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| ***S3 Table****. Results and conclusion of included studies for the injury rates (alphabetical order by first author)* |
| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| **Mixed approach** |
| *Aerts et al.*  *(2013)21* | **Incidence of LE injury [1000 h/E] and injury risk [HR]** *E [h]***Total** *Acute* *Overuse* | 5226.5N = 18; 3.6 (95% CI 1.9 – 5.25); HR 0.40 (95% CI 0.16 – 0.99)\* N = 15; 3.0 (95% CI 1.48 – 4.5); HR 0.37 (95% CI 0.12 – 1.1)N = 5; 1.0 (95% CI 0.12 – 1.87); HR 0.47 (95% CI 0.09 – 2.56) | 5009.7N = 28; 5.4 (95% CI 3.4 – 7.3); ↑N =21; 4.0 (95% CI 2.3 – 5.7); ↑ N =7; 1.4 (95% CI 0.35 – 2.33) | Effective prevention of LE injuries. |
| *Andersson et al. (2016)19* | **Prevalence of shoulder problems in the dominant arm [1-S] and injury risk [OR]** *E [h/wk.]**Problems* *Substantial* | 48117% (95% CI 16% - 19%); OR 0.72 (95% CI 0.52 – 0.98)\* 28% ↓5% (95% CI 4% - 6%); OR 0.78 (95% CI 0.53 – 1.16) | 50523% (95% CI 21% - 26%); MD: 6% 8% (95% CI 7% - 9%); MD: 3% | Reduction of prevalence and risk of shoulder problems in elite handball. |
| Eils *et al.* *(2010)46* | **Risk of ankle injuries [OR]** *E [total no. sports participation]* *Ankle injuries* *History ankle injury***NNT** | 4565 N = 7; OR 0.355 (95% CI 0.151 – 0.835); p = 0.018\* OR 1.6 (95% CI 0.755– 3.553); p = 0.2127 | 4876 N = 21 | A proprioceptive exercise program can reduce the frequency of ankle injuries as well as potential biomechanical risk factors. |
| *Emery et al.* *(2007)29* | **Incidence ankle sprain [1000 player h] and injury risk [rr]** *E [h]***Total** *LE* *Acute* *Ankle sprain* | 39369N = 130; 26.32 (95% CI 22.48 – 30.43) rr 0.8 (95% CI 0.57 – 1.11)N = 106; 2.69 (95% CI 2.2 – 3.26);  rr 0.83 (95% CI 0.57 – 1.19)N = 109; 2.77 (95% CI 2.27 – 3.34);  rr 0.71 (95% CI 0.5 – 0.99)\*N = 62; 1.57 (95% CI 1.21 – 2.02);  rr 0.71 (95% CI 0.45 – 1.13) | 34955N = 141; 33.1 (95% CI 28.64 – 37.79)N = 111; 3.18 (95% CI 2.61 – 3.82)N = 137; 3.83 (95% CI 3.21 – 4.54)N = 76; 2.46 (95% CI 1.97 – 3.04) | Protective effect in reducing acute-onset injuries in high school basketball. A clinically relevant trend with respect to all, lower-extremity and ankle sprain injuries. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Emery et al.* *(2007)29* | **Time lost [d]** Mild Moderate Severe**Gender effect** *Total* *LE* *Acute* | 71.3% (95% CI 62.7 – 78.9)10.1% (95% CI 5.5 – 16.6)18.6% (95% CI 12.3 – 26.4)Injury proportion do not differ between groups.♀↑ rr 0.64 (95% CI 1.14 – 2.33)rr 1.64 (95% CI 1.1 – 2.38)rr 1.47 (95% CI 1.02 – 2.13) | 74.3% (95% CI 66.1 – 81.4)16.2% (95% CI 10.4 – 23.5)9.6% (95% CI 5.2 – 15.8) |  |
