CHIROPRACTIC

SPORTS HEALTH Science

COUNCIL ON FITNESS & SPORTS HEALTH SCIENCE

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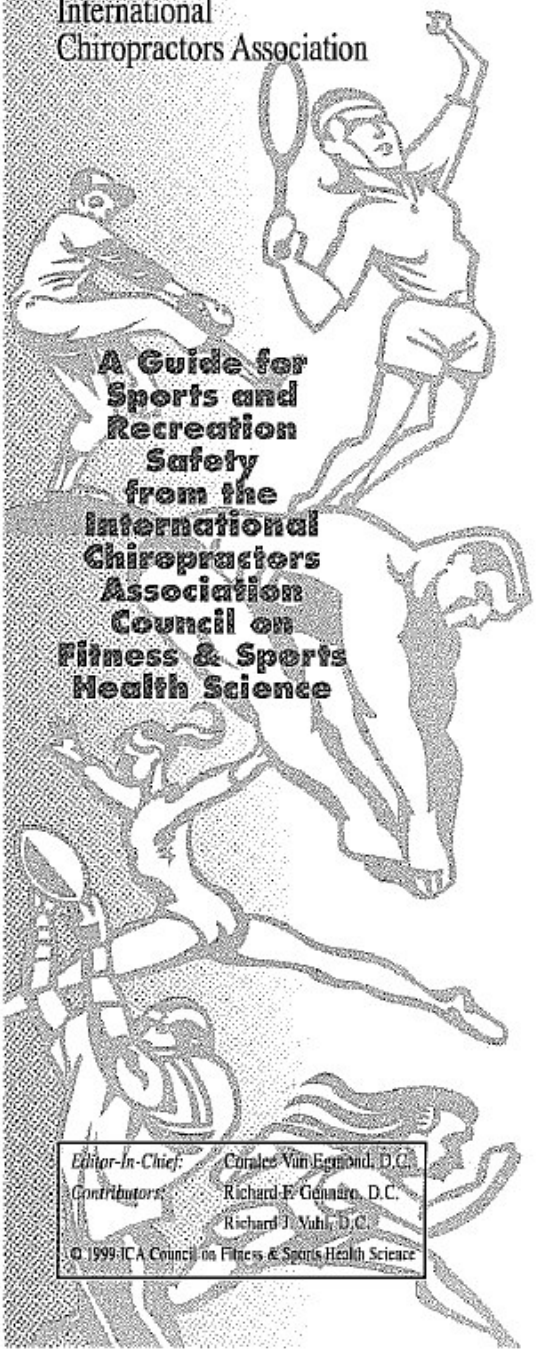

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Stretching Safely for Optimal Health

Whether you exercise for recreation or for competition, regular stretching and chiropractic supervision can be essential to your success in any activity. Stability and flexibility are crucial parts of safety and skill in all sports activities, and chiropractic care is an effective approach to help build and maintain a balanced, agile body. Balanced flexibility programs help the body hold improved alignment from chiropractic adjustments. Stretching prepares the body for activity while preventing injury. Stretching can also assist the body's integration of postural and structural correction from chiropractic care.

Chiropractic care and flexibility training is a winning combination in your exercise routine: you will enhance coordination and circulation, increase range of motion, and reduce restriction and instability. Including flexibility as part of your chiropractic wellness lifestyle with regular spinal checkups will add to the benefits you gain from a healthy spine and nervous system, good nutrition, and balanced exercise with rest. Maintaining equilibrium in your body's system of nerves, joints, and muscles through chiropractic care will improve your performance both in sports and in life.

The selection of important and beneficial stretches for basic athletic activity outlined here are easily incorporated into warm-ups and cool-downs with practice, before games and competitive events, and even with informal recreation. Chiropractors often provide patients with stretches as part of their care programs following adjustments at their office. **If you have been inactive, have had recent physical problems or injuries, or have any questions, consult your Doctor of Chiropractic before you proceed with any stretching or exercise program.**

There are three ingredients to a balanced fitness program:

1. Aerobic Fitness,
2. Muscular Strength & Endurance, and
3. Balanced Flexibility

To maximize your sports performance and reduce the chance of injury with activity, you need to:

- Understand the factors involved in flexibility.
- Include an effective combination of flexibility activities and chiropractic care in your exercise program.

