



***2009 Summer Conditioning, Fitness and Training Plan
Success follows fitness, all over the field!***

We are on our way. Results are in and the expectations are set. We are not going to be able to hide from anyone and all Landmark guns will be fixed squarely on us. I say.....***bring it on.*** Here is a blueprint for your summer soccer conditioning. It's up to you to do the work. The returning players are fully aware that preparation brings success. Incoming players, it will take you about 1 hour to get this message on day one of preseason training. There is nothing "earth-shattering" included here, just a plan to make the season more enjoyable, longer lasting, and more injury free.

Enjoy the summer, have fun with friends and family and spend the time needed to train for our season.

There should be five priorities for your summer conditioning routine in preparation for the 2009 season. They are:

1. Fitness and agility (STES, LTES, IES and Speed Training)
2. Strength Training
3. Skill Training and Technical Training
4. Game knowledge
5. Proper nutrition and eating habits

Attached to this document are ideas that you should incorporate into your summer plan. Remember, the only one watching you and making sure you do this is **YOU**.

The WPS (Women's Professional Soccer League) is in full swing. Games will be televised on ESPN, ESPN2 or Fox Soccer Channel. Watch the players that play in your position and see if there is anything that you can learn from the way they play.

Have a great summer, be safe and happy and let's have a great 2008 season.

Coach

The Method behind the Madness.....

The following information is taken from a clinic and discussion provided by Scott Moody, Founder and President of Centers for Athletic Performance (CAP) at the 2006 NSCAA National Convention in Philadelphia.

To run better conditioning programs for soccer, you must first understand the metabolic (conditioning) demands of the sport, and how different types of conditioning will affect the three energy systems, and therefore, the individual player's conditioning level. Below in Figure 1, I have used a graphic to illustrate how the body makes the switchover from the Short Term (ATP-PC) Energy System to the Intermediate (Non -Oxidative Glycolysis or "Anaerobic") Energy System, and finally to Long Term (Oxidative Glycolysis or "Aerobic") Energy System.

Here is an easy way to understand this concept: If you ran as hard as you could for 120 seconds you would start off fast using your Short Term Energy System (STES) for about 6-10 seconds, after about 6 seconds you would start to slow down (fatigue of the STES) and your body would make a slow transition to the Intermediate Energy System (IES), and finally at about 60-70 seconds (fatigue of the IES) your body would slow down considerably and start to utilize the Long Term Energy System (LTES) as shown in Figure 1 below.

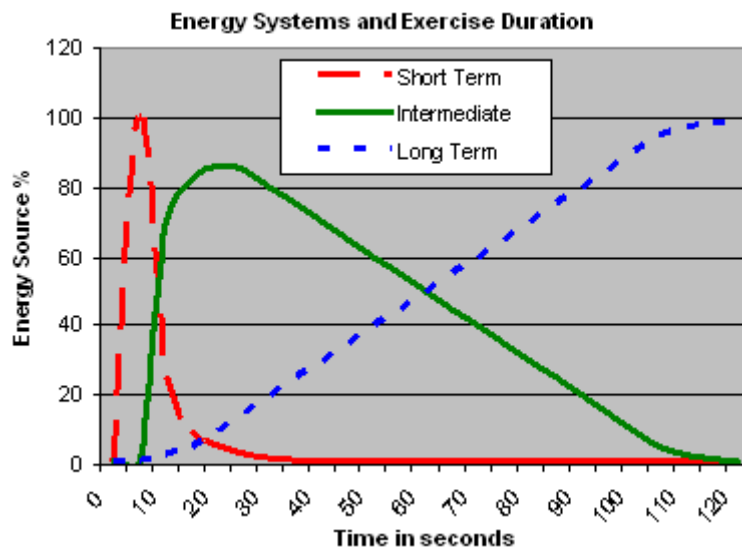


Figure 1: The contribution of the different energy systems to maximal exercise of increasing duration – Siff (adapted from van Handel & Puhl Clinics in Sports Medicine 1983, 2: 19-30)

Using this information, compare the demands of soccer to this chart. As shown in Figure 2, you can see that 75% of a soccer game is “recovery based” or standing, walking or jogging. During this time you are not “challenging” your LTES (Aerobic System), and therefore it should not be considered an essential training component. This would be similar to telling golfers that most of the match is spent walking so they should spend more time training their aerobic system.

