



## **Lacrosse in-season strength, conditioning program**

Lacrosse is one of America's oldest activities with roots in Native American culture, and is now one of America's fastest growing sports. Because lacrosse is a free-flowing, fast-paced sport with quick changes of direction, this can lead to non-contact ligament injuries especially to ankles and knees. Boy's lacrosse is considered a moderate contact sport with full shoulder pads and chest protector, where as girls lacrosse is relatively non-contact and the only protective equipment is protective goggles. The difference between girls and boys lacrosse can lead to a slightly different set of injuries, but both are at risk to various contact injuries.



Bruises are the most common contact injury, which are the result of body-to-body, stick-to-body, or ball-to-ball impact. Concussions can occur from these same mechanisms. The most common fracture location is to hands or forearm due to stick-to-body contact. The best way to reduce the risk of these injuries is to wear proper protective equipment and adhere to rules.

While common contact injuries may be difficult to prevent (contusion, concussion, fracture), proper training and preparation may reduce non-contact injuries (muscle strains, ankle and knee sprains). Knee and ankle sprains not only are among the more common injuries, they also result in longer recovery time. The most well-known knee sprain is an ACL tear, which typically requires surgery and minimum of four to six months of rehabilitation. Proper training has been proven to reduce the incidence of ACL tears. Thorough warm-ups with good strength and conditioning can reduce the risk for muscular strains.

### **Injury Prevention:**

- Know the rules and wear appropriate protective gear
- Warm up appropriately for games and practice
- Perform a proper, sport-specific in-season strengthening and conditioning program

A good 10 to 15 minute warm-up prepares the body's muscles, joints and nervous system for athletic movement. These often include dynamic warm-ups, form drills for jumping, cutting, and running, and acceleration drills prior to full speed activities. Generally, these should be conducted prior to sport-specific skills and drills.

An in-season strength maintenance program should be quick, efficient and timed appropriately. It requires some planning to properly schedule workouts around games and practice schedules to avoid training too close to a specific competition and negatively impacting performance. In season, schedule two days for full body workouts at least 20-to 30-minutes in duration. Players should perform strength workouts after a game or practice and plyometric workouts before any conditioning because fatigue affects proper form. Ideally, players should have 48-hours rest between workouts and 48-hours rest between workouts and games.

# Exercises

Group 1	Sets	Time/Reps	Details
Agility Run (Cones)	4	2	<b>NO REST. Perform Clap Pushups immediately after finishing Agility Cones</b>
Clap Pushups	3	10 to 30 seconds	Rest 30 seconds before starting next Agility Run set
<b>Rest 2 minutes between group exercises</b>			

Group 2	Sets	Time/Reps	Details
Lateral Skater Hops	3	20 to 30 seconds	<b>NO REST. Perform Plank with Arm Row immediately after finishing Skater Hops</b>
Plank with Arm Row	2	1 minute	Rest 30 seconds before starting next set of Lateral Skater Hops
<b>Rest 2 minutes between group exercises</b>			

Group 3	Sets	Time/Reps	Details
Squat Jumps with Stick	3	20 to 30 seconds	<b>NO REST. Perform Plank Rotations immediately after finishing Squat Jumps</b>
Plank Rotations	2	1 minute	Rest 30 seconds before starting next set of Squat Jumps with Stick
<b>Rest 2 minutes between group exercises</b>			

Group 4	Sets	Time/Reps	Details
Split Lunge Jumps	3	20 to 30 seconds	<b>NO REST. Perform Side Plank with Leg Raise immediately after finishing Split Lunge Jumps</b>
Side Plank (with Leg Raise)	2	30 to 40 seconds	Rest 30 seconds before starting next set of Split Lunge Jumps
<b>Rest 2 minutes between group exercises</b>			

