



It's February already! We're in full-blown basketball season and the club volleyball and soccer seasons start soon. These 3 sports are the leading causes of ACL injuries. To find out more about this common problem, read on below. Also, **between now and February 19**, Physical Solutions is working with Kerri DeLair of **Gait Toward Hope for Haiti** to collect used orthopedic equipment to help those in Haiti. See below for more information on how you can help!

If you would like to sign up for a regular email version of this newsletter delivered to your email inbox, sign up on our website (<http://physicalsolutionsnc.com>) or contact our office and we'd be happy to add you to the list.

**Cathy Busby**

### PREVENTING ACL INJURIES

The ACL is the *anterior cruciate ligament* and its job is to stabilize the knee. It can be found inside the center of the knee joint, connecting the femur (thigh bone) to the tibia (shin bone). Any sport or activity that requires a lot of stress on the knee, especially if it's accompanied by twisting, can damage the ligament to the point that surgery is required.

Each year more than 100,000 ACL repairs are required each year in the US, with most of the problems occurring in females 15 to 25 year olds. Over 1.4 million women have been affected by an ACL tear in the last 10 years. One in 100 female high school athletes and an amazing one in 10 collegiate athletes will sustain an ACL tear. Over a billion dollars a year are spent for just ACL injuries. This doesn't include initial emergency care, rehab for those who don't have surgery, or the future cost of any degeneration which may occur.

Most ACL injuries in females are non-contact injuries, meaning the athlete's own movements or reactions to landing from a jump are the cause of the injury. Some of the risk factors for injuries are:

- A poor balance of hamstring muscle strength to offset the strength of the quadriceps (hamstring-to-quad strength ratio)
- An inappropriate knee position while cutting to the side or landing from a jump
- Poor core strength
- Poor flexibility
- Playing high level sports without proper preparation
- Sport-specific skills training with little or no time spent on developing appropriate strength and flexibility.

### Preventing ACL Injuries

Studies have shown that up to 80% of the non-contact ACL injuries could be prevented. There are 2 programs in particular that have proven to be successful, both of which we use at Physical Solutions to help prevent ACL injuries. One program is Sportsmetrics™

### GAIT TOWARD HOPE FOR HAITI

<http://gaittowardhope.org>

- Do you have a pair of crutches collecting dust in your attic?
- Did a previous surgery require you to use a cane?
- Does a family member have a wheelchair that is no longer needed?

The devastation in Haiti has left tens of thousands of people with broken bones, crush injuries and amputations. Without assistive aides such as walkers, canes, wheelchairs and crutches, regaining mobility will be almost impossible. The gently used orthopedic equipment that many of us have sitting unused in our attics and basements will make a significant and positive impact towards the rehabilitation of Haiti's injured.

Between now and February 19, Physical Solutions is helping collect used orthopedic equipment for transport to Haiti - please consider donating the following equipment today:

- Canes (straight or quad canes; wood or metal)
- Crutches (wood or metal)
- Walkers (standard or rolling)
- Wheelchairs

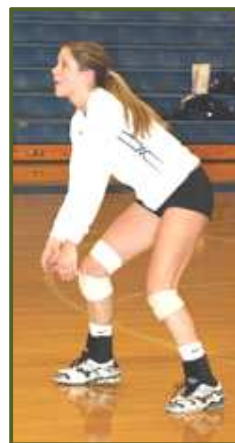
developed by the Cincinnati Sports Medicine Research & Education Foundation and the other is the PEP program (Prevent injury, Enhance Performance) developed by the Santa Monica ACL Prevention Project. Both programs focus on identifying the problem, strengthening the muscles supporting the knee, and improving landing and lateral movement techniques.

**Identifying the Risk**



Ask your athlete to jump off of a step that's 12 to 18 inches high. Observe them from the front and watch their knees as they land. If their knees either stay relatively straight or locked when they land OR if their knees move inward beyond their great toe, these are 2 huge risk factors in sustaining an ACL injury in both males and females.

Observe your athlete in the universal athletic position (UAP – right). Once they are properly in position, ask them to do a lateral shuffle side-to-side maintaining this perfect position. If they are unable to get into this position or cannot maintain this position it could signify a problem.



To prevent ACL injuries, student athletes and their parents need to seek additional training from somebody with training and a background in biomechanics, rather than pursuing an overall strength program in a generic gym.

At Physical Solutions, we give a two-for-one program for your money – an injury prevention program as well as training for the demands of the specific sport. These programs can be offered to individuals or to the entire teams as a group.

**Santa Monica ACL Prevention Project:** <http://www.aclprevent.com/pepprogram.htm>

**Sportsmetrics:** <http://www.sportsmetrics.net/>

**Article about recent study:**

<http://well.blogs.nytimes.com/2009/09/09/phys-ed-preventing-acl-injuries-in-girls/>

**MORE ABOUT THE BODY BUGG**

**QUESTION FROM CATHY:** We've been trying out the BodyBugg with great success (more in next month's newsletter). We're exploring the option of offering individual or group classes for getting the most out of this device that monitors calorie use and motion. Many people who want to use this device will want to buy it for long term use. However, we're also considering purchasing some units for rental. Let us know if this would be of interest to you.

**The BodyBugg:** <http://www.24hourfitness.com/training/bodybugg/>

This device measures not only forward movement like a pedometer does, but also correlates calorie loss with motion from multiple directions, steps walking and running, and skin response (sweat levels and skin response).

**ABOUT PHYSICAL SOLUTIONS**

Physical Solutions was founded by Cathy Busby to provide effective, efficient solutions to relieve pain and to return individuals to the highest level of function possible. Cathy's experience as an athlete, teacher, coach, and physical therapist gives her a unique perspective to help you work toward peak physical performance, whether you're an athlete or if you just want to be able to do daily activities without pain.

Cathy's unique ability to biomechanically analyze movement and her manual therapy skills leads to effective correction of each individual's problem. Working with her team at Physical Solutions, clients can move seamlessly to a fitness/ training program in a safe environment to achieve the best physical condition and health ever.

**Worried about your student athlete's ACL or interested in a Team Consult?**

Come in for a free consultation and talk with us about exercises and training that can prevent injury. Have a free, personalized visit with one of our licensed physical therapists.

When you call to make an appointment, mention this offer for your free consultation.