Subject Index

Age, intrinsic injury risk factor 69, 108, 109

Catastrophic injury
  equestrian injuries 13
  gymnastics injuries 36, 39
  track-and-field injuries 144, 146
  wrestling injuries 164–168

Dehydration, wrestling injury prevention 171, 174

Elbow injury, tennis 127

Epidemiology, goals in study 4, 5

Equestrian injuries
  activity causes 12
  chronometry 12
  data sources 9, 10
  epidemiological research prospects 15, 16
  incidence 10, 11
  location 12
  onset 11, 12
  prevention 13–15
  risk factors
    extrinsic factors 14, 15
    intrinsic factors 14
  severity
    catastrophic injury 13
    clinical outcome 13
    rate calculation 12, 13
    time loss 13
    situational causes 9, 12
    sport participation levels 9, 11

Extrinsic risk factors, see Risk factors

Growth pattern, nonlinearity and young athlete injury susceptibility 2, 3

Growth plate injury, young athlete susceptibility 2

Gymnastics injuries
  activity causes 31
  chronometry
    practice time 31
    seasonality 31, 32
  data sources 19
  epidemiological research prospects 49, 54, 55
  incidence 10, 11
  location 24–26
  onset 20, 24
  practice versus competition 26–31
  prevention 48–53
  risk factors
    cohort study comparisons 41–46
    exposure as extrinsic factor 47
    intrinsic factors
      motor characteristics 47
      physical characteristics 41, 47
      psychosocial characteristics 47
  severity
    career-ending injuries 40
    catastrophic injury 36, 39
    clinical outcome and reinjury 40
    injury type 32, 33
    lower back injury 32, 34, 35
    lower extremity injury 36
    residual symptoms 40
    time loss 39
    upper extremity injury 35–38
  sex differences in incidence 21–23
  sport participation levels 19, 20
Head injury
skiing 79, 86
snowboarding 88
wrestling 155, 158, 162, 163
Hip injury, tennis 128, 129
Horse-riding injuries, see Equestrian injuries
Intrinsic risk factors, see Risk factors
Judo, see Martial arts injuries
Karate, see Martial arts injuries
Lower back injury, gymnastics 32, 34, 35
Lower extremity injury
gymnastics 36
skiing 87
snowboarding 88, 89
tennis 129, 130
wrestling 160, 161
Martial arts injuries
activity causes 65
chronometry 65
epidemiological research prospects 70–72
incidence 60–62
location
boys 62, 63
girls 62, 64
overview 62, 65
onset 62
prevention 69, 70
risk factors
age and body weight 69
exposure 69
severity
catastrophic injury 68
clinical outcome 69
time loss 68, 69
types of injuries
boys 66
girls 67
overview 65, 68
sport participation levels 59, 60
Maturity, variation among young athletes 3
Neck injury, wrestling 158
Prevention of injury
equestrian injuries 13–15
gymnastics injuries 48–53
martial arts injuries 113, 114
research prospects 194, 195
skiing and snowboarding injuries 113, 114
stages of study
risk factor identification
modifiable factors 185, 186
nonmodifiable factors 182–185
strategy development and validation 180, 186–192
surveillance of incidence 181
study limitations 192–194
tennis injuries 134, 135
track-and-field injuries 147, 148
wrestling injuries
coaching and refereeing 172, 173
equipment 172
health care team 173
nutrition
energy expenditure 174
fluid replacement 174
training and neck injury prevention 173
Risk factors
equestrian injuries
extrinsic factors 14, 15
intrinsic factors 14
gymnastics injuries
cohort study comparisons 41–46
exposure as extrinsic factor 47
intrinsic factors
motor characteristics 47
physical characteristics 41, 47
psychosocial characteristics 47
identification in prevention studies
modifiable factors 185, 186
nonmodifiable factors 182–185
martial arts injuries
age and body weight 69
exposure 69
ski and snowboard injuries
extrinsic factors
activity 111, 112
binding adjustment and equipment
ownership 112
helmet use 112, 113
slope characteristics 113
wrist guards 113
intrinsic factors
ability and experience 108
age 108, 109
lessons and safety knowledge 110
past injury 110
sex 111
overview of studies 94–106, 108
tennis injuries
extrinsic factors
  environment 132
equipment 133
exposure 131, 132
intrinsic factors
growth 133
physical maladaptations 133, 134
track-and-field injuries 146
wrestling injuries
dehydration and weight loss 171
exposure 169
protective equipment and facilities 170, 171
training and conditioning 169, 170
Shoulder injury, tennis 126, 127
Ski injuries
activity causes 90, 91
chronometry
time of day 89, 90
time of season 90
data sources 75
epidemiological research prospects 114–116
incidence 75–79
location
  comparison with snowboarders 80–85
  head and spinal injuries 79, 86
  lower extremity injuries 87
  upper extremity injuries 86, 87
onset 11, 12
prevention 113, 114
risk factors
extrinsic factors
  activity 111, 112
  binding adjustment and equipment ownership 112
  helmet use 112, 113
  slope characteristics 113
  wrist guards 113
intrinsic factors
  ability and experience 108
  age 108, 109
  lessons and safety knowledge 110
  past injury 110
  sex 111
overview of studies 94–106, 108
severity
  clinical outcome 93, 94
  cost analysis 92, 93
  scoring 92
  time loss 93

types of injuries 91, 92
situational causes, competition versus practice 89, 90
sport participation levels 74
trends over time 89
Skin injury, wrestling 164
Snowboard injuries
activity causes 90, 91
chronometry
time of day 89, 90
time of season 90
data sources 75
epidemiological research prospects 114–116
incidence 75–79
location
  comparison with skiers 80–85
  head and spinal injuries 88
  lower extremity injuries 88, 89
  upper extremity injuries 88
onset 11, 12
prevention 113, 114
risk factors
extrinsic factors
  activity 111, 112
  binding adjustment and equipment ownership 112
  helmet use 112, 113
  slope characteristics 113
  wrist guards 113
intrinsic factors
  ability and experience 108
  age 108, 109
  lessons and safety knowledge 110
  past injury 110
  sex 111
overview of studies 94–106, 108
severity
  clinical outcome 93, 94
  cost analysis 92, 93
  scoring 92
  time loss 93
  types of injuries 91, 92
  situational causes, competition versus practice 89, 90
  sport participation levels 75
  trends over time 89
Spinal injury
skiing 79, 86
snowboarding 88
tennis 128
wrestling 159, 162, 163
Taekwondo, see Martial arts injuries

Tennis injuries
  activity causes 124
  chronometry 124
  data sources 121
  epidemiological research prospects 135, 136
  incidence 121–123
  location 123, 124
  onset 123
  prevention 134, 135
  risk factors
    extrinsic factors
      environment 132
      equipment 133
      exposure 131, 132
    intrinsic factors
      growth 133
      physical maladaptations 133, 134
  severity
    clinical outcome 130, 131
    time loss 130
    type of injury
      ankle 130
      back and trunk 128
      elbow 127
      foot 130
      forearm 128
      hand and wrist 127, 128
      hip and thigh 128, 129
      knee 129
      leg 129
      overview 125, 126
      shoulder 126, 127
    situational causes 124

Thermoregulation, young athlete
  limitations and injury susceptibility 3

Track-and-field injuries
  data sources 139
  epidemiological research prospects 148–150
  event types 138, 139
  incidence 140–142
  location 142, 143
  onset 142
  prevention 147, 148
  risk factors 146
  severity
    catastrophic injury 144, 146
    time loss 146
    type of injury 144, 145
    situational causes 142–144
    sport participation levels 139

Upper extremity injury
  gymnastics 35–38
  skiing 86, 87
  snowboarding 88
  tennis 127, 128
  wrestling 158, 159, 163, 164

Wrestling injuries
  activity causes 161
  chronometry 162
  data sources 152, 153
  epidemiological research prospects 175
  incidence 153–155
  location
    head 155, 158
    lower extremities 160, 161
    neck 158
    overview 155–157
    trunk and spine 159
    upper extremities 158, 159
  onset 155
  prevention suggestions
    coaching and refereeing 172, 173
    equipment 172
    health care team 173
  nutrition
    energy expenditure 175
    fluid replacement 174
  training and neck injury prevention 173
  risk factors
    dehydration and weight loss 171
    exposure 169
    protective equipment and facilities 170, 171
    training and conditioning 169, 170
  severity
    catastrophic injury 164–168
    head/trunk/spine injury 162, 163
    skin injury 164
    upper extremity injury 163, 164
    sport participation levels 9, 11