| *Emery et al.* *(2010)32* | **Incidence soccer injuries [1000 player h and 100 players1] and injury risk [iRR]***E [h]***Total**  *Single injury* *Two* *Three* *Acute onset* *LE, ankle & knee* *Ankle* *History within 1 yr.***Severity** *Moderate [8 – 28 d]* *Severe [> 28 d]* | 24051 N = 50; IR 2.08 (95% CI 1.54 – 2.74) and IR 13.16 (95% CI 9.93 – 16.98)1; IRR 0.62 (95% CI 0.39 – 0.99); p = 0.045\*; ↓38%N = 46N = 2N = 42 (84% (95% CI 70.89 to 92.83)); IR 1.75 (95% CI 1.26 – 2.34); IRR 0.57 (95% CI 0.35 – 0.91); p = 0.018\*; ↓43%No difference (IR 0.126, IR 0.065 and IR 0.232, respectively); reduction trend, but not significant – point estimatesN = 14 (28% (95% CI 16.23 to 42.49)); ↑ risk in ♀ (IRR 1.86 (95% CI 0.72 – 4.8)) - point estimates↑ risk in ♀ (IRR 2.54 (95% CI 0.25 – 28.53) - point estimates↑ risk of injury for all injury definitions and players (U16–U18) and for all injury, acute-onset and ankle-sprain injury (U13–U15)N = 13 (26% (95% CI 14.63 – 40.34)) N = 1 (2% (95% CI 0.05 – 10.64)) | 23597N = 79; IR 3.35 (95% CI 2.65 – 4.17) and IR 21.7 (95% CI 17.58 – 26.3)1N = 63N = 5N = 3IR 3.05 (95% CI 2.39 – 3.84)N = 72 (91.14% (95% CI 82.59 to 96.36))N = 27 (34.18% (95% CI 23.81 to 45.71))N = 13 (16.46% (95% CI 9.06 – 26.49)) N = 5 (6.33% (95% CI 2.09 – 14.16)) | Training program (on-field and home-based) has a protective effect on all injury and acute-onset injury in community youth soccer. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Gilchrist et al. (2008)35* | **Incidence ACL injury [1000 AE]***E [h]***Total knee** *ACL* *Noncontact* **Training** *Total knee**ACL* *Noncontact* **Match** *Total knee* *ACL* *Noncontact* **History of ACL***Total knee* *ACL* *Noncontact* **Without history** *Total knee* *ACL* *Noncontact* | 26 558N = 40; IR 1.14N = 7; 41% ↓ IR 0.2 N = 2; 70% ↓ IR 0.06;N = 8; IR 0.30No ACL injury\*No ACL injuryN = 29; IR 3.37 N = 7; IR 0.81N = 2; IR 0.23N = 7; IR 0.2N = 1; IR 0.03No ACL injury\* N = 33; IR 0.94N = 6; IR 0.17N = 2; IR 0.06 | 41 948N = 58; IR 1.1N = 18; IR 0.34N = 10; IR 0.19 N = 19; IR 0.47N = 6; IR 0.15N = 3; IR 0.074N = 37; IR 2.98N = 12; IR 0.97 N = 7; IR 0.56 N = 16; IR 0.3N = 7; IR 0.13N = 4; IR 0.08N = 41; IR 0.78N = 10; IR 0.19N = 6; IR 0.11 | Reduction of ACL injury risk in collegiate female soccer, especially those with a history of ACL injury. |
| Hammes *et al.* *(2014)33* | **Soccer injury incidence [per 1000 h] and risk [RR]***Severe [n (%)]* | N = 11 (22); IR 2.6 (1.1 – 4.2); RR 0.46 (0.21 – 0.97); p = 0.04 | N = 17 (46); IR 5.8 (3 – 8.5); RR 0.46 (0.21 – 0.97); p = 0.04 | The FIFA 11+ warm-up did not yield in reductions of injury incidence in veteran soccer players. |
| No between-group differences in: No. of injuries (overall; training; match), Mechanism (trauma; contact; non-contact), Severity (overuse; mild; moderate), Location (upper/lower extremities, thigh, lower leg, knee, other locations, muscle/tendon, joint/ ligament, other), Reinjury (recurrence; delayed occurrence) |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Kiani et al.*  *(2010)30* | **Incidence any new knee injury** **[1000 player h] and injury risk [RR]** *E [h]***Total**  *Noncontact* | 66 981N = 3; IR 0.04; 77% ↓; RR 0.23 (95% CI 0.04 – 0.83)N = 1; IR 0.01; 90% ↓; RR 0.10 (95% CI 0.00 – 0.70) No ACL injuries.Injury severity ↓ | 66 505N = 13; IR 0.20 N = 10 (5 ACL); IR 0.15 | Reduction of knee injury incidence in young female soccer. |