Roughly 25% of the game is spent running (run, strong run and sprint) which is where the fatigue sets in, thus should be considered an essential training component for soccer conditioning.

Activitiy During Soccer Match

(averages for deffenders , midfielders and forwards)

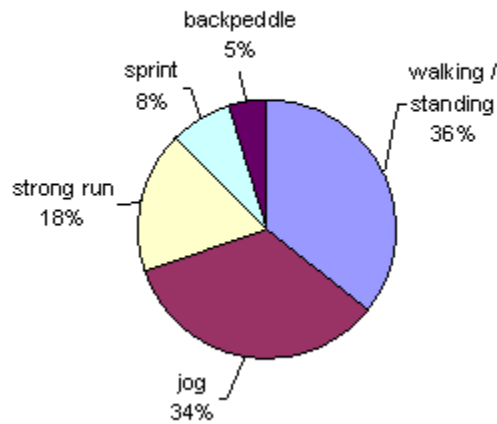


Figure 2: Averages for Forwards, Midfielders and Defenders compiled from various sources. (1) (2) (6)

Based on this information, we can therefore draw the conclusion that soccer, although perceived to be more of an “endurance” sport, is actually more of a “speed endurance” sport which we will define as repeated bouts of maximal and sub maximal sprints with inconsistent periods of rest. When we start to compare the play of Midfielders and Forwards and Defenders to various training strategies utilized by coaches (Figure 3) we can get a good idea of how to condition soccer players more efficiently.

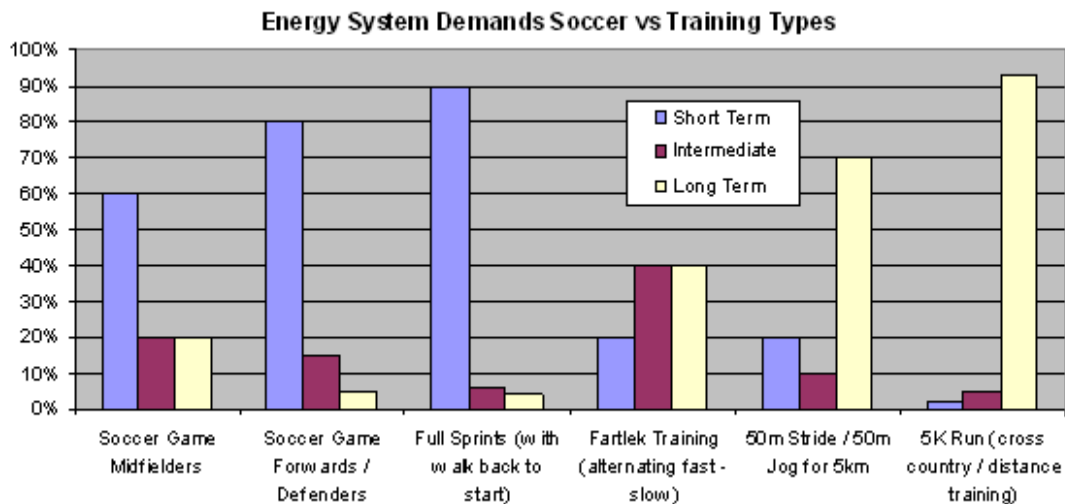


Figure 3: Adapted from Siff, Mel. Supertraining 2004 (2)

Looking at Figure 3, we notice that the Full Sprints with a walk back to the start more closely mimics the game of soccer. But before we can make an absolute comparison and negate the effectiveness of some interval based training we need to look at the intangibles of the game. Soccer, as stated before is made up of “repeated” bouts of maximal and sub maximal sprints with inconsistent periods of rest”, thus indicating that there is somewhat of a need for developing the IES and LTES for the more intense parts of the game as well as for more efficient recovery between sprints.

