



Incorporate an easy, fun exercise program into youth sports to help prevent injuries

More than 3.5 million youth (ages 14 and younger) receive medical treatment for sports injuries each year. The Center for Disease Control estimates about one-half of these injuries are preventable. Since children's bodies are still growing, they are more susceptible to injury. They even can damage their growth plates and affect their growth process. As adults, it is our job to help prevent youth injury by teaching proper technique and building muscle strength throughout the in-season. With proper warm-up, finishing and conditioning exercises, we can help prevent injuries and keep our children healthy and active.



Young athletes do not have the same capacity to build muscle mass and strength as older athletes, but warm-up, finishing and conditioning exercises can improve overall performance and decrease the risk for injury. Even the youngest athletes can benefit from exercises before practices and competitions to dynamically warm up the different muscle groups in preparation for strenuous activity. A regular schedule of finishing and conditioning exercises following practice and games can maintain strength, balance, agility, core strength and conditioning while in-season and decrease the risk of injury.

Additionally, most youth sports are coached by parents whose knowledge and experience with exercise physiology, strength or conditioning is limited, so they welcome some direction on in-season conditioning activities. Therefore, Dr. Steven Chudik, orthopaedic surgeon, sports medicine physician and founder of the Orthopaedic Surgery and Sports Medicine Teaching and Research Foundation (OTRF), along with Larana Stropus, MS, ATC/L, and Keith Tesch, CSCS, CNT, developed a general exercise program consisting of warm-up, finishing and conditioning exercises designed to be used for all youth sports.

This in-season program consists of a 10-minute warm-up with 14 exercises to be done before every practice and game. They are easy for youngsters to understand and allows them to learn proper body position and technique. It is important they do these exercises to warm-up each muscle group and get the blood flowing throughout the body. This warm-up allows the body to prepare for the strenuous activity that accompanies practicing and playing and helps prevent an injury. The program also includes five finishing exercises to be done after practice and games for conditioning. These help athletes of all ages build strength and have fun in the process. Studies show that often times older athletes' injuries are due to micro-injuries that occurred when they younger. With this exercise program, we can work to prevent those micro-injuries, along with more serious injuries and keep young athletes healthy and in the game.

10 Minute Warm Up Exercises

Warm-Up Exercises	Distance, Time or Repetitions	No.# or Sets	Frequency
Jumping Jacks	10 to 25 Reps	1	Before every practice & game
Split Jacks	10 to 25 Reps	1	Before every practice & game
High Knees	10 to 25 Reps	1	Before every practice & game
Straight Leg Kick	10 to 25 Reps	1	Before every practice & game
Knee Hugs	10 yards	1	Before every practice & game
Forward Lunge	10 yards	1	Before every practice & game
Bear Crawl	10 yards	1	Before every practice & game
Inchworm	10 yards	1	Before every practice & game
Tapioca (alternate crossing feet)	15-20 yards	1	Before every practice & game
Carioca (alternate crossing leg with trailing knee)	15-20 yards	1	Before every practice & game
Skipping Forward	15-20 yards	1	Before every practice & game
Skipping Backward	15-20 yards	1	Before every practice & game
Butt Kicks	15-20 yards	1	Before every practice & game
Sprint Builds	70%, 80%, 90%, 100%	1	Before every practice & game

Finish Exercises

Finish Exercises	Distance, Time or Repetitions	Sets	Rest Time	Frequency
Shuffle	5 yards/ 30 seconds	2	30 seconds	After every practice & game
Burpee	30 seconds	2	30 seconds	After every practice & game
Squat Hold	30 seconds	2	30 seconds	After every practice & game
Frog Hop	30 seconds	2	30 seconds	After every practice & game
Push-Up Hold	30 seconds	2	30 seconds	After every practice & game

Optional Conditioning (Choose/Run Only One)

Optional Exercises	Distance, Time or Repetitions	Sets	Rest Time	Frequency
Ladder Sprints “Suicides” ★	5/5/10/10/15/15//10/10/5/5 Yards	2	30 seconds	End of practice every day
	10/10/20/20/30/30/20/20/10/10 Yards	2	30 seconds	End of practice every day

★ Use longer distanced for athletes age 12 and older

Important Notice

Not all exercises are suitable for everyone. Consult your physician before beginning this or any other exercise program. Also, always warm up for several minutes before beginning any workout and **NEVER** exercise beyond the level at which you feel comfortable. If at any time you feel you are exercising beyond your current fitness abilities, or feel discomfort, discontinue exercise immediately and reconsider your participation in this program.

