

Prognostic factors for lower extremity and spinal injuries identified through medical screening and training load monitoring in professional football (soccer): a systematic review

Online Resource File 1: Literature search strategy

AMED, EMBASE and Medline

- 1 football/ or soccer/
- 2 anthropometry.mp. or Anthropometry/
- 3 Mass Screening/
- 4 screening.mp.
- 5 profiling.mp.
- 6 clinical assessment.mp.
- 7 Physical Examination/
- 8 Motor Skills/
- 9 functional test*.mp.
- 10 functional control.mp.
- 11 dynamic control.mp.
- 12 physical performance test.mp.
- 13 flexibility.mp.
- 14 Movement/
- 15 "Range of Motion, Articular"/
- 16 functional movement screen*.mp.
- 17 Exercise Test/
- 18 core stability.mp.
- 19 Muscle Strength/
- 20 Gait/
- 21 gait analysis.mp.
- 22 running gait.mp.
- 23 biomechanics.mp.
- 24 Proprioception/
- 25 proprioceptive test?.mp.
- 26 Postural Balance/
- 27 Y balance test?.mp.
- 28 star excursion balance test?.mp.
- 29 neuromuscular control.mp.
- 30 muscle power.mp.
- 31 strength test*.mp.
- 32 power test*.mp.
- 33 jump test*.mp.
- 34 countermovement jump.mp.
- 35 acceleration test*.mp.
- 36 shuttle test*.mp.
- 37 hop test*.mp.
- 38 endurance test*.mp.
- 39 agility test*.mp.
- 40 global positioning system.mp. or Geographic Information Systems/
- 41 GPS.mp.
- 42 Accelerometry/ or accelerometer.mp.
- 43 Acceleration/

44 Microtechnology/
45 training load.mp.
46 Athletic Performance/
47 training volume.mp.
48 Monitoring, Physiologic/
49 load monitoring.mp.
50 Diagnostic Imaging/
51 Magnetic Resonance Imaging/
52 Tomography, X-Ray Computed/
53 Ultrasonography/
54 X-Rays/
55 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18
or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or
33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47
or 48 or 49 or 50 or 51 or 52 or 53 or 54
56 prediction.mp.
57 "Predictive Value of Tests"/
58 "Sensitivity and Specificity"/
59 Risk Factors/
60 reliability.mp.
61 "Reproducibility of Results"/
62 validity.mp.
63 Risk/
64 Probability/
65 Odds Ratio/
66 injury risk.mp.
67 injury prediction.mp.
68 rule?.mp.
69 prognosis/
70 prognostic factors.mp.
71 prediction model.mp.
72 hazard ratio.mp.
73 multivariate analysis/
74 proportional hazard model/
75 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68or 69.mp. or
70 or 71 or 72 or 73 or 74
76 Athletic Injuries/
77 sports injur*.mp.
78 "Sprains and Strains"/
79 soft tissue injur*.mp.
80 muscle injur*.mp.
81 ligament injur*.mp.
82 76 or 77 or 78 or 79 or 80 or 81
83 1 and 55 and 75 and 82

CINAHL Plus

- 1 (MH "Football") OR (MH "Soccer")
- 2 (MH "Anthropometry")
- 3 (MH "Clinical Assessment Tools") OR (MH "Exercise Test") OR (MH "Physical Examination") OR (MH "Monitoring, Physiologic") OR (MH "Rescreening") OR (MH "Health Status Indicators")
- 4 "screening"
- 5 (MH "Motor Skills")
- 6 "functional test"
- 7 "profiling"
- 8 "functional control"
- 9 "dynamic control"
- 10 (MH "Physical Performance") OR "physical performance test*"
- 11 "flexibility"
- 12 (MH "Movement") OR (MH "Joint Movement: Passive (Iowa NOC)") OR (MH "Joint Movement: Active (Iowa NOC)")
- 13 (MH "Range of Motion") OR "range of movement"
- 14 "functional movement screen"
- 15 "core stability"
- 16 (MH "Muscle Strength") OR (MH "Exercise Test, Muscular")
- 17 (MH "Gait") OR (MH "Gait Analysis")
- 18 "running gait"
- 19 (MH "Biomechanics")
- 20 (MH "Proprioception")
- 21 "proprioceptive test*"
- 22 (MH "Balance, Postural")
- 23 (MH "Neuromuscular Control")
- 24 "star excursion balance test"
- 25 "Y balance test"
- 26 "muscle power"
- 27 "Strength test*"
- 28 "power test*"
- 29 "acceleration test*"
- 30 "shuttle test*"
- 31 "hop test*"
- 32 (MH "Physical Endurance") OR "endurance test*"
- 33 "agility test*" OR (MH "Agility")
- 34 (MH "Geographic Information Systems") OR "global positioning system"
- 35 "gps"
- 36 (MH "Accelerometers") OR (MH "Accelerometry")
- 37 (MH "Microtechnology")
- 38 (MH "Acceleration (Physiology)") OR (MH "Acceleration (Mechanics)")
- 39 "training load"
- 40 "training volume"
- 41 (MH "Athletic Performance")
- 42 "load monitoring"
- 43 (MH "Diagnostic Imaging")
- 44 (MH "Magnetic Resonance Imaging")
- 45 (MH "Ultrasonography")