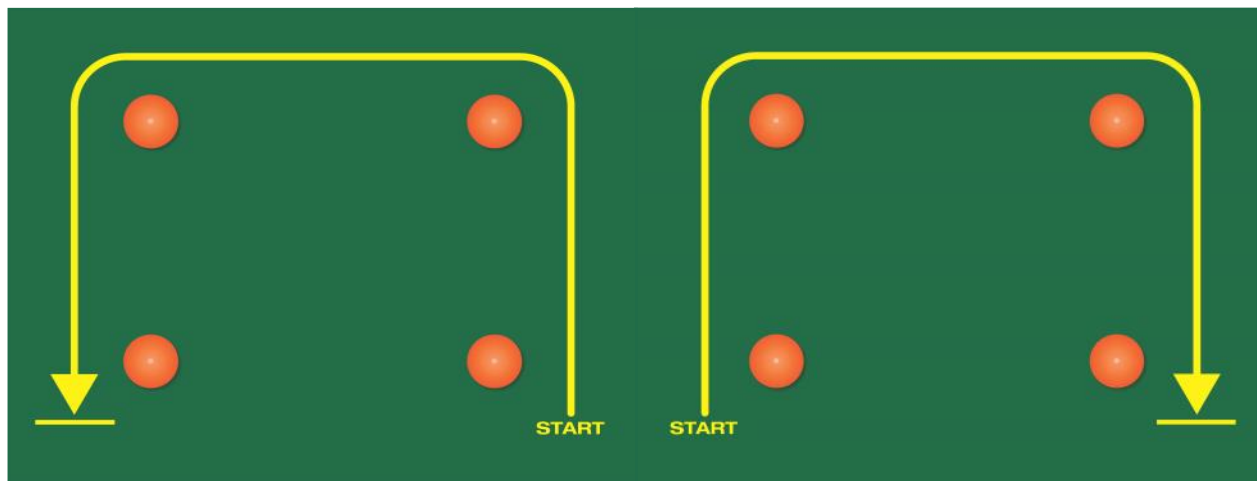
## IMPORTANT

As with any exercise program, it is essential to maintain proper technique during the warm-up and exercise to receive maximum benefits and prevent injury. Seek professional help on arm swing, jumping, and landing mechanics to learn pointers and stay injury free.

## Group 1

# Agility Run: Four Square

Set	Time/Reps	Rest
1	2	<b>NO REST</b> before starting pushups

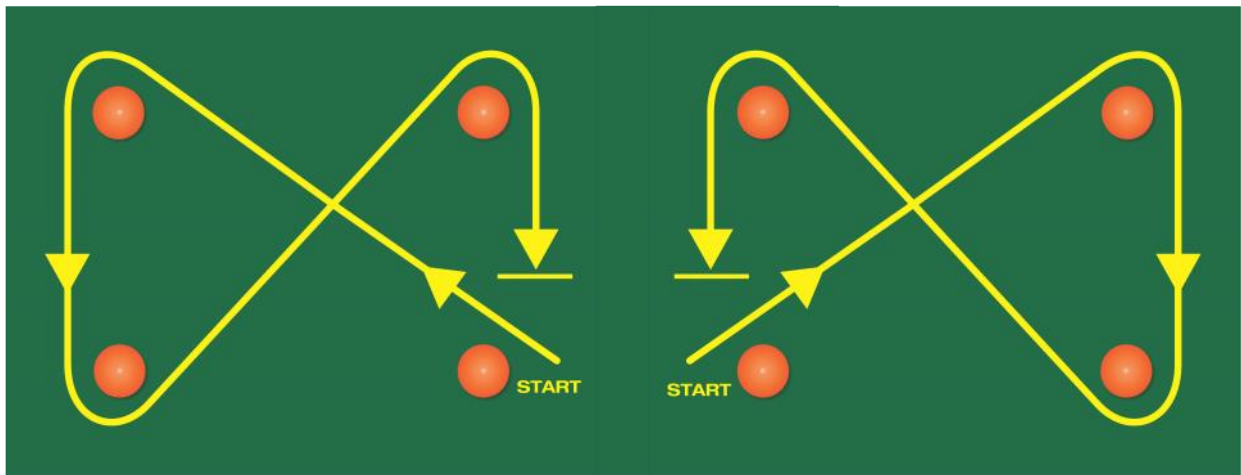


1. Set cones or markers to form a square 10 yards apart.
2. Split the players into groups. One group per every square group of cones.
3. Have the groups run each drill pattern direction twice with their lacrosse stick and ball to complete one set.
4. Perform clap pushups for 10 to 30 seconds before moving on to next agility course.