FOUR FLEXIBILITY FACTORS FOR FITNESS

1 How Flexibility Benefits You

Stretching enhances overall physical fitness and reduces your chance of injury in many ways. Stretching:

- Promotes development of body awareness
- Increases relaxation, both physically and mentally
- Optimizes learning and performance of athletic skills
- Reduces risk of injury in joints and muscles
- Helps maintain strength
- Enhances freedom of movement
- Assists in postural correction
- Reduces soreness and tension with consistent practice

2 Common Contraindications To Stretching

Flexibility training may need to be restricted or avoided in situations where there is:

- Stretching in a position where a bone blocks motion
- Stretching where there is a recent fracture of bone
- An acute inflammatory or infectious process in or around the joint—suspected or known
- Osteoporosis—suspected or known
- Sharp, acute pain with joint movement or muscle elongation
- History of recent sprain or strain in the area
- Vascular or skin diseases that may be irritated by stretching

3 What Limits Flexibility

Limitations to flexibility are common, and often involve situations that can be improved with proper flexibility training:

- Postural problems
- Tight muscles, tendons and ligaments
- Restrictions in the joint capsules
- Previous injury
- Muscle soreness
- Genetics
- Age
- Gender
- Inactivity Level

With a balanced combination of aerobic fitness, muscular strength and endurance training, and stretching with enhanced alignment and function through chiropractic care, your inherent potential for flexibility and health can be better realized.

4 Successful Flexibility Training Includes

- **POSITION** of the body to support the stretch activity
- **ORIENTATION** and placement of the involved body parts during stretching
- **MOTIONS** involved in the stretch
- **INTENSITY** and **DURATION** of the stretch
- **REGULARITY** of stretching sessions

The following flexibility exercises are designed for maximum safety and efficiency for the majority of people, but they cannot address ALL of the individual considerations for past injury and present instability. Your strength, flexibility, postural misalignments, experience, and overall health are just a few of the variables that need to be considered. If you have any history of injury or pre-existing health concerns, some of these activities may not be appropriate or will need some individual adaptations to your needs. **You should always consult with your Doctor of Chiropractic for consideration of your personal health and flexibility concerns in conjunction with your program of chiropractic care.**

Flexibility programs must be performed correctly or they may be of little benefit and may actually be detrimental; muscles must be warm and pliable to maximally increase flexibility without danger of injury. Your stretching sessions may be most beneficial after a 2-5 minute, low-intensity aerobic warm-up at the beginning of your workout and again after a 2-5 minute low-intensity aerobic cool-down at the close of your session. Perform these flexibility exercises 1-2 times a day, 3-7 days a week; maximum benefit comes from daily sessions. All stretching movements in this program should be smooth, steady and comfortable. ***NEVER BOUNCE OR JERK*** while performing these stretching activities. Stretches may be held for 10 to 30 seconds, and gradually released back to the starting position. ***DISCONTINUE*** any position that causes pain; do not resume until you have consulted with your Doctor of Chiropractic on alternative adaptations for your body's needs.

SUGGESTIONS FOR SUCCESSFUL STRETCHING

Read through this information and familiarize yourself with the factors of flexibility, the position of each stretch pose, and the motions of each stretching activity before carefully performing the stretches. If you have any questions, consult your Doctor of Chiropractic.

- Stretching sessions should be preceded by a warm-up; general warm-ups include brisk walking or light running to increase circulation and body temperature.
- Move gently and smoothly into and out of the stretch positions.
- Check posture and position as you stretch to maintain safe, effective stretching.
- Pause your stretch at the point of tension, before there is any discomfort or pain.
- Relax at the point you feel a mild sense of tension.
- Stretch progressively. Hold your stretch position for at least 10 seconds, gradually increasing the stretch gently over approximately 30 seconds.
- Breathe naturally, with slow and smooth inhalations and exhalations.
- Focus on proper positioning, placement of your body parts, and muscles you are stretching.
- Do not bounce, force or push your stretch towards a sense of pain.
- Don't rush and risk injury.
- Exhale deeply as you relax and move deeper into a stretch.
- Enjoy your stretch! Don't push in comparison with other people or with your previous sessions.