| *LaBella et al.* *(2011)36* | **Incidence LE injury [1000 AE] and injury risk [IRR]** *E [h]***Total**  *Gradual onset* *Acute onset* *Ankle sprain* *Knee sprain* *ACL sprain* *LE surgery* *>2 injuries* *Gradual onset* *Acute onset* *Ankle sprain* *Knee sprain* *ACL sprain* | Intention-to-treat28 023 N = 50; IR 1.78 (95% CI 1.29 – 2.28)\*IR 0.43; 65% ↓; IRR 0.35 (95% CI 0.18 – 0.69)\*IR 0.71; 56% ↓; IRR 0.71 (95% CI 0.26 – 0.76)\*IR 0.25; 66% ↓; IRR 0.34 (95% CI 0.14 – 0.81)\*IR 0.21; IRR 0.45 (95% CI 0.17 – 1.21)IR 0.07; IRR 0.27 (95% CI 0.06 – 1.35)IR 0; IRR N/D3 AAdjusted by provided personal information (855 A)IR 0.54; IRR 0.48 (95% CI 0.18 – 1.26) IR 0.88; IRR 0.33 (95% CI 0.17 – 0.61)\*IR 0.34; IRR 0.38 (95% CI 0.15 – 0.98)\*IR 0.29; IRR 0.30 (95% CI 0.10 – 0.86)\*IR 0.10; IRR 0.20 (95% CI 0.04 – 0.95)\* | Intention-to-treat22 925 N = 96; IR 4.19 (95% CI 3.35 – 5.02)IR 1.22IR 1.61IR 0.74IR 0.48IR 0.26IR 0.17\*13 A Adjusted by provided personal information (855 A)IR 1.12IR 2.57IR 0.88IR 0.88IR 0.46 | Reduction of noncontact LE injuries in female high school soccer and basketball. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Longo et al. (2012)37* | **Incidence basketball injury [1000 AE] and injury risk [OR]***E [h]***Total**  *Training* *Match* *LE* *Acute* *Severe* *Overuse* *Knee* *Ankle* *Trunk* *Leg* *Hip/Groin* | 23 640N = 14; IR 0.95 OR 0.32 (95% CI 0.17 – 0.60)\*N = 2; IR 0.14 OR 0.18 (95% CI 0.05 – 0.63)\*N = 12; IR 0.81 OR 0.48 (95% CI 0.24 – 0.97)N = 10; IR 0.68 OR 0.40 (95% CI 0.19 – 0.84)\*N = 9; IR 0.61 OR 0.21 (95% CI 0.10 – 0.44)\*N = 0; IR 0 OR N/D\*N = 5; IR 0.34 OR 1.21 (95% CI 0.36 – 4.11)N = 5; IR 0.34 OR 1.21 (95% CI 0.36 – 4.11)N = 3; IR 0.2 OR 0.79 (95% CI 0.01 – 0.72)N = 1; IR 0.07 OR 0.09 (95% CI 0.21 – 3.04)\*N = 0; IR 0 OR N/D\*N = 0; IR 0 OR N/D\* | 12 648N = 17; IR 2.16N = 6; IR 0.76N = 11; IR 1.4N = 11; IR 1.4N = 15; IR 1.91N = 4; IR 0.51N = 2; IR 0.25N = 2; IR 0.25N = 2; IR 0.25N = 4; IR 0.51N = 3; IR 0.38 N = 2; IR 0.25  | Effective reduction of injury rates in elite male basketball. |
| McGuine *et al.* *(2006)38* | **Incidence of ankle sprain [1000 AE]** *E [AE]* *Overall [n (%)]* *Acute [n (%)]* *Lateral [n (%)]* *Medial [n (%)]* *Syndesmotic [n (%)]***Ankle sprain risk** **[n; %; rr]***History***Severity**  *Mean [d]* *Minor [1 – 7 d]* *Moderate [8 – 21d]* *Severe [> 21 d]* | 20250N = 62 (8.1); IR 1.51N = 23 (6.1); IR 1.13N = 56 (90.3) N = 4 (6.4) N = 2 (3.2) N = 23; risk 62% (95% CI 37.8 – 101.7) of that in CG (Kaplan-Meier