So to plan a more efficient conditioning program for soccer, we as coaches must coordinate days of maximal sprints with periods of partial and full recover with days of Fartlek (Interval) training. Coaches might also add some longer distance 1-3K runs for midfielders 1x per week to further enhance the oxygen uptake for recovery between periods of strong runs and jogging.

The most effective strategy would be to train one energy system per day. For instance, focus on the LTES (Aerobic) on the first training day after a game (recovery based), then focus on the STES (Sprint Work) on day 2, and then train the IES (Interval Runs) on day 3 assuming a 3 training day per week split. This should allow for adequate Energy System recovery, as well as train the areas of emphasis.

The mechanics of what we are asking you to do....

STES (Short Term Energy System) Training - Agility Work

20 Yard Agility Test

X3 X1 X2

Set up – Place a cone as a center marker. Measure out five yards in both directions from the middle marker. Place the cone so that the center of the cone is at the end of the five-yard distance. (If you don't have a cone, use tape or a shoe)

Method

1. Start by straddling the center-line with your feet equal distance from the center spot (X1).
Face forward so that the wide cones are on your right and left.
2. Start with your hand on the cone or line.
3. On the word “go” run toward the cone of your choice (for example X2), touch it with foot.
4. Change direction and run past the center cone to the opposite cone (X3) and touch inside the boundaries of the cone or touch the line, turn and sprint past the center cone.
5. The total distance then is 20 yards.
6. Perform three times and record your best score.

The T-Agility Test

X4 X2 X3

X1

Set-up – Place a cone down as a marker (X1). Walk out ten yards. Place another cone (X2). From the high cone, place a marker out five yards on each side (X3, X4). It should look like a “T”.

Method

1. Start at the base of the T (X1).
2. Sprint out to the middle cone (X2), go past it and shuffle to the cone on the right (X3).
3. Do not cross feet while shuffling. Hit the marker on the right side, turn and sprint to the cone on the opposite side (X4).
4. Then shuffle just past the center cone, and then, back peddle to the start point.
5. Perform twice and record your best score.

STES (Short Term Energy System) Training – Speed endurance training - Sprint work involving change of direction at speed

1.) 300-Yard Shuttle

Set-up – Place a marker for a start line and another marker out 25 yards

Method

1. Make sure to warm up and stretch very well.
2. Run out and back to the marker six times.
3. Record your time.
4. Rest five minutes and repeat.

This gives you an idea of what your base is. If your time on the second run is significantly different from the first, then your base needs work. As you get fitter, you should decrease the rest periods between the two runs.

2.) 300-Yard “Attack” Shuttle

Set-up – Place cones or markers at 0, 10, 20, 30, 40, 50 yards from the start.

Method

1. Be well stretched and warmed up
2. Run out and around each marker and back continuously.
3. Start with the first marker
4. Record your time.
5. Complete three sets

3.) Interval training for speed and speed strength – 10 minutes

- 10 second walk – at 15-25% max speed
- 10 second jog – at 50-60% max speed
- 7 second run – at 65-75% max speed
- 3 second run – at max speed

Repeat 8 x then rest 1 minute and repeat (4:1 work:rest interval)

LTES (Long Term Energy System) Training – Cross Country or Distance Running

Find a **two, three and four mile** running course/path/trail that you feel comfortable with. To optimize the workout and reduce boredom, your course should have a mixture of flat sections and inclines/declines.

Please remember to warm up and cool down properly before and after your distance work.

IES (Intermediate Energy System) Training - Fartlek Training

The technique here is to introduce into your normal runs some short periods of slightly higher pace. Maintain these for a short period, say 100 – 200 yards (aim for a bend in the road, power pole or some other landmark up ahead). Then drop your pace back below your normal running pace, or slow to a jog, ***until you have fully recovered and your breathing has returned to normal.*** Then return to running at your normal pace, and put in another slightly fast interval later in the run. In this way you are putting a slight extra stress on your system which will, in time, lead to an improvement in your speed and in your anaerobic threshold.

