



# Linda Stevenson

## PHYSIOTHERAPY

### Stretching: what's all the fuss?

The sports medicine journals have been talking about the effect of stretching and injury prevention for many years.

Recently, people have been talking about a study performed in 2000<sup>(1)</sup> by an Australian research team where 1,528 Army recruits were looked at over an 11-week period with half statically stretching before exercise. The conclusion was that static stretching during warm up did not have any effect on the rate of lower limb injuries. The recruits had never done any serious training before and their ages ranged from 17–35.

Some other work<sup>(2)</sup> has been done on elite marathon runners, once again on leg injuries, and this too suggested that static stretching in the warm up did not help in the prevention of injuries. Usually 50% of injuries are recurrences, which is more of a determining factor of injury rate over age. In fact the more experienced and fitter you are in your sport, the less likely you are to injure yourself.

Ballistic stretching (where muscles are stretched to their limits and then quickly relaxed and then re stretched in an alternating hurried pattern) is a sure way to injure a cold muscle.

Lets talk a little about flexibility and injury... it is well known that the highest group of flexible people have more injuries. Your flexibility is determined by the ratio of collagen vs. elastin in your soft tissues (i.e. muscles, ligaments and tendons). As you can probably work out, the gymnasts of this world have a higher ratio of elastin than the average Joe on the street, and this is where strength comes into the equation.

If you are unable to control that amount of flexibility then you are going to put more stress on all structures, either by a joint dysfunction or compensatory muscular type of injury. This is backed up with the sport specific training as you build up strength in the line of activity. **This all goes back to stability: having a solid base to work from will in fact help with the prevention of injuries.**

#### **So what should you do in your warm up and when should you stretch?**

Remember that a warm up also includes cardiovascular work, which helps blood flow to the area to be worked, increasing the muscle's temperature and reducing its stiffness – to be effective, this needs to last at least 10 minutes. Then you can do some dynamic stretches that take the muscle to its full length and then back again.

This is different to ballistic – see above – these dynamic stretches are best if they resemble the action of the sport you are to do (so there is no place for side stepping for rowing in my opinion) these can then gradually build with intensity. The warm up also has a mental preparation affect.

Evidence suggests that static stretching during the cool down is a good way of preventing injuries, so always remember you get more bang for your buck by doing static stretching after your session, as then the blood is racing around the body getting to the worked muscles.

Food for thought!

(1) 'A Randomised Trail of Pre-exercise Stretching for Prevention of Lower Limb injury', Medicine and Science in Sports and Exercise, Vol.32 (2), pp.271-277, 2000

(2) 'New Study Links Stretching With Higher Injury Rates', Running Research News, vol.10 (3)pp.5-6,1994