

Bodies in Motion

TOTAL HEALTH CENTER NEWS LETTER

“Expert Care with Caring Hands”

Volume 2



Call us at (269) 968-0888
Mon to Thurs 7am-7pm
Fridays 7am-4pm

Total Health Center is a full service physical/occupational therapy clinic where expert patient care is our first priority. We treat a full range of orthopedic and neurologic conditions. Our clinic has therapists with advanced training and specialist certifications. Our goal is to help you, the patient, reach your full potential.

ACL Tear Prevention Programs and Female Athletes

Athletes of all ages face injuries related to their sport, and young female athletes are no exception. Studies show an elevated risk of ACL injuries in female athletes compared with male athletes. The ratio has been shown to be as much as 8:1. One study of basketball injuries showed ACL injuries in 19 of 76 females vs. 4 of 151 injuries in males.

The average age of injury varies between 14 to 17 years old. Some studies have shown similar injury rates between male and female high school student athletes, but girls sustain more major injuries. A greater percentage of females' ACL injuries are non-contact. Sixty percent of total injuries in jumping sports occur during landing and 4/5 ACL injuries occur from a non-contact mechanism, often landing.

Possible contributors to the increase in ACL injuries include: strength differences, muscle firing patterns (men fire hamstrings first where as women fire the quadriceps first), physiologic laxity, Neuromuscular control (EMG delays have been shown when women fire their muscles because the tendons are more extensible), hamstring flexibility, proprioception, coordination, and anatomic notch size. Hormonal changes may also play a role as more women have ACL injuries during ovulation. Extrinsic factors such as training and conditioning, coaching, postural habit and position also may play a role.

It has been postulated that the postural habit of standing with the knee hyper extended is associated with physiologic laxity in the posterior capsule and hamstring flexibility. This is a more ACL dependent posture. Males typically have a tighter posterior capsule, shorter hamstrings, and may stand with the knees more flexed. This may protect them from injury.

The size of the femoral notch has been shown to play a role in ACL injuries. The ratio of injury to decreased notch size was higher in non-contact injuries. People with notch sizes smaller than 17mm were 7 times more likely to tear their ACL's.

The athletes' position may affect the rate of injury. For example, athletic positions requiring more jumping, pivoting or twisting demands can lead to increased injury rates. This suggests that training and coaching should be specific to the demands of the athletes' position.

The quality of training may be related to coaching techniques or to intrinsic proprioception and coordination differences. Inadequate coaching and poor training experiences in the developmental years may be a factor predisposing girls to ACL injury. Children need to be taught fundamental skills such as how to run, jump, and land. A study showing the effect of jump-training programs on landing mechanics and lower extremity strength in female athletes showed decreases in landing force by teaching neuromuscular control of the lower limb during landing. In addition, medial and lateral forces during landing were decreased by 50% as a result of the training. The athletes were taught correct posture; jumping straight up; avoiding excessive anterior-posterior, medial- lateral motion; soft landings, including toe-to-heel rocking; and instant recoil to prepare for the next jump. It may not be whether or not girls receive coaching, but what kind of training they are receiving.



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Healthy Recipe of the Month

SWEET POTATO HASH

1 large or 2 small sweet potatoes, peeled and quartered
1 tbsp vegetable oil
1 11oz. can southwestern-style corn with black beans and peppers, rinsed and drained
½ cup sour cream
1 tbsp. chipotle salsa
3 medium avocados, peeled, pitted and sliced
Fresh cilantro leaves and chili powder

Place sweet potatoes in the microwave cover and cook 5-8 min. or just until tender enough to chop. Cool slightly and cut into chunks. Sprinkle lightly with salt.

In large skillet, heat oil on medium heat. Add potatoes, cook until browned and crisp-tender, about 3 min. Add drained corn to skillet. Cook 3 min or until potatoes are tender. Stir together sour cream and chipotle salsa.

To serve, divide sweet potatoes among 4 plates. Top with avocado and serve with chipotle sour cream sauce. Add cilantro and sprinkle with chili powder.

Plyometric training involves jumping exercises and has been shown to reduce the risk of non-contact injury. It is also shown to enhance performance by combining speed and strength. Plyometric training is helpful when used in pre-season and mid-season training programs. Types of plyometric exercises include jumping in place, standing jumps, multiple hops, bounding, box drills and depth jumps. There are important considerations in training including proper supervision and cues for the techniques (i.e. landing light as a feather, recoil like a spring etc.). The athletes should be on an adequate strengthening program and pre-training drills should be performed (jump rope, shuttle runs etc.). Vulnerable positions such as varus/valgus knee, hyperextension, and flat-footed landings need to be monitored.

With proper training, coaches and schools can implement proper training programs. Physical therapists are the prime health care practitioners to educate these populations on proper exercises, plyometric programs and techniques. The rate of knee injury with young female athletes is excessive and can be reduced.

Patient Testimonials

Great care in every area. You're all very friendly and the therapy was helpful. I feel much better. Thanks again. Tammi

I would, and have recommended this clinic to everyone that I have talked to. Angel

I could not ever find a better therapist than Mohinder. He is so knowledgeable and puts that knowledge to good practice. Richard

I would and will refer anyone I know (including family) to this clinic. Excellent care. Thank you! William

I like this clinic and would drive the extra miles here than one that is closer. If I have to return to therapy I will request THC. Bonnie

Exercise of the Month

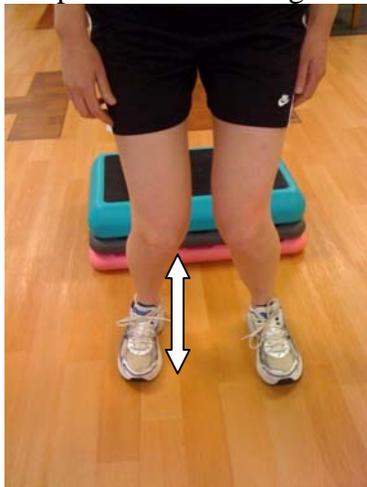
Depth Jump

Jump from box

Standing on a box (6-18 inches high), hop from the box, dropping to the floor. Land with the feet shoulder width apart and the knees flexed to absorb the forces of landing. Hold the landing position for 3 seconds.



Proper – knees are aligned with feet and not in front of the toes



Improper – knees are dropping in and in front of toes