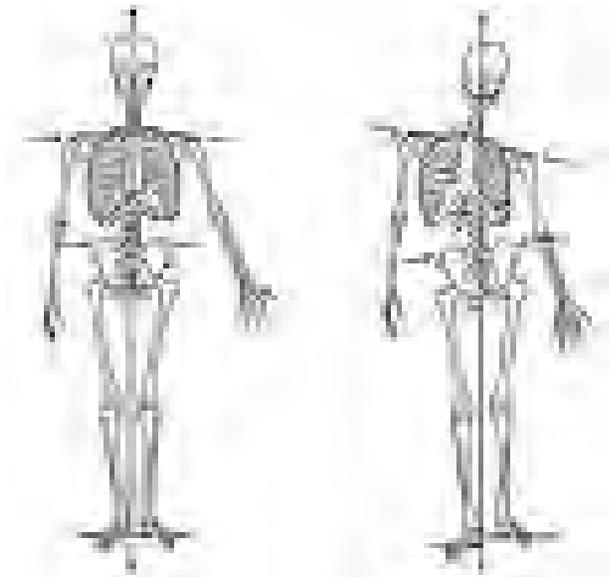
Consider this:

When you are slouched over, your lungs and internal organs are being compressed. In this state, you are not able to fully breathe in or out.

“Above all, learn how to breath. “

Joseph Pilates

Spinal instability and spinal pain go hand in hand



The opposite is true too!
When your back is aligned, stable and upright, the spinal ligaments, skeletal bones, muscles of the body and the central nervous system (which emanates directly from the spinal cord) are all in accord.



The hips and spine are at odds with each other when the pelvis is tilted forward or worse yet, when the pelvis is tilted posteriorly.



- The key to preventing this natural tendency is to train the back and abdominal muscles so they are strengthened and stretched, and work in balance for and with each other.
- Aligning your spine is what Pilates will enhance and improve.

Think of your hips as a large salad bowl whose base is smaller than its rim.

On a chair, often you sit on the edge instead of the center. **SIT IN THE CENTER!**

Be mindful of this vital position.

Moving from a sitting to a standing position gives the pelvic girdle a rest and at the same time allows the joint to become more neutral and natural in its alignment.

**Movement is vital in
prevention of
musculoskeletal
injuries**

Dental assistants were shown to experience significantly lower levels of discomfort than hygienists.

WHY???

**Assistants move
around all day!**

- The assistant moves more than any other team member, including the receptionist.
- Discomfort experienced by dental hygienists, increases significantly across the working day.

Lehto et al, concluded that physical exercise could act as a prophylaxis against musculoskeletal illness and stress for dentists of a wide range of ages.

Lehto TU, Helenius HY, Alaranta HT. Musculoskeletal symptoms of dentists assessed by a multidisciplinary approach. *Community Dentistry and Oral Epidemiology*. 1991;19(1):38-

- Shortened muscles are not always strong!
- Consider the neck:
Always shortened and not very strong.

If physical movement is one possible solution, why is it not a prerequisite in dental hygiene and dental schools?

A Study with a Considerable Result:

Andersen L, Kjaer M, Sogaard K, Hansen L, Kryger A, Sjogaard G. Effect of Two Contrasting Types of Physical Exercise on Chronic Neck Muscle Pain. *Arthritis Care & Research* 2008; 59:84-91.

- Recruited subjects from workplaces characterized by monotonous work.
- 48 employed women with chronic (neck) trapezius myalgia were randomly assigned to 10 weeks of:
 - **specific** strength training for the offending muscle
 - **general** fitness training (using a stationary bike with relaxed shoulders)
 - **no exercise**, (control) but met for lectures promoting general health.

RESULTS:

Specific & general strength training had statistically significant effects on chronic neck muscle pain.

The Specific strength training group demonstrated a **79%→** marked decrease in pain over the training period AND after cessation of the training.

BOTTOM LINE:

Specific strength training of neck and shoulder muscles showed a high clinical relevance and therefore, the most beneficial treatment in women with chronic neck muscle pain.

Specific strength training led to marked *prolonged* relief in neck muscle pain (trapezius myalgia).

