STRETCHING

“Super Sports Stars and Newborns share one thing in common – Optimal Mobility”

(Aaron Mattes)

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INTRODUCTION

GENERAL BENEFITS

- Stretching improves flexibility.
- Flexibility makes life more enjoyable.
- Gentle stretching movements invigorate the circulatory system, respiratory, and neuromuscular system, which may alleviate many symptoms of stress.
- Stretching increases and enhances the athlete's Fitness level to achieve the higher levels of Performance.
- The primary obstacle to flexibility is the tightness of the surrounding muscles and fascia of a joint.

BENEFITS OF STRETCHING

- Increases ROM 1.6 times the resting length of the muscle
- Facilitates the removal of metabolic waste
- Facilitates lymphatic flow
- Enhances athletic performance
- Reduces postural tightness due to aging
- Maximizes the potential and level of athletic performance.
- Reduces the risk of tendon, muscle, ligament, and joint injury.
- Gets the body ready for physical activity.
- Facilitates rehabilitation for muscles, tendons, and ligaments.

FACTS

A strong tensile force of the muscle and fascia surrounding the specific joint determines flexibility.

The manual stretch of muscles and fascia creates mechanical, bioelectrical and bio-chemical responses that promote vascular and lymphatic circulation, increased oxygenation, removal of the body's toxins, and a more efficient nervous system.

UNDERSTANDING FASCIA AND ITS ROLE IN WELLNESS

Fascia - the three dimensional fibrous matrix that provides interconnections throughout all cells of the body.

- Fascia surrounds muscles, bones, and joints, which gives our body structural integrity and strength.
- Fascia's continuous connection through the body makes it encompass the sensory organs of the nervous system, blood vessels, lymph vessels and lymph channels.
- Oxygenation of the cells and tissues are regulated by the fascia system.
- The fascial network facilitates removal of our body's toxins.
- Distortion of the fascial matrix by trauma, aging, posture, hormonal or metabolic imbalances, injury, and toxins disrupts the homeostasis of the body.
- These conditions left untreated promote detrimental contractures, inflammation, lymphatic congestion, peripheral vascular obstruction, hypertension, and a host of other disease states.
- Trauma, overuse, age are the most common causes of muscle tightness resulting in protective flexor postures.
- Our upright stance and constricted gait patterns further contribute to functional muscle weaknesses and contractures.

Obstacles of Optimal Flexibility

- Chronic abnormal posture
- Underlying medical or physical condition
- Muscle imbalances
- Effects of aging
- Rapid growth periods during adolescence
- Females are more flexible than males

TYPES OF STRETCHING

- Static - can be performed by Athlete or by Therapist.
- Gradual – Therapist performs, Athlete is passive
- PNF (Proprioceptive Neuromuscular Facilitation) - Therapist and Athlete involved
- Post-Isometric Relaxation – Therapists and Athlete involved

STATIC STRETCHING

Therapist or Athlete facilitates the stretch on the desired muscle belly until a mild discomfort or stretch burn is encountered. Stretch is held for 20 to 30 seconds. If discomfort decreases Athlete can go to new range until discomfort or burn is encountered again.

- Always remember to breathe.
- Should never exceed a 5 on the Pain Scale.
- If Therapist is facilitating the stretch then communication between Athlete and Therapist is of utmost importance.

PNF STRETCHING

- No PNF Stretching in Pre-event Massage
- No PNF in Post-Event
- Athlete contraction can be 50% or less. It will get the job done.

Example PNF Stretch – The Hamstrings

1. Athlete in supine position. Athlete keeps leg straight and contracts the quads to move the hip into flexion. At this point the quads are the agonists and the hamstrings are antagonists.
2. This motion uses the quads to stretch the hamstrings. It is to be done solely by the Athlete with no assistance from the Therapist.
3. After achieving maximum flexion, the Therapist places shoulder on the posterior side of the leg, close but distal to the back of the knee.
4. The Therapist now instructs the Athlete to take a inhale deeply and upon exhalation contract (with 50% effort) the hamstrings and extends leg into the Therapist shoulder.
5. The Therapist resists the contraction and allows no movement. The hamstring contraction is held for 10 seconds.
6. After the 10 second contraction with no movement, the Therapist instructs the Athlete to relax. Athlete then takes a deep breath, contracts the quads and moves the leg into a new stretched position. When the new position is reached the athlete exhales.
7. The Therapist takes up the slack and Step 4 is repeated.
8. The entire process is repeated 3 to 4 times.
9. Note: The Therapist never forces the limb into a new position. It is done by the opposing muscle. In letting the opposing muscle move the stretched muscle into a new position the body does the stretching and the body will not harm itself. The Therapist will take up the slack after the opposing muscle has created the new length of the stretched muscle.

Post-Isometric Relaxation Stretch

1. Athlete moves limb to create stretch on the desired muscle.
2. Therapist stabilizes limb so that there can be no movement when Athlete contracts the desired muscle to be stretched.
3. Therapist instructs Athlete to contract muscle gradually, 10-50 % maximum effort, for 2 to 5 seconds. Therapist resists and allows no movement.
4. Therapist now instructs Athlete to relax and Therapist moves limb to facilitate a deeper stretch of the desired muscle.

Rules of Stretching

1. Stretch only the tight muscles. (test)
2. If there is pain then do not stretch, do the soft tissue work.
   ********* Stretching should be pain-free*********
3. Instruct your athlete to contract gradually for the athlete's and your safety.
4. Remind athlete of the importance of water.
5. Contractions can be from 10 to 50% max effort.
6. It is not necessary to contract 100 % Effort.
7. Always breathe. (Never hold breath on contraction, may raise blood pressure)

Class Work Session

1. Pair up. Determine who is acting as the therapist and who the athlete is.
2. Select the first set of muscles to be stretched.
3. Assess both sides to determine shortened, constricted muscle. If both are short, stretch both. If one is short stretch the short and then reassess. Balance left to right.
4. If there is any pain have athlete locate it. Do compression and reevaluate. If the pain is still present proceed to the next muscle. Document. Always stretch Pain-Free.
5. Complete and document results.

Muscles to Stretch - Class Practice

- Hamstrings - Lateral and medial
- Gastrocnemius
- Soleus
- Pectoralis Major and Pectoralis Minor
- Quads
- Psoas and Iliacus

VIDEO'S

- The Fuzz Speech by Gil Hedley www.somanautics.com

BOOKS

- Your Bodies Many Cries for Water by Dr F. Batmanghelids
- Active Isolated Stretching by Aron Mattes

WEBSITES:

- www.mobilitywod.com