**Isometric & Isotonic Exercises for Sonographers**

*Skeletal muscle contractions are either isometric or isotonic relative to work and tension.  Contraction shortens the muscle and moves the load. Contraction can be concentric (thickening) or eccentric (lengthening). While doing a bench press, stopping and holding the weight 1/2 the way would be isometric then pushing all the way would be isotonic. Think yoga poses v. pumping iron.*

To Begin:

1. Walk to work and take the stairs
2. Stretch frequently before you start you computer or US machine- everytime
3. Stretch before and after every patient exam
4. Eat lunch away from your computer
5. Relax when you are passing on your patient findings to the reader
6. Share findings with co-workers

Posture while performing ultrasound

1. Keep Your Spine Straight (KYSS)
2. Have the patient move toward you
3. Have the patient roll on one or the other side
4. Hold the transducer loosely – but don’t drop it on the floor!
5. Relax your arm after every image taken
6. Look away for 10 to 20 seconds every couple of minutes
7. Don’t lean back while you are typing up your report

Ergonomics

1. Provide adequate work space - maybe
2. Position monitors and keyboards for comfort and posture - can do
3. Adjust exam, work chair height – probably
4. Adjust patient bed height / head elevation - NBL!
5. Change you position often (alternate between sitting and standing)
6. Vary you scanning grip, often
7. Be aware of your posture – don’t lean in
8. Stretch and exercise frequently
9. Schedule different types of exams during the day – not likely
10. Limit the number of portable exams – not likely
11. Consider limiting the number of exams performed per type per day - probably never
12. Do an annual reassessment of ergonomics and exercise regimens – should do weekly, not weakly

Exercises: Static and Dynamic

1. Elbow grab
2. Overhead stretch
3. Forward reach
4. Two hands behind the back centrally
5. Two hands behind the back one pushing he other
6. Neck stretch – side to side against one hand resistance
7. Neck stretch – push forward against two hands
8. Neck stretch – push back against both hands fingers interlaced
9. Lats stretch – hands out stretching fingers
10. Lats stretch – hands out stretching fingers/making fists
11. Lats stretch – hands against hands pushing inward (switch hands for different exercises)
12. Lats stretch –fingers against fingers pulling away

Wall tension work

1. Push against a wall; repeat spreading hands wider and then narrower (can do wall pushups)
2. Push against a doorway with the back and the front of your hands
3. Forearm against the wall, hand in tight fist
4. Keeping both shoulders against the wall: try to touch the opposite wall with hand

Equipment

1. Towel twist with arms with arms out and then with elbows at your sides
2. Rubber balls
3. Resistance band
4. Resistance loops
5. Jump rope

**Don’t Overdo It!**