



2008 Coaches' Clinic

Information on Dynamic Warm-up
Activity Health Tips &
Youth Conditioning Strategies



Youth First, Sport Second!

ZOOM
FAST. FOCUSED.



DYNAMIC WARM-UP

High knees

Butt kicks (thigh up)

Carioca (high knee)

Skip down (high knee)

Shuffle/Lateral Lunge

Goose Step/Tin Soldier

Forward Lunge/Forearm to Instep

Backward Lunge with a Twist

Hand Walk

Prisoner Squats

Good Mornings

Tuck Jumps

Jumping Jacks



DYNAMIC WARM-UP

A dynamic warm-up is more applicable to athletic performance than static stretching because it closely duplicates the movement requirements of training or competition. Static stretches, on the other hand, may only improve flexibility and do very little physiologically to warm the athlete for competition or practice.

Static stretching before practice or competition may even have adverse effects, such as calming the athlete, decreasing blood flow and reducing overall strength output. Research has shown that static stretching can be detrimental to performance and doesn't necessarily lead to decreases in injury. Research also supports the use of dynamic flexibility prior to a competition or training session and suggests that static stretching should be used as a post-workout cool down.

Dynamic flexibility training also may be used to teach or emphasize sport-specific movements needed during practice or competition. For example, during the dynamic flexibility warm-up, athletes can practice running mechanics/techniques at a much slower pace than normally taught during a full speed practice.

Conclusion

The design of a warm-up should always be specific to the training session in which athletes are to participate. Dynamic movements are the preferred method of warm-up versus static flexibility, with static flexibility used at the end of the training session.

Design guidelines for warm-up sessions:

- Warm-up should be intense enough to increase body temperature and cause mild perspiration. (The session should not fatigue athletes.)
- Dynamic movements should dominate the warm-up session.
- Warm-up should include movements common to performance. Maximum effort should be avoided.

Warm-up for competition should taper off 10 to 15 minutes prior to performance. End the warm-up five minutes before the start of the event.

Many of the best strength coaches support the use of dynamic warm-up and stretching. Dynamic stretching consists of functional based exercises which use sport specific movements to prepare the body for movement.

Dynamic stretching/warm-up involves moving parts of your body and gradually increasing reach, speed of movement, or both. Do not confuse dynamic stretching with ballistic stretching! Dynamic stretching consists of controlled leg and arm swings that take you (gently!) to the limits of your range of motion. Ballistic stretches involve trying to force a part of the body *beyond* its range of motion. In dynamic stretches, there are no bounces or "jerky" movements. Several professional coaches, authors and studies have supported or shown the effectiveness of dynamic stretching.

As coaches, trainers and parents we all want our athletes to lower their incidence of injury and increase performance. Dynamic flexibility has been used successfully by trainers and coaches to increase flexibility and possibly lower the incidence of injury. It is the job of the coach or trainer to pick the method they feel is best suited for the sport and athletes. The above evidence suggests the possibility that static stretching prior to activity is not the best solution. Static stretching doesn't necessarily lead to a decrease in injury and but may actually decrease performance

A typical practice could look like this:

Beginning:	Dynamic warm up
Middle:	Actual Practice and/or Work-out and conditioning
End:	Cool down/static stretching



TACTICAL TRAINING STRATEGIES FOR YOUTH FOOTBALL

The training and conditioning portion of your practice should be relevant to the sport and tactical in nature, so that game-like situations are simulated from a frequency, volume, duration, intensity and recovery perspective.

The process of competition modeling has demonstrated effective when used to design sport-specific training programs for football.

The goal is to design training programs for football players that will closely resemble game situations.

In certain college, high school and professional football situations, specific game data was collected in order for the training components to be developed.