## Group 1

# Agility Run: Bow Tie

Sets	Time/Reps	Rest
1	2	<b>NO REST</b> before starting pushups

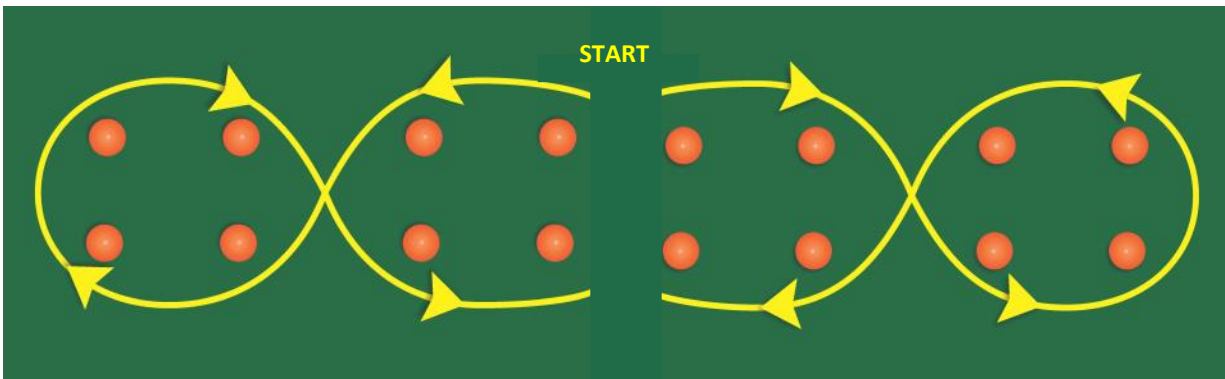


1. Set cones or markers to form a square 10 yards apart.
2. Split the players into groups. One group per every group of four cones.
3. Have the groups run each drill pattern direction twice with their lacrosse stick and ball to complete one set.
4. Perform clap pushups for 10 to 30 seconds before moving to the next agility course.

