



**USA Volleyball**

## A CONDITIONING PROGRAM

It is important for you to maintain a high level of fitness in order to compete at your physical capability. Being in shape, like getting proper nutrition is one of the fundamental skills that sport can help incorporate into your life now that should never stop. You need to be able to put out full effort from start to finish-in practice, so you can learn the most-and in matches, so you can perform your best. Playing good, intense volleyball, first ball contact to last, requires energy, so you must be eating well and fit. You also are conditioned to NEVER smoke, for health, fitness and energy reasons.

There are two systems the human body uses to get energy. When exercise lasts over 20 seconds, the body requires oxygen to maintain the Aerobic (with oxygen) Exercise. Aerobic exercise includes long distance running, swimming, dancing, jumping rope, bicycling, and cross country skiing. Exercise which is explosive, such as jumping and sprinting, uses energy sources which do not immediately require oxygen and is known as Anaerobic (without oxygen) Exercise. If volleyball were a game that only required continuous, steady movements, or a few short bursts of energy, you could easily train just one of these energy systems. But volleyball is a sport that requires short bursts of energy over a long period of time, in the course of a match or practice. The conditioning program strongly recommended is to perform the specific anaerobic (short burst) movements that you do in a game situation, on top of an aerobic (endurance) base of conditioning. Remember, an athlete should never smoke, as it defeats all the effort of conditioning.

The first important guideline to follow in your program is to start easy and build in effort over time. Build progressively over the course of time; effort and intensity are important in training, but do not push your body beyond what it is ready to handle and can safely perform. From the daily workout point of view, this guideline means you should warm up before attempting the harder parts of the workout. Begin with a short, easy, "rag doll" jog and long (15 seconds minimum) smooth "cat-like" stretches of the main muscles that are going to be used, so that you are relaxed and ready for the effort ahead.

In addition to starting easy, of great importance is that your conditioning program is something that you will be able to do, and continue to do, because you have the time and place to do it! The time to condition comes on top of the time needed to practice. Only you know how much time you have for volleyball, given the other priorities such as work and studies. If you must choose between "touching the ball" time and conditioning time, there really is no choice; you will have to put your efforts into "playing into shape" conditioning through the efforts of touching the ball in skill learning workouts. Getting into "performing at constant full effort" shape takes time, an average of 45 minutes a day at the very minimum. It also takes time in that you should start your conditioning program a couple of months before the first team skill workout. The time to train also means not training. You will need days of rest, and generally should not have a conditioning workout on match days. The best time to train is well before or after practice, so your body can "recover" and put out full effort in practice. Having a partner for your conditioning workout is suggested, as you can help each other in many aspects of the training, especially in motivation.

The endurance base of your conditioning is achieved by performing whatever rhythmical "steady" exercise you have chosen, continuously for over 20 minutes and at a pace where you could still talk to someone. This exercise should be done a minimum of 3 times a week. Two of the best ways to build this base is through long slow running and aerobic 'dancing'. If you choose to "dance," try to incorporate as many volleyball-like motions and moves, including jumping (not for height but for the motion), into the rhythm and actions. If you run, do not be concerned with distance at all, but that you maintain the action for at least 20 minutes. The key is your heart rate, which is sought to be kept at 70-83 percent of your maximum rate. Going over this rate is worse than training under the rate, so don't go too fast, but keep moving, even if it's slow, no matter what the action (dancing, running, swimming, etc.). The "talk to someone" pace is meant to keep you near this target heart rate, without actually having to determine the rate. You should not be breathless, nor should you be moving so slowly that it's very easy to talk; the goal is a pace that you could still talk, whether you do or not.

This aerobic training will do many things for your body. It will increase muscular strength and

endurance and the strength of your tendons and ligaments, helping to prevent injury when you begin the more vigorous exercise in anaerobic and skill training. It will improve the cardio—vascular and respiratory systems, making your heart stronger and your body better equipped to supply oxygen and nutrients and remove waste in muscle activity. It will also increase your body's capabilities to burn fat as a fuel. For those of you that have less than 10% body fat that is not so important. But for the rest of you it is, as an athlete's body must be getting lean and shrinking in clothing sizes, for muscles are denser than fat, and, although you will look thinner, your weight may not drop!

