

The All-Mighty Warm-Up

I see it all the time. Lights come on for 10 minutes of practice. Some are still tying their shoes. Grab a cold ball out of the bag without even bothering to change the tape. Jump onto the approach. Set oneself. Then fire away as though it were the 10th frame of the third game. Unknowingly, more acute injuries occur during practice and the first dozen or so shots of a league or tournament, than at any other point while bowling. Why? That is what we are about to reveal.

Warm-up for bowling; such a carefree idea. Coaches use warm-up for players to practice game skills. Athletes use it to "get loose." Trainers use it to prevent acute injuries. Spectators use it as part of the show (a.k.a. Mark McGuire's batting practice). Such a diverse range of emphasis for what may be a highly compelling piece of the athletic experience. This month we fulfill a request from some of our readers by detailing a bowling-specific Warm-Up Routine.

A Defining Moment

Specific warm-up patterns have been devised for various sports. Thrower, jumpers, sprinters, tennis, racquetball, football, baseball etc. all have warm-up routines. They all tend to start with the same general components and then progress into event or sport specific drills specially formulated to rehearse the movements unique to that sport.

A well-devised warm-up gives equal consideration to activities that incorporate the physical, psychological and neurological skills needed for optimal performance. The warm-up should provide gradually increasing stress so that, upon completion, the athlete is capable of dealing with and exerting a high degree of stress in a positive manner.

So, what exactly is warm-up you ask? The very term "warm-up" has been defined in many ways. As previously shown, the meaning is subject to the individual. Pre-activity warm-up has not been studied enough to truly understand its overall importance. In spite of a lack of overwhelming scientific support for the practice of warming, there is a great amount of broad support in the medical and coaching communities. Lyle Micheli, M.D. author of The Sports Medicine Bible explains how a structured workout before sport and activity helps prevent injuries. Micheli describes a proper warm-up is systematically and comprehensively balanced covering three important areas: physiological, psychological, and neurological. These three components should be performed in a sequence that progresses from general activity to more highly sport specific skills. The movement from general activity to more physically and technically demanding skills gradually narrows the athlete's focus until a deep sense of concentration on the skill exists. Once an athlete has elevated their physiological, psychological, and neurological capabilities, they are more likely to focus on the training objective (practice) or a competitive situation (league or tournament) in a more physically efficient and relaxed manner.

A review of the bowling literature revealed the study of or reporting on warm-up exists only by occasional mention. Other sport studies have shown improvements in various physiological functions due to warming, but little work has been done in the bowling community. A case for warming is clearly an example of common practice and common sense overriding scientific confirmation. The consensus among those of us in the sport science community is that warming the body is very important to injury minimization and preparation for activity. So why has a sport with 110 million global participants been so laxidassical to research such a primary component to safe and successful engagement? I don't know, other than no specifically defined bowling warm-up exists. There isn't one . . . until now.

Ahhhhhh, that is where I come in. Creating a bowling-specific warm-up routine is something I want to give you as my belated Christmas gift. Let's see. Warm-up; to prepare oneself for activity; get the blood flowing; awaken the joints; energize the muscles; induce a mental state of sincerity; tell the body it is nearly time to compete. Alert the chemicals, hormones, catecholamines, glycogen, glucose, simple sugars, etc, . . . it's time to get moving. I'm sure you get the picture. So, what is a good warm-up for bowlers and why is it important?

The Meat and Gravy

The warm-up is designed to successfully prepare a bowler for competition or practice. In order for the warm-up to be effective, it is necessary to include the three previously mentioned components (physiological, psychological, and neurological). Perhaps the most important psychological consideration is that of preparing you for competition. In order for you to perform at the highest level, a certain degree of relaxation and confidence must be present. A structured, well-planned warm-up routine can be a very settling influence on nerves as you prepare for competition. Attention to the following bowling-specific Warm-Up Routine can and should become a ritual that serves to place you in a familiar and relaxing state before competition. It takes tremendous focus for a bowler to compete at the highest possible level. The proper focus required to concentrate on the essential skills prior to competition cannot be switched on and off like a light.

A proper warm-up pattern helps facilitate the shift of focus from daily events and stresses to the deep concentration required for successful execution.

Physiologically, the warm-up can benefit performance by generating an increase in body temperature. Increasing temperature of specific muscles used while bowling may be the best method of warm-up for optimal physical performance. Besides raising your body temperature, heart rate, and muscular temperatures, a proper warm-up initiates the cellular chemical reactions necessary for proper workings of the various energy systems. A proper warm-up also accelerates the respiratory and cardiovascular systems while increasing hormone levels specific to peak effort.

