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| **Question 1: What is the efficacy of the “11+” injury prevention program in reducing soccer-related injuries in amateur soccer players?** |
| **Study details** | **Population and interventions** | **Relevant results**  | **Conclusions/Limitations** |
| **Author/Year**: Soligard (2008)1**Study Design**: cluster randomized controlled trial**Level of evidence**: 2b**Risk of bias**: 6/10 (PEDro) **Aim**: examine the effect of the “11+” IPP on lower extremity injury rates in youth female soccer players  | **Control**: continue with traditional warmup routine**Intervention**: “11+” IPP* Captains and coaches instructed in protocol during 3-hour course prior to the season

**Allocation:**  all teams from each club were randomly allocated into either treatment or control group**Participants**: female players aged 13-17 in Norway * Intervention: 52 clubs (1055 players)
* Control: 41 clubs (837 players)

**Study length**: 8-month season **Primary Outcome**: reported lower extremity injuries * Injury was defined as an event that caused the player to be “unable to fully participate in the next match or training”
 | **Primary Outcome**: incidence of LE injuries* Intervention group: 161 players with LE injuries
* Control group: 215 players with LE injuries
* RR: 0.71 (95% CI .49-1.03); NNT 18
* Overall incidence of injuries was 3.9 per 1000 game exposure hours and 1.9 per 1000 practice exposure hours.

**Secondary Outcomes**:

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| **Injury type** | **RR** | **95% CI** | **p value** | **NNT** |
| All  | 0.68 | 0.48-0.98 | 0.041\* | 15 |
| Overuse  | 0.47 | 0.26-0.85 | 0.012\* | 32 |
| Severe  | 0.55 | 0.36-0.83 | 0.005\* | 23 |

- Match, training, knee, ankle, and acute injuries were all lower in the intervention group but the difference did not reach statistical significance**Compliance**: teams completed the program 44 times (77%) (SD 22, range 11-104), with an average practice/game attendance of 57.9% of the team. * Risk of injury was 35% lower in the intervention group for players in the top third compliance category (at least 1.5 structured warm-up sessions/week) versus the bottom third, but no statistically significant.
 | **Author’s Conclusions**: “The risk of injury can be reduced by about one third and the risk of severe injuries by as much as a half” with the implementation of the “11+” injury prevention program.**Limitations:*** 19 clubs in the control and 13 in the intervention group were excluded from final analysis because they did not provide any data about exposure or injuries
* Risk for selection bias
* Lack of blinding of subjects
* Study was underpowered given the high dropout rate (anticipated 15%)
* No monitoring or follow-up to determine if the program was performed correctly

**Strengths:*** Recorded individual exposure
* Interviewers gathering information from injured subjects were blinded to allocation
 |
| **Author/Year**: Attar (2016)2**Study Design**: systematic review + meta-analysis**Level of evidence**: 2a (downgraded because it contains RTCs and cohort studies) **Risk of bias**: 6/11 (AMSTAR)**Aim**: evaluate the efficacy of the “11” and “11+” injury prevention programs in soccer | **Included Studies Criteria*** Randomized controlled trials, cluster-randomized controlled trials or prospective cohort studies
* Participants performed “11+” or “11” IPPs
* Soccer players of any age, skill level or sex

**Intervention:*** “11+” injury prevention program or “11” injury prevention program

**Control**:* No injury prevention program, routine warmup

**Study characteristics** * 6 cluster randomized controlled trials, one prospective controlled trial and two cohort studies
* 6 studies included male soccer players, and three studies included female soccer players
* Length of intervention: 12 weeks to 12 months
* 5 studies evaluated the “11+” IPP, 3 evaluated the “11” IPP, and one study used the “F-MARC Bricks”
 | **Injury Rate Ratio**= injury rate in intervention group / injury rate in control group, per 1000 hours exposure **Combined IPPs (“11” & “11+”) versus control**