Aerobic conditioning should be maintained year round; the body requires around six months of this training before the enzymes that metabolize fats reach their optimum level. Fat likes to be fat. All other energy sources must be used first and there must be plenty of oxygen around for fat to be burned (remember, you're not training to the point of constant breathlessness). Recent studies have shown that after 20 minutes of aerobic (continuous, steady) exercise the level of fat used as an energy source is dramatically increased. So for every minute past 20 minutes of aerobic exercise, lots more fat is being burned of than for those first 20 minutes. It is better to have 3 forty minute sessions than 6 twenty minute sessions, even though the total amount of time in aerobic training adds up to being equal.

As the volleyball season approaches you should begin your anaerobic training specific to volleyball. If you think of the game, the explosive movements you need to be making are approaching and jumping to attack, jumping to block, and the short dashes to the ball or to your position when covering, playing defense, or saving an errant contact of a teammates. In your training, you want to be imitating these movements as closely as possible! In fact, unless you have lots of time for training, this part of the program should consist entirely of spike approach jumps, block movements with jumps, and dashes like you will do in the game. Again, the important variables are time and heart rate. Now the time should not be longer than 20 seconds of continuous exercise, and at full or nearly full effort so that your heart rate is above 80% of its maximum. After each repetition a rest period of 2—3 times that of the amount of exercise time is to follow, so you can recover for the next repetition. You should walk around and do whatever else you non-rally do between points in a game, for your rest action. Just do as many skill actions, with good-form, as you possibly can in each rep.

If you wish, you could add weight to your body for all actions (except dashes that include a defensive move). The weight must be above your legs and can be increased over time, starting with as little as 1 kilogram and progressing to around 6-7 Kg. The best way is to make a weight belt out of a bicycle inner tube (cut out the valve and tie off the ends) with sand inside for weight that is wrapped securely around your waist. There are three kinds of attack approaches (with "backpedaling" to the next approach) you should do. Find a wall or other imaginary "net" and do approach repetitions, from both "court" side for good and bad "sets and movements should be those like you perform in the game, with quick lateral moves along the "net" to each position and jump. The dashes you can do include those from and back to your position as in covering, off the court saves and consecutive on the court type sprawls and rolls as you would for the ball. Remember to move as fast as you can and to get back just as fast into position to perform again; the rest comes between repetitions. In each set (10 repetitions), recalling the guideline of easy to harder, you should start with the simpler jumps and dashes and progress to those harder, for example block jumps without then with movement.

#### A TYPICAL PRE-SEASON TRAINING PROGRAM

Each session should begin and end with 5-10 minutes of preparation/relaxation jogging and stretching. You should also keep well hydrated with cool—cold water (muscles are 70% water).

MON-WED- FRI Mornings	Long slow or Aerobic volleyball "dance" 35 Minutes
TUES-THURS-SAT Morns	Attack approaches/.jumps/backpedals (3 kinds of "sets") 2 sets
(SUN-Rest)	Block jumps (without then with footwork) 2 sets
	Dashes (from and back to positions; covers & defense) 2 sets

The sets are of 10 reps— each rep is 10 secs. max.effort/ 20 sees, rest-6 sets =30 min.

This training program is something you can do anywhere aid at anytime. It should be modified to fit into your season practices, so that you have enough rest; you may want to cut back on the amounts of conditioning training (anaerobic first) for skill training must never be skipped. If you have the facilities and the time to strength train with weights, in a weight room, great, see your coach, fitness trainer or weight room instructor for the program they suggest for the equipment they have; work on both your upper and

lower body. You could also strengthen your spike with spiking arm motion soccer ball throws or with tin cans moved through the spiking action (progressing from light soup cans to heavy big juice cans). Setters get stronger by setting soccer balls without using their legs. Athletes must be FIT!