46 (MH "X-Rays")
 47 (MH "Tomography, X-Ray Computed")
 48 (MH "Jumping") OR "Jump test*" OR "countermovement jump"
 49 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15
 OR 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27
 OR 28 OR 29 OR 30 OR 31 OR 32 OR 33 OR 34 OR 35 OR 36 OR 37 OR 38 OR 39
 OR 40 OR 41 OR 42 OR 43 OR 44 OR 45 OR 46 OR 47 OR 48
 50 (MH "Predictive Validity") OR (MH "Predictive Value of Tests") OR (MH
 "Predictive Research") OR "prediction"
 51 (MH "Sensitivity and Specificity")
 52 (MH "Risk Factors")
 53 (MH "Reliability") OR (MH "Reliability and Validity")
 54 (MH "Validity")
 55 (MH "Reproducibility of Results")
 56 "risk"
 57 (MH "Probability")
 58 (MH "Odds Ratio")
 59 "injury risk"
 60 "injury prediction"
 61 "rule\$"

62 (MH "Prognosis")
 63 "prognostic factors"
 64 "prediction model"
 65 (MH "Multivariate Analysis")
 66 (MH "Cox Proportional Hazards Model")
 67 "hazard ratio"
 68 50 OR 51 OR 52 OR 53 OR 54 OR 55 OR 56 OR 57 OR 58 OR 59 OR 60 OR 61 OR
 62 OR 63 OR 64 OR 65 OR 66 OR 67
 69 (MH "Athletic Injuries") OR (MH "Soccer Injuries") OR (MH "Football Injuries")
 70 "sports injur*"

71 ""musculoskeletal injur*""
 72 (MH "Sprains and Strains")
 73 (MH "Soft Tissue Injuries")
 74 "muscle injur*"

75 "ligament injur*"

76 69 OR 70 OR 71 OR 72 OR 73 OR 74 OR 75
 77 1 AND 49 AND 68 AND 76

SPORTDiscus

1 "Football" OR "Soccer"
 2 Anthropometry
 3 "Clinical Assessment Tools" OR "Exercise Test" OR "Physical Examination" OR
 "Monitoring, Physiologic" OR "Rescreening" OR "Health Status Indicators"
 4 "screening"
 5 "Motor Skills"
 6 "profiling"
 7 "functional control"

8 "dynamic control"
9 "Physical Performance" OR "Physical performance test"
10 "flexibility"
11 "Movement" OR "Joint movement" or "joint motion" or "range of movement" or
"Range of motion"
12 "functional movement screen"
13 "core stability"
14 "muscle strength" OR "exercise test"
15 "gait" or "gait analysis"
16 "running gait"
17 "biomechanics"
18 "proprioception" or "proprioceptive test"
19 "postural balance"
20 "star excursion balance test"
21 "Y balance test"
22 "neuromuscular control"
23 "muscle power" or "power test*"
24 "strength test*"
25 "jumping" or "jump test" or "countermovement jump"
26 "acceleration test*"
27 "shuttle test*"
28 "hop test*"
29 "endurance test*"
30 "agility test*"
31 "Geographic information systems" or "GPS" or "global positioning system?"
32 "Accelerometer?" or "accelerometry"
33 "Acceleration"
34 "microtechnology"
35 "training load" or "training volume"
36 "load monitoring"
37 "athletic performance"
38 "Diagnostic imaging"
39 "magnetic resonance imaging" or "MRI"
40 "tomography, x-ray computed" or "CT" or "CT scan"
41 "Ultrasonography" or "Ultrasound" or "Ultrasound scan"
42 "X-ray\$"
43 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15
OR 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27
OR 28 OR 29 OR 30 OR 31 OR 32 OR 33 OR 34 OR 35 OR 36 OR 37 OR 38 OR 39
OR 40 OR 41 OR 42
44 "prediction"
45 "predictive value of tests"
46 "predictive validity"
47 "predictive research"
48 "Sensitivity and Specificity"
49 "Risk Factors"
50 "Reliability" or "reliability and validity"
51 "validity"
52 "reproducibility of results"
53 "risk"

- 54 "probability"
- 55 "odds ratio"
- 56 "injury risk" or "injury prediction"
- 57 "rule\$"
- 58 prognosis
- 59 prognostic factors
- 60 hazard ratio
- 61 prediction model
- 62 multivariate analysis
- 63 proportional hazard model
- 64 44 OR 45 OR 46 OR 47 OR 48 OR 49 OR 50 OR 51 OR 52 OR 53 OR 54 OR 55 OR
56 OR 57 OR 58 OR 59 OR 60 OR 61 OR 62 OR 63
- 65 "athletic injuries"
- 66 "musculoskeletal inju*"
- 67 "sports injur*"
- 68 "sprains and strains"
- 69 "soft tissue injur*"
- 70 "muscle injur*"
- 71 "ligament injur*"
- 72 "groin injur*"
- 73 "spinal injur*"
- 74 "hip injur*"
- 75 "knee injur*"
- 76 "foot injur*"
- 77 "leg injur*"
- 78 "lower extremity injur*"
- 79 65 OR 66 OR 67 OR 68 OR 69 OR 70 OR 71 OR 72 OR 73 OR 74 OR 75 OR 76 OR
77 OR 78
- 80 1 AND 43 AND 64 AND 79

Pubmed:

Football OR Soccer AND Injur*