Flexibility 101 – Winter 2014
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Types of Flexibility

Static:

- Holding
- Lengthening muscle and keep in lengthened
- Allows relaxation
- Non functional for activities
- Good for opening lymphatics and adding length to tightened, worked muscles

Dynamic:

- Stretching with motion
- Adds movement in the direction of lengthening, and then shortens
- Multiple repeats
- Not done with bouncing
- Not done to end range

Neuro:

- Contract/relax
  - Contract the muscle that you want to stretch in isometric hold
  - Then relax the muscle and take up more flexibility range, partner assisted
  - Then, contract again at the end of the new range
  - Make sure form stays good

- Reciprocal inhibition
  - Tighten the muscle that you want to stretch, resistance isometric (lets say hamstring)
  - Tightening the opposite muscle of the one that you want to stretch in order to relax the muscle that you are stretching completely (tighten quads to stretch the hamstring)
  - Operates under the assumption that opposite cannot work at the same time, in grand terms

- MET
  - Muscle energy technique
  - Guided contracting of the muscle that you are truing to stretch, with PT assist, in order to help position, oft times, the bone that the muscle attaches to, at either end. This also is done for "re-setting" of joint positioning as well

    - Why this is considered a stretch technique? Because you can use it to, at 20-30% contraction, re-set muscle's length-tension relationship. But, often muscles are placed on stretch or too much tension because of the position of the joint or bony attachment. An example is the hamstring, attachment to the SIT bone, and how it pulls the pelvis posteriorly. MET may be used to re-set the position of that side hip (individual ilium) in order to decrease tension. The existing tension in the hamstring needs to be released to stop the pull, so the stretch is used there, or hip flexors as well.

- Nerve-based
    - Stretch patterns can be done, using the technique of tension or flossing, to pull nerve through range of motion, as them go from spine to exit points, piercing through muscles where they may be "stuck"
    - Needs to be guided, so that nerve tension injury is not a result
    - Is never held for very long is more repetitive and motion based
    - Ex: sciatic in the glutes and hamstrings, brachial plexus for the arms, wrists, due to upper body tension and/or poor posture, etc.
- PNF
    - Proprioceptive neuro facilitation
    - Can be done passively by therapist, to re-engage patterns of motion, in all 3 planes, diagonal based, spiral based at times
    - Can also be done with resistance through the motion, to encourage proper co-contraction of muscles, and ordered contraction
    - Example- X rolls on floor

Tool Assisted

- TP roller
    - Rolling muscles, and often holding pressure and adding motion
- Foam Roller
    - Softer form of TP
- Balls
    - Trigger point releasing, pin-point pressure with motion of body to increase muscle motion under point of ball
- Theracane
    - Used to assist person in placing localized pressure on one's self (i.e. hamstrings, calves, back) where you cannot reach! Then, with motion, flexibility and pliability are increased
- Uses the concept that pressure and rolling releases adhesions, brings blood flow, releases myofascial tension, increasing the pliability of the muscles

Manual Assisted

- Graston
    - Increases surface only flexibility by releasing scar tissue, or tissue not in parallel alignment
    - Utilizes instruments on the skin, to increase local blood flow, re-start body's perception of injury process, to allow re-laying of fibers in proper position
    - Often results in instant increase in flexibility due to tension release
- ART
    - Releases inter and intra-muscular scar tissue that may be preventing:
        - General motion
        - Neighbor motion
        - Scar tissue that prevents flexibility
        - Trigger points or high areas of tension
    - The go-to treatment for professional endurance sports athletes run, swim, bike and tri
- Trigger Point Dry Needling
    - This helps with flexibility in that it "resets" the length-tension guarding relationship of the muscle from the trauma that it received (i.e. a strain, overstretch, anticipation of pain, etc.)

What to do!

- Prior to running, warm up first
- Then dynamic stretch
- Then workout
- After, cool down
- Then static stretch to lengthen
- Then rolling to release tight muscles

Body Parts

<u>Spine</u>
Active warm up: torso rotation with knee crossover
Static Stretch: side bending
Dynamic Stretch: lower trunk rotations
Roll: ball on spine

<u>Quads</u>
Active warm up: butt kicks- running and/or squats repeated
Static Stretch: heel to butt stretch
Dynamic Stretch: butt kickers
Roll: TP quad roller, roll, bend and windshield wiper

<u>Hip Flexors:</u>
Active warm up: high knees

Static Stretch: lunge/hip roll under stretch
Dynamic Stretch: leg swings
Roll: ball in hip flexors on belly

Calves
Active warm up: heel-toe raise walking
Static Stretch: straight and bent knee calf stretch
Dynamic Stretch: heel bounces
Roll: TP roller, rocks, and ankle circles

Hamstring
Active warm up: toy soldiers
Static Stretch: pike stretch (standing or sitting)
Dynamic Stretch: inchworms
Roll: Wheel in hamstring

Glutes
Active warm up: side stepping monster walks
Static Stretch: figure 4
Dynamic Stretch: side swinging kicks
Roll: Ball in glutes, on wall or on floor

Outer Hips/Rotators
Active warm up: side shuffle
Static Stretch: pigeon stretch
Dynamic stretch: "open the gate/close the gate" walking
Roll: TP roller on ITB, roll and bend

Abs
Active warm up: tuck up, v up, penguins
Static Stretch: prone press up with hold
Dynamic Stretch: arms overhead, clasp hands, arch and reach while sticking butt out
Roll: Ball in hip/psoas on stomach with breathing

Ribs
Active warm up: body circles
Static Stretch: Side bend, with true sidebend, add rotation chest up or down to focus on front vs back
Dynamic Stretch: repeated side bending
Roll: TP roller on wall, squat and stand

NOTES: