

## TOPIC OF THE MONTH FOR APRIL 2009

### STRETCHING

Practicing kicking, punting, or snapping alone will not necessarily lead to improved performance. Unless the body is mechanically prepared to function efficiently, repeating the kicking, punting, or snapping process may produce little gain and may lead to injury. On the other hand, improving the body without practicing kicking, punting, or snapping almost always produces improved performance upon return to practice. Also, as the body grows, what worked well in the past will cease to be the perfect balance of body motion unless attention is given to the following activities.

- FORM RUNNING > BALANCE, BODY CONTROL, STEP CONTROL
- STRETCHING > FLEXIBILITY, RANGE OF MOTION
- STRENGTH TRAINING > POWER POTENTIAL
- PLYOMETRICS > MUSCLE SPEED

At the end of every season, conduct a personal inventory of the muscles and joints that enable your body to perform sport-specific movements. Every athlete loses some degree of function during playing months. Since football season stretches from early August into December (for teams that advance into championship rounds), everyone loses some flexibility. Practicing in the heavy and restrictive garments, standing for hours on hard fields under increasingly miserable weather conditions, absorbing the weekly bumps and bruises of a contact sport, and conforming to the directions of coaches who frequently fail to understand how to keep specialists productive ---- all these factors, plus body growth, take a toll on range of motion and joint health. Before moving on to another sport or participating in winter strength and conditioning activities, analyze your body and establish specific goals to make yourself more functional.

- Assign a letter grade (A, B, or C) to each joint or muscle group during a total body stretching session. Look for differences between left side and right side, between back and front, and between standing and seated positions. Be really honest with yourself.
- Identify which muscle group is most involved in holding back your performance. (Where are you a "C minus" in range of motion?) See yourself as a piece of machinery (like an automobile or a puppet) with a serious need for mechanical repairs.
- Set a realistic goal to move up one letter grade in the identified muscle group within the next 4-6 weeks,

depending on the location and resistance of the muscle.

- Identify several different stretches to implement the desired development. Be prepared to explain to coaches and trainers what you need to accomplish. Ask advice from your doctor or other professionals.
- Pick a regular time each day to work on this goal ---- like a class schedule or a tutoring appointment. Set aside sufficient time (15 to 20 minutes) to get a total body stretch, as well as to work on your project.

#### **WHAT MUST THE ATHLETE REMEMBER WHEN WORKING ON STRETCHING?**

1. Always warm up first by running, jogging, or jumping.
2. Stretch the biggest muscles first (butt and lower back), then gradually work around the hip joint and down the legs, usually stretching quads (front of the thigh) last.
3. Sitting on the ground (hips and heels on the same level surface) prevents weight shifts and eliminates balance problems.
4. ALWAYS KEEP THE BACK FLAT AND THE HIPS STRAIGHT UP. Sitting like a couch potato (base of hips forward and back of waist backward) fails to put the bones in a position to stretch the muscles properly.
5. Look ahead of you, with head up, as you stretch, not down at your knees or the ground.

#### **HOW WILL DAILY STRETCHING ENHANCE KICKING/PUNTING/SNAPPING?**

1. Just as the shoulder must have a full range of motion for the arm to pitch a baseball or throw a football effectively, the hips must retain full range of motion year round for one leg to kick a football effectively while the other leg remains on the ground for balance and control.
2. Proper stretching increases the body's potential to deliver a smooth, powerful swing.
3. Proper stretching greatly reduces the chances for injury.
4. Muscles do not automatically lengthen when bones grow, and many strength training activities cause muscles to shorten as they build bulk. Maintaining a high level of flexibility during periods of growth allows the body to adapt more quickly to these physical changes.
5. It takes months to regain flexibility. Taking time off from stretching limits capacity to reach full playing potential during the season. Refuse to backslide.

#### **HOW MUCH TIME SHOULD BE SPENT IN STRETCHING?**

1. Before practice or a game or a weight workout, a thorough stretch takes a good 15-20 minutes. Remember to hold each position 10-15 seconds. You should design your own stretching routine

in addition to the activities which all team members do together.

Arrive early enough to get your stretching done before team warmup starts.

2. Stretching should happen 365 days per year on your own at a time not related to a practice, game, or workout. Pick a time in your day when you are usually free. You can multi-task; you can stretch while you are watching television, talking on the telephone, or listening to music. Hold each stretch 15-20 seconds. Work effectively for 20-25 minutes.