You can use this approach to develop more self-awareness, by concentrating on what you are feeling while running at the different paces. How fast a pace can you attain before your regular, easy breathing begins to be labored? After slowing down, how long before your breathing & other responses return to normal? What happens to your stride length as you increase speed?

Fartlek training run – 45 minutes

- Warm up with a steady jog for 10 minutes
- Jog for 60 seconds
- Run hard (3/4 pace) for 90 seconds
- Jog for 45 seconds
- Sprint for 10 seconds
- Jog for 30 seconds
- Run backwards for 30 seconds
- Walk for 30 seconds
- Run hard for 60 seconds
- Repeat 3-4 times
- Cool down at a steady pace for 10 minutes

Speed Training

Utilizing Hill Training to Develop Speed

By Mitch Hauschildt, MA, ATC, CSCS

It is well known and excepted that speed is a simple equation.

$$\text{Stride Frequency X Stride Length} = \text{Speed}$$

In order to train for speed, you need to improve one or the other, or, ideally both. An athlete will become faster if they get through their gait cycle more quickly and/or cover more distance with each step. Typically, the easier of the two parameters to train is the stride length. This is performed by increasing the athlete's speed strength. **Essentials of Strength and Conditioning** defines speed strength as "the ability to exert maximal force during high-speed movement."

One of my favorite techniques for developing speed strength in our sprint athletes is hill training. The advantages of hill training are well documented by multiple research studies. One of the best studies was performed at the University of Georgia by researchers who studied a group of young women as they performed horizontal and uphill interval running workouts. Shortly after their training, they performed MRIs on the subjects to look for muscle activity and metabolic changes at a cellular level. What they found was rather substantial as it pertains to speed strength and power development. First off, the total muscle activity of the lower extremity was 6% higher following hill training than with horizontal running. Essentially, 6% more muscle is firing when running uphill.

What I find much more interesting, however, is the activity of the specific muscle groups. There is significantly more activity in the muscles of the calf, quads, and glutes during hill training. This shows that the primary propulsive muscles (Gastroc, Quads, Sartorius, and Glutes) of the lower body are firing at a much higher rate when running uphill. The athlete is producing more power by recruiting more of the motor units within their muscle tissue. What you will also notice is that the lower hamstring muscles (Semitendinosis, Gracilis, and Semimembraneous) fire at a much lower rate than with horizontal running. This is positive, because many of our athletes naturally possess overactive hamstrings, posing a braking force during sprinting, slowing them down. By teaching the hamstrings to shut down, you can minimize brake forces during all sprints.

Research also states that we will start to see permanent muscular changes within the body after 3-5 weeks of consistent training. Regular hill training sessions of 1-2 times per week for 6-8 weeks will be effective for improving the athlete's ability to create speed strength. I caution you, however, to use this as a tool in your larger training program. Exclusive use of hill training for speed development has been shown to lead to hamstring deficiencies.

Depending on the needs of the athlete, various grades can be used. **For more strength and power, utilize a steep grade.** Conversely, **for your athlete that has a good strength base, but needs help converting it to speed strength, use an easier grade and emphasize the speed of the movement.** Hill training needs to be explosive by nature, so allow for a lot of recovery and encourage a high level of intensity for their sprints. For the best results, mix multiple grades of hill sprinting with horizontal running, plyometrics and agility training. Couple that with a quality strength and core stability program and you're set.

Muscle Endurance – Strength

Push-Ups

Set-up – Place a shoe on its side. Or have a partner place their fist down on the ground.

Method

1. Perform the push-up so your chest hits the shoe.
2. If you put your knees down or you need to arch your back up to rest, you are done.
3. Do as many push-ups as you can in 60 seconds

Goal – 30+

Sit-Ups

Set-up – Have someone hold your feet down (or use an object to put your feet under), keep knees bent.

Method

1. Cross your arms and place them against your body
2. Perform a sit-up
3. Come up and touch your elbows to your knees (upper thighs) without your arms coming off your body.
4. Go down until your shoulder blades hit the ground
5. Perform as many sit-ups as possible in 60 seconds

Goal – 45+

Three – Hop Jump or Reciprocal Double-Leg Jump

Set-up – Have a measure tape laid out. Place target markers at or near your anticipated jump distance.

