Anterior cruciate ligament injuries may be prevented by different landing strategy

Women are two to eight times more likely than men to suffer a debilitating tear of the anterior cruciate ligament in the knee. New studies suggest that a combination of body type and landing techniques may be to blame (Norcross et al, 2013a,b).

Lead author Dr Marc Norcross of Oregon State University found that women who were asked to undergo a series of jumping exercises landed more often than men in a way associated with elevated risk of anterior cruciate ligament injuries.

The researchers used motion analysis software to monitor the landing strategies of 82 physically active men and women.

Both males and females had an equal likelihood of landing stiffly – likely from tensing the muscles in their quadriceps before landing – putting them at higher risk of anterior cruciate ligament tears. However, women were 3.6 times more likely to land in a 'knee valgus' (essentially knock-kneed) position, which the researchers said may be the critical factor leading to the gender disparity in anterior cruciate ligament tears.

Dr Norcross commented: 'We found that both men and women seem to be using their quad region the same, so that couldn't explain why females are more at risk.'

He continued: 'Using motion analysis, we were able to pinpoint that this inability to control the frontal-plane knee loading – basically stress on the knee from landing in a knock-kneed position – is a factor more common in women.'

'Future research may isolate why women tend to land this way,' Dr Norcross added, 'but it could in part be because of basic biology. Women have wider hips, making it more likely that their knees come together after jumping.'

Norcross MF, Lewek MD, Padua DA, Shultz SJ, Weinhold PS, Blackburn JT (2013a) Lower extremity energy absorption and biomechanics during landing, part I: sagittal-plane energy absorption analyses. *J Athl Train* Aug 14 (Epub ahead of print)

Norcross MF, Lewek MD, Padua DA, Shultz SJ, Weinhold PS, Blackburn JT (2013b) Lower extremity energy absorption and biomechanics during landing, part II: frontal-plane energy analyses and interplanar relationships. *J Athl Train* Aug 14 (Epub ahead of print)

Patients with severe asthma respond less to steroids

People with severe asthma, who are often described as 'steroid-dependent', are actually less likely to respond to the treatment they depend on compared to people with mild asthma.

A study presented at the European Respiratory Society Annual Congress in Barcelona is the first analysis of a cohort of patients from a research project that will collect over 3 million samples from 300 children and 700 adults with severe and non-severe asthma, and without asthma.

The U-BIOPRED project is looking at how severe asthma differs from one person to another in the hope of categorizing the disease into subgroups. The aim is for researchers to develop more personalized medicine, which treats the specific disease in each specific individual.

The results of this initial study have described common characteristics found among children and adults with severe asthma. They found that 55% of adults with severe asthma took regular oral corticosteroids and yet showed greater airway obstruction than the mild or moderate cohort.

Patients with severe asthma still experienced exacerbations and severe symptoms despite taking high doses of the corticosteroids.

The level of airway obstruction in children with severe and mild/moderate asthma was similar. Children with severe asthma had higher fraction exhaled nitric oxide levels, which is a measurement used to diagnose asthma.

David Gibeon, lead author of the study from Imperial College, London, said: 'We would like to understand why people with more severe asthma are less responsive to the effects of corticosteroids. Our parallel work on the ways in which patients with asthma respond to corticosteroid treatment, which is a commonly-used treatment for asthma, show that asthmatics may become less responsive to this treatment in many different molecular ways.'

Aflibercept approved to treat visual problems from central retinal vein occlusion

Eylea (aflibercept solution for injection) has been approved for the treatment of visual impairment caused by macular oedema secondary to central retinal vein occlusion. Eylea is also available to treat wet age-related macular degeneration.

Roflumilast add-on therapy shows benefits in COPD patients

Daxas (roflumilast) significantly reduces exacerbation frequency and improves lung function in patients with chronic obstructive pulmonary disease (COPD), independent of concomitant treatment with statins and angiotensin-converting enzyme inhibitors, when used in addition to bronchodilator treatment.

Training to improve care of patients with dementia

Academics and clinicians from across Greater Manchester, as well as people with a diagnosis of dementia and carers, have devised a new training programme ('Getting to Know Me') for general hospital staff. The programme increases staff knowledge, confidence and skills in caring for these patients.