#### **WHAT IS A GOOD ROUTINE FOR STRETCHING?**

1. Jog or jump to increase circulation and metabolism rate.
2. Loosen up joints by bending and twisting.
3. While still standing, stretch butt muscles from several directions. For each of these stretches, keep weight centered in insteps (not in heels), keep back flat, and keep knees from bending. If your back becomes rounded, your butt muscle (gluteus maximus) is too short. Do not let your weight rock back onto your heels. (Pants stripes on outside of legs should remain straight down from hip to ankle.)
  - With feet about shoulder distance apart, bend at hip pockets (not at waist), keeping head up and back flat, and put palms flat on the ground without buckling at the knees. Picture heels and hips against a wall.
    - C = Hands reach from knees to mid-calf.  
Weight shifts into heels, with hips back.
    - B = Fingers reach ankles or barely touch ground.
    - A = Both palms are flat on the ground, with hips directly over ankles and no bend in knees.
  - With feet about a yard apart, bend at left hip pocket, keeping head up and back flat, run left hand down the back of the left leg until you can grab your left ankle, and put your right palm on the ground directly in front of your left foot. After stretch, stand up straight, and repeat this process to the right side, placing your left hand on the ground directly in front of your right foot. (If you are really flexible, you can get your elbow to the ground in this position.)
  - With feet really wide, bend forward at hips, running a hand down the inside of each leg, grab both ankles, and pull chest down until head is straight below hips.
4. Sitting on the ground/floor, continue stretches for butt, hips, and lower back. Correct posture has the hip bones straight up, not leaned backward at the waist. Do not rest weight on hands. Do not let knees "buckle" up from the ground. Sitting inside a doorframe or between two immovable objects can help you gain leverage using your arms.
  - With legs extended flat in a seated V, work to left, right,

and middle. For each stretch, bend at hip pocket, keep head up and lead with jaw. Back should stay flat. When going down to the middle, attempt to lay the chest on the ground between the two legs. Grade flexibility by how far down the leg your jaw can reach.

C = Jaw over upper leg (thigh)

B = Jaw over knee

A = Jaw over mid-calf of lower leg

- To sit in an outside hurdle, leave one leg straight to the front and take the foot of the other leg behind the body with the knee at 90 degrees to the side (not to the front or raised). The primary muscle you are stretching is on the outside of the leg in the hurdle position, where the side stripe would be on your pants. (This is called a hurdler stretch because it is the position a track runner would use when jumping over hurdles.) Sit up straight. Do not lean on the arm opposite the leg in hurdle position.

Leading with the jaw and looking over the top of your foot, lay flat forward on the extended leg. The back should be flat, and both butt cheeks should remain on the ground. Grade each side separately. (Right-footed people often sit more easily in a left leg hurdle position, because they have taught the right leg to drive body weight forward when walking/running.) If grades are low or unequal, the hurdle on the plant side (left side for a right-footed kicker or punter) must be improved first in order to keep hips still while the other leg swings. Improving flexibility in hurdle on kicking leg side will increase leg speed and degrees of leg rotation.

C = Hurdle knee up or not fully rotated

One hip elevated during stretch

Jaw over upper leg (thigh)

B = Jaw over knee

A = Jaw over lower calf, near ankle

- To sit in an inside hurdle, extend one leg and bring the heel of the other leg in front of the belly button, with the knee out and on the ground. Using the hand on the same side as the leg in hurdle position, grasp the ankle.

Leading with the jaw (head up), pull the body flat forward, trying to touch the stomach to the heel, not the nose to the ground. The primary muscle you are stretching is under the back pocket on the side of the leg in hurdle position.

- The butterfly stretch is for groin muscles, located on the inside where the leg attaches to the body. Seated, pull both heels in close to the body, with knees out and down. Do not grab toes. Keep hands on ankles unless surface secures feet sufficiently to allow hands to work on knees. Do not crunch. Do not drop nose and bend back.

These motions prevent correct use of the hip socket. Leading with the jaw (head up), force flat back upright.

Elbows or hands push knees down.

