

Save me-Save you!

Ergonomics and Effective Patient Care

April 26, 2018

ASM18
Annual Spring Meeting

Toronto, ON

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

The Surgical Room

www.q-optics.com

<https://thesurgicalroom.ca/vision-illumination>

Designs for Vision

www.designsforvision.com

Orasoptic

www.orasoptic.com

INSTRUMENT SELECTION

Everedge 2.0

Diamond Sharpening Cards

Colorvue Probes:

Goldstein

BioType

Oxford

Titanium Implant Instruments

Hu-Friedy Mfg. Co, Inc.

www.hu-friedy.com

Tricia Osuna, RDH, BSDH, FAADH

www.professionalinsightsinc.com

April 2018

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 and Ergonomic Products!

Enzymax Earth™ Dual Enzyme Ultrasonic Detergent		
Hu-Friedy Mfg. Co, Inc.	www.hu-friedy.com	
Protects the mirror's surface		
Mirror Gear	www.mirrogearusa.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

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

Canyon Silverton
 Crown Seating www.crownseating.com

- . 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

Cups

Trays

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>

Resources:

Canadian Dental Hygienist's Association Your job shouldn't be a pain in the neck

http://files.cdha.ca/Education/chairside_resources.pdf

Ergonomics and dental work Occupational Health Clinics for Ontario Workers

www.ohcow.on.ca/edit/files/workbooks/ERGONOMICS%20AND%20DENTAL%20WORK.pdf

Association of Canadian Ergonomists [ace-](http://ace-ergocanada.ca/jobs/consultant_directory/consultant_list.html)

ergocanada.ca/jobs/consultant_directory/consultant_list.html

Suggested Reading 

Article on Magnification

Email: tricia@tosuna.com for copy

Article on Elbow Supports

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

Ontario Ministry of Labour

<https://www.labour.gov.on.ca/english/hs/topics/pains.php>

Work Wellness

<https://www.workwellness.com/>

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?