

Save me-Save you!

Ergonomics and Effective Patient Care

January 19, 2018

Honolulu, HI

What is 'Ergonomics'?

Ergonomics is a discipline that involves arranging the environment to fit the person in it. When ergonomics is applied correctly in the work environment, visual and musculoskeletal discomfort and fatigue are reduced significantly.

In recent years, CDC's Office of Health and Safety has identified repetitive motion injuries as a factor in employee injuries. These injuries are caused by excessive and repeated physical stress on the musculoskeletal system - the hands, wrists, elbow, shoulders, neck, and back.

Following ergonomic principles helps reduce stress and eliminate many potential injuries and disorders associated with the overuse of muscles, bad posture, and repeated tasks. This is accomplished by designing tasks, work spaces, controls, displays, tools, lighting, and equipment to fit the employee's physical capabilities and limitations.

<http://www.cdc.gov/od/ohs/Ergonomics/ergodef.htm>

Factors associated with increased injury

Force

- Grip is 65% reduced when wrist is flexed or extended instead of in neutral position

Repetition

- Repeated performance of a task can increase the risks of injury

Posture

- Injury risks increase whenever work requires a person to perform tasks with body segments outside of their neutral range in a deviated posture

Ergonomics and the Dental Care Worker Denise C Murphy, DrPH, COHN
1998

Time Management

- Control the Appointment from beginning to end
- Change the schedule

Read: **Who Moved My Cheese? Dr. Spencer Johnson** *"realizes the need for finding the language and tools to deal with change--an issue that makes all of us nervous and uncomfortable"*.

Physical complications

Create a Work Envelope

"Keep all frequently used instruments within a range of about 20 inches to maintain a neutral work envelope."

<http://www.scif.com/safety/print/DentalOffice.html>
(State Fund Compensation Insurance)

- . Carpal Tunnel Syndrome

Carpal tunnel syndrome is compression of the median nerve at the wrist, which may result in numbness, tingling, weakness, or muscle atrophy in the hand and fingers.

- . DeQuervain's

Painful disorder affecting the tendons at the base of the thumb, one of the most common kinds of tendon lining inflammatory diseases

- . Thoracic Outlet

Compression of the neurovascular bundle (brachial plexus, subclavian artery and subclavian vein) as it passes from neck to arm

- . Low back pain

Disables approximately 6 million Americans per year and is the most frequently filed workers' compensation claim

Exercises

- . Learn basic exercises you can perform in the office while working and between patients
- . Vary your 'out of the office' activities

Visual Enhancement Systems *The better to see you with, My Dear!*

Benefits

Visual Acuity

Quality of resolution

Ergonomics

Accuracy and Options of measurements

Product choices:

Through the lens

Flip up

Prescriptions ~

Can they be done and how are they done?

Illumination:

Variety of intensity

Hours of charge

Listen to what is being said to you~

Warranty ~

Very important to ask the right questions

Purchasing

Payment plans ~ Interest? Return policy?

Q-Optics

Designs for Vision

Orasoptic

www.q-optics.com

www.designsforvision.com

www.orasoptic.com

INSTRUMENT SELECTION

Everedge 2.0

Colorvue Probes:

Goldstein

BioType

Oxford

Sharpening Cards

Titanium Implant Instruments

Hu-Friedy Mfg. Co, Inc.

www.hu-friedy.com

Xdura

Relyant

Anterior Lingual Stain Remover

Implamate Titanium instruments with DuraLite® ColorRings™ handle

Nordent

www.nordent.com

“Bananas”