Neurologically, the warm-up must initiate the careful laying down of neural patterns specific to our skill. This warming of the neural patterns must, like the physiological and psychological, start with general skills and progress to more highly technical skills. The performance speed of the various warm-up drills should be increased when the bowler masters each skill. The daily rehearsal of specific motor patterns at gradually increasing speeds will train us to perform our specific technical movements automatically. This "free flow" state will help us relax during periods of extreme intensity.

The following warm-up routine is comprised of three stages lasting 5-7 minutes apiece. To make it effective in your pre-bowling preparation, make a concerted effort to arrive 20-30 minutes before you hit the lanes. It's understandable this idea and even the routine may be intimidating, for most changes in our society and our sport have been shunned at one time or another. Think back to my first year or two pushing the bowler-athlete concept and sport specific training. I absorbed tremendous ridicule and apprehension. Now, many of you are training on my very routine and have become the sounding board for the bowler-athlete promoting it for me. Give it a try and I know you'll see and feel the difference.

The Bowling-Specific Warm-Up Routine

Stage I - Limbering

Following the work of my colleagues, I suggest three stages comprise a sound bowling-specific warm-up routine. The first stage, **Limbering**, is a five to seven minute loosening period designed to increase body temperature and joint lubrication. A slight increase in your body temperature enables blood to flow more rapidly and your joints to become lubed.

To limber up, spend 5-7 continuous minutes engaging in very light vigorous activity. If you live very very near the center, within 3-5 minutes, jump on your treadmill or bike just before leaving for the center. Otherwise, at the center before you bowl, start by either jogging in place, brisk walking, jump rope, stair climbing, soft jumping jacks, arm circles, or even simulated rowing. Begin your chosen movement slowly, building the intensity gradually. After 5-7 minutes, progress to stage two.

Stage II - Bowling-Specific Stretching

The second stage is a stretching phase. Bowling related stretches are performed for about 5-7 minutes in an effort to further refine the warm-up routine. These five stretches address the major muscle groups activated while bowling. Perform each stretch using the static stretching principle. Slowly take the stretch to your farthest pain-free range of motion, hold for 15-30 seconds, then slowly relax to your original position.

1. **Hip/Hamstring** - lie on your back. Using both legs simultaneously, flex the hip joint and begin to bring the legs into the chest and stomach area. Place each hand behind the same side knee joint slightly pulling to bring the legs further up and into the upper body. Maintain constant contact between the lower back and the floor.
2. **Lower Back/Abdominals** - lie on your back. Using both legs simultaneously, bring them straight up to a 90-degree position perpendicular to the floor. Slowly shift both legs to one side (L or R) allowing the trunk to rotate. Continue rotating and relax both legs to the floor.
3. **Calves** - stagger your feet 1-2 feet apart. Supporting yourself on your front leg, slowly lean forward stretching the calf muscle of the rear leg. As you lean forward, keep both feet flat on the ground.
4. **Shoulder/Rotator Cuff** - move one arm at a time across the front of the chest cavity. Use the opposite hand and press on the triceps muscle behind the elbow joint stretching the rear head of the shoulder.
5. **Wrists/Forearm** - stretching the flexor first, extend the arm fully in front of the body. Using the opposite hand apply pressure to the palm stretching the wrist into the relaxed extended position. Once the stretch is completed, immediately turn the palms down and stretch the forearm extensors by placing pressure onto the top of the hand.

Stage III - Bowling-Specific Activity

The final stage of the warm-up routine involves the neurological patterning of specific movements to your approach. Simple bowling related movements practiced the final 5-7 minutes would help jumpstart your muscle memory into high gear. Start by rolling the ball off your hand in the concourse area while seated. Then, progress to your finish position holding a chair or rail, lowering and raising yourself. Next, practice your pushaway and first step with a partner catching the pushaway as the ball drops into the downswing. Finally, practice the transition from your power step into your slide. Sport specific skill movements will ensure your neurological patterns are prepared for the activity and firing on all cylinders.

There you have it. The complete Bowling Specific Warm-Up Routine. The only one of its kind. I know it may sound corny, but let's consider it worthy of our attention. The pictures provided are of the Gateway Saturday Junior Bowling Program who have been practicing a specific dedicated warming routine for years. There are other programs that engage in serious bowling warm-up including The Wichita State University bowling team who also have a conditioning coach and mandatory physical training. In fact, I hope to bring that story to you in the coming months. ***One last thing, always consult your doctor or physician before beginning this or any other activity program.***