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| **Injury type** | **IRR** | **95% CI** | **p value** |
| overall injury | 0.771 | 0.65-0.92 | 0.003 \* |
| LE injury | 0.762 | 0.62-0.94 | 0.009\* |
| Males  | 0.705 | 0.53-0.93 | 0.013\* |
| Females | 0.818 | 0.60-1.11 | 0.197 |

**“11+” injury prevention program versus control**

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| **Injury type** | **IRR** | **95% CI** | **p value** |
| overall injury | 0.654 | 0.54-0.80 | <0.001\* |
| LE injury | 0.613 | 0.48-0.79 | <0.001\* |

Observed higher injury prevention with increased compliance but unable to conduct statistical analysis secondary to limited data on compliance.  | **Author’s Conclusions:** Participation in the “11+” can reduce injury rates by 20-50% versus soccer players who do not participate in an IP. **Limitations:** * Females were under-represented in the data and studies may be been underpowered to detect a statistically significant change.
* Variable compliance with the injury prevention program
* Lack of blinding of subjects within the studies, variability among study protocol in administering IPP and educating players and coaches on the interventions
* Included lower quality studies (cohort) and prospective controlled trails

**Strength:*** Evaluates injury rates in terms of exposure hours
* Meta-analysis performed
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| **Author/Year**: Thorborg (2017)3**Study Design**: systematic review + meta-analysis **Level of evidence**: 1a**Risk of bias**: 9/11 (AMSTAR)**Aim:** to “investigate the effect of FIFA injury prevent programmes in football (FIFA 11 and FIFA 11+)” | **Included Studies Criteria*** Randomized or cluster-randomized controlled trials of soccer players which compared the “11” or the “11+” to a control
* Soccer players of any age, skill level or sex
* Soccer injuries was the primary outcome

**Intervention:*** The “11+” IPP or the “11” IPP

**Control**:* No injury prevention program, routine warmup

**Study characteristics** * 6 cluster randomized controlled trials
* 2 studies evaluated the “11” IPP, 4 studies evaluated the “11+” IPP
* 366 teams (7,451 soccer players) combined across all studies
	+ Control: 180 teams (3,645 players)
	+ Intervention: 186 teams (3,806 players)
* Average athletic exposures: 510.00 per player (games and practice); 1 athletic exposure = 1.5 hours
* Duration: 5-9 months
 | **Overall Injury Incidence** (both the “11” and the “11+”) 6574 individuals, 510.055 average athletic exposures (1 athletic exposure = 1.5 hours), 2454 total injuries* Intervention group: 3.99 injuries/1000 hours
* Control group: 5.57 injuries/1000 hours
* IRR for prevention programs groups versus control = 0.75 (95% CI 0.57 – 0.98, p=0.036)

**FIFA “11+” Injury Incidence:** “11+” IPP versus control

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| **Injury Region** | **IRR** | **95% CI** | **p value** |
| all injuries | 0.61 | 0.48-0.77 | p < 0.001\* |
| lower limb | 0.63 | 0.48-0.81 | p<0.001\* |
| hamstring | 0.40 | 0.19-0.84 | p=0.016\* |
| hip/groin | 0.59 | 0.35-0.97 | p=.037\* |
| knee | 0.52 | 0.38-0.72 | p<0.001\* |
| ankle | 0.68 | 0.48-0.97 | p=.035\* |

**Compliance**: The intervention teams completed an average of 1.2 sessions per week (SD ± 0.7). There was poor overall compliance with 87% of teams completing less than two sessions per week, the recommended minimum for the programs.* No statistically significant association between compliance and IRR (R2 = 72.4%, p = 0.107) but the results point towards a correlation between higher compliance and increased preventative effect

**Harmful events**: only one report of a “minor hamstring strain” sustained while performing the “11” IPP | **Conclusions:** the “11+” IPP can lead to a significant reduction in soccer injuries (39%, 95% CI 48%-77%) versus a control. The result is clinically meaningful and supports the adaptation of the “11+” intervention program as a beneficial and potentially cost effective measure for the reduction of injuries.**Limitations:** No risk for publication bias assessment* Lack of blinding
* 3 of the 6 included studies had a high risk of attrition bias with missing outcome data.
* Inconsistent dosage and compliance
* variable duration of intervention
* lack of a heterogeneous definition of what constitutes an injury among the studies

