

Sono's Safety in the Workplace



1

Sono's Safety in the Workplace
scanning injury free

Bernadette Mason

Muscle biomechanics

- Skeletal muscle transforms chemical energy to mechanical energy
- Skeletal muscle has 3 basic performances
 - movement production
 - force production
 - endurance

Muscle biomechanics

- The production of movement and force is the mechanical outcome of skeletal muscle contractions



Muscle biomechanics

- Muscle controls joint movement

Not all muscle can sustain contractibility

Fatigue easily



Muscle biomechanics

- Joint position influences muscle strength



Muscle biomechanics

- Sustained tension on shortened muscle causes damage to muscle protein syntheses
- Result- pain, weakness, hypertrophy, atrophy



Posture

- Engage our core muscles to maintain correct posture.
- Keep the distance between your sternum and your umbilicus constant
- Neutral pelvic tilt
- Shoulders down and relaxed
- Wrist neutral
- Legs on chair rest, machine rest or on the floor

ESHKA

- Ears above
- Shoulders above
- Hips above
- Knees above
- Ankles

When standing



Sitting

- Ears above
- Shoulders above
- Hips



When seated

Shoulders

- Relax your shoulder blades
- Keep your shoulders down
- Grip affects the transfer of tension to the shoulders
- Neutral wrist
- Relax fingers

Grip

- Palmar not pincer
- Rotate with the fingers only
- Guide with the little finger on patient (where appropriate)
- PAINT



Gel

- Only use enough gel to be affective
- Too much gel limits your ability to grip transducer
- Be careful of temperature of gel
- Choose a bottle with a wide aperture



Arm abduction

- Limited arm abduction to less than 30 degrees for extended periods of time
- Limit forward reach
- Do not scan with your elbow back further than your body
- Rest your left arm on front of machine

Head

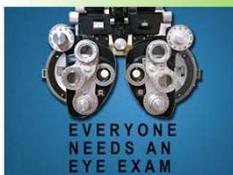
- Keep chin neutral
- Ears in alignment with your shoulders
- Turn your head and see your shoulders
- Keep your mouth relaxed

Legs

- Relaxed and resting on a support or on the floor
- Stand with legs hip width apart
- Knees soft
- Stand on both feet
- Rock onto your heels
- Relax toes
- Wear supportive, enclosed, soft soled comfortable shoes

Eyes

- Change your focal length
- Close your eyes for a mini break
- Do not turn the lights down too low
- Make sure you blink
- Have eye checks regularly for eye strain
- Wear glasses/contacts if you have them
- Refresh your eyes with eye drops
- Enjoy a different view



Positioning

- Where is the machine positioned
- Where is the patient lying
- Where is your gel bottle
- Where are you in relation to the machine
- What other equipment may you need at hand



Take the time to make it right

- We share rooms
- Have what you need within reach
- Clean bed and coverings
- Gel warmed and within reach
- Adjust machine to your height
- Adjust the chair
- When the patient is on the bed, adjust the height of bed

Our machines

- Evolving
- Know all the ways your machine can be adjusted
- Know all the short cut keys
- Have the screen adjusted to where your focus is optimised
- The screen is for the sonographer, not the patient
- Keep your machine clean
- Use breaks
- Have all cables up off the floor
- Use a remote control if available



New injuries

- Computer-user type WPI
- Wrist pain
- Elbow pain
- Finger numbness/ tingling
- Lack of concentration
- Tired eyes
- Fatigue
- Confusion

Our Health is our issue too

Sonographers must accept part of the responsibility for decreasing the risk of injury themselves!



Our Health is our issue too

- Check ups
- Diet
- Exercise
- Attend to issues acute v chronic
- Attend to mental health



References

- Bass, C., & Gregory, V. (2008, March). Guidelines for Reducing Injuries to Sonographers/ Sonologists. *Australian Sonographers Association Journal*.
- Gregory V. Occupational Health and Safety Update. sound effects. 1999 ;(4):42.
- Gregory, V. (1999). Occupational Health and Safety Update. *Sound Effects Vol. 43*.
- *Journal of Diagnostic Medical Sonography*. Sep 2006 Vol22 No5 298-305
- Mason, B; Gregory, V (2006). 2006 Survey Results. Australian Sonographers Association Publication. Sound effects
- Muirhead J. New Zealand Sonographer – a survey of musculoskeletal problems in the workplace. *Australasian Society for Ultrasound in Medicine Bulletin*. 2001;4(4):23-25.
- National Occupational Health and Safety Committee. National Code of Practice for the Prevention and Management of Occupational Overuse Syndrome. 1994 (NOHSC:2013). Available from: <http://www.asc.gov.au/asc/aboutus/publications/nationalstandards/listofnationalcodesofpractice.htm>.
- Orenstein, B. (2009). Scanning in Pain - Sonographers Seek Relief from Job-Related Hazard. *Radiology Today Vol. 10, No. 18, 24*.
- Pike I, Russo A, Berkowitz J, Baker J, Lessoway V. The Prevalence of Musculoskeletal Disorders Among Diagnostic Medical Sonographers. *Journal of Diagnostic Medical Ultrasound*. 1997;13:219-227.
- Ransom E. The Causes of Musculoskeletal Injury Amongst Sonographers in the UK. *Society of Radiographers*. 2002.

Thank you

Thanks you for showing interest in keeping healthy and safe in your career.