For example, in one instance, the following data was collected:

Number of offensive series	12 per game/3 per quarter
Field position	44 yard line
Yards gained	5.5 net yards per play
Number of plays	65 per game/16 per quarter 10 per ideal series 5 per actual series

Play Times

Level	<u>Run</u>	<u>Pass</u>	<u>Punt</u>	<u>Kick</u>
High School	5.6	5.7	8.6	8.24
College	5.13	5.96	9.82	10.39
NFL	5.16	5.87	8.91	11.21

Recovery between plays

High School	31 seconds
College	34 seconds
NFL	35 seconds

Average work: recovery relationship

High School	5.75:31.49
College	5.60:33.98
NFL	5.70:35.24



RECOMMENDATIONS FOR YOUTH FOOTBALL

WORKOUT 1

Activity

<u>Sprint</u>	<u>Distance</u>	<u>Recovery</u>
12 sets	20 yards	30 seconds

Push-Ups – 4 x 10 reps or Hold a Push-Up Position 20 seconds x 10 reps

Sit-Ups – 4 x 20 reps

Supermans – 2 x 10 reps

WORKOUT 2

Activity

<u>Pro Shuttle</u>	<u>Distance</u>	<u>Recovery</u>
12 – 15 sets	20 yards	30 seconds

Push-Ups – 4 x 10 reps or Hold a Push-Up Position 20 seconds x 10 reps

Reverse Sit-Ups – 4 x 20 reps

Supermans – 2 x 10 reps

WORKOUT 3

Activity

<u>Sprint</u>	<u>Distance</u>	<u>Recovery</u>
24 sets	10 yards	20 seconds

Mountain Climbers – 4 x 20 reps

Crunches – 4 x 20 reps

Supermans – 2 x 10 reps

WORKOUT 4

Activity

<u>4 Cone Drill</u>	<u>Distance</u>	<u>Recovery</u>
12 sets	4 x 5 yards	30 seconds

(sprint forward 5 yds, shuffle left 5 yds, back peddle 5 yds, shuffle right 5 yds)

Hindu Push-Ups – 4 x 10 reps or Hold a Push-Up Position 20 seconds x 10 reps

V-Ups – 4 x 10 reps

Supermans – 2 x 10 reps

KEY: Try and make the conditioning fun. Develop a game out of it, split the athletes into teams, create a competition, encourage each athlete, praise good performance and don't "rag" on the slow fat kid!



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Activity Health Tip #1: HEAT ILLNESSES



The weather is beautiful, the sun is shining and it is HOT, but are you aware of the dangers ?

-Although everyone is susceptible to heat illness it affects people differently-

Physically fit, acclimatized, well hydrated people are more heat tolerant while the elderly and children are more likely to suffer from heat illness. Remember, dehydration does not only occur when you are exercising in the heat. You can become dehydrated when doing other things such as spending a day at the beach, working in the yard, visiting a theme park or any other activity that requires prolonged exposure to heat. Heat illness causes disabling complications related to excessive heat stress.

-Dehydration-

A process that results in below-normal levels of fluid in the body that occurs when the amount of body fluid that is lost is greater than the amount of fluid that is replaced. Drink water or sports drinks (not caffeinated or alcoholic beverages) before, during and after exercise. How much you need to drink depends on how big you are and how hot it is. Refer to the NATA position statement on fluid replacement for details.

-Heat Exhaustion-

Most common type of heat illness. It is caused by decreased blood volume due to dehydration. Characterized by dizziness, headache, nausea, profuse sweating, cool/clammy skin, rapid/weak pulse, body temperature at or slightly below normal. To treat, remove from hot environment and cool as quickly as possible.

-Heat Cramps-

Painful spasms of the skeletal muscle caused by dehydration. Prevented by proper prehydration and relieved with gentle stretching, ice and increased fluid consumption.

-Heat Stroke-

The least common but most serious, even fatal.

Caused by:

- 1) the body's cooling system has completely shut off or
- 2) blood volume is so low that the person stops sweating and goes into shock

Characterized by: disorientation, unconsciousness, no sweating, hot/dry skin, increased body temperature, rapid/ strong pulse.

Treatment requires rapid cooling and immediate transportation to the hospital.

