

Appendix 1

Number of athletes invited: 912

	Males	Females	Total
USA	655	114	769
Switzerland	80	63	143
Total	735	177	912

Number of athletes with at least one response: 910

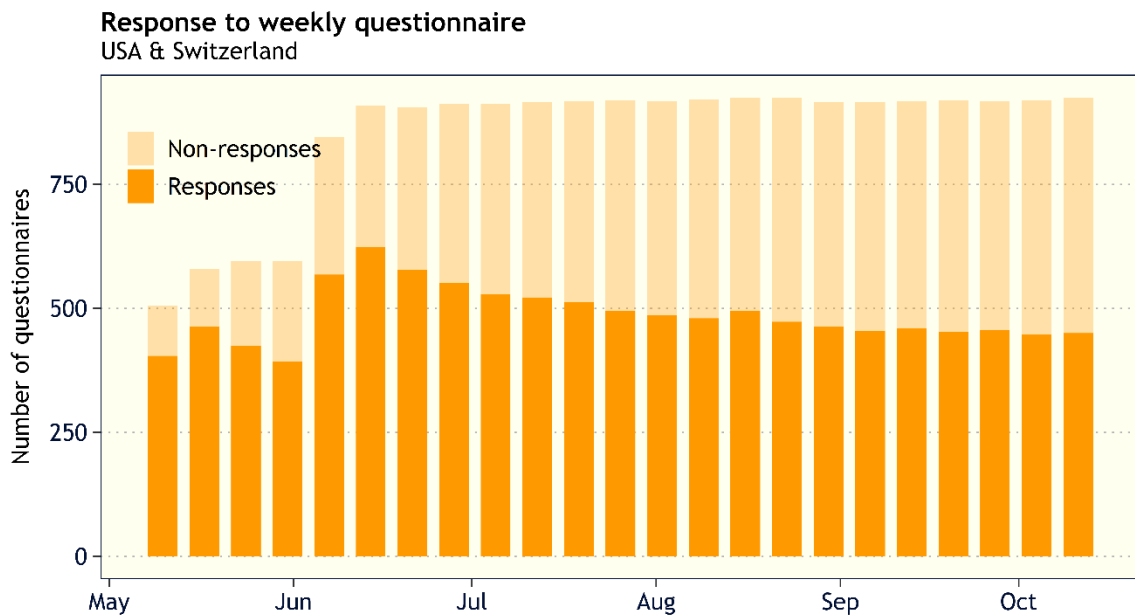
	Males	Females	Total
USA	653	114	767
Switzerland	80	63	143
Total	733	177	910

Response rate

Overall: 57.6% (11180 responses from 19406 invitations)

USA = 50.7%

Switzerland = 91.9%



Prevalence, both cohorts combined

Prevalence of health problems (%)

	Females	Males	Both sexes
All health problems	14.1 [12.1, 16.1]	12.7 [11.2, 14.3]	13 [11.4, 14.6]
All injuries	10.7 [9.1, 12.3]	11.5 [10, 13]	11.3 [9.8, 12.8]
All acute injuries	4.1 [3, 5.3]	5 [4.2, 5.7]	4.8 [4, 5.6]
All overuse injuries	7 [6.3, 7.8]	6.7 [5.9, 7.5]	6.8 [6, 7.5]
All illness	4.5 [3.5, 5.4]	1.3 [1.1, 1.6]	2 [1.7, 2.2]
Substantial health problems	5.7 [4.8, 6.6]	5.8 [5.2, 6.4]	5.8 [5.1, 6.4]
Substantial injuries	3.3 [2.7, 4]	4.9 [4.3, 5.4]	4.6 [4, 5.1]
Substantial acute injuries	1.6 [1.1, 2]	2.7 [2.2, 3.1]	2.4 [2, 2.9]
Substantial overuse injuries	1.8 [1.3, 2.2]	2.3 [2, 2.5]	2.2 [1.9, 2.4]
Substantial illness	2.6 [2, 3.2]	1 [0.8, 1.2]	1.3 [1.1, 1.5]

Prevalence, each cohort separately

Prevalence of health problems, USA (%)

	Females	Males	Both sexes
All health problems	14.2 [12.2, 16.3]	12.8 [11.3, 14.2]	13 [11.5, 14.5]
All injuries	11.6 [9.8, 13.3]	11.6 [10.2, 13.1]	11.6 [10.2, 13.1]
All acute injuries	4.4 [3.1, 5.7]	5.2 [4.4, 6]	5.1 [4.2, 5.9]
All overuse injuries	7.2 [6.2, 8.2]	6.7 [5.9, 7.4]	6.8 [6, 7.5]
All illness	2.8 [2.3, 3.4]	1.2 [1, 1.4]	1.4 [1.2, 1.6]
Substantial health problems	6.1 [5.1, 7.1]	6.1 [5.5, 6.7]	6.1 [5.5, 6.7]
Substantial injuries	4.2 [3.4, 5]	5.2 [4.6, 5.9]	5.1 [4.5, 5.7]
Substantial acute injuries	1.9 [1.2, 2.6]	2.9 [2.4, 3.4]	2.7 [2.3, 3.2]
Substantial overuse injuries	2.3 [1.7, 2.9]	2.4 [2.1, 2.7]	2.4 [2.2, 2.6]
Substantial illness	2 [1.5, 2.6]	0.9 [0.8, 1.1]	1.1 [0.9, 1.3]

Prevalence of health problems, Switzerland (%)

	Females	Males	Both sexes
All health problems	13.5 [11.3, 15.6]	12 [10, 13.9]	12.6 [10.7, 14.5]
All injuries	9.2 [7.6, 10.8]	10 [8.3, 11.6]	9.6 [8.2, 11.1]
All acute injuries	3.9 [2.8, 5]	3.3 [2.6, 4]	3.6 [2.8, 4.3]
All overuse injuries	6.4 [5.6, 7.2]	6.8 [5.4, 8.1]	6.6 [5.6, 7.6]
All illness	6.4 [5, 7.8]	2.3 [1.5, 3]	4.1 [3.2, 5]
Substantial health problems	4.7 [3.6, 5.9]	3.6 [2.7, 4.6]	4.1 [3.2, 5]
Substantial injuries	1.9 [1.2, 2.6]	2.3 [1.6, 3]	2.1 [1.6, 2.7]
Substantial acute injuries	1.1 [0.6, 1.6]	1 [0.5, 1.5]	1.1 [0.7, 1.4]
Substantial overuse injuries	0.7 [0.4, 1.1]	1.4 [0.8, 1.9]	1.1 [0.7, 1.5]
Substantial illness	3.1 [2.3, 3.9]	1.4 [0.8, 1.9]	2.1 [1.6, 2.7]

Incidence, severity and burden, both cohorts combined

Incidence expressed as cases per athlete per year. Burden is time loss days per athlete per year.

Incidence, severity and burden

	Sex	Cases (n)	Incidence [95% CI]	Median time loss (25th-75th percentile)	Mean time loss [95% CI]	Burden
All health problems	Both sexes	996	4.73 [4.44, 5.02]	2 (0-5)	5.11 [4.39, 5.9]	24.15
	Male	760	4.64 [4.32, 4.98]	2 (0-6)	5.11 [4.37, 5.9]	23.73
	Female	236	5.01 [4.4, 5.68]	1.5 (0-4)	5.11 [4.38, 5.94]	25.62
Sudden-onset injury	Both sexes	345	1.64 [1.47, 1.81]	2 (0-6)	6.35 [4.76, 8.21]	10.40
Gradual-onset injury	Both sexes	454	2.15 [1.96, 2.36]	1 (0-3)	3.66 [2.91, 4.46]	7.88
Illness	Both sexes	197	0.94 [0.81, 1.07]	3 (1-7)	6.3 [4.73, 8.24]	5.90
Head	Both sexes	4	0.02 [0.01, 0.05]	3.5 (0-8.75)	5.25 [0, 10.5]	0.11
Neck	Both sexes	39	0.19 [0.14, 0.25]	0 (0-2.5)	2.15 [1.18, 3.28]	0.40
Shoulder	Both sexes	69	0.33 [0.25, 0.41]	1 (0-6)	10.6 [4.84, 17.3]	3.47
Upper arm	Both sexes	6	0.03 [0.01, 0.06]	1.5 (0.25-2)	2 [0.5, 4.17]	0.05
Elbow	Both sexes	50	0.24 [0.18, 0.31]	0 (0-2)	3.98 [1.28, 8.26]	0.95
Forearm	Both sexes	17	0.08 [0.05, 0.12]	1 (0-3)	7 [1, 17.7]	0.58
Wrist	Both sexes	26	0.12 [0.08, 0.18]	0 (0-1.75)	2.19 [0.69, 4.35]	0.27
Hand	Both sexes	32	0.15 [0.1, 0.21]	0 (0-3.5)	4.06 [1.47, 7.34]	0.61
Thoracic spine	Both sexes	47	0.22 [0.17, 0.3]	1 (0-5)	3.06 [2, 4.3]	0.68
Lumbosacral	Both sexes	265	1.26 [1.11, 1.41]	2 (0-5)	4.71 [3.77, 5.78]	5.93
Abdomen	Both sexes	11	0.05 [0.03, 0.09]	1 (0-2.5)	2.55 [0.64, 5.09]	0.13

Incidence, severity and burden

	Sex	Cases (n)	Incidence [95% CI]	Median time loss (25th-75th percentile)	Mean time loss [95% CI]	Burden
Hip/groin	Both sexes	53	0.25 [0.19, 0.33]	1 (0-3)	3.09 [1.47, 5.3]	0.77
Thigh	Both sexes	17	0.08 [0.05, 0.12]	2 (0-10)	4.88 [2.53, 7.18]	0.41
Knee	Both sexes	82	0.39 [0.31, 0.48]	1 (0-4)	5.33 [2.72, 9.06]	2.08
Lower leg	Both sexes	10	0.05 [0.03, 0.08]	2.5 (0-4)	2.7 [1.1, 4.3]	0.13
Ankle	Both sexes	16	0.08 [0.05, 0.12]	3 (0-8.25)	6.44 [2.31, 11.2]	0.50
Foot	Both sexes	46	0.22 [0.16, 0.29]	2 (0-4)	4.46 [2.02, 8.22]	0.97
Region unspecified	Both sexes	9	0.04 [0.02, 0.08]	3 (1-5)	6.67 [1.67, 15]	0.28

Incidence, severity and burden, each cohort individually

Incidence, severity and burden, USA

	Sex	Cases (n)	Incidence [95% CI]	Median time loss (25th-75th percentile)	Mean time loss [95% CI]	Burden
All health problems	Both sexes	949	5.45 [5.11, 5.8]	2 (0-5)	5.12 [4.33, 5.98]	27.90
	Male	805	5.34 [4.98, 5.71]	1 (0-6)	5.12 [4.35, 5.96]	27.32
	Female	144	6.19 [5.24, 7.27]	2 (0-5)	5.12 [4.36, 5.97]	31.71
Sudden-onset injury	Both sexes	348	2 [1.8, 2.22]	2 (0-7)	6.28 [4.7, 8.13]	12.54
Gradual-onset injury	Both sexes	451	2.59 [2.36, 2.84]	1 (0-3)	3.67 [2.91, 4.58]	9.50
Illness	Both sexes	150	0.86 [0.73, 1.01]	4 (2-7)	6.79 [5, 9.15]	5.86
Head	Both sexes	5	0.03 [0.01, 0.06]	0 (0-0)	2.8 [0, 8.4]	0.09
Neck	Both sexes	39	0.22 [0.16, 0.3]	0 (0-2.5)	2.15 [1.13, 3.31]	0.48
Shoulder	Both sexes	73	0.42 [0.33, 0.53]	1 (0-4)	10.3 [4.59, 17.5]	4.34
Upper arm	Both sexes	7	0.04 [0.02, 0.08]	1 (0-2)	1.71 [0.29, 3.57]	0.07
Elbow	Both sexes	62	0.35 [0.28, 0.45]	0 (0-3)	3.45 [1.34, 6.89]	1.22
Forearm	Both sexes	15	0.09 [0.05, 0.14]	0 (0-3)	7.4 [0.67, 19.3]	0.65
Wrist	Both sexes	24	0.14 [0.09, 0.2]	0.5 (0-3)	2.5 [0.83, 4.75]	0.35
Hand	Both sexes	38	0.22 [0.16, 0.3]	0 (0-4.75)	3.89 [1.66, 6.84]	0.85
Thoracic spine	Both sexes	48	0.28 [0.21, 0.36]	1 (0-6)	3.19 [2.06, 4.38]	0.88
Lumbosacral	Both sexes	247	1.42 [1.25, 1.6]	2 (0-6)	4.91 [3.88, 5.98]	6.97
Abdomen	Both sexes	15	0.09 [0.05, 0.14]	1 (0-4)	2.27 [0.93, 3.73]	0.20
Hip/groin	Both sexes	48	0.28 [0.21, 0.36]	1 (0-4)	3.5 [1.73, 6]	0.96