survival estimate: χ2 = 4.00; df = 1; p = 0.045\*)rr 0.56 (95% CI 0.33 – 0.95); p = 0.033\*N = 12 (4.2); rr 2.14 (95% CI, 1.25 – 3.65); p = 0.005\*; (χ2 = 3.42; df = 1; p = 0.059)7.6 (range 2 – 26); 5.8 ± 5.5N = 40 (64.5); ↑74%N = 18 (29); ↓22%N = 4 (6.4)  | 20828 N = 62 (8.1); IR 1.51N = 39 (9.9); IR 1.87N = 39N = 23 (7.7)8.1 ± 6.659%33% | Prevention program showed a reduction in ankle injuries by 38% in high school basketball and soccer players. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| Noyes *et al.* *(2015)39* | **Noncontact ACL injury incidence rate [1000 AE]***E [AE]* *Noncontact ACL* | 36724 N = 1; IR 0.03; p = 0.03 | 61244N = 13; IR 0.21  | Sportmetrics significantly reduced the noncontact ACL incidence rate. |
| *Østerås et al. (2015)45* | **Prevalence any shoulder complaints [1-S]** *E [h/wk.]* | 9.24 ± 3.2↓ (34 - 11%); Shoulder-muscle strength ↑\* | 9.39 ± 2.0↑ (23 – 36%) | Decreases risk for shoulder complaints in handball. |
| Owoeye *et al.* *(2014)34* | **Incidence [1000h] and risk [RR]***Total* *Match*  *Training* *Lower extremities* *Acute* *Overuse***Location****Mechanism****Severity***Mild**Minimal* *Moderate*  *Severe* | N = 36; IR 0.8; RR 0.59 (95% CI 0.40 – 0.86); p = 0.006\*N = 23; IR 7.5; RR 0.35 (95% CI 0.23 – 0.55); p < 0.001\*N = 12; IR 0.3; RR 0.93 (95% CI 0.47 – 1.86); p = 0.842N = 26; IR 0.6; RR 0.52 (95% CI 0.34 – 0.82); p = 0.004\*N = 34; IR 0.9; RR 0.65 (95% CI 0.44 – 0.97); p = 0.037\*N = 2; IR 0.0; RR 0.26 (95% CI 0.07 – 0.98); p = 0.047\*No differences.No differences.N = 7; IR 0.2; RR 0.52 (0.23 – 1.21); p = 0.037\*No differences.No differences.No differences. | N = 94; IR 1.5N= 73; IR 20.3N= 22; IR 0.4N= 76; IR 1.2 N = 80; IR 1.3N = 14; IR 0.2N = 27; IR 0.4 | The FIFA 11+ significantly reduced overall injury rate by 41% and lower extremity injuries by 48%. |
| Silvers-Granelli *et al.* *(2015)*41 | **Injury rates [1000 AE] and risk [RR]****Total**  *Match [n (%)]* *Training [n (%)]***Ankle [n (%)]****Knee [n (%)]** *ACL [n (%)]***Hamstring [n (%)]****Time loss [d]** | N = 285 (10.56 ± 3.64)\*; IR 8.09N = 185 (64.9) 6.85 ± 3.17\*N = 100 (35.1) 3.7 ± 2.13\*N = 59 (20.7); IR 1.675; RR 0.65 (95% CI 0.48 – 0.87)N = 34 (11.9); IR 0.965; RR 0.42 (95% CI 0.29 – 0.61); NNT 14 N = 3 (1.1); IR 0.085; RR 0.236 (95% CI 0.193 – 0.93); NNT 70; p < 0.001\*N = 16 (5.6); IR 0.454); RR 0.37 (95% CI 0.21 – 0.63]; NNT 24; p < 0.001\* 2944 (10.08 ± 14.68)\* | N = 665 (19.56 ± 11.01)\*; IR 15.04N = 392 (58.9) 11.53 ± 5.84\*N = 273 (41.1) 8.03 ± 6.24\*N = 115 (17.3); IR 2.601N = 102 (15.3%); IR 2.307N = 16 (2.4); IR 0.362N = 55 (8.3); IR 1.2448790 (13.20 ± 26.6)\* | The FIFA 11+ significantly reduced injury rates by 46.1% and decreased time loss by 28.6% in the competitive male collegiate soccer player. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| Silvers-Granelli *et al.