## Group 1

# Agility Run: Figure Eights

Sets	Time/Reps	Rest
1	2	<b>NO REST</b> before starting pushups

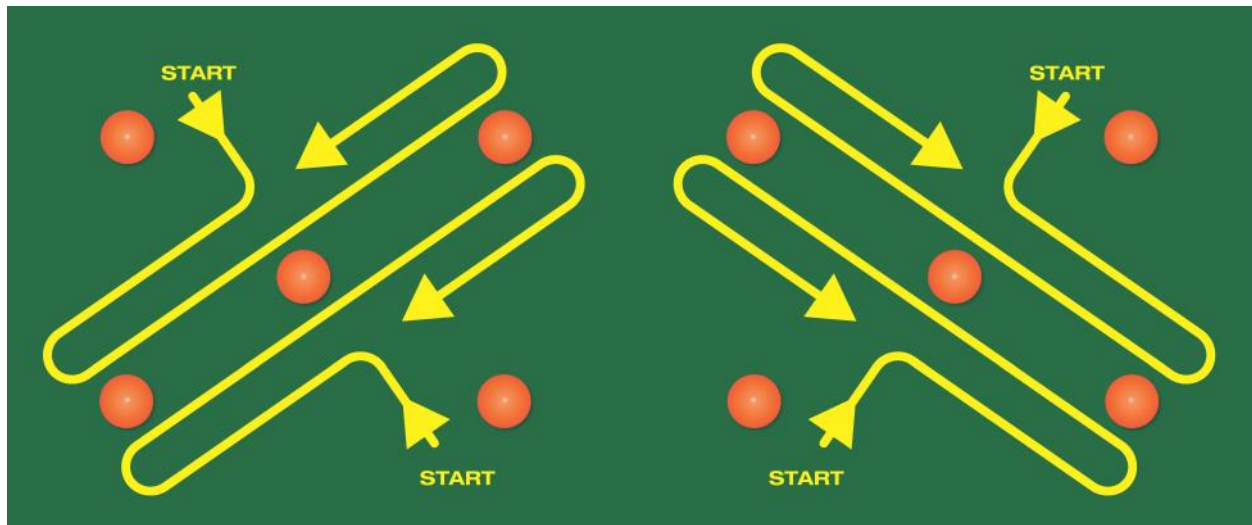


1. Set cones or markers to form a square 10 yards apart.
2. Split the players into groups, one group per every group of eight cones.
3. Have the groups run each drill pattern direction twice with their lacrosse stick and ball to complete one set.
4. Perform clap pushups for 10 to 30 seconds before moving on to next agility course.

## Group 1

# Agility Run: Offense/Defense

Sets	Time/Reps	Rest
1	2	<b>NO REST</b> before starting pushups



1. Set cones or markers to form a square 10 yards apart. Place a 5th cone in the center of the square formed by the four cones.
2. Split the players into groups. Two groups per every five cones.
3. Have the groups run each drill pattern direction twice with their lacrosse stick and ball to complete one set.
4. When completed, allow players to rest two minutes before starting Group 2 exercises.

## Group 1

# Clap Pushups

Sets	Time	Rest
3	10 to 30 seconds	30 seconds before next agility drill



1. Assume a standard push-up position\* with your hands outside your shoulders and feet hip-width apart.
2. Begin by bending your elbows and lowering your chest down to the ground, pause, then explode off the ground, pushing as hard as you can so that your hands come off the ground.
3. Immediately clap your hands together quickly in the air and return to the starting position.
4. Repeat steps one through three until time expires.
5. Rest 30 seconds and perform next agility drill.

\* If push ups from a standard position are too difficult, modify to a kneeling position keeping knees bent and feet up when lowering and pushing off to perform clap.

## Group 2

# Lateral Skater Hops

Sets	Time/Reps	Rest
3	20-30 seconds	None—start Plank Row exercise after finishing Lateral Hops



1. Using lines on the field, or cones, mark a distance about twice the width of your shoulders. Stand at the right line (cone) on your right foot with your right hip and knee slightly bent, back flat and chest up.
2. Jump as far as possible toward the left line (cone).
3. Land on the ball of your left foot with your left hip and knee slightly bent to absorb the impact and to control the landing.
4. Immediately jump off your left back toward the right line (cone) in order to complete one set and return to the start.
5. Continue jumping back and forth in this manner until time expires to complete one set.
6. Perform plank row exercise right after completing lateral skater hops. **Do not rest.**
7. After completing three sets of Lateral Skater Hops, rest two minutes and then move on to Group 3 exercises.



## Group 2

# Plank with Arm Row

Sets	Time/Reps	Rest
2	1 minute	Rest 30 seconds and repeat Lateral Hops



1. Assume the plank position as shown.
2. While maintaining the plank position, bend your right elbow and lift your right hand off the ground.
3. Hold the position for one second, then return to the starting position.
4. Repeat the exercise with your left arm.
5. Continue the exercise alternating arms until time expires to complete one set.
6. Upon finishing, rest 30 seconds and perform Lateral Skater Hops.