Here are some tips on how to reduce the likelihood of becoming dehydrated:

- 1) Drink fluids before, during and after exercise or prolonged heat exposures.
- 2) Check the color of your urine to see if fluid intake is adequate.
Clear/ light colored urine indicates proper hydration.
- 3) Avoid caffeine and alcohol
- 4) Take frequent breaks

For more information, visit: www.nata.org

This Activity Health Tip from the National Athletic Trainers' Association is intended to prevent injuries and promote health and safety of physically active people. Certified athletic trainers (ATCs) are medical professionals who specialize in the prevention, assessment, treatment and rehabilitation of injuries and illnesses that occur to athletes and the physically active.

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Activity Health Tip #2: SPRAINS, STRAINS AND CONTUSIONS



SPRAINS

Sprains result from over-stretching or tearing of the joint capsule or ligament. Ligaments are tissues that connect bone to bone. The joint capsule is similar to a ligament and surrounds the joint.

STRAINS

Strains, also referred to as pulls, result from over-stretching or tearing of a muscle or tendon. Tendons are tissues that attach muscles to bones.

CONTUSIONS

Contusions or bruises are an injury to tissue or bone in which the skin is not broken. Blood vessels rupture and bleed into the tissue causing discoloration.

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Sprains and strains have similar signs and symptoms; the difference is in location. Sprains are along the joint and strains are along the muscle. Symptoms will increase depending on the severity of injury. Examples include: pain, muscle spasm, muscle weakness, swelling, and a pop or crack sensation or sound.

Bruises are usually blue or purple at first, then gradually fade to various shades of brown, yellow and green as they rise to the surface of the skin.

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Sprains result from trauma such as falling or twisting and most often affect the ankle, knee or anterior cruciate joints.

Strains can be acute such as from an excessive muscle contraction during lifting or chronic from overuse type repetitive movements or prolonged positions. Strains often affect the back muscles and hamstrings.

Contusions often result when soft tissue is struck hard, as in a fall or blow.

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Treatment for sprains and strains will depend on the extent of damage done to the muscle, ligament or tendon. For mild injuries, use **R.I.C.E.**:

Rest- Rest the injured part from painful activity

Ice- Ice is applied for 15-20 minutes.

Compression- Apply a wrap starting at the point furthest from heart with tightness decreasing as you go toward the heart.

Elevation- Elevation should be above the level of the heart.

Sprains and strains can benefit from rehabilitation exercises and activity modification during recovery. Your healing can be improved by specific exercises that restore range of motion, strength and normal function.

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Cold, fatigue and immobilization reduce blood flow and lessen muscle elasticity, increasing the risk of strains. The best prevention is to warm up, and then stretch all the muscles involved in the upcoming exercise, activity or work task. A full body warm-up, such as jogging or stationary cycling for 5-10 minutes, increases blood flow and raises the temperature of large muscle groups. Or people can warm up by slowly rehearsing the sport, exercise or activity they're about to perform. A light sweat usually indicates they've warmed up sufficiently.

For more information, visit: www.nata.org/industryresources/parentandcoachesguide.pdf

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Activity Health Tip #3:

R.I.C.E

REST - ICE - COMPRESSION - ELEVATION



R = REST

Resting an injured area is necessary to allow the body time to get the effects of the trauma under control and to avoid additional stress and damage to the injured tissue. The period of rest required will vary depending on the severity of the injury (e.g. days to weeks). People who do not rest an acute (sudden or traumatic) injury can prolong the inflammation period and increase the healing time required, thereby delaying the recovery.

I = ICE

Ice applied promptly to an injury can slow down or minimize some of the inflammation. The cold causes a closing of the arterioles in the tissue, which reduces the bleeding. The local tissue metabolism slows down reducing its need for oxygen and nutrients, and the nerve impulses are slowed considerably to reduce the pain that's felt, providing a numbing effect.

*Examples of ice treatment include using an ice bag or ice bucket for 15-20 minutes or ice massage for 7-10. Heat should only be applied after you are sure that the bleeding and swelling has stopped completely; otherwise, an individual's recovery time will be delayed.

