

Resources: Injury prevention in junior and women's sport

Podcast: Brooke Patterson discusses injury risk, management and prevention in junior and youth AFL players with Lauren Arnell, Steve Teakel and Dale Amos on the AFL Victoria Coach2Coach podcast.

Infographic: How to make sport safer for women and girls.

Research: A summary of key injury prevention research in male and female soccer.

Blog: La Trobe Sport and Exercise Medicine Research Centre.

App: FitrWoman is a free app which enables women to track their menstrual cycle, symptoms and training to receive training and nutrition suggestions around their physiology. The app is aimed at helping athletes train smarter and make informed decisions.

Information (below): How and why your team should implement 'FootyFirst', a structured warm-up to enhance injury prevention.

Why your team should use FootyFirst

Lower limb injuries—particularly hamstring and groin muscle strains/tears and knee and ankle ligament sprains/tears—are the most common types of injuries in Australian football. Not only do they occur most frequently, they are often the cause of players being unable to complete games, missing training and being unavailable for selection for matches. Treatment for these injuries can also be costly for players and the long term consequences, such as instability or osteoarthritis of the knee and ankle, can be very debilitating.

What the research evidence says:

Injury prevention

A review of seven high-quality studies of neuromuscular training programs like FootyFirst in sports with similar movement patterns and lower limb injury profiles to Australian football (basketball, volleyball, soccer, team handball, hockey and floorball) found a:

- 39% reduction in the risk of lower limb injuries
- 54% reduction in the risk of acute knee injuries and
- 50% reduction in the risk of ankle sprain injuries.¹

A trial of a neuromuscular training program (PAFIX) that underpinned many of the FootyFirst exercises found that community Australian football players who participated in the program:

- reduced the rate of knee injuries by 50%
- reduced the rate of lower limb injuries by 22%²

Research evidence indicates that participating in neuromuscular training programs like FootyFirst can protect against both acute and overuse or gradual onset injuries, and reduce the severity of the injuries that are sustained. These programs are more effective in preventing injuries with players with a history of sports injuries.

A trial of the Nordic hamstring exercise program — the same exercise that is included in FootyFirst — among professional and amateur soccer players, found a:

- 70% reduction in acute hamstring injuries (new injuries and re-injuries)
- 85% reduction in re-injuries alone.²

The relationship between reducing injuries and improving team performance

A study in European domestic and champions' league football (soccer) showed that injuries had a significant influence on team performance with:

- Lower injury burden and higher match availability associated with higher end of season league ranking, and increased points per league match.
- Teams with both decreased injury rates and injury severity compared with the preceding season more likely to improve team performance.³

A study in Qatar first-division football (soccer) found that clubs with lower injury incidence showed a strong correlation with:

- More games won
- A higher league position (and total league points)
- More goals scored (and a greater goal differential)⁴

What the expert says:

“Implementing a structured warm-up enhances injury prevention. FootyFirst is based on the best available research evidence and it is designed specifically for community Australian football. The exercises included in FootyFirst, and the progressive loading and technique-focused training principals underpinning the program are similar to those used extensively across the AFL with appropriate adaptations to suit community football players, coaches and clubs. As a high performance manager at an AFL club I would strongly encourage every community football club and coach to embrace FootyFirst. FootyFirst will help build fitter, stronger and more resilient footballers”.



David Buttifant (PhD in sports physiology)
Sports Science Director, Collingwood Football Club 2001–13
including 2010 premiership and Grand Finals in 2002, 2003 and 2011
High Performance Manager, Carlton Football Club 2014–15

What community football coaches who have used FootyFirst say:

“We used 42 players (in the seniors) in the last 2 years, 43 one year, 42 the other and I think we are up to about 34 at the moment (after using FootyFirst for a season). So we are definitely well down on injuries from that point of view.”

Senior coach
Ocean Grove Football Club
Bellarine Football League, 2012

“Actually, we have had one player, XXXXX who is sort of 6' 4" really athletic player, but solid. He's been here and this has been his 3rd year. In the first 2 years he's played 8 games, but he has played every game this year.....with one legged squats, controlled jumps, and all that sort of stuff. I call it hamstring lay downs, you know how they hold the ankles and go down. He's played every game. Now, if you were going to do a case study on not doing it and then doing it, he would be a perfect example.”

Senior coach
St Mary's Football Club
Geelong Football League, 2012

“Look, I can only tell you from our point of view that, from the point of view of keeping players healthy, and playing football, doing what they want to do when they come there, it has been a success in the last two years and hopefully we can take it through to 2014 and have the same effect. It has been a very easy thing to adopt. It is not out of left field. There is there no extra time added to it. It has been put into the training regime as a segment of training that we are doing, players didn't know any different, they were just doing it.”

Head trainer
Ocean Grove Football Club
Bellarine Football League, 2013

References

1. Hübscher M, Refshauge KM. Neuromuscular training strategies for preventing lower limb injuries: what's new and what are the practical implications of what we already know? *British Journal of Sports Medicine*. 2013;47(15):939-940.
2. Finch C.F., Twomey D.M., Fortington L.V., Doyle T.L.A., Akram M., Elliott B.C., Lloyd D.G., Preventing Australian football injuries with a targeted neuromuscular control exercise program: comparative injury rates from a training intervention delivered in a clustered randomised controlled trial, *Injury Prevention*, (In Press).
3. Petersen J, Thorborg K, Nielsen MB, Budtz-Jørgensen E, Hölmich P. Preventive effect of eccentric training on acute hamstring injuries in men's soccer. *The American Journal of Sports Medicine*. 2011;39(11):2296-2303.
4. Hägglund M, Waldén M, Magnusson H, Kristenson K, Bengtsson H, Ekstrand J. Injuries affect team performance negatively in professional football: an 11-year follow-up of the UEFA Champions League injury study. *British Journal of Sports Medicine*. 2013;47(12):738-742.
5. Eirale C, Tol J, Farooq A, Smiley F, Chalabi H. Low injury rate strongly correlates with team success in Qatari professional football. *British Journal of Sports Medicine*. 2013;47(12):807-808.

How to implement FootyFirst at your club

Having access to the program is only the first step in getting the benefits from FootyFirst. The biggest challenge is getting players to do the exercises regularly and properly. Many football clubs and coaches have introduced FootyFirst but every club and coach is different and some have been more successful than others in implementing FootyFirst. Our experience shows that the keys to successfully implementing FootyFirst are:

1. **Get senior coach “buy-in” to the program.** Unless the senior coach supports the program and cares whether or not it is done regularly and properly, it is unlikely to become a regular part of training. The senior coach does not need to actually deliver the program themselves, but they must support it and provide the time needed to do it (about 15–20 minutes like most other warmups).
2. **Find someone with the interest, knowledge and skills needed to lead the program.** This could be the senior coach if they are interested, a respected player with an interest in fitness, the fitness, strength and conditioning or high performance coach, a sports trainer or the club physio (if your club has these personnel). It is crucial that a respected person at your club who knows what they are doing (or is willing to learn) leads the program and is responsible for the program.
3. **Persist.** It will take time to get any new program or change embedded in your club or team. Have a plan about what to do when:
 - a. New players join the team or you have players at many different fitness levels.
 - b. Players return to training after a break (e.g. over the Christmas and New Year period).
 - c. Transitioning from pre-season training to trial games and into the playing season.
 - d. The person leading the program is away for an extended period.
 - e. More time needs to be devoted to other things like game plan development and skill development.
 - f. The weather is poor.
4. **Establish FootyFirst as your ‘standard’ warm up.** FootyFirst has been designed to replace existing warm-ups and become part of every training session. Set expectations that players will do the program consistently and properly – make it mandatory and enforce it for all players. Ensure all coaches endorse this at all times.
5. **Explain to the players, coaches and support staff why FootyFirst is being introduced.** Promote FootyFirst because it:
 - a. Has the potential to provide the team and club with a competitive advantage – less injuries means more players available for selection which can lead to better team performance and ultimately more wins.
 - b. Has the potential to also improve the football performance of individual players – better core strength, better landing technique and better cutting and changing direction technique makes for better football players.
 - c. Is better, more efficient and more effective than your current warm-up if you are not already doing FootyFirst – if players are going to do something they might as well do something that has a specific purpose and you know will work.
6. **Get senior player support.** Make sure a couple of respected players (e.g. the club captain) are on board who will participate enthusiastically and get everyone else committed to FootyFirst.
7. **Explain to the players what each FootyFirst exercise is designed to achieve.** Players are more likely to do the FootyFirst exercises regularly and properly if they understand what the exercises are meant to be doing and how they will help them. Your coaching team is important here.
8. **Get the playing group to take ownership of the program.** Even if the FootyFirst ‘leader’ is not there, players should still do the exercises anyway. This can be done by getting:

- a. Different players to lead different exercises.
 - b. Players to provide feedback to each other on the quality of performance of each exercise — correct technique is really important with these exercises.
 - c. Players to maintain their own records of which level they are up to and self-assess when they should progress to the next level.
9. **Point out when players are improving.** It is surprising how quickly players get better at things like a single leg squat over a short period of time if they have never done it before. Consider doing some sort of pre-testing or videoing of players doing each exercise so they have a benchmark against which to measure any improvements in strength, balance or technique.
10. **Be creative when introducing the FootyFirst exercises into your program.** Consider things like:
- a. Building some of the FootyFirst exercises into other drills and activities (e.g. add single leg balance when players are listening to a coach talk or when taking a break for a drink; add change of direction or jumping and landing activity in the middle of an “A kicks to B and runs through” type drill).
 - b. Setting out stations with FootyFirst exercise instructions for players before they arrive for training and getting an assistant coach, a sports trainer, an injured player or even a committee member to oversee what the players do.
 - c. Providing feedback on jumping and landing, and change of direction technique during all football activities. If someone’s technique is poor, point it out, show them what they need to do to improve it and get them to work on it.
11. **Use the FootyFirst resources.** Show the players the FootyFirst DVD/video. Put the FootyFirst posters up around the club. Leave a FootyFirst manual around the club room. Give players their own copy of the FootyFirst poster for the level they are currently on.
12. **Develop a FootyFirst succession plan.** Coaches, players and support staff come and go at football clubs so you will need a plan to ensure that, if your coach or the FootyFirst ‘champion’ or leader leaves the club, FootyFirst will continue. This plan could include:
- a. Ensuring FootyFirst is an expectation for any new coach or fitness, strength and conditioning or high performance person.
 - b. Making sure the program’s success does not depend only on one or two people – make it a whole club priority with multiple ‘champions’.
 - c. Keeping injury records so you can show everyone that it works and is worth continuing at your club.

Below is some feedback from the clubs that have already used FootyFirst:

“So it wasn’t an addition to what we were doing. It was probably we are doing this instead of ... some of the things we have done in the past. So nah, it wasn’t ... a burden or anything like that.”

“So you get into a routine of doing it and it becomes second nature.”

“I think it is the initial shock of, there’s this big program. It’s this, it’s that. It is sort of a bit daunting. But I think when you break it down, it really isn’t a huge time commitment. It isn’t difficult stretches or exercises. So I think, once you get into it you realise well hang on.... it ..is just more of a structured version of what we are doing.”

“Absolutely, and it is much more purposeful. Much more focusing on, instead of silly kick to kick that you could do with your grandma, into being a much more football applicable activity. I think we are actually making more of our time now rather than wasting what we used to..”

“Initially they had to get over “oh, we’ve got to do this on top of our training” and feeling as though they were time poor. That we can barely fit everything in, how are we going to fit this in as well. But

once they saw that it was probably better than the warm-ups they had been doing, more inclusive of body parts, they would choose this in preference to our old style warm-ups. So once they realized that we are going to do it and no point whinging about it, and the fact that it is actually very good, they don't have an issue with it at all. At all."