**Strengths**: * High quality evidence
* Risk for bias assessment included
* Large sample size
* Evaluated injury rates in terms of 1,000 exposure to help standardize the results and minimize impact of variable training and game loads on the outcome
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| **Author/Year**: Sadigursky (2017)4**Study Design**: systematic review**Level of evidence**: 1a **Risk of bias**: 6/11 AMSTAR) | **Included Studies Criteria*** Randomized controlled trials
* Analyzed the impact of the “11+” IPP on injury prevention
* Published between 2006 and 2016
* Soccer players over the age of 13

**Intervention:** “11+” IPP **Control**: No injury prevention program, routine warmup **Study characteristics** * 6 cluster randomized controlled trials
* 3 studies included male soccer players, and 3 studies included female soccer players
* Combined sample of 6,344 players, 3,307 (52%) players in the intervention group and 3,037 (48%) in the control group
 | **Relative Risk**: the “11+” IPP versus the control* Overall injury risk RR = 0.70 (95% CI 0.52-0.93)
* Lower extremity injury risk RR = 0.70 (95% CI 0.53-0.93)
* Moderate/severe injuries: RR = 0.69 (95% CI, 0.54–0.88)
 | **Main Conclusions**: The “11+” can reduce the risk of soccer related injuries by 30% (RR = 0.70; 95% CI 0.52-0.93) **Limitations**: * Methodical heterogeneity among studies due to lack of administration protocol including non-blinded trainers, different people administered program (coaches versus trainer), variability in knowledge and instruction of the program
* Wide age range of athletes: 15- 40 years
* Variability in study definitions of “injury” and self-report subjective nature of the outcome of interest
* Variability in implementation frequency and duration. Ranging from 2-3 times per week to 1 time per week for 4.5-9 months.
* Injury risk was not calculated based on exposure hours.
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| **Author/Year**: Silvers-Granelli (2015)5**Study Design**: cluster randomized controlled trial**Level of evidence**: 1b**Risk of bias**: 6/10 (PEDro) | **Control**: continue with traditional warmup routine**Intervention**: The “11+” IPP administered by the team’s athletic trainer **Participants**: 65 teams, 1625 athletes* Division I or Division II NCAA collegiate male soccer teams during the Fall 2012 season
* Male, between the ages of 18 and 25. They had to be academically eligible to compete in the 2012 season
* Control: 34 teams (17 Division I and 17 Division II), 850 players
	+ Number of exposures: 44,212 (13,624 games & 30,588 practices)
* Intervention: 31 teams (16 Division I and 15 Division II); 775 players
	+ Number of exposures: 35,226 (10,935 games & 24,291 practices)

1 exposure = one game or practice (independent of time)**Study length**: Fall 2012 NCAA season (August-December)  | **Rate ratio:** injuries per 1,000 athletic exposures – “11+” IPP versus control

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| **Injury Region** | **RR** | **95% CI** | **p value** | **NNT** |
| All injuries | 0.54 | 0.49-0.59 | p <0.001\* | 2.64 |
| Ankle | 0.65 | 0.48-0.87 |  | 21 |
| Knee | 0.42 | 0.29-0.61 |  | 14 |
| Hip | 0.45 | 0.26-0.79 |  | 34 |
| Head | 0.64 | 0.42-0.97 |  | 39 |
| ACL injury | 0.24 | 0.19-0.93 | p <0.001\* | 70 |

**Days missed due to injury**: Control: 13.20 ± 26.6 days; “11+” IPP: 10.08 ± 14.68 days * Wald x2(2) = 7.35; *b* = 0.34; SE = 0.12; P = .007
* Intervention versus control odds ration = 1.4
* Significantly higher days missed in the intervention group when the injury “11+” IPP was not performed on the day of injury (10.65 days ± 15.35 days) versus when the “11+” IPP was performed on the day of injury (6.56 ± 10.44 days).
	+ Wald x2(1) = 4.26; *b* = 4.08; SE = 1.98; P = .039

**Follow-up/Attrition**: 4 Division II teams in the intervention group (100 participants) discontinued the intervention and were lost to follow up. The rationale for attrition were time constraints and lack of interest. A per-protocol statistical analysis was completed**Compliance with the “11+”** average compliance per team was 30.47±12.16 IPP sessions. There was a statistically significant inverse relationship between compliance with “11+” IPP and injury rate (P = .034)  | **Conclusions**: The “11+” IPP significantly reduced overall injury rates by 46.1% versus a control. It led to a significant reduction in the days missed due to injury. There is an inverse relationship between compliance with the “11+” IPP and injury rate**Limitations**: * Poor overall compliance with the “11+” IPP
* Homogeneous sample, limited external validity
* No blinding of subjects or athletic trainers reporting outcomes
* No intention to treat analysis performed

**Strengths:*** High internal validity
* Large number of subjects with similarity in characteristics at baseline
* Randomization
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| **Question 2: Does compliance impact the efficacy of the “11+” program?** |
| **Study details** | **Population and interventions** | **Relevant results**  | **Conclusions/Limitations** |
| **Author/Year**: Steffen et al (2013) 6**Study Design**: cluster-randomized controlled trial**Level of evidence**: 1a **Risk of bias**: 5/10 (PEDro)**Aim**: compare various delivery methods of inject prevention programs on player performance, and determine the impact that adherence on performance and risk of injuries | **Allocation:** teams were randomized into one of three groups (control, regular, comprehensive). **Intervention**: * **a) Regular**: 2.5 hour “11+” workshop for coaches, led by study personnel, coaches provided with copies of “11+” material
* **b) Comprehensiv**e: “regular” intention plus a physical therapist attended practice sessions weekly to assist the coach with instruction of the “11+.”

**Control**: teams and coaches were instructed in the “11+” protocol through a website (unsupervised), no additional supervision**Participants**: female soccer players aged 13-18 who played for 2 different clubs in Alberta Canada * Control: 11 teams (135 players)
* Regular intervention: 8 teams (121 players)
* Comprehensive: 10 teams (129 players)

**Study length**: 4-month season **Primary Outcome**: Player performance as measured by Star Excursion Balance Test (SEBT), single-leg balance, triple hop and jumping-over-a-bar tests**Secondary Outcomes**:* Compliance with the “11+” protocol
 | **Compliance:** *independent of group assigned to** + High adherence: completed avg 23.4 sessions, 271.2 exercises, 2.2 sessions/week
	+ Medium-adherence: completed avg 18 sessions, 161 exercises,
	+ Low-adherence: completed avg 9.8 sessions, 71.3 exercises, 1.5 sessions/week

**Adherence and Risk of Injury –** *high adherence relative to...*

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|  ***relative to high-adherence…*** | **IRR** | **95% CI** |
| all injury medium-adherence | 0.28 | 0.10-0.79\* |
| all injury low-adherence | 0.46 | 0.15-1.49 |
| LE injuries low adherence | 0.32 | 0.11-0.95\* |

**Adherence and Balance**:* Higher adherence was associated with clinically relevant improvements in functional balance (as measured by the SEBT)
 | **Author’s Conclusions**: “high player adherence to the “11+” resulted in significant improvements in functional balance and reduced injury risk.”**Limitations:*** Groups were not similar at baseline
* Participation length varied significantly for control (7 weeks) versus intervention group (10-11 weeks)
* Weather restraints limiting participation
* Risk for selection bias
* Lack of blinding of subjects
* Small study with few teams, may have been underpowered
* Short study length, may require longer administration (> 7-10 weeks)
* 34% of players were lost to follow up and did not complete postseason testing