The youth strength and conditioning program provided in this publication should not be attempted by anyone who does not meet minimum fitness requirements or who has a history of hip, knee, ankle, shoulder, elbow, wrist or spinal (neck or back) problems. **THIS WARNING IS NOT TO BE DISCOUNTED.** There are many other fitness alternatives if you have weaknesses or are prone to injuries. The user assumes all risks of injury in the use of this program.

Warm-Up Exercise

Jumping Jacks

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 to 25 Reps	1	None	Before every practice & game



- Stand up straight with both legs together and arms at your sides.
- Jump up and simultaneously spread your legs apart and bring both hands overhead.
- Jump again and simultaneously lower both arms down to your sides and bring both feet back together.
- Continue to repeat this sequence for the determined number of repetitions.

Warm-Up Exercise

Split Jacks

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 to 25 Reps	1	None	Before every practice & game



- Use a line (or an imaginary line) on the ground, as a guide.
- Place your right foot in front of the “line.”
- Hop up and switch feet position so your left foot is in front of the “line.”
- Keep your head and chest up.
- Continue to repeat this foot hopping sequence to complete the required repetitions listed above

Warm-Up Exercise

High Knees

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 to 25 Reps	1	None	Before every practice & game



- Stand on your left leg and drive your right knee up to chest level.
- Bring your right leg down and repeat the exercise with your left leg.
- If needed, place both arms out in front and try to tap each hand with your knees.
- Continue to alternate legs for the specified number of repetitions.
- Maintain the proper posture during the entire exercise making sure to keep your head up, chest up and back straight.

Warm-Up Exercise

Straight Leg Kick

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 to 25 Reps	1	None	Before every practice & game



- Stand tall with your feet slightly spread apart.
- Begin walking forward kicking your right leg up in front of your body as high as you can and as straight as you can.
- As you kick your right leg forward, reach forward with your left hand and try to touch the toes of your right leg.
- Lower your right leg and repeat with your left leg.
- Attempt to keep your head up, chest up and back straight.
- Bend forward at the hips and not your upper back and neck.

Warm-Up Exercise

Knee Hugs

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 to 25 Reps	1	None	Before every practice & game



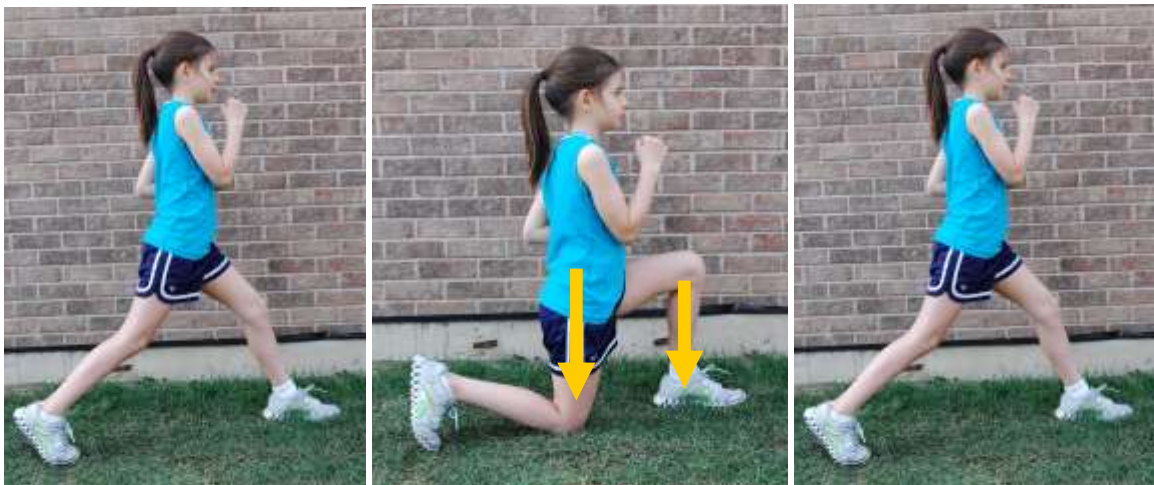
- Stand straight with your feet shoulder-width apart.
- Slowly bring your right knee up to your chest.
- Grab your right knee with both hands and squeeze it towards your chest.
- Lower your right leg and repeat the exercise with your left leg.
- Maintain the proper posture during the entire exercise making sure to keep your head up, chest up and back straight.
- Continue to repeat this sequence for the determined number of repetitions.