C = Knees up high, like chicken wings

B = Knees 4" to 6" above ground, with flat back

A = Knees flat on ground, with flat back

- To stretch the lower back, extend both legs straight ahead and flat on the ground. Leading with the jaw (head up), bend flat forward from the hips, and grab insteps from the outside of the feet. Knees should not buckle. Taking a deep breath, feel the rib cage expand. Exhale, and pull down farther.
    - C = Must grab ankles or laces, or knees buckle.
    - B = Can reach insteps but no farther.
    - A = Fingers can reach 8" to 10" past toes.
  - The pretzel stretch works the muscles on the outside where the leg attaches to the body. Seated with legs straight forward, bend the right leg, and put the foot on the ground outside the left thigh, with right knee near chest. Now bend left knee, and bring left foot almost under right hip, with leg flat on ground. Bring left elbow all the way across the upright right knee. Sitting up as straight as possible with no hand on the ground, jam left elbow against right knee, applying pressure to the left. The straighter you sit, the more you can work the muscle on the outside of the right hip. (Right hip should stay on the ground.) Now repeat the process for the other leg.
5. The next area of concern is hip flexor and various muscles down the length of the leg.
- Hip flexors are on the front of the hip bones, under the front pockets of a jacket. Sun god is a ground-based stretch that works both hip flexors at the same time. (Most standing or kneeling hip flexor stretches are isolateral ---- one hip at a time.) With both knees on the ground, takes knees wide and uncurl toes behind the body. Lean back until palms are flat on the ground behind the body, with stomach up. CAUTION: Rest weight on hands, not on knees. "Table up." Raise stomach, as if someone is lifting you by your belt, attempting to create a surface flat enough to serve as a table. Both hip bones push forward against the hip flexors. Repeat the process with knees close together.
  - Hamstring muscles down the back of the upper leg have already been addressed by keeping the back flat and the knees down on the seated stretches. For additional work, lie flat on your back and use your hands behind the thigh to pull one straightened leg at a time toward the chest or slightly to each side.
  - Adductors (coming in from away) and abductors (going away from inside) control leg action. Without flexi-bility, these muscles make leg swings come under the nose instead of staying under the correct hip/shoulder. Sideways leg

lifts, with hips forward, help. During stretching, use both sideways and forward lunges or stags to encourage correct alignment. With a really wide stance, turn the right foot to the right side and leave the left foot straight ahead. Keeping hips up and forward, bend right knee and carry weight to right. Do not lean on right knee.

Do not lean chest over ground or allow butt to stick out behind. Side view the body should be straight over a line.

If the right knee is past the right ankle, you need a wider stance. Repeat the process for the left leg.

- The simplest stretch for calf muscles starts with both feet flat. The athlete jackknifes at the hips, putting both palms on the ground and leaving the hips in the air and the knees straight (not buckled). Picking up the right foot, rest it behind the left ankle, forcing the left heel down flat. Reserve the process for the right calf. Before rising, uncross feet, leave knees straight and palms flat. Slowly walk feet toward palms. If you can get all the way, hips will be directly over insteps with flat back.

6. The last group is the quadriceps, a variety of long muscles down the front of the upper leg. To stretch them properly, the body must be arched forward with the leg pulled back.

On paper, describing ground-based quad stretches fails to capture the significance of hip and leg alignment.

These muscles affect leg extension after ball contact in kicking and punting, but their real impact is creating backward rotation of the leg prior to the swing. For a standing quad stretch, stand facing a partner or a chest-high object (fence, pole, or piece of furniture).

Put your left hand on your partner's shoulder. Stand on your right foot, and put your right hand behind you at hip height. Without bending forward or taking your left knee forward, kick your left foot up behind your butt and catch under your laces with your right hand. Now push your hips forward and pull the knee back as you raise the left foot. (This should never be same side hand and foot.

Always use opposite foot and hand.) Reverse the process for the right leg. Note the difference between left and right. If the kicking leg quad works well and the plant leg is inflexible, the plant will not control the body well enough for the kicking leg to get full backswing or full leg extension.

C = Knee of leg being stretched is forward of hip, regardless of body posture.

Foot is butt height behind body.

B = Knee of leg being stretched is back of hip and body is upright with hips forward.

Foot is waist height behind body.

A = Knee of leg being stretched is straight back from hip, with body upright and hips forward.

Foot is behind shoulder blade up the back.

**WHAT ARE SOME REASONS NOT TO STRETCH?**

1. After an acute injury, scar tissue must have grown before you can stretch safely. Receive clearance from your doctor or sports medicine specialist.
2. After a recent muscle sprain or bone injury, a specific joint may be unstable for several days.
3. Treat the cause of infection or inflammation in a joint or muscle before forcing the affected muscles to capacity.
4. Excessive pain usually indicates some problem other than lack of flexibility. Seek professional guidance soon.
5. Some stretches are taught or performed improperly for your body type or your performance needs. Express your concerns clearly, and suggest alternatives better suited to your needs.

RESOURCES

- Delavier, Frederic. Strength Training Anatomy. 2<sup>nd</sup> ed. Champaign, IL: Human Kinetics Press, 2006. ISBN: 978-0-7360-6368-5
- Frederick, Ann and Chris. Flexibility for Sports Performance. 51-min. DVD. Champaign, IL: Human Kinetics, 2007. ISBN: 978-0-7360-6576-4
- Frederick, Ann and Chris. Stretch to Win. Champaign, IL: Human Kinetics Press, 2006. ISBN: 978-0-7360-5529-1
- Stretching Anatomy. Champaign, IL: Human Kinetics Press, 2007. ISBN: 978-0-7360-592-5