**Strengths:*** Preliminary data suggests relationship between dosage and effectiveness of injury prevention program, independent of delivery method
* Implementation in real world setting
* Comparison of various delivery methods
* Randomization
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| **Author/Year**: Silvers-Granelli (2017)7 **Study Design**: cluster randomized controlled trial**Level of evidence**: 1b**Risk of bias**: 6/10 (PEDro)**Aim**: to determine how compliance in “11+” IPP impacts injury rate and time lost due to injury | ***~Same sample and design as Silvers-Granelli 2015 (see above)***5**Injury Severity** **Definitions*** Low = 1-19 doses/season; 4 teams (100 athletes)
* Moderate = 20-39 doses/season; 14 teams (350 athletes)
* High = > 40 doses/season; 9 teams (225 athletes)
 | **Team Compliance:** Average 2.2 “11+” IPP utilizations per week over the course of the season * Low: ≤ 1 dose/week (1-19 doses/season); 4 teams
* Moderate: > 1 and < 2 doses/week (20-39 doses/season); 4 teams
* High = ≥ 2 doses/week (> 40 doses/season); 9 teams

**Compliance and injury rate**: Compliance was negatively correlated with injury rate:* *b* = − 1.6, *t* = − 3.2, *p*=0.004, *R*2=0.029

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| **Compliance** | **injury rate** | **RR^** | **95% CI** | **p value** |
| Low | 10±2.2 | 1.6 | 1.3-2.1 | <0.001\* |
| Moderate | 8.6±2.5 | 1.3  | 1.1-1.7 | 0.009\* |
| High  | 6.4±2.7 |  |  |  |

^RR versus high compliance group **Time lost due to injury and compliance**: High compliance group had the lowest number of days missed per team and a lower number of days lost per injury versus low or moderate compliance teams | **Conclusion**: Higher compliance (> 2 sessions per week) with the “11+” IPP led a greater reduction in injury rate and time loss from injury led versus teams with lower compliance. ***strengths and limitations see Silvers-Granelli 2015***5 |
| **Author/Year**: Soligard et al (2010)8**Study Design**: cluster randomized controlled trial and retrospective survey**Level of evidence**: 2b**Risk of bias**: 6/10 (PEDro) **Aim**: determine attitudes towards injury prevention and impact on compliance and injury prevention.  | ***~Same sample and design as outlined in Soligard 2008***1 (see above) with additional follow up survey for the intervention group **Survey Follow-up**: * Coaches in the intervention group were contacted to complete an evaluation form regarding attitudes and beliefs about injury prevention.
* 56 coaches completed the survey, 50 completed the Soligard 20081 study and 6 of whom had dropped out during the season

**Primary Outcomes:** * Compliance of teams and players
* Compliance and injury risk
* Coaches beliefs, compliance and injury risk
 | **Player and team compliance**:* Overall average team compliance was 77% or 1.3sessions/week, and individual compliance was 0.8 sessions/week
* Teams and players were stratified into tertiles based on based compliance
* High compliance:
	+ Teams: 68.6±14.8 sessions/season
	+ Players: 49.2±13.9 sessions/season, 1.5 sessions/week
* Intermediate compliance:
	+ Teams: 42.3±5.8 sessions/season
	+ Players: 43.4±4.9 sessions/season, 0.7 sessions/week
* Low compliance:
	+ Teams: 20.6±5.6 sessions/season
	+ Players: 7.7±4.7 sessions/season, 0.2 sessions/week

\*There was greater compliance in the first half of the intervention period versus the second half **Compliance and injury risk**: * No difference in injury risk between teams with high, intermediate or low compliance

**Individual player - high versus intermediate compliance**:

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|  | **RR** | **95% CI** | **p value** |
| All injuries | 0.65 | 0.46-0.91 | 0.011\* |
| Acute injuries | 0.61 | 0.42-0.88 | 0.008\* |

**Individual player - high versus low compliance:**

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| --- | --- | --- | --- |
|  | **RR** | **95% CI** | **p value** |
| All injuries | 0.68 | 0.41-1.12 | 0.13 |
| Acute injuries | 0.65 | 0.39-1.08 | 0.09 |

**Coaches attitudes:** * 75% of coaches reported being influenced by media as their motivation for using the injury prevention program.
* Coaches of teams with high compliance reported that players’ motivation to complete the “11+” program were high (94%), versus only 41% of coaches of low-compliance teams.