## Group 3

# Squat Jump with Stick

Sets	Time/Reps	Rest
3	20-30 seconds	None—start Plank Rotation exercise after finishing Squat Jumps

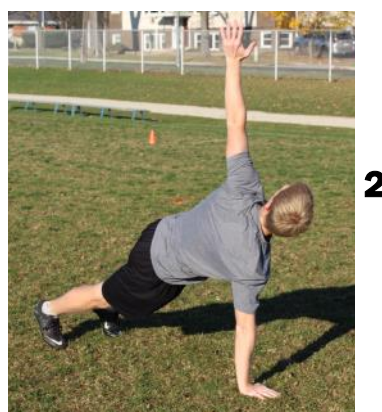


1. Stand with both feet shoulder-width apart, knees bent and both hands holding a lacrosse stick in front of you.
2. Jump straight up thrusting your hands and stick up over your head to help you get as high off the ground as possible.
3. Land softly on both feet with both knees bent returning to the starting position.
4. Continue jumping in this manner until time expires to complete one set.
5. Perform Plank Rotation exercise immediately after completing Squat Jumps.  
**Do not rest.**
6. After completing three sets, rest two minutes and move on to Group 4 exercises.

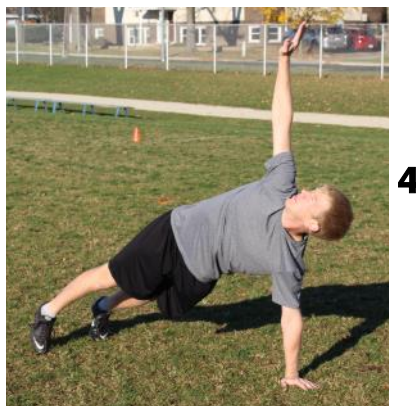
## Group 3

# Side Plank Rotations

Sets	Time/Reps	Rest
2	1 minute	Rest 30 seconds before repeating Squat Jump



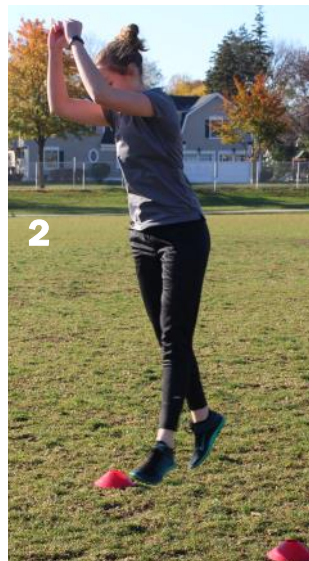
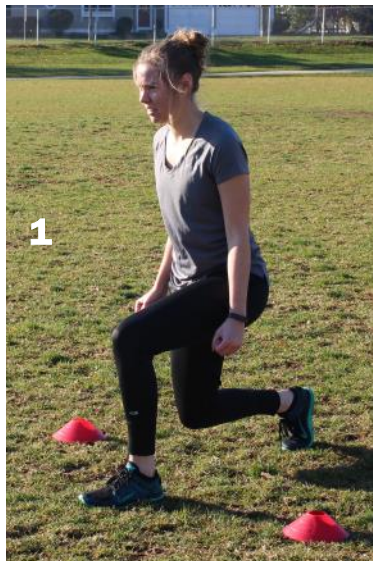
1. Begin in a push up position. Keep your body straight and back flat.
2. Lift your left hand off the ground, rotating your left hip until your left arm is extended overhead and in line with your right arm. Your chest should be perpendicular to the ground and spine in a neutral position.
3. Return to a pushup position.
4. Repeat the exercise rotating to the right.
5. Continue to repeat the exercise alternating the rotation direction until time expires to complete one set.
6. Rest 30 seconds and resume Squat Jump.



## Group 4

# Split Lunge Jumps

Sets	Time/Reps	Rest
3	20-30 seconds	None—start Plank Rotation exercise after finishing Squat Jumps



1. Start in a lunge position with your arms at your side.
2. Jump straight up as high as possible pushing off your front heel and back toe.
3. While in the air, switch legs so you land with the other foot forward.  
Remember to keep your chest up.
4. Bend the back knee as you land softly on the ground and immediately explode back into the air landing with the other foot forward.
5. Continue jumping in this manner until time expires to complete one set.
6. Perform Side Plank with Leg Raise exercise immediately after completing Split Lunge Jumps. **Do not rest.**
7. You are finished with the strength and conditioning program after completing three sets of the Split Lunge Jumps and Side Plank with Leg Raises.