* *(2017)*40 | **Risk of ACL injury [RR] and incidence [1000 AE]****Total [n (%)]***Match [n (%)]**Training [n (%)]***Knee [n (%)]*****ACL*** *Contact [n (%)]* *Non-contact [n (%)]* *Division 1 [n (%)]* *Division 2 [n (%)]*Match & training Position | N = 285 (100); IR 8.09\*; RR 0.54 (95% CI 0.49 – 0.59); p < 0.001\* N = 185 (64.9); IR 16.92; RR 0.59 (95% CI 0.52 – 0.68); p < 0.001\* N = 100 (35.1); IR 4.01; RR 0.46 (95% CI 0.38 – 0.57); p < 0.001\* N = 34 (11.9); IR 0.965; RR 0.42 (95% CI 0.29 – 0.61); p < 0.001\* N = 1 (0.35); IR 0.028; RR 0.21 (95% CI 0.03 – 1.74); p = 0.148 N = 2 (0.7); IR 0.057; RR 0.25 (95% CI 0.06 – 1.15); p=0.049\* N = 2 (0.7); IR 0.114; RR 0.3 (95% CI 0.06 – 1.45); p = 0.136 N = 1 (0.35); IR 0.057; RR 0.12 (95% CI 0.02 – 0.93) p = 0.042\* No difference.Did not affect ACL incidence. | N = 665 (100); IR 15.04N = 392 (58.9); IR 28.77N = 273 (41.1); IR 8.93N = 102 (15.3); IR 2.307N = 6 (0.9); IR 0.135N = 10 (1.5); IR 0.226N = 7 (1.05); IR 0.317N = 9 (1.35); IR 0.407 | The FIFA 11+ reduces ACL injuries by 77% in competitive male collegiate soccer.  |
| *Pasanen et al.*  *(2008)22* | **Incidence LE injury [1000 h/E] and injury risk [IRR]***E [h]***Total** *Noncontact leg***Ligament** *Ankle*  *Knee***Muscle strain** | 32327N = 87; 66% ↓; IRR 0.70 (95% CI 0.52 – 0.93)\*N = 20; IR 0.65 (95% CI 0.37 – 1.13)\*;IRR 0.34 (95% CI 0.20 – 0.57)\*N = 15; IR 0.48 (95% CI 0.27 – 0.84); IRR 0.35 (95% CI 0.19 – 0.64)\*N = 8; IR 0.27 (95% CI 0.11 – 0.64); IRR 0.28 (95% CI 0.12 – 0.67)\*N = 7; IR 0.22 (95% CI 0.10 – 0.45); IRR 0.49 (95% CI 0.18 – 1.31)N = 5; IR 0.15 (95% CI 0.06 – 0.37); IRR 0.40 (95% CI 0.12 – 1.32) | 25019N = 102N = 52; IR 2.08 (95% CI 1.58 – 2.72)N = 38; IR 1.52 (95% CI 0.16 – 0.60)N = 27; IR 1.10 (95% CI 0.71 – 1.70)N = 11; IR 0.44 (95% CI 0.24 – 0.80)N = 14; IR 0.57 (95% CI 0.29 – 1.12) | Program is effective in preventing acute non-contact injuries of the legs in female floorball players.  |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Soligard et al.* *(2008)16* | **Incidence LE injury** **[1000 player h] and injury risk [RR]** E [h]**Total**  *Match* *Training* *Overuse* *Severe***>2 injuries****Re-injury** **Total** *Match* *Training* *Overuse* *Severe* *Acute* *Severe* *Contact* *Severe***Body category** *Knee***Acute** *Contusion***Overuse** *Tendon pain* *Lower back pain* | 3.9 ± 0.2 (SD) (8.1 ± 0.5 (SD) (M); 1.9 ± 0.2 (SD) (T)); RR 0.71 (95% CI 0.49 – 1.03) | The risk of injury can be reduced by about one third and the risk of severe injuries by as much as a half in young female footballers. |