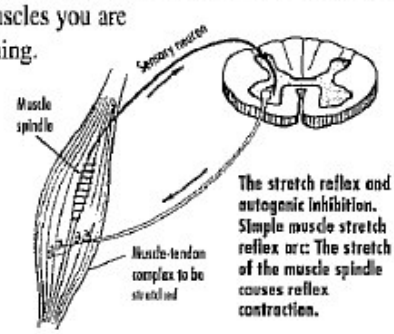
FLEXIBILITY FACTS

How does flexibility work? Learning how the body moves and the roles played by different components will help you better understand your body's needs, participate more directly in your program of chiropractic care, and exercise more effectively and safely.

WHY "STATIC" INSTEAD OF "BALLISTIC" STRETCHING?

Static stretching is recommended as an effective stretching technique for increasing flexibility with minimal risk of injury. A static stretch involves holding a position that gradually stretches the muscle and connective tissues to a greater length; the "bouncing" in "ballistic" stretches may actually tighten the muscle!

STATIC stretching protects against the neuromuscular response called the ***stretch reflex***, a reflex action that actually causes the muscle to contract against the stretch! A sensory receptor inside the muscle alongside the muscle fiber called the muscle spindle monitors the length and tension of the muscle: it responds to a stretch on that muscle by sending a signal to the spinal cord, then receiving a message back from the spinal cord to contract. The faster and more forceful the stretching movement, the harder the reflex contraction will be. In other words, the initial tightness you feel with a stretch is actually the muscles contracting! BALLISTIC stretching imposes high-force, high-speed movements on the muscle, stimulating the stretch reflex. This will not only defeat the stretch you are working toward, but can generate a tremendous degree of tension on the muscle fibers and increase the possibility of injury. When a stretch is performed slowly and gently, the stretch reflex is minimal and the greatest relaxation response can occur for the muscles you are stretching.



The stretch reflex and autogenic inhibition. Simple muscle stretch reflex arc: The stretch of the muscle spindle causes reflex contraction.

WHEN IS THE BEST TIME TO STRETCH?

Most experts now recommend stretching BEFORE AND AFTER exercise activity. Warm-ups with general low-intensity activities like walking help increase blood flow and enhance range of motion. Cool-downs after exercise activities will provide maximum gains in range of movement and overall increase in flexibility. This is especially important after aerobic exercise because after typical aerobic activities (including rowing and stairstepping) muscles are actually tighter! Whenever performed, each stretch activity should begin gently and progress gradually to a more advanced stretch.

HOW CAN CHIROPRACTIC CARE AND FLEXIBILITY TRAINING HELP ME?

Chiropractic care helps you regain and maintain your wellness potential through correcting the structural and functional imbalances in the body. Deviations in body alignment, called a *subluxation*, can involve a *reactive complex* of health problems: abnormal nerve function, with distortions in position and motion of the joints and muscles of the spine and supported structures.

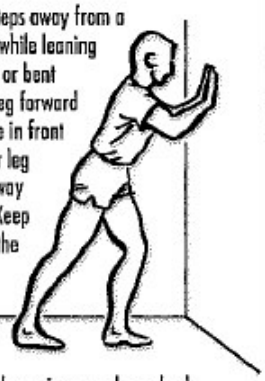
This *vertebral subluxation complex* involves misalignments of the spine that affect the nervous system, including muscle reflexes and pain receptors. The body will innately attempt to balance itself. These compensations may, however, lead to additional problems and alter the body's capacity to move and function optimally, causing further distortions. By reducing subluxations, chiropractic care works to balance the body's intrinsically harmonious systems for optimal expression of health and wellness.