THE SPECIFIC EXERCISES:

Videos on MindYourBodyBook.com

- 1 Arm Row
- Shoulder Abduction
- Shoulder Elevation
- Reverse Flies
- Upright Row

- *Supervised* high intensity (8-12 RM
Maximal Reps) dynamic strength training 3
times/week for 20 minutes.

ONE WAY TO WORK:

SIT FOR

THE MAXILLA

&

STAND FOR

THE MANDIBLE

Sitting down and standing up :

Changing operator positioning is foreign to most dental professionals, however, sitting and standing to treat patients can relieve the back from undue forces.

HELPFUL HINTS-Chairside

- Replace curly tubing on dental equipment!
- How heavy and vibratory is your handpiece/ultrasonic?
- Selectively polish
- Consider ergonomic seating
 - Saddle stool or with arms

More Helpful Hints

- Use SHARP instruments!
- Consider varied instrument handles
- How do your gloves fit?
- Loupes?!? Resounding yes!
- Computer monitor-eye level
 - Keyboard position

GOAL: Proper Positioning

Unstressed neutral position, relaxed hands and arms and a neutral neck and back.

Keep muscles stretched and strong. Watch duration and frequency!

MOVE YOUR PATIENT-NOT YOURSELF!

NEUTRAL POSITIONING!

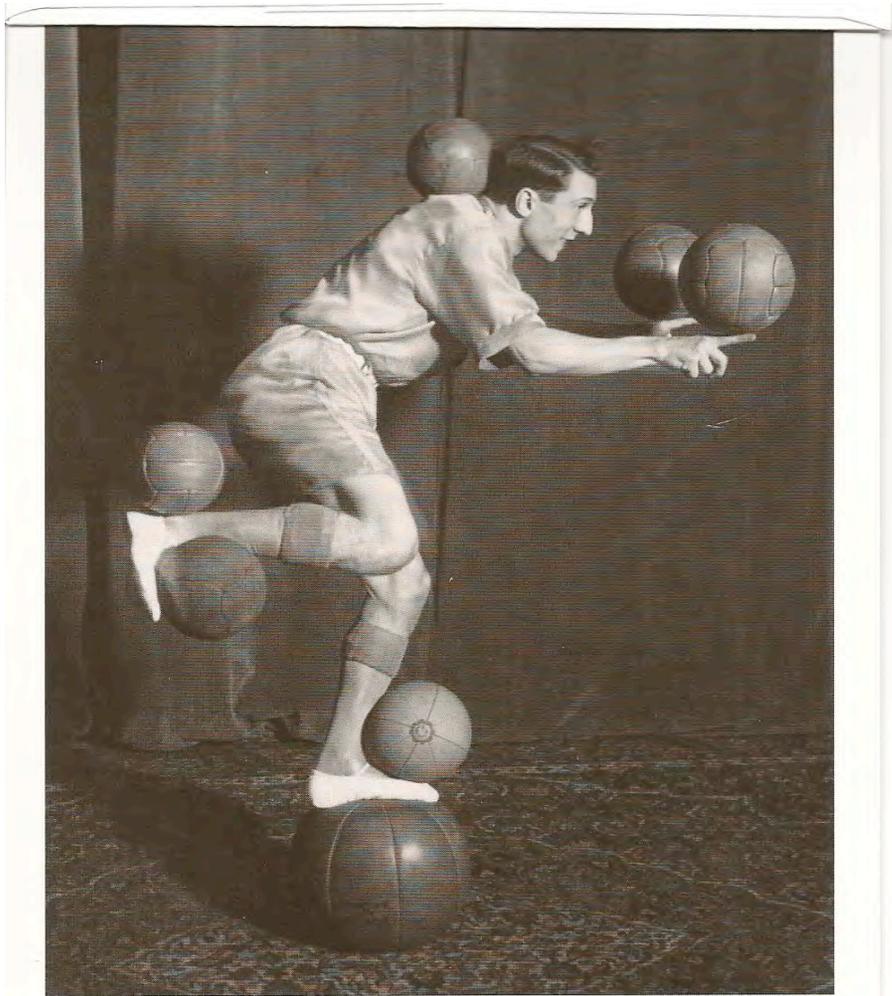


Figure 1: Preserving the three spinal

Photo courtesy of PostureDontics

- It's **EVERYTHING!**
- **130 degrees at the hip----**
NEW INFO!
- **Weight evenly distributed**
- **9:00-12:00=TRIPOD**
- **.....80% of RDH's:**
COMPLAIN OF PAIN OF
UPPER BODY AND
BACK!

