



Indiana University Health

IU Health Physicians Orthopedics & Sports Medicine

ACL INJURY PREVENTION

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No one wants to get sidelined with an ACL injury. Ankle sprains and injuries to the knee, particularly ACL injuries (anterior cruciate ligament) are common in young athletes. Is there anything you can do to prevent yourself from missing valuable playing time? Absolutely!

Learn how to move with good alignment so you protect your knees. Develop body awareness, strength, and balance to support your knees and ankles. Always jump, land, stop, and move with your knees directly over your feet. Do NOT let your knees collapse inward. Develop strength in your hips and thighs. Warm up and stretch before games and practice. Perform a variety of drills until the movement patterns are second nature and you don't have to think about it. Say to yourself:

- Chest high and over knees
- Bend from the hips and knees



- Knees over toes
- Toes straight forward
- Land like a feather

Successful injury prevention programs may differ in specific exercises and drills but they share a common focus: improving *flexibility, strength* (particularly of the core, hips, and legs), *balance, agility*, and your ability to *jump and land safely*.

Practice these guidelines, exercises, and drills on your own and with your team. Don't wait until the season starts. Get in shape to play; don't play to get in shape!

1. **Always warm up before playing.** Get blood circulating to your muscles and joint before you start your game or practice.
2. **Stretch.** Being flexible enough to move freely can help you maintain ideal form. Include stretches for your thighs, calves, and hips, and pay particular attention to any areas that are especially tight.
3. **Strengthen.** Having adequate strength in your hips and thighs is key to providing support for your knees and preventing ACL injuries. Squats and lunges are just a couple of exercises that can build strength. Make sure to use good technique.

A. ***Squats***

- Stand with your feet about hip width apart.
- Sit back. Bend from your hips and knees. Stick your buttocks out with your chest high.
- Keep your knees behind your toes.
- Remember, keep your knees and feet facing straight ahead as you squat.
- Try squatting on just one leg. Careful! Don't let your knee turn inward.

B. *Walking Lunges* Perform walking lunges halfway across the field and then back. As you step, keep your front knee over your ankle in line with your toes.

C. *Core strength* Strengthening the muscles that surround your back, chest, abdomen, and hips can help improve your overall form and make you a more powerful athlete. (planks, bridges)



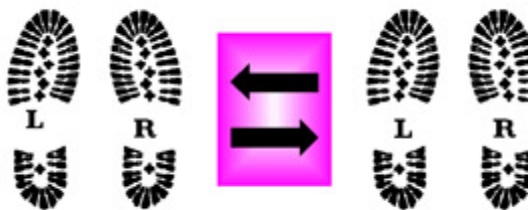
4. Balance. Many injuries occur when an athlete is off-balance. Like anything, balance gets better with practice. Your gains in stability will pay off on the playing field.

5. Agility-Changing Direction:

- Run to a line or cone, plant your outside foot without letting your knee collapse inward to change direction.
- Move in patterns that take you front to back, side to side and diagonally. Start by running slowly so you can concentrate on good position.
- Pick up the pace and maintain good technique.
- Remember: HIPS over KNEES over ANKLES!

6. Jumping and Landing Safely:

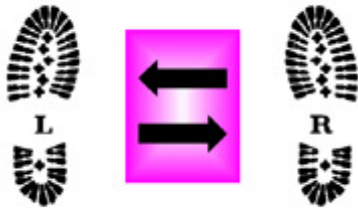
- Jump straight upward several times. Spring up, then land with your feet and knees pointing straight ahead. *No knock knees!* Let your knees bend softly each time you land. Practice these jumps facing a teammate and ask him/her to watch your form. Practice proper landing technique until it becomes second nature. *Keep your knees bent, your chest high, your buttocks back, and land softly.*
- Have your teammate throw a ball up. Jump up, catch it, and land correctly.
- Jump over a line (cone, ball, stick) on the field or court and stick your landing.
- Remember: Don't let your knee(s) turn in! Follow the jump patterns illustrated:



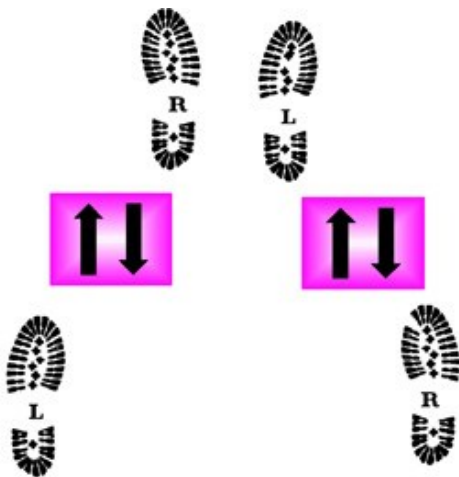
Jump side-to-side with both feet over the line.



Jump forward-and-back with both feet over the line.



Jump from your left to right foot over the line.



Jump forward-and-back over a line leading with your right foot. Keep feet hip width apart. Now lead with your left.



7. **Emphasize quality.** When practicing any of these strategies, the *quality* of movement, rather than quantity, should be your goal.
8. **REST!** Don't let a packed schedule of practices, games, and schoolwork leave you so tired that your technique gets sloppy. Rest is essential for gains to occur. Adequate sleep, rest days, and alternating hard workouts with easier workouts are all important strategies in reducing your risk of injury and making you a strong, powerful athlete.