It is important to combine chiropractic care with your exercise and flexibility programs so that your spine and nervous system, which control and coordinate all other systems of the body, can regain and maintain healthy patterns of movement and function, for the healthy and happy life you were born to have!

Structural *Stretching* Series for Above-Down-Inside-Out Flexibility and Enhanced Health!

Along with other care considerations and instructions from your Doctor of Chiropractic, stretches and exercises will often be recommended. Chiropractic care programs that include exercise and stretching enhance the structural and functional benefits of specific chiropractic adjustments, assist in reducing pain and stiffness, and support postural correction. This stretching program is designed to help stretch and strengthen the muscles that balance and support the spine and nervous system. There are many types and techniques of flexibility exercises for accomplishing different fitness goals. The stretches described here are for fundamental flexibility and greatest benefit for the maximum number of people to carry out in conjunction with a program of spinal alignment through chiropractic care.

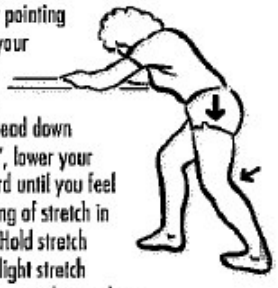
STARTING POSITION



Stand several small steps away from a support (wall, fence) while leaning on it with your hands or bent forearms. Bend one leg forward at the knee and ankle in front of you, with the other leg several small steps away directly behind you. Keep your hips parallel to the wall, and your upper body erect with the hips and lower back tucked under the torso. Avoid swaying your lower back or locking your knee. Lean against the wall maintaining the line of head, neck, spine, pelvis, rear leg, and ankle.

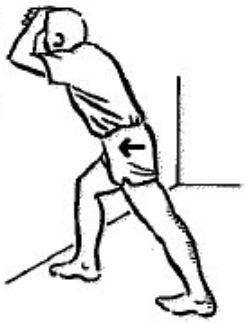
A variation of the above starting position is to place your hands against the wall and lean forward, lightly resting your head against your hands. Note that your forward foot should be closer to the wall than in the top starting position, in order to keep your body properly aligned.

Ankle/Achilles Tendon



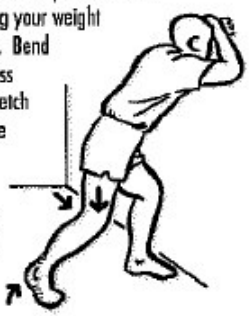
Keep your back foot pointing straight ahead and your heel down. Slightly bend the rear knee and, keeping your head down and your back "flat", lower your hips gently downward until you feel ONLY a SLIGHT feeling of stretch in the achilles tendon. Hold stretch gently, with only a slight stretch sensation, for 25-30 seconds, switching sides and performing stretch several times each side.

Calf/Leg



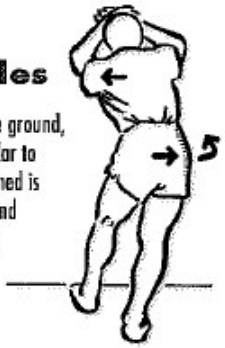
Lean on the support with both hands, or with your forearms, head resting on the hands. Slowly move your hips forward, keeping your lower back flat and hips level. Be sure to keep the heel of the straight leg on the ground, with toes pointed straight ahead or slightly turned in as you hold the stretch. Exhale and relax, holding an easy stretch for 30 seconds. DO NOT BOUNCE. Repeat on the other side.

Plantar Stretch



Keep the rear foot down flat on the ground, and pointing forward parallel with the front foot. Exhale and raise the rear heel up off the floor and onto the toes, shifting your weight onto the ball of that foot. Bend the knee slightly and press downwards. Hold the stretch gently without forcing the position, and relax into it for 25-30 seconds. Switch sides, performing stretch several times on each side.