Sharp Diamond instrument Sharpen Free

ErgoMix with changeable tips

LM-Dental

www.lm-dental.com

SmartSharp

Premier Dental

www.premusa.com

ImplantPro™

Brasseler

www.brasselerusa.com

Dee Fog Anti-Fog Treatment Spray for clear, undistorted mirror vision

Cetylite

www.cetylite.com

NEW !! ~

TurboVue magnetostrictive unit with lighted hand piece

Parkell

www.parkell.com

AIR-N-GO Easy: supra and sub-gingival air polisher

Acteon

www.acteongroup.com

Clinpro™ Glyciene Prophy Powder

3m

www.3m.com

AIR-FLOW Handy 3.0 Premium

Hu-Friedy

www.hu-friedy.com

CordEze-manages your ultrasonic cord

CordEze

www.cordeze.com

Instrument Maintenance

Enzymax Earth™ Dual Enzyme Ultrasonic Detergent

Hu-Friedy Mfg. Co, Inc. www.hu-friedy.com

Protects the mirror's surface, allows disinfectant solution to wash over the mirror head and flush debris out of the slots on the sides of the cover

Mirror Gear www.mirrorgearusa.com

Cetyl-Zyme Pro-Am® dual enzymatic detergent

Cetylite www.cetylite.com

Blue Boa Suction tubing to HVE

Blue Boa www.TheBlueBoa.com

Hands-Free Perio Charting using a rheostat type device

Dental Rat www.dentalrat.com

Optra Gate Latex-free lip and cheek retractor

IvoclarVivadent www.ivoclarvivadent.us.com

Cleaning Monitors for Instrument Washers and Ultrasonic Cleaners

Hu-Friedy www.hu-friedy.com

Delivery choices

- Operatory design

- Chairs
 - Patient Chairs
 - Patient positioning
 - Patient 'Demands' and how to hear them! ~ What to do!

- Clinician Chairs / Stools
 - Body Support

 - Positioning

- Arm / Elbow rests

Crown Seating	www.crownseating.com
Evolution Chair	www.evolutionchair.com
Posiflex	www.posiflex.ca
ErgoPro Straddle	
Productive Practices	www.ProductivePractices.net

Additional Equipment
Arm Add-ons

Tray

Good ergonomic design is the solution to prevent musculoskeletal injuries

1. Educate and involve employees
2. Take a look at all of the available data to find problems
3. Encourage early reporting of problems
4. Find quick fixes to get momentum going
5. Some problems are more complex than others
6. Focus on eliminating the risk factors if possible
7. Don't just throw money and equipment at the problem
8. Make ergonomics part of purchasing and planning
9. Expect results, but be patient
10. Ask for help

Washington State Department of Labor and Industries

<http://www.lni.wa.gov/Safety/Topics/Ergonomics/ServicesResources/10Tips/default.asp>

~ Where do I find this stuff? ~

A-dec	www.a-dec.com
Kavo America Corp.	www.kavousa.com
Marus	www.marus.com
Patterson Dental	www.pattersondental.com
Pelton & Crane	www.pelton.net
Prodentec	www.denmat.com
Sullivan Schein	www.henryschein.com
Zirc	www.zirc.com

Suggested Reading

Article on Magnification
Article on Elbow Supports

Email: tricia@tosuna.com for copy

http://www.rdhmag.com/display_article/338089/56/none/none/Feat/Elbow-Room

Mind your Body-Pilates for the Seated Professional Juli Kagan, RDH www.mindyourbodybook.com
Pain Free at Your PC Pete Egoscue, Roger Gittines

Posturedontics / Bethany Velachi, PT, MS

www.posturedontics.com

OSHA

www.osha.gov/SLTC/ergonomics/index.html

The Four Agreements

Don Miguel Ruiz

Self Help Questions

Ask yourself these questions:

- Are you in awkward postures that allow you to flex or deviate the wrist from neutral?
- What is the height of the clinician in relation to the patient?
- How is your posture and rotation of the body trunk to the lower body when providing service to the patient?
- Do you ever, ever, ever have any pain in your shoulders, neck, hands, fingers, lower back, legs?

Is it 'ergonomically designed'?

- Does the design of the product make intuitive sense given the goal of the design?
- Does the product feel comfortable to use?
- Does the product put the user in a more neutral posture?
- Can the manufacturer / designer clearly articulate what the ergonomic objectives are for specific design elements? (Explain why the products are designed this way.)
- Does the manufacturer have any research evidence to demonstrate that their product works? How good is this evidence? What published evidence is there that the product works?
- Can the manufacturer give contact for others already using the product?
- Is there a trial period of at least 30 days?