Method

1. Be sure to be warmed up and stretched.
2. Perform three consecutive double leg jumps
3. Do not stop and rest after each jump. Hit and go.
4. Mark when your heel hits on your third jump.
5. Repeat three times and keep best results

Note – Be careful not to repeat more than recommended number of times as these can cause muscle strain.

Ball Work - 1000 Touches

This will provide you with a great foundation for foot skills and speed of play. Your time will improve with repetition.

100	juggles
100	toe touches (from behind)
100	scissors
100	toe touches (from side)
100	step overs
100	squirts
100	triangles (50 right – 50 left)
100	“L’s” (pull back and behind)
100	left / right push
<u>100</u>	juggle

1000 Touches

Time limit – When you show up for preseason, you should be able to complete the 1000 touches in 13 minutes or less.

Technical Training – with ball

60 – 70 minute workout

A. Warm-up and stretch

B. Ball Control and Agility

1. **6 minutes** – Jog while dribbling ball with quick touches, changing directions and speed. Do this in a confined space where many changes and touches are necessary. Stretch intermittently.
2. **1 minute** – Head juggling
3. **1 minute** – Throw ball up, jump and while you are in the air, stop the ball with your head, settle the ball to your feet and move off quickly. Repeat
4. **1 minute** – Thigh juggle
5. **1 minute** – Throw ball up, jump and while you are in the air stop the ball with your chest, settle the ball to your feet and move off quickly. Repeat
6. **1 minute** – Foot juggling with no spin on ball
7. **2 minutes** – Starting in a sitting position, throw ball up, get up and stop the ball before it hits the ground, settle it to your feet, and move off quickly. Repeat using head, chest, thighs, both feet in that order to trap the ball.
8. **2 minutes** – Combined juggling using 14 parts of the body, head, both shoulders, chest, both thighs, outside, inside, instep, and heels of both feet.

C. Technical Speed, Pure Speed and Endurance

1. Dribble in a figure “8”. Use just the inside of both feet for six figure “8’s”, then use the outside of both feet for six more
2. Rest by walking for 30 seconds
3. Set a marker out about 25 yards from a starting point:
 - a. sprint dribble to the marker and leave ball
 - b. sprint backwards to the starting point
 - c. sprint to ball
 - d. collect the ball and sprint dribble back to starting point
4. Rest by walking for 30 seconds
5. Set ball on the ground to your left and set a marker out to your right about ten yards. Move ten times from side to side, using the slide method of moving, without crossing legs.
6. Rest by walking for 30 seconds
7. To 10-yard marker and back ; two-leg explosive jumps
To marker and back; single leg explosive hopping – left foot first, then right, out and back.
8. Rest by walking 30 seconds
9. Carioca (lateral running criss-crossing legs) to ten-yard marker and back. Move ten times from side to side as quickly as possible
10. Rest by walking for 30 seconds
11. From the starting point:
 - a. Pass the ball to a 25 yard marker
 - b. Sprint to the ball
 - c. Collect the ball and accelerate to the starting line
 - d. Make three passes

D. Strength and Flexibility

1. **15 Figure “8’s”** - Standing position with legs spread and knees straight, roll the ball with your hands in a figure “8” pattern around your legs.
2. **30 seconds** – Two foot jumping side to side over a ball or cone.
3. **15 roll-arounds** – Sitting position with legs extended, roll the ball with your hands around the soles of your feet and then back around your back.
4. **30 seconds** – Throw the ball up in the air, jump and catch the ball, and throw it back up before you hit the ground. Remember to “hang” in the air.
5. **30 sit-ups** – Touch the ball on the ground over your head, come back up and touch your toes.
6. **15 to 30 touch and jumps** – Start in a standing position with the ball in your hands. Touch ball on the ground by bending at the knees so thighs are parallel to the ground and then vigorously extend, jumping high with the ball over your head.
7. **30 push-ups**

E. Shooting and Heading

For this section, a soccer kick-wall (racquetball court, the side of a gymnasium, a tennis wall, etc.) will be necessary.