Hips/Hip Flexor Muscles



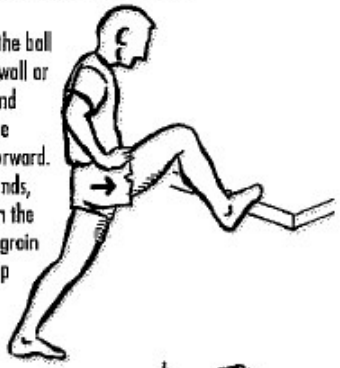
Keep the back foot flat on the ground, pointing forward, perpendicular to the hips. The side to be stretched is pressed outward to the side and rotated forward, at the same time as you lean your shoulders slightly in the opposite direction.

Anterior Thigh

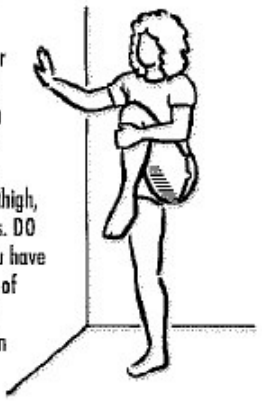
Stand facing the wall with your supporting foot facing straight ahead and while supporting your balance against the wall with one hand, reach behind with the other and grab the top of the other foot. Gently pull the heel toward your buttocks and feel the stretch in your ankle, knee, and lower thigh. Hold for 25-30 seconds. DO NOT force heel toward the buttocks; if you feel tension in the knee BEFORE you feel a stretch in the anterior thigh, or have had a knee injury, consult with your Doctor of Chiropractic for alternate approaches.

Posterior Leg/Thigh

Stand with your supporting foot pointed straight ahead with slight bend at the knee, lift the other leg and:



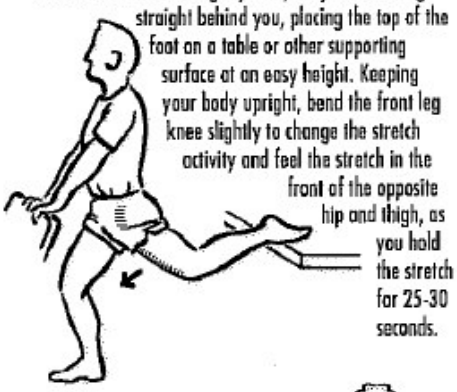
(Variation 1) place the ball of the foot up on a wall or table-like support and bend that knee while moving your hips forward. Hold for 25-30 seconds, feeling the stretch in the posterior thigh and groin area and front of hip and thigh on the other side.



(Variation 2) hold onto wall or tree, and pull the knee of the lifted leg toward your stomach without leaning forward. Hold for 25-30 seconds, feeling the stretch in the upper posterior thigh, buttock muscles, and both hips. DO NOT force knee upward. If you have balance problems or a history of lower back or knee problems, perform this stretch lying down on your back.

Anterior Thigh/Hip Flexor

Standing with your supporting foot pointed straight ahead and the knee slightly bent, lift your other leg straight behind you, placing the top of the foot on a table or other supporting surface at an easy height. Keeping your body upright, bend the front leg knee slightly to change the stretch activity and feel the stretch in the front of the opposite hip and thigh, as you hold the stretch for 25-30 seconds.



Inside Thigh

Stand with the supporting surface to your side and your supporting foot pointed straight ahead of you, raise your other leg up to the side and place the ball of the foot on top of the support. Bending the knee to increase the stretch, exhale and feel the stretch in the inside of the upper legs, holding for 25-30 seconds.

Side of Torso/ Shoulders

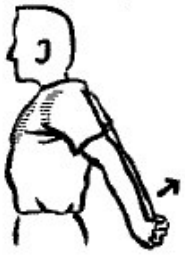
Standing with feet parallel at shoulder-width apart and knees slightly bent, reach arms overhead and grasp one elbow with the other hand. Gradually bending to one side while keeping the hips facing forward, gently traction your elbow behind the head, and exhale, holding for 25-30 seconds.

Variation: Extend both arms over your head, hold one hand with the other and bend over to the side, gently pulling the arm overhead and over to the side toward the ground.

Another variation is to perform the stretch as described above while in a seated position.