| Intention-to-treat49899 (16 057 (M); 33 842 (T))N = 161; ↓; RR 0.68 (95% CI 0.48 – 0.98)\* No difference.No difference.↓; RR 0.47 (95% CI 0.26 – 0.85)\*↓; RR 0.55 (95% CI 0.36 – 0.83)\*No difference; RR 0.46 (95% CI 0.20 – 1.01)Per protocolN = 161; ↓; RR 0.68 (95% CI 0.56 – 0.84)\*↓; RR 0.71 (95% CI 0.55 – 0.91)\*↓; RR 0.63 (95% CI 0.44 – 0.90)\*↓; RR 0.44 (95% CI 0.27 – 0.71)\*↓; RR 0.30 (95% CI 0.14 – 0.68)\*↓; RR 0.76 (95% CI 0.61 – 0.95)\*↓; RR 0.65 (95% CI 0.43 – 0.97)\*↓; RR 0.64 (95% CI 0.45 – 0.90)\*↓; RR 0.54 (95% CI 0.38 – 0.78)\*0.7 ± 0.1 (SD); RR 0.55 (95% CI 0.36 – 0.84)\*0.3 ± 0.1 (SD); RR 0.44 (95% CI 0.24 – 0.80)\*0.2 ± 0.1 (SD); RR 0.48 (95% CI 0.23 – 0.99)\*0.0 ± 0.0 (SD); RR 0.11 (95% CI 0.01 – 0.91)\* | 45428 (14 342 (M); 31 086 (T))N = 215↑; RR 0.51 (95% CI 0.29 – 0.87)\*1.3 ± 0.2 (SD)0.7 ± 0.1 (SD)0.5 ± 0.1 (SD)0.2 ± 0.0 (SD) |
| *Steffen et al. (2008)28* | **Overall incidence [1000 h/E] and injury risk [RR]** E [h] Overall Acute E [h] Overall Acute | Intention-to-treat66423 (20 731 (M); 45 692 (T))IR 3.6 (95% CI 3.2 – 4.1); RR 1.0 (95% CI 0.8 – 1.2)IR3.2 (95% CI 2.7 – 3.6); RR 1.0 (95% CI 0.8 – 1.2)No difference in type, location or severity compared with CG.CO (per protocol; 14 teams)19 093 (5 371 (M); 13 722 (T))IR 3.4 (95% CI 2.5 – 4.2); RR 0.9 (95% CI 0.7 – 1.2)IR 2.8 (95% CI 2.0 – 3.5); RR 0.9 (95% CI 0.6 – 1.2)No difference with NCO and CG. | 65725 (19 856 (M); 45 869 (T))IR 3.7 (95% CI 3.2–4.1)IR 3.2 (95% CI 2.8–3.6)NCO (per protocol; 44 teams)47330 (15 360 (M); 31 970 (T))IR 3.8 (95% CI 3.2 –4.3); RR 0.9 (95% CI 0.7 – 1.2)IR 3.3 (95% CI 2.8 – 3.9); RR 0.8 (95% CI 0.6 – 1.1) | No effect of the injury prevention program on the injury rate. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| van Beijsterveldt *et al.* *(2012)43* | **Injury incidence** **[per sports h]** *E [median, IQR]***Total [n (% players)]***Match [%]* *Training [%]***Injury severity** *[%]* *Slight (0 d)* *Minimal (1 – 3d)*  *Mild (4 – 7d)* *Moderate (8 – 28d)* *Severe (> 28d)* *Career Ending* *D off [median, IQR]***Injury Mechanism***Acute [%]* *Overuse [%]***Recurrent Injury [%]****Injury location [%]**Ankle  Upper leg posterior  Knee  Groin  Upper leg anterior Other | 103.4; IR 31.4N = 207 (60.5); IR 9.6 (95% CI 8.4 – 11)65.4; IR 21.1 (95% CI 17.8 – 25)34.6; IR 3.7 (95% CI 2.8 – 4.8)05.918.546.328.80.514, 28.5 78.921.1 13 21.818.411.7\*9.7 8.330.1 | 104.3; IR 35N = 220 (59.7); IR 9.7 (95% CI 8.5 – 11.1)69.6; IR 22.7 (95% CI 19.3 – 26.7)30.4; IR 3.1 (95% CI 2.3 – 4)0.55.121.541.629.91.417, 3082.717.3 14.116.313.419.8\*11.412.926.2 | The 11 did not find significant differences in overall injury incidence or injury severity between intervention and control group. |
| **General approach** |
| *Hölmich et al.* *(2010)48* | **Time to 1st groin injury [HR]** *E [h]* *Intervention* *Pre-injury*  *Level of play* | N/D31% ↓; HR 0.69 (95% CI 0.40 – 1.19)N = 183; HR 1.97\*N = 369 (low level); HR 2.58\* | N/DN = 203N = 300 (low level) | No effect of the intervention.Pre-injury doubles and higher level of play almost triples the risk of a new groin injury. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Horst et al. (2006)31* | **Incidence hamstring injury [1000 player h] and risk [OR]****E [H]***Total* *Match* *Training***Total [n (%)]***Overall* *Match* *Training* *Position* **Severity [d]***Slight (0 d)* *Minimal (1 – 3 d)* *Mild (4 – 7 d)* *Moderate (8 – 28 d)* *Severe (> 28 d)* | 90.5 ± 5.434.0 ± 13.856.5 ± 17.031 ± 15N = 11 (31); OR 0.628 (95% CI, 0.197 – 1.999); p = 0.427; in follow up N = 6; rr 3.384 (95% CI 1.362 – 8.409); OR 0.282 (95% CI 0.110 – 0.721); p = 0.005\*IR 0.7 (95% CI 0.6 – 0.8)IR 1.2 (95% CI 0.82 – 1.94)IR 0.33 (95% CI 0.25 – 0.46)No differences.N = 4 N = 2 | 96.6 ±16.035.1 ± 14.361.5 ± 17.728 ± 19N = 25 (69); in follow up N = 18IR 0.7 (95% CI 0.6 – 0.8)IR 1.2 (95% CI 0.82 – 1.94)IR 0.33 (95% CI 0.25 – 0.46)N = 1N = 1 N = 2N = 5N = 9 | Incorporating the Nordic hamstring exercise in regular amateur training significantly reduces hamstring injury incidence, but it does not reduce hamstring injury severity. |
| *Gabbe et al. (2006)*47 | **Risk hamstring injury [rr]****Hamstring [%]** | 4; rr 1.2, 95% CI 0.5- 2.8Only protective effect when athletes participate in the first two sessions (rr 0.3, 95% CI 0.1-1.4; p=0.098) | 13.2 | Eccentric exercise helped reducing hamstring injuries. However, poor compliance makes it difficult to assess. |
| *Mohammadi et al.*  *(2007)*42 | **Incidence [1000 AE] and risk [rr] of ankle sprains**  *Proprioception*  *Strength*  *Orthosis* | N = 1; rr 0.13 (95% CI 0.003 – 0.93); p = 0.02\*N = 4; rr 0.50 (95% CI 0.11 – 1.87); p = 0.27N = 2, rr 0.25 (95% CI 0.03 – 1.25); p = 0.06 | N = 8; rr 0.13 (95% CI 0.003 – 0.93) | Proprioception training reduced ankle sprain rates.  |
| *Hupperets et al. (2009)23* | **Incidence recurrent ankle sprain** **[1000 h/E] and injury risk [rr]** *E [h]* *Overall* **Time lost incidence** **[1000 h/E]** | 30140 N = 56 (22%); 35% ↓;IR 1.86 (95% CI 1.37 – 2.34); rr 0.63 (95% CI 0.45 – 0.88)\*Recurrence ↓ in not medically treated compared to counterparts\*IR 0.65 (95% CI 0.38 – 0.92); rr 0.53 (95% CI 0.32 – 0.88)\* |  30682 N = 89 (33%); IR 2.90 (95% CI 2.30 – 3.50)IR 1.17 (95% CI 0.82 – 1.52)  | Effective for preventing self reported recurrent ankle sprains (specifically beneficial if not medically treated). |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| *Petersen et al. (2011)44* | **Incidence hamstring injury [100 player S] and injury risk [aRR]** *E [h]***Total [no.]** *Overall* *New*  *Recurrent****Time lost [d]*** | N/DN = 12 new; N = 3 recurrent; pS: N = 9 (60%)No injuries while performing the Nordic EX.IR 3.8; aRR 0.293 (95% CI 0.150 – 0.572)\* IR 3.1; aRR 0.410 (95% CI 0.180 – 0.933)\* IR 7.1; aRR 0.137 (95% CI 0.037 – 0.509)\*454 (N = 15)  | N/DN = 32 new; N = 20 recurrent; pS: N = 12 (23%) ↑; aRR 1.76 (95% CI 0.54-5.67)IR 13.1 IR 8.1 IR 45.81344 (N = 52)  | Additional eccentric hamstring EX can decrease the rate of overall, new, and recurrent acute hamstring injuries. |