How do you balance it all?



- Sprinkle your seated exercises/stretches throughout your day....ANYTIME! While on the phone, in between patients,...?
- Exercise; lift weights; WALK! SWIM!

WHAT ARE YOU WAITING FOR?



Crack a Walnut!



Roll Down



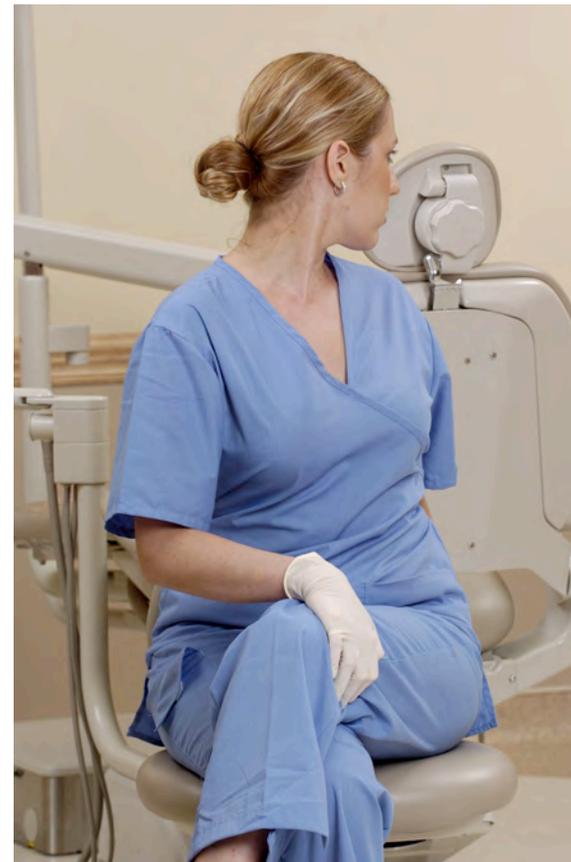
Up and Over!



Lift Back



Spinal Twist & variation



Wrist Relaxer



This little finger....



Finger Flexor & Variations



The all important Thumb!



“Open and Close”



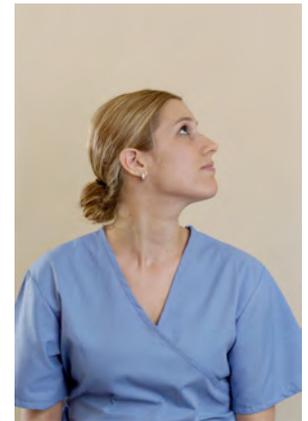
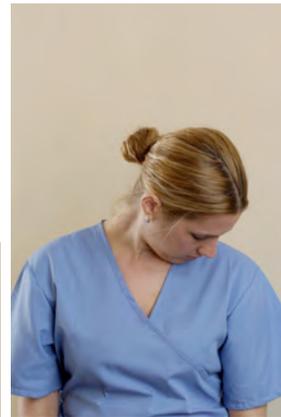
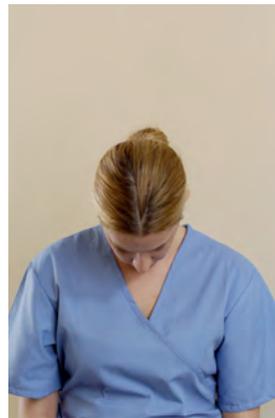
My Aching Neck! Ear to Shoulder-Rainbow