Anterior Trunk/ Shoulders

Stand or sit upright comfortably, reach backwards with both arms and interlace your fingers behind your back. Without lifting the head and keeping the chin in and chest up, slowly straighten the arms behind you while gradually spreading the shoulders back and turning your elbows in toward each other. Inhale, and as you exhale, lift your arms up and away from behind your body. Keep your chin in and lift the chest up (without swaying the lower back) as you feel the stretch in your shoulders/chest, holding for 10-15 seconds.



Posterior Trunk/ Lower Back

(Beginners and Back Injuries):
"Cat" Arch: Get onto your hands and knees, with the hands shoulder-width apart and under the shoulders, and knees hip-width apart and under the hips. Lower your head and tuck your buttocks down under your hips, drawing your abdomen in while lifting your mid-back upward towards the ceiling (like a cat arching its back). Hold 15-30 seconds and then return to the starting position, breathing comfortably. Repeat 2-3 times.

NOTE: If you have any discomfort or difficulty performing these positions or maneuvers, consult with your Doctor of Chiropractic for alternate adaptations to meet your individual needs.

(More Advanced Athletes):
Stand with feet pointing forward about hip-width apart and keep the knees slightly bent, slowly lean forward at the hips as you relax your neck down and shoulders forward with your arms dangling down, or with your forearms crossed over each other. When you reach the point where you feel a slight "pull" in the back of your legs, rest and relax there, letting your body relax further down with each exhalation, for at least 25-30 seconds.

Returning Upright: Keep the body leaning forward while you bend the knees further, then lift the torso upright slowly, keeping the knees bent, bringing the head up last and finally straightening the legs.

Shoulders

Stand or sit upright comfortably, reach down behind the back and grasp the wrist of one hand with the other. Pull gently down and over while leaning your head over, to open and increase the stretch through the neck, across the shoulder and down the upper arm.

Sit or stand comfortably, lift arm to shoulder height in front of body. Reach up with other hand and grasp behind elbow, gently drawing raised arm across and towards the upper torso. Hold for 25-30 seconds as you feel the stretch across the back of the shoulder and upper arm, then release and gradually return to resting position. Repeat, stretching both sides 2-3 times.

Neck

(Starting Position for each stretch) "Axial Retraction": Sitting upright comfortably, bring your neck "over your shoulders" by putting your finger on the tip of the chin and pushing straight back (but NOT down) so that your ears are more aligned over your shoulders.

"Lateral Flexion": Perform "Retraction" maneuver, then gently bend your head to the side, bringing your ear towards that shoulder without lifting the shoulder, just until you feel a gentle stretch on the other side. Hold the position for 25-30 seconds, then slowly return to center. Repeat on the other side, and perform this maneuver 2-3 times on each side.

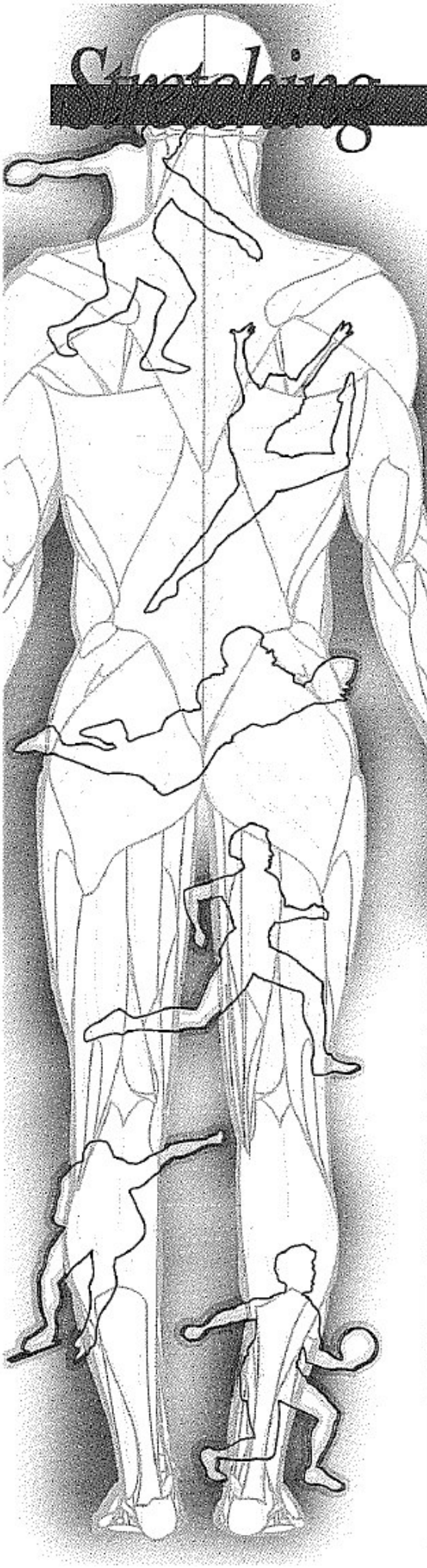
"Rotation": Perform "Retraction" maneuver, then gently turn your head towards the shoulder on one side, keeping your chin level, and feeling a gentle stretch on the other side of the neck. Hold the position for 25-30 seconds, then slowly return to center. Repeat on the other side, and perform this maneuver 2-3 times on each side.

"Combination": Perform "Retraction" maneuver, then turn your head part-way towards, one side, approximately a 45-degree angle, and then lower your head downwards toward your chest as if to "nod". Hold the position for 25-30 seconds, feeling a gentle stretch in the back of the neck and possibly the upper back, and then return to center. Repeat on the other side, and perform this maneuver 2-3 times on each side.

NOTE: If you experience any unusual discomfort or dizziness when performing any of these maneuvers, consult with your Doctor of Chiropractic for assessment and possible adaptation of alternate stretches for your individual needs.

Stretching

Chiropractic Sports Health Science



FLEXIBILITY IS IMPORTANT TO ATHLETIC PERFORMANCE!

Flexibility is much more than just stretch-ability; it is the ability to move series of joints through their full, unrestricted normal range of motion.

INFLEXIBILITY COMES FROM AND LEADS TO IMBALANCE

Inflexibility can be both the cause and the result of many factors, including deviations in posture, muscle soreness, and injury—both major impacts like collisions and micro-traumas like repetitive stress injuries. Increased tension in the muscle tissues reduces pliability in the fibers. Diminished range of motion may result in injury in the muscles and their attached structures when the restricted joint is subjected to quick motion, excessive force or maximal effort.

KEEP CHIROPRACTIC AND STRETCHING IN YOUR FITNESS AND EXERCISE PROGRAMS

Wellness is a combination of factors and optimal exercise performance involves many important elements. While specific body parts may play crucial roles in a particular athletic activity, the harmonious teamwork of all of the body's components in coordinated balance is what makes the difference. Chiropractic helps balance and coordinate your body's performance potential.

When there is a change in balance from insult or injury, the body will innately attempt to re-balance itself; however, the adaptations to the problem may actually be detrimental to the overall wellness of the body! Deviations from normal healthy function can include structural

imbalances in the muscles and joints of the spine as well as disturbances with communicating networks of the nervous system. When muscles react to protect the body from harm or to reduce pain, specific muscles may become overactive while others are inhibited. Muscular imbalance leads to altered movement patterns. While some imbalances may be visually obvious to general observation, others will require more detailed evaluation by your Doctor of Chiropractic.

Chiropractic helps your body's balance and coordination through improved alignment and enhanced communication in the body. Including chiropractic care and flexibility training in your exercise programs balance muscle groups and body parts that can be overused and overstressed during exercise activities. Chiropractic care relieves imbalances in the spine and related parts of the body, which enhances your health and maximizes your athletic potential.

HAVE FUN!

The most important aspect to any successful fitness program is that it is enjoyable. Every exercise program needs a dynamic combination of safety plus progress. Chiropractic care, along with stretches suggested by your Doctor of Chiropractic, will help keep your body and your exercise program in a healthy balance!

Provided for your information from your Doctor of Chiropractic:

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