1. Technique work – **2 minutes** Get 5 to 7 yards from the wall and shoot the ball. Shoot the ball first time at the wall, making sure the foot is pointed, knee over the ball, center of your foot is striking the center of the ball, and that the power is derived from a quick snapping motion of the lower leg. Follow through.
2. First-time shooting with power – **6 minutes** Back off 20 yards and first-time the ball at the wall. Strike the ball hard and cleanly, regardless of the bounce, height, speed, etc. that the ball comes at you. Pick a spot on the wall to shoot at each time and keep the ball low. Follow through and land on your kicking foot.
3. Receiving and Shooting – **6 minutes** Again, at 20 yards, strike the ball with power. As it comes off the wall, prepare it cleanly, and quickly fire another shot at the wall. The point is to develop a sound first touch and a quick, hard shot.
4. Heading – **1 minute** From one to two yards away, first time head juggling against the wall.
5. Heading with power – **2 minutes** Back off between 5 and 7 yards, throw the ball up against the wall. As it comes off, head with power, getting your entire body into the heading motion.
6. Heading High Balls – **3 minutes** Get within 5 yards of the wall. Toss the ball against the wall to force yourself to jump to head it back at the wall. Catch the ball after you have headed it each time. Make sure your toss forces you to the peak of your jump. Remember your techniques and head with power.

This entire program should take 60-70 minutes. Make sure you go through the entire program without pause, other than planned rest intervals.

The Plan!

STES (Short Term Energy Systems) – Speed and Speed Endurance (Strength) Workouts (5choices)

A. Warm up and stretch

1 – 300 Yard Shuttle or

2 – 300 Yard “Attack” Shuttle or

3 – Interval Training for Speed Strength or

4 – Hill Training to improve Speed Strength

- 20-30 minutes of hill training on gradually increasing inclines

- inclines should get steeper as summer training progresses

Pick any of the above runs. Be familiar with all four by summers end.

OR

5 – 120’s

1. Run hard from one end line to the other.
2. Work to jog back in 30 seconds
3. Rest for an additional 45 seconds
4. Repeat 7-10 times based on fitness

Goal – Maintain each 100-120 yard sprint in under 18 seconds

And then the following.....

B. Sit Ups – 60 seconds

C. Push Ups – 60 seconds

D. Backwards jog – 4 x 20 yards

E. Backwards sprint – 2 x 20 yards

F. Functional Training

1. Figure 8’s – 8 with inside of foot, 8 with outside of foot
2. Instep Drive – Drive the ball with instep, make sure ball is kept low
Jog to recover ball and repeat for 10 minutes.
Crossing – to target
3. Juggling – with feet (no spin), thighs, head

STES (Short Term Energy Systems) – Speed Agility Workouts (2choices)

A. Warm up and Stretch

1. 20-yard agility test or T-Agility Test x 5-7 reps.

And then...

- A. 1000 touches
- B. Push ups
- C. Sit Ups

Light Day Workout

Light Day Workout

- A. warm up and stretch
- B. Speed Movement Drills
 - 1. High knees no arms 2 x 20 yards
 - 2. High knees with arms 2 x 20 yards
 - 3. Heel kicks 2 x 20 yards
 - 4. Shuffle 2 x 20 yards
 - 5. Carioca (fast feet) 2 x 20 yards
 - 6. Backward run 2 x 20 yards
 - 7. High skipping 2 x 20 yards
 - 8. Skipping (fast) 2 x 20 yards
- C. T Agility Test
- D. Push ups – 60 seconds
- E. Sit Ups – 60 seconds
- F. Three Hop Jump
- G. Backwards jog – 4 x 20 yards
- H. Backward sprint – 2 x 20 yards
- I. Functional Training
 - Finishing on goal or to target
 - PK's
 - Crossing or Clearing (rolling ball)
- J. **1000 Touches** (concentrate on speed and form – don't cheat because you're tired)