Note: This exercise also can be performed as a stretch and to improve balance.

Warm-Up Exercise

Forward Lunge

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 yards	1	None	Before every practice & game



- Stand up straight and stride forward with your left leg.
- Bend both knees until your left thigh is parallel with the ground.
- Remember to keep the front of your knee behind your toes.
- Push off with your right foot and return to a standing position.
- Repeat the same sequence with your right leg.
- Continue alternating legs and striding forward to complete the specified distance, then change and stride forward with your right foot for the specified distance above.

Warm-Up Exercise

Bear Crawl

Distance, Time or Repetitions	Sets	Rest Time	Frequency
15-20 yards	1	None	Before every practice & game

- Squat down on your hands and knees.
- Place your hands directly under your shoulders.
- Slowly reach forward with your right arm and left knee at the same time.
- Once your right hand and knee are planted on the ground, pull yourself forward and repeat the same motion with your left hand and right knee.
- Continue to alternate this crawling sequence for the specified distance above.



Warm-Up Exercise

Inchworm

Distance, Time or Repetitions	Sets	Rest Time	Frequency
10 yards	1	None	Before every practice & game



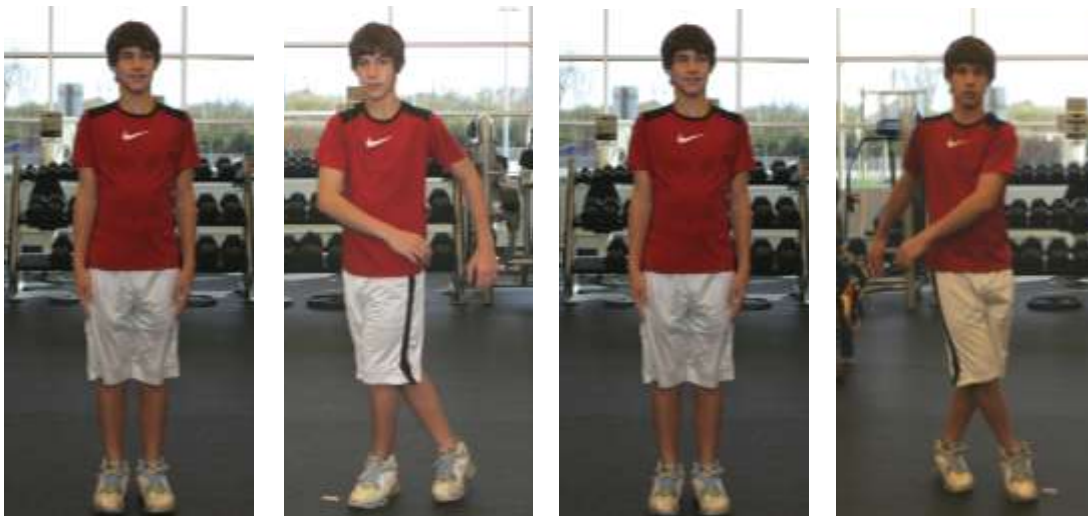
- Stand with your feet together or slightly apart.
- Bend forward from your hips while keeping your knees straight and your back flat until your hands touch the ground. If your hamstrings are tight, you may need to bend your knees slightly.
- With both hands on the ground in front of your feet, slowly begin to walk your hands forward, away from your feet. Your feet stay in place.
- Continue walking your hands forward until you reach a full plank position.
- While keeping both hands on the ground and knees straight, slowly walk your feet forward towards to your hands. Your hands stay in place.
- Once your feet reach your hands, stand up and repeat the sequence.