Ear to Armpit and Chin to Chest



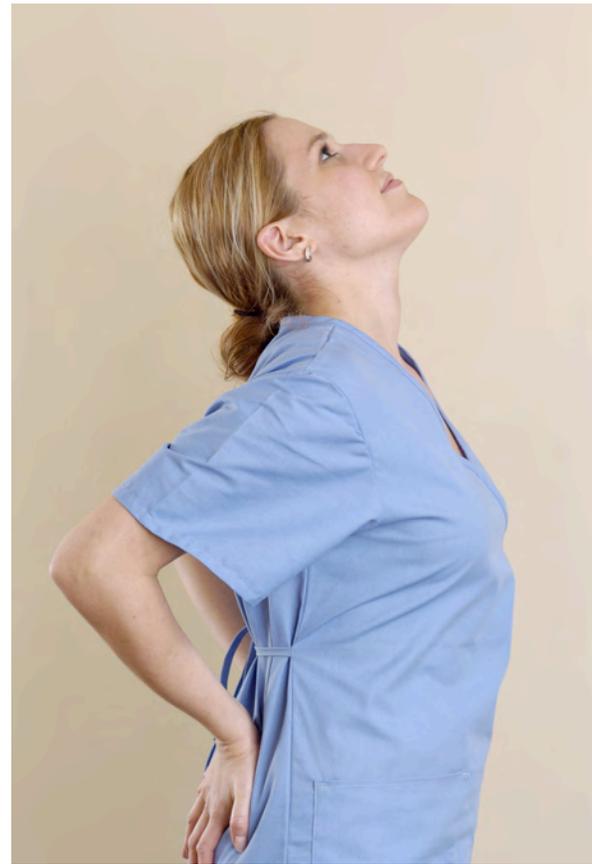
“U”-What a Relief!



Shoulder Rolls



AAhhh....my aching back!



Calf & Quad Stretch



“The Wall”



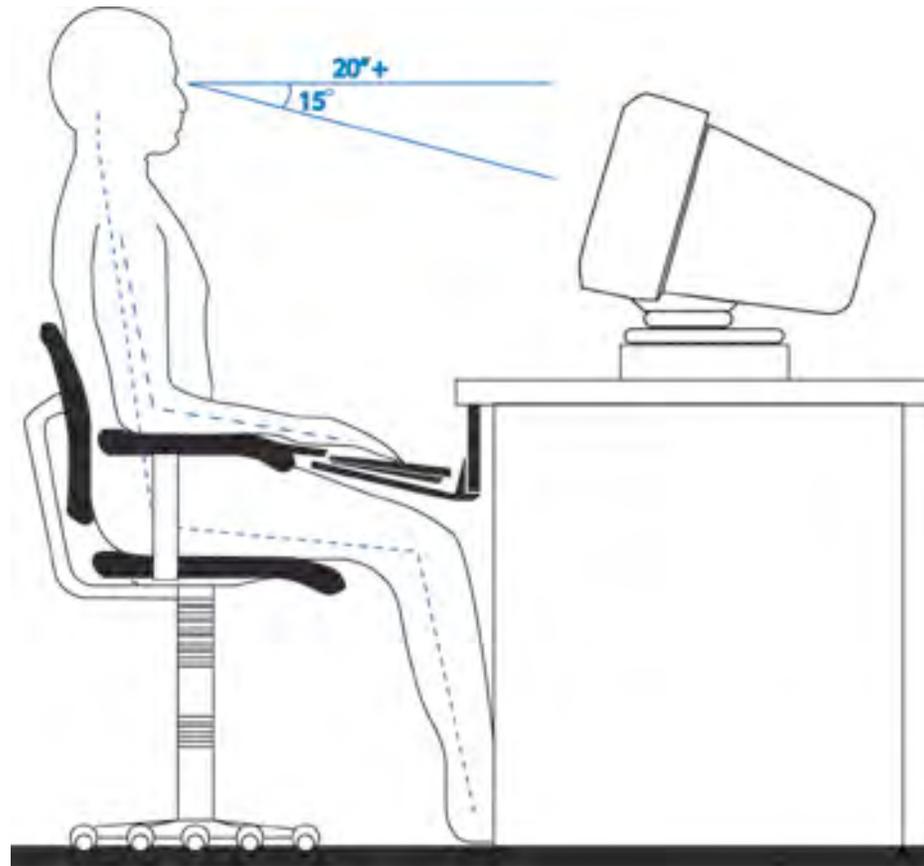
Out the Door



The Future?



Computer Set-Up:



Maintain a Neutral Wrist



MindYourBodyBook.com

MIND YOUR BODY

PILATES FOR
THE SEATED PROFESSIONAL

Sit Tall
Stand Strong
Work Without Pain

JULI KAGAN