| *Waldén et al.*  *(2012)24* | **Incidence knee injury [1000 h/E] and injury risk [RR]** *E [h]***Total****ACL** Noncontact Severe  Any acute **ACL** Noncontact Severe  Any acute | Intention-to-treat149214N = 49 N = 7 A (0.28%); 64% ↓ RR 0.36 (95% CI 0.15 – 0.85)\* RR 0.40 (95% CI 0.13 – 1.18)N = 26 A (1.05%); RR 0.70 (95% CI 0.42 – 1.18)N = 48 A (1.94%); RR 0.92 (95% CI 0.61 – 1.40)CO (1303 A)83% ↓; RR 0.17 (95% CI 0.05 – 0.57)\* RR 0.26 (95% CI 0.07 – 0.99)\* RR 0.18 (95% CI 0.07 – 0.45)\* RR 0.53 (95% CI 0.30 – 0.94)\* | Intention-to-treat129084 N = 47N = 14 A (0.67%)N = 31 A (1.49%)N = 44 A (2.11%)CO (1967 A) | Reduction of ACL injury rate in adolescent female football players. |
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| **Article (year)** | **Outcome measures** | **Results** | **Conclusion** |
| **Intervention** | **Control** |
| **Sports-specific approach** |
| *Cumps et al. (2007)13* | **Incidence ankle sprain [1000 h/E] and injury risk [rr]** *E [h]* *Total E* *Basketball E***New injury** *Total E* *Basketball E***Re-injury** *Total E* *Basketball E***Gender effect** ♀ ♂ |  N/DIR 1.19 (95% CI 0.15 – 2.25); rr 0.34 (95% CI 0.12 – 0.96)\*IR 1.22 (95% CI 0.15 – 2.29); rr 0.30 (95% CI 0.11 – 0.84)\*N/D; rr 0.21 (95% CI 0.03 – 1.44)IR 0.78 (95% CI 0.10 – 1.76); rr 0.15 (95% CI 0.02 – 1.15)IR 0.44 (95% CI 0.42 – 1.30); rr 0.76 (95% CI 0.17 – 3.40)IR 0.36 (95% CI 0.34 – 1.05); rr 0.44 (95% CI 0.10 – 1.91)IR 0.83 (95% CI 0.79 – 2.44); rr 0.30 (95% CI 0.03 – 2.87)IR 1.39 (95% CI 0.03 – 2.75); rr 0.29 (95% CI 0.09 – 0.93)\* | N/DIR 3.54 (95% CI 1.23 – 5.85) IR 4.09 (95% CI 1.42 – 6.76)N/DIR 1.03 (95% CI 0.03 – 2.03)IR 3.00 (95% CI 0.37 – 5.63)IR 1.72 (95% CI 0.21 – 3.22)IR 2.76 (95% CI 1.06 – 6.58)IR 4.74 (95% CI 1.23 – 8.26) | The use of balance training is recommended as a routine during basketball activities for the prevention of ankle sprains. |
| \*B: Statistically significant difference between intervention group and baseline.‘’ : Statistically significant difference within groups.\* : Statistically significant difference between intervention and control group.# : Statistically significant difference compared to all groups.A, athletes ; ACL, anterior cruciate ligament; AE, athletes-exposure; aRR, adjusted rate ratio; CI, confidence interval; CG, control group; CO, compliant group; cS, competitive season; CT, controlled trail; d, days; E, exposure; EX, exercise; h, hours; IG, intervention group; INT, intervention team; IR, injury rate; IRR, adjusted incident rate ratio; LE, lower extremity; M, match, game; MD, mean difference; min., minutes; mo., months; N/A, not available; NCO, not compliant group; no., number; OR, odds ratio; pS, pre-season; RR, rate ratio; rr, relative risk; S, season; SD, standard error; T, training, practice; wk., weeks; yrs., years.Values presented as mean ± standard deviation if not otherwise stated. |