Incidence, severity and burden, USA

	Sex	Cases (n)	Incidence [95% CI]	Median time loss (25th-75th percentile)	Mean time loss [95% CI]	Burden
Thigh	Both sexes	11	0.06 [0.03, 0.11]	2 (0-7)	3.64 [1.45, 6]	0.23
Knee	Both sexes	89	0.51 [0.41, 0.62]	1 (0-4)	5.08 [2.57, 8.61]	2.59
Lower leg	Both sexes	9	0.05 [0.03, 0.09]	3 (0-7)	3.33 [1.44, 5.22]	0.17
Ankle	Both sexes	17	0.1 [0.06, 0.15]	0 (0-7)	5.71 [1.94, 10.5]	0.56
Foot	Both sexes	46	0.27 [0.2, 0.35]	1.5 (0-4.75)	4.5 [2.07, 8.24]	1.19
Region unspecified	Both sexes	6	0.04 [0.02, 0.07]	3.5 (1.25-5)	8.5 [1.5, 20.7]	0.31

Incidence, severity and burden, Switzerland

	Sex	Cases (n)	Incidence [95% CI]	Median time loss (25th-75th percentile)	Mean time loss [95% CI]	Burden
All health problems	Both sexes	194	3.33 [2.89, 3.83]	1 (0-3.75)	3.32 [2.36, 4.6]	11.07
	Male	96	2.97 [2.42, 3.61]	1 (0-4)	3.32 [2.36, 4.61]	9.86
	Female	98	3.79 [3.09, 4.59]	1 (0-3)	3.32 [2.36, 4.58]	12.57
Sudden-onset injury	Both sexes	51	0.87 [0.66, 1.14]	2 (0-4.5)	3.24 [2.16, 4.53]	2.83
Gradual-onset injury	Both sexes	77	1.32 [1.05, 1.64]	0 (0-2)	2.08 [1.25, 3.05]	2.75
Illness	Both sexes	66	1.13 [0.88, 1.44]	2 (0-4)	4.83 [2.52, 8.33]	5.48
Head	Both sexes	1	0.02 [0, 0.08]	7 (7-7)	NA [NA, NA]	
Neck	Both sexes	7	0.12 [0.05, 0.23]	2 (0-2)	1.29 [0.43, 2.14]	0.15
Shoulder	Both sexes	13	0.22 [0.12, 0.37]	1 (0-2)	2 [0.62, 3.54]	0.45

Incidence, severity and burden, Switzerland

	Sex	Cases (n)	Incidence [95% CI]	Median time loss (25th-75th percentile)	Mean time loss [95% CI]	Burden
Elbow	Both sexes	4	0.07 [0.02, 0.16]	0 (0-4)	4 [0, 12]	0.27
Forearm	Both sexes	4	0.07 [0.02, 0.16]	0.5 (0-2.5)	2 [0, 5.25]	0.14
Wrist	Both sexes	6	0.1 [0.04, 0.21]	0 (0-0)	0.33 [0, 1]	0.03
Hand	Both sexes	3	0.05 [0.02, 0.14]	0 (0-0)	0 [0, 0]	0.00
Thoracic spine	Both sexes	6	0.1 [0.04, 0.21]	1 (0-3.5)	2.5 [0.33, 5.5]	0.26
Lumbosacral	Both sexes	46	0.79 [0.59, 1.05]	0.5 (0-3)	2.41 [1.33, 3.74]	1.90
Abdomen	Both sexes	1	0.02 [0, 0.08]	13 (13-13)	NA [NA, NA]	
Hip/groin	Both sexes	9	0.16 [0.08, 0.28]	0 (0-0)	0.44 [0, 1.11]	0.07
Thigh	Both sexes	7	0.12 [0.05, 0.23]	8 (0.5-11.5)	6.57 [2.29, 10.6]	0.79
Knee	Both sexes	11	0.19 [0.1, 0.33]	0 (0-2.5)	3.09 [0.46, 7.18]	0.58
Lower leg	Both sexes	2	0.04 [0.01, 0.11]	2 (1-3)	NA [NA, NA]	
Ankle	Both sexes	2	0.04 [0.01, 0.11]	6.5 (5.75-7.25)	NA [NA, NA]	
Foot	Both sexes	3	0.05 [0.02, 0.14]	3 (1.5-3.5)	2.33 [0, 4]	0.12
Region unspecified	Both sexes	3	0.05 [0.02, 0.14]	3 (1.5-5)	3.33 [0, 7]	0.17