Perceptions that the program was too time consuming and that it did not include sufficient soccer specific exercises were strongly correlated with low-compliance | **Conclusions**: High compliance of 1.5 sessions per week lowered the risk of all injuries by 35% and acute injuries by 39% in comparison to players with intermediate compliance. “Positive attitudes towards injury prevention correlated with high compliance and lower injury risk.”General limitations – ***outlined in Soligard 2008***1**Limitations survey**: * Retrospective design
* High attrition rates
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| **Question 3: What are potential barriers to the implementation of “11+”?**  |
| **Study details** | **Population and interventions** | **Relevant results**  | **Conclusions/Limitations** |
| **Author/Year**: Steffen et al (2013)9**Study Design**: cluster-randomized controlled trial**Level of evidence**: 1a **Risk of bias**: 5/10 (PEDro)**Aim**: compare various delivery methods of injury prevention programs, and determine their impact on adherence and injury risk | (same **population, intervention and control** outlined in Steffen, Emery, Romiti, et al. (2013).6**Primary outcomes**: Team adherence to “11+” intervention, self-reported | **Primary Outcome**: Team adherence* Comprehensive: 85.5% team compliance. 12% (95% CI: 0-37.9%) higher team compliance versus control
	+ not statistically significant when adjusted for cluster, age, level of play and previous injuries) – 4.9% (95% CI: 0-36.0)
* Regular: 81.3% team compliance. 8% (95% CI: 0-39.9) higher team compliance versus control
	+ not statistically significant when adjusted for cluster, age, level of play and previous injuries) – 6.4% (95% CI: 0-51.7)
* Control: 73.5% team compliance

**Secondary Outcomes**: injury reduction and compliance* Players with high adherence (210-435 exercises performed over the season) had a 57% lower risk of injury versus players with low adherence (0-108 exercises performed over the season) (IRR 0.43, 95% CI 0.19-1.00), but not statistically significant when adjusting for group differences (IRR 0.44, 95% CI 0.18-1.06)
 | **Author’s Conclusions**: “Following a coach workshop, coach-led delivery of the FIFA 11+ was equally successful with or without the additional field involvement of a physiotherapist.” Coach education through preseason workshop was more effective in improving adherence versus unsupervised instruction of the “11+.”(see Steffen et al 20136 for strengths and limitations)  |
| **Author/Year**: Junge et al 201112**Study Design**: cohort study **Level of evidence**: 3**Aim**: determine the implementation and its impact of a national campaign to promote the adaptation of IPPs in Swiss amateur soccer players | **Dissemination methods**/**Intervention*** All licensed coaches in Switzerland were instructed on the “11” IPP during their coaching refresher course which occurs every other year
	+ Coaches received a DVD, poster and booklet with information about the “11” and were instructed on correct performance of the protocol

**Survey**: a representative sample of coaches were selected for in-depth standardized interview before the intervention (2004) and 4 years after (2008)**Selection of Sample**: random selection of 1,574 coaches of the total 5384 coaches. Of these 545 were not included because they could not be contacted, they were no longer coaching, or they refused. * Of the 1027 coaches who completed the initial interview, 310 (30.1%) completed the post-intervention interview, 37 % were no longer coaching and 32.8% were not interviewed for various other reasons
* A second random sample was drawn in 2008 – 69.3% of coaches were interviewed (705 total)
 | In 2 years, 5,549 coaches were instructed in the “11” program **The “11” after 4 years (2008)**: * 79.8% of coaches were aware of the “11”
* 57% of coaches utilized the IPP or components of the program
* Main barriers to adherence were “not having enough time or other priorities”
* The “11” was performed less by male adult teams (20.4%)
* Of those who utilized the “11” IPP…
	+ 57.4% performed exercises for > 6 months
	+ 98% of coaches focused on the correct performance of exercises
	+ Less than half of teams performed the IPP twice per week (or more) and only 40% of coaches instructed with only the original exercises
 | **Conclusion**: The implementation of the “11” across Switzerland was successful. It was adapted by over 57% of coaches, but rarely performed to protocol standards. **Limitations**:* Selection and reporting bias
* High attrition rates
* Self-report of principle outcomes
* No control
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| **Author/Year**: O’Brien & Finch 201610**Study Design**: cross sectional survey**Level of evidence**: 4**Aim**: identify challenges in implementing the injury prevention programs in amateur soccer | **Participants**: n = 18 respondents (out of 20 eligible) * Coaches, fitness coaches, and physical therapists who worked for one of four male youth soccer teams. All of the teams played in the “Elite European Soccer Academy”
* Total: 9 coaches, 4 fitness coaches, 5 physical therapists

