



ACL Rupture in Young Female Tennis Players

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Case Reports

Between 2002 and 2005 we have analysed the cases of seven girls aged between 14-16 years, who tore their ACL whilst playing a tennis match:

- All of the girls were right handed, nationally ranked and the injury occurred on the right knee whilst trying to reach a ball deep to the backhand side (trying to move laterally and backwards).
- All of the injuries occurred after more than one hour playing time and we personally watched 6 out of the 7 cases occur!
- During this time period, we have not seen any non-contact ACL rupture in boys!

Discussion

Women's participation in athletics has increased dramatically in recent years. Greater participation has increased the awareness of medical issues specific to the female athlete. As early as 1995 research had shown significantly higher ACL injury rates in women compared with men (Arendt and Dick, 1995). Non-contact mechanisms are the primary cause of ACL injuries in women.

The risk factors for non-contact ACL ruptures fall into four distinct categories:

- Environmental
- Anatomical
- Hormonal
- Biomechanical

Noyes and colleagues stated that hamstrings to quadriceps muscle peak torque ratio is weaker in women compared to men and concluded that a specific plyometric training programme could help in preventing ACL injuries in female athletes.

Conclusion

In agreement with the current literature and from our own experience with non-contact ACL tears in young female tennis players, which can be attributed to poor coordinative skills and weak muscular stabilisers around the knee, we highly recommend a preventive plyometric training programme.

In our training facility we give examples of how such a training programme to all young female tennis players.

References

Arendt, E., and Dick, R. (1995). NCAA surveillance study. *Am.J. Sports Med*, 23.