

## Preventing injury in youth soccer players using the FIFA 11+ program

Soccer has been identified as one of the top three sports contributing to injury rates in Canadian youth (ages 11-18), accounting for greater than 10% of all sport injuries requiring medical attention.<sup>1</sup> The estimated injury rates in youth soccer where there is no established injury prevention training program range from 22-35 injuries/100 participants/year.<sup>1-5</sup> Ankle injuries are the most common injury type in youth soccer, followed by knee and groin/thigh injuries.<sup>3-4</sup> Knee and ankle injuries result in an increased risk of early post-traumatic osteoarthritis (PTOA). Long term follow-up studies provide evidence that 12-20 years post knee joint injury (e.g. meniscus and/or ACL injury), greater than 50% will have knee OA in comparison with 5% in the uninjured population.<sup>6-9</sup> Preventing lower extremity injuries in soccer is critical, as injuries are associated with increased potential for future disability, inactivity and potentially greater health care costs.

Between 2006 and 2008, FIFA developed an injury prevention program for soccer called the FIFA 11+. The 11+ program is a 20 minute warm-up that consists of 15 exercises, including (1) running, (2) strength, plyometrics, and balance and (3) additional running components. Throughout the program there is a focus on cutting, jumping and landing technique. The 6 exercises addressing strength, plyometrics and balance have three levels of difficulty for progression. The program is intended to be completed before training and game sessions.

Completion of the FIFA 11+ has been shown to effectively reduce injury rates. For example, in one study the FIFA 11+ demonstrated a risk reduction of all injuries by 32% and of lower extremity injuries by 29%.<sup>10</sup> Research conducted in Calgary suggests an even greater protective effect in female youth soccer players with high adherence to the 11+ program compared to those with low adherence.<sup>11</sup> Further, there is evidence that high adherence to the 11+ has performance benefits, including improved functional balance.<sup>12</sup> Research has also identified that adherence to the program is greater when the coach participates in a comprehensive 11+ coach workshop and the program is coach-delivered on the field.

Despite the compelling evidence that the 11+ can prevent injuries in youth soccer players, in Canada there is currently minimal uptake of the 11+ in youth soccer leagues. As such, stakeholders with an interest in injury prevention, including researchers and community organizations (i.e. soccer and health care professional organizations), have partnered to improve quality and safety in soccer by increasing the awareness and adoption of the FIFA 11+ program in leagues across Canada. This work requires a coordinated approach to the management of players with reinforcement of 11+ program completion through coaches and/or health care professionals involved in youth soccer. Health care professionals have an important role in educating soccer stakeholders, including club administrators, coaches, players and parents, about injury prevention. There is significant opportunity to reduce injury rates and the associated life-long inactivity, pain and disability that can be associated with injury in youth.

The FIFA 11+ program is available on the web site <http://f-marc.com/11plus/home/>. The exercises need to be completed in a supervised environment to ensure they are performed correctly. For youth players, parents should also be involved to reinforce the importance of injury prevention for lifelong participation in sport and recreation.

For further information about the FIFA 11+ program or ongoing strategies to promote program implementation, please contact Rhona McGlasson at [Rhona.McGlasson@bell.com](mailto:Rhona.McGlasson@bell.com)

### Contributions

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