**Survey**: * Web-based questionnaire regarding the value and the use of IPPs generally and the “11+” IPP
* Open and closed ended questions
* Outcome based on percentage of respondents who selected the specific answer
 | **Beliefs regarding injuries**: 100% of respondents felt that soccer players were at high risk for a LE injury. All respondents also identified the potential consequences of these injuries. 100% of respondents felt that it was possible to prevent some LE soccer-related injuries. **Appropriate length of time for injury prevention program:** 15 min (28%), 20 min (22%), 25 min (22%) **Who are responsible for injury prevention**: players (100%), fitness coaches (100%), physical therapists (100%), head coaches (94%)**Knowledge and use of the “11+” IPP**: * 64% of respondents were aware of the “11+” IPP
* Only 28% indicated that their team used the “11+” IPP (22% used a modified version)
* 83% of respondents believed that “11+” could prevent injuries, but only 44% believed it could be performed by their team over numerous seasons
* 78% believed that the “11+” IPP needed improvements

**Identified barriers**: * IPP context: “boring, monotonous, lack of effectiveness and objective measures”
* Player subtheme: “lack of knowledge” “lack of motivation”
* Team staff subtheme: “lack of staff numbers” “lack of support from other staff” “lack of communication”
* Club subtheme: “pressure to win” “lack of structure and support”

**Identified Facilitators**: “fun and challenging exercises” “positive effect on injury statistics” “progression and variation of exercises” “motivation” “acceptance/support from head coach” “staff numbers” “club structure and support” | **Conclusion**: coaches and fitness staff working with youth soccer player teams recognized the risk of serious injuries and support the use of evidenced based IPPs. Despite being aware of the “11+” IPP, only 1/3 of teams used the program and mostly in a modified form. There are many barriers to implementation of IPPs in this population.**Limitations**: * Low quality evidence
* Small sample size, insufficient power
* Survey has not been validated (except for face and content validity)
* Homogenous sample, limited external validity

**Strengths**:* Preliminary evidence to gain insight into staff’s perceptions
* Open ended questions
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| **Author/Year**: Loose et al 201811**Study Design**: cohort cross sectional survey**Level of evidence**: 4**Aim**: identify and compare soccer players and soccer coaches perceptions on injury prevention and return to play  | The survey was part of a larger interventional research project in Germany. Teams were contacted directly and those who agreed to participate were given a questionnaire **Full study population**:* 62 teams in the elite football level in Germany (1527 players, 124 coaches)
* number of respondents and information included in the analysis: 486 players; 88 coaches
 | **Views on injury prevention issues in soccer**: * 82.5% of players and 99.1% of coaches expressed an interest in injury prevention
* 87.3% of players and 88.5% of coaches believed that injuries are a major problem

**Knowledge of the “11+”*** 12.6% of players and 42.5% of coaches knew of the “11+” IPP. Of those who were aware of the “11+” program, 43.6% of players and 48.5% of coaches reported frequent use of the “11+”
 | **Conclusions**: Players and coaches are interested in injury prevention. There is limited transfer of IPP knowledge, specifically the “11+” into practice. **Limitations**:* High drop-out rate (over 1,000 elite players were eligible)
* Survey has not been validated
* Low quality evidence
* Homogenous sample, limited external validity
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\* = indicates statistically significant result

LE = lower extremity

IPP = injury prevention program

IRR = incidence rate ratio

RR = rate ratio

CI = confidence interval

NNT = number needed to treat

SD = standard deviation

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