Warm-Up Exercise

Tapioca

(Alternate crossing feet)

Distance, Time or Repetitions	Sets	Rest Time	Frequency
15-20 yards	1	None	Before every practice & game



- This drill involves moving laterally while alternating foot movements in front of and behind your body.
- Stand tall with both feet together.
- Cross your left foot in front of your body.
- Step to your right with your right foot.
- Cross your left behind your right leg.
- Step to your right with your right foot.
- Continue this sequence for the determined distance.
- Reverse the exercise by moving laterally to your left.
- Do not allow your hips to rotate during this exercise.

Warm-Up Exercise

Carioca

(Alternate crossing leg with trailing knee)

Distance, Time or Repetitions	Sets	Rest Time	Frequency
15-20 yards	1	None	Before every practice & game



- Stand tall with both feet together.
- Lift your left leg and cross it over your right knee.
- Place your left foot on the ground and step laterally with your right until you are in a straddle stance.
- Repeat the sequence again with your left leg crossing the right knee.
- Reverse the exercise by moving laterally to your left.
- Allow your hips to rotate freely during this exercise.

Warm-Up Exercise

Skipping Forward

Distance, Time or Repetitions	Sets	Rest Time	Frequency
15-20 yards	1	None	Before every practice & game

- Stand with both feet together.
- Bend your left knee and bring it forward while hopping forward on your right leg.
- Quickly step on your left leg, bend your right leg and hop on your left leg repeating the hopping forward and stepping motion.
- Swing the opposite arm forward of your bent leg on each hop.
- Try to push off your toes to get a bounding effect.
- Keep your head and chest up during the entire exercise.



Warm-Up Exercise

Skipping Backward

Distance, Time or Repetitions	Sets	Rest Time	Frequency
15-20 yards	1	None	Before every practice & game



- Stand with both feet together.
- Bend your right knee and raise your bent leg upwards toward your waist.
- Perform a hop on your left leg, then quickly place your right leg on the ground behind you and repeat.
- Swing your opposite arm forward with each hop.
- Try to push off your toes to get a bounding effect.
- Keep your head and chest up during the entire exercise

Note: When skipping backwards, slow down the speed to maintain proper form.

Warm-Up Exercise

Butt Kicks

Distance, Time or Repetitions	Sets	Rest Time	Frequency
15-20 yards	1	None	Before every practice & game



- Assume the running form.
- Keep your head and chest up during the entire exercise.
- At every stride attempt to bring your heel as close as you can to your buttocks.
- While performing the exercise try to keep your bent knee facing towards the ground.

Warm-Up Exercise

Sprint Builds

Distance, Time or Repetitions	Sets	Rest Time	Frequency
70%, 80%, 90%, 100%	1	None	Before every practice & game



- Assume the proper running stance.
- Keep your head up, eyes forward and your chest up.
- Begin with a jog and build up to a sprint.
- Maintain proper form during the entire exercise.

Finish Exercise Shuffle

Distance, Time or Repetitions	Sets	Rest Time	Frequency
5 yards/30 seconds	2	30 seconds	After every practice & game



- Stand with both feet shoulder-width apart.
- Slightly bend your knees.
- Keep your head and chest up.
- Step to the left with your left foot, followed closely behind with your right foot.
- Repeat this sequence for the determined distance or time.

Finish Exercise

Burpee

Distance, Time or Repetitions	Sets	Rest Time	Frequency
30 seconds	2	30 seconds	After every practice & game



- Stand with your feet shoulder-width apart.
- Quickly lower yourself into a squat.
- Place your hands beside your feet.
- Kick both of your legs behind you so you are in the push-up position.
- Jump your feet towards your hands.
- Jump back up into the starting position.
- Repeat exercise for the specified time duration to complete one set.