## Group 4

# Side Plank (with Leg Raise)

Sets	Time/Reps	Rest
2	30-40 seconds	Rest 30 seconds, then resume Split Lunge Jump

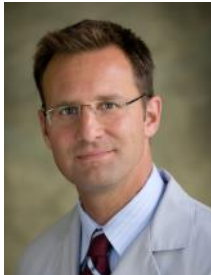


1. Begin the exercise by lying on your left side, with your left arm bent so your elbow is directly under your shoulder and your feet are stacked on top of one another. Lift your hips off the ground until your body is in a straight line. Keep your hips forward and inline with your legs and torso.
2. Once you are able to hold this position for 30 to 40 seconds, raise your right leg. Do not let your hips rotate forward or backward. Hold for 15 seconds.
3. Lower your leg and change to your right side. Repeat the exercise.
4. Rest 30 seconds, then resume Split Lunge Jump exercise.

## **Sports Medicine, Injury Prevention Expertise Provided by Team Chudik**

The goal of Dr. Steven Chudik and his health performance team is to provide you and your athletes with reliable and proven training information so they can compete and perform at their highest level and ability and limit the risk for injury.

This program is based upon research which found athletes need to incorporate specific exercises into their weekly training schedules not only to maintain strength, but more important, help minimize injuries. To maximize the benefit of this program, it is important for players to follow the recommended programs and maintain proper form at all times. Failure to do so could result in an injury.



### **Steven C. Chudik, MD**

Board-certified physician in orthopaedics and sports medicine with the Steven Chudik Shoulder and Knee Injury Clinic, Dr. Chudik is the founder and president of the Orthopaedic Sports Medicine Teaching and Research Foundation (OTRF) and an associate professor at Loyola School of Medicine.



### **Keith Tesch, CSCS, CNT**

For more than ten years, Keith has been in the fitness industry working as a personal trainer and sports performance specialist, a position he currently holds. During the past five years, his focus has been helping individuals regain their strength and range of motion through research-based programs.



### **James Wolf, PT, DPT**

A certified and licensed physical therapist, James holds a doctor of physical therapy degree from Northwestern University. In his current position, he treats a variety of orthopaedic patients including competitive and recreational athletes.



### **Erin Scheiber, PT, DPT, ATC**

Erin is a licensed physical therapist, certified athletic trainer and physical therapy clinic director with a special interest in post-operative ACL rehabilitation and non-operative/operative shoulder rehabilitation. She soon will be adding certified manual therapist (COMT) credentials to her expertise.

## 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 physician. 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 request an appointment with Dr. Chudik, call 630-324-0402.

## About OTRF

Steven Chudik, orthopaedic surgeon and sports medicine physician with the Steven Chudik Shoulder and Knee Injury Clinic, 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—as well as information on injuries, arthritis (wear and tear) to joints, cartilage, tendons, ligaments, etc. To fulfill 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, ACL and cartilage.

### Lacrosse in-season strength, conditioning program

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However, none of this is possible without ongoing financial support. We are extremely grateful to all those who have contributed in the past. Many donations come from patients or their family members who benefited from Dr. Chudik's orthopaedic and sports medicine expertise. If you are interested in helping OTRF fund education and research programs, please contact Dr. Chudik at 630-324-0402 or visit ***otrfund.org*** and click on the contributions tab at the top. Also, many companies sponsor programs that match charitable donations made by employees. Some even match retirees' and/or spouses' donations. Matching gift programs are a great way to double your generosity. Regardless of the amount, every contribution helps make a difference today and for years to come.

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## 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 a 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 in-season lacrosse stretching 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.

## Sports Medicine Injury Clinic

### Monday Evenings

Call 630-324-0402

Ask for Dr. Chudik

### Sign Up Today!

Don't miss another issue of **Active Bones**, a monthly E-newsletter from OTRF. Each issue is filled with information to help you stay healthy and live an active life. Simply email: [contactus@chudikmd.com](mailto:contactus@chudikmd.com) to receive the next issue of **Active Bones**.



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