C = COMPRESSION

Compression is the application of an Ace Bandage or similar item around the injured area. Its purpose is to help control swelling and to provide mild support.

Note: Any wrap should be applied carefully. Too tight a bandage could constrict or interrupt vital circulation to the area.

E = ELEVATION

This involves raising the injured area above the level of the heart as much as possible. This position promotes the lessening or elimination of swelling through the use of gravity and lymph drainage system.

To prevent injuries, athletes should:

- Be in proper physical condition.
- Warm up and stretch before participating in any sports or exercise.
- Always wear properly fitting shoes, and replace athletic shoes as soon as the tread wears out or the heel wears down on one side.
- Nourish their muscles by eating a well-balanced diet.
- Use or wear appropriate protective equipment.
- Maintain hydration.
- Maintain a healthy weight.
- Avoid exercising or playing sports when tired or in pain.
- Walk, work on even surfaces.

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Activity Health Tip #4: OVERUSE INJURIES



There are basically two types of injuries: acute injuries and overuse injuries. Acute injuries are usually the result of a single, traumatic event (macro trauma). Common examples include wrist fractures, ankle sprains, shoulder dislocations and hamstring muscle strain. In most sports, work and recreational activities, overuse injuries are the most common and the most challenging to diagnose and treat.



The human body has a tremendous capacity to adapt to physical stresses. With exercise and activity, bones, muscles, tendons and ligaments get stronger and more functional. This process of exercise breaks down and then builds up tissue. It is when the breakdown occurs more rapidly than the build up that injury occurs.

An overuse injury can happen when you first begin a sport or activity, and try to do too much too soon. Error in training is the most common cause of overuse injuries. There are also technical, biomechanical and individual factors. Even slight changes in technique may cause injury. For these reasons, athletic trainers, coaches and P.E. teachers can play a role in preventing recurrent overuse injuries.

Treatment depends on the specific diagnosis. In general, for minor symptoms, cutting back the intensity, duration or frequency of the offending activity brings relief. Adopt a hard/ easy workout schedule and cross train with other activities that allow you to maintain overall fitness levels while your injured part recovers.

Working with a professional or taking lessons can assure proper training and technique. Paying particular attention to proper warm up before activity and using ice after activity may also help. If symptoms persist, a certified athletic trainer will be able to create a more detailed treatment plan for your specific condition.

Remember, most overuse injuries can be prevented with proper conditioning, training and common sense. Learn to listen to your body. "No pain, no gain" does not apply here. The 10 percent rule is very helpful. In general you should not increase your training program or activity more than 10 percent per week. This allows your body adequate time for recovery and response. This rule also applies to increasing pace or mileage for walkers and runners, as well as to the amount of weight added in strength training programs.



For more information, visit: www.nata.org/industryresources/parentandcoachguide.pdf

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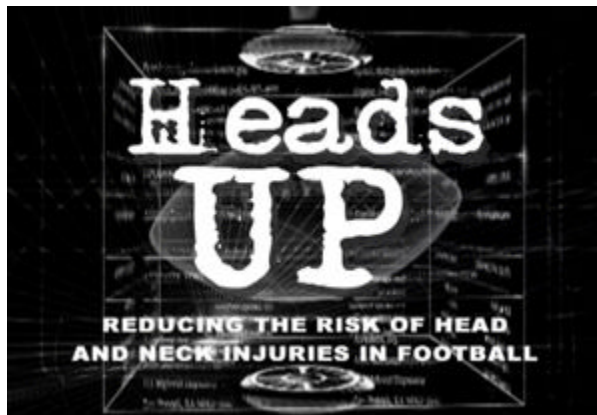
Suggested Websites

N.A.T.A.

National Athletic Trainers' Association

<http://www.nata.org>

Heads Up Tackling Video



<http://www.nata.org/consumer/headsup.htm>

XLathlete

www.xlathlete.com

CrossFit Kids

<http://crossfitkids.typepad.com>

zoom
FAST. FOCUSED.

www.zoomsports.net