Finish Exercise

Squat Hold

Distance, Time or Repetitions	Sets	Rest Time	Frequency
30 seconds	2	30 seconds	After every practice & game

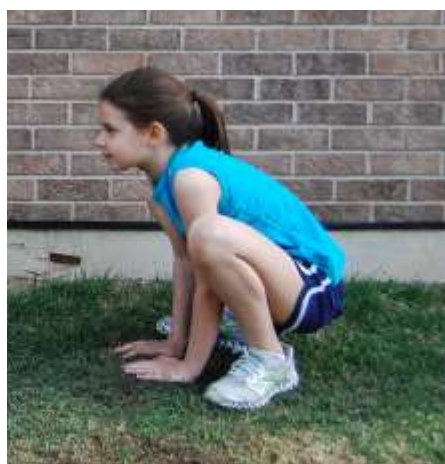


- Stand with your feet about shoulder-width apart.
- Slowly bend your knees until your thighs are parallel to the ground.
- Pause briefly and then slowly return to the starting position.
- Keep your back flat while performing the exercise.
- Perform the entire exercise in a controlled manner.

Finish Exercise

Frog Hop

Distance, Time or Repetitions	Sets	Rest Time	Frequency
30 seconds	2	30 seconds	After every practice & game



- Bend your knees and lower your body into a deep squat.
- Place both hands on the ground between your feet.
- Push off the ground with your toes and leap forward. Use your arms to help you jump as high as you can.
- Upon landing, return to the original frog stance.
- Repeat the exercise for the time specified to complete one set.

Note: Maintain proper form throughout the entire exercise.

Finish Exercise

Push-Up Hold

Distance, Time or Repetitions	Sets	Rest Time	Frequency
30 seconds	2	30 seconds	After every practice & game



- Lay face down on the ground.
- Place your feet slightly apart and your hands next to your shoulders.
- While keeping your back straight, slowly push your entire body up by extending at the elbows.
- Hold this position for 5 seconds then return to the starting position.

Note: An easier version is to perform planks on elbows instead of hands.

OPTIONAL Exercise

Ladder Sprints

Distance, Time or Repetitions	Sets	Rest Time	Frequency
5/5/10/10/15/15//10/ 10/5/5 Yards	2	30 seconds	End of every practice
10/10/20/20/30/30/ 20/20/10/10 Yards	2	30 seconds	End of every practice

Also referred to as wind sprints or suicides, this exercise is performed in short spurts at varying distances.

- Use the line on a football field, or mark your own lines spacing them approximately 5-yards apart.
- Start at the first line and sprint to the second line, bend down and touch the line with your hand, sprint back to the starting line and touch that line with your hand.
- From the starting line, sprint to the second line, bend down and touch that line with your hand. Sprint back to the start touching that line with your hand.
- Repeat this sprinting pattern until you have touched all the lines and returned to the starting line. Completing this series is 1 set.

Note: Use longer distances in the bottom box above for athletes age 12 and older.

Sports Injury Medicine Clinic

To assist coaches, athletic trainers, players and parents, Dr. Chudik has a Monday evening Sports Medicine Injury Clinic in his Westmont office. During this time, athletes can be seen and treated by Dr. Chudik, a board-certified orthopaedic surgeon and sports medicine specialist. An added benefit to athletes seen in the Clinic is the availability of an X-ray suite and an open-bore, high-field magnetic resonance imaging (MRI) machine. This onsite diagnostic capability eliminates issues associated with appointments, delayed diagnosis and treatment. To schedule an appointment with Dr. Chudik call 630-324-0402.

About OTRF

Steven Chudik, orthopaedic surgeon and sports medicine physician with the Steven Chudik Shoulder, Knee and Sports Medicine Clinic, Westmont, Ill., founded the Orthopaedic Surgery and Sports Medicine Teaching and Research Foundation (OTRF) in 2007. OTRF is a nonprofit, 501(c)(3) organization dedicated to funding research and education for the purpose of keeping people active and healthy.

Dr. Chudik has seen a growing demand by patients, athletic trainers and clinicians for up-to-date medical information and unbiased research on injury prevention, injuries and arthritis (wear and tear) on the musculoskeletal systems—joints, cartilage, tendons, ligaments, etc. In response to these requests, OTRF produces and distributes an E-newsletter, shares information about health performance-related issues like nutrition and fitness, hosts athletic training educational programs, conducts seminars for healthcare providers and the community and most important, funds unbiased research and development particularly in emerging areas such as arthroscopic and minimally-invasive surgery for injuries to the meniscus, labrum, rotator cuff, anterior cruciate ligament (ACL) and cartilage.

Youth sports warm-up, conditioning exercise program to help prevent injuries

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