

TABLE 2
Summary data from each study regarding the demographic characteristics, severity and injury definition

Study	Study Desing	Specific strengt sport	Rate: Injuries per 1000 hours	Rate: no per 1000 AEs	Rate: no per year or season	Most frequently injured body regions	Injury Severity
Winwood 2014	Retrospective	Strongman athletes Males = 213	5.5 Training		1.6	Lower back (24%) shoulder (21%) Bicep (11%) Knee (11%)	Mild (48.5%) Moderate (70.6%) Major (30.4%)
Weisenthal 2014	cross-sectional design	CrossFit Training 468 interview 231 Males 150 Females				Powerlifting Movement (22.6%) Shoulder (10.5%) Low Back (47.4%) Knee (21.1%) Olympic Lifting Movement (16.7%) Shoulder (28.6%) Upper Back (14.3%) Neck (14.3%) Elbow (14.3%)	Most athletes reported that if they had to modify workouts for more than 2 weeks they found that the injury was not going to heal without medical attention. Last, any injury that appeared to the athlete to require immediate medical attention from a health care professional should be reported
Hak 2013	Retrospective Observational	CrossFit Training	3.1 Training			Shoulder (48%) Spine (37%) Elbow (25%) Knee (18%)	A total of 186 injuries were reported with 9 (7.0%) requiring surgical intervention
Keog 2006	Retrospective	Males = 82 Females = 19 Open= 28.4 +-6.6 Master= 49.6+.9 Mean 36.6 +- 12.4	4.4±4.8 Training and Competition			Shoulder (36.1%); Lower Back (23.7%)	Mild (39.0%) Moderate (39.0%) Major (22.0%)
Raske and Norlin 2002	cross-sectional study	Powerlifters Males = 100	2.7			Shoulder (24%); Lumbar Spine (16%)	93% of shoulder, 85% of lower-back, and 80% of knee injuries were major_
Calhoon	Retrospective	873 Elite US male	3.3			Lower back (23.1%);	The 4 choices included

1999		weightlifters	Training			Knee(19.1%)	<1 day, <1 week, <3 weeks, >3 weeks. <1 d injury_1† (90.5%) <1 week injury (8.6%)
Hamill 1994	Retrospective	+520 student 13-16 years.	0.0012 injuries-100 h_1			Not assessed	Not assessed
Powell 1997	Retrospective	5236 interviewers 18-+45			3.3 ±1.9	Not assessed	For weightlifting and aerobics nearly everyone who reported an injury reduced the level of their participation, and 25-30% sought medical care or missed one half day or more of works, housework or school.
Requa 1993		986 RECREATIONAL TRAINERS (20->60 years)	~6.5			Not assessed	Level I: Injury or pain not affecting sport and fitness activities Level II: Injury or pain resulting in modifying duration or intensity of sport and fitness activities Level III: Injury or pain resulting in missing part or all of any sport and fitness activity Level IV: Injury or pain resulting in missing part or all of any sport and fitness activities of daily life
Risser 1990	Retrospective	Resistance training Male = 98 (13,3) Male = 154 (15.6 year) Male = 97 (17.2 year)			0.11 per person year 0.091 per person year 0.051 per person year	Lower back (50%)	Moderate (8 to 21 days of disability) Major (>21days) Severe (permanent disability)
Zemper 1990	Retrospective	Weight training activities in football team 10908 players		0.13	0.35 per 100 players per season	Lower back (39.5%)	7.4 d.injury (range 1-to 42 days)

TABLE 2 (Cont.)

Study	Study Desing	Specific strengt sport	Injury definition	Data collection
Winwood 2014	Retrospective	Strongman athletes Males = 213	Injury was defined as any "physical damage to the body that caused the strongman athlete to miss or modify one or more training sessions or miss a competition"	An online survey was used to provide retrospective descriptive epidemiology information about injuries associated with strongman implement training with analysis by age, body mass, and competitive standard.
Weisenthal 2014	cross-sectional design	CrossFit Training 468 interview 231 Males 150 Females	"Injury" encompassed any new musculoskeletal pain, feeling, or injury that results from a CrossFit workout and leads to 1 or more of the following options: 1. Total removal from CrossFit raining and other outside routine physical activities for >1 week 2. Modification of normal training activities in duration, intensity, or mode for >2 weeks 3. Any physical complaint severe enough to warrant a visit to a health professional	Data were collected and managed using REDCap electronic data capture tools hosted at the University of Rochester Data from October 2012 to February 2013
Hak 2013	Retrospective Observational	CrossFit Training	Injury was defined as any injury sustained during training which prevented the participant training, working or competing in any way and for any period of time. Injuries requiring surgery were also recorded.	An anonymous online questionnaire was designed and links were distributed amongst national and international CrossFit online forums. Data was collected between February to May 2012
Keog 2006	Retrospective	Males = 82 Females = 19 Open= 28.4 +-6.6 Master= 49.6+.9 Mean 36.6 +- 12.4	An injury was defined as any physical damage to the body that caused the lifter to miss or modify one or more training sessions or to miss a competition. Were not considered injuries unless they were of sufficient magnitude to cause the lifter to miss or modify his or her regular training program or to miss a competition.	Retrospective injury survey
Raske and Norlin 2002	cross-sectional study	Powerlifters Males = 100	An inability to train or compete as planned.	Questionnaire contained questions about current injuries and injuries that had occurred during the last 2 years. The questionnaire used had previously been used in a pilot study conducted with local weight lifters in Linköping
Calhoon 1999	Retrospective	873 Elite US male weightlifters	Acute injuries are "injuries with rapid onset due to a traumatic episode, but with short duration."6 A chronic injury is "an injury with long onset and duration."6 A recurring injury involves	Sports medicine staff, including athletic trainers, orthopedic surgeons, family practitioners, and chiropractors, all of whom were either on full-time staff

			recovery and reinjury for a particular condition. Complications involve injuries that occurred due to an already existing injury condition.	or on volunteer appointments, generated the injury reports. Permanent members of the USOTC medical staff supervised and reviewed the recording of all injury reports.
Hamill 1994	Retrospective	+520 student 13-16 years.	Injury: Any traumatic act ag~st the body sufficiently serious to have required first aid, filing of school and/or insurance reports, or medical treatment	Questionnaires were sent only to teachers who had attended instruction courses held by the British Amateur Weightlifters' Association
Powell 1997	Retrospective	5236 interviewers 18-+45	How many occasions when you were weightlifting did you get injured severely enough that you stopped or reduced the amount of time you spent weightlifting	Telephone questionnaire
Requa 1993		986 RECREATIONAL TRAINERS (20->60 years)	Their definition distinguished between an action of the participants because of an injury (altered or missed activity because of a fire-up of a chronic condition) as opposed to an action taken simply as results of participants' choice (stopped or modified an activity because of fear or conjecture that they might hurt themselves). Missing or altering sports participation had to be caused by a new injury or flame-up on an old injury to qualify as a reportable time-loss injury event.	Participant were telephoned each week and their activities as well as any injuries that occurred were recorded
Risser 1990	Retrospective	Resistance training Male = 98 (13.3) Male = 154 (15.6 year) Male = 97 (17.2 year)	Disability exceeding 7 days Disability exceeding > 8 days caused by WT when this activity was part of the conditioning program for secondary school athletes who played football	Each athlete completed a written questionnaire about his training program and about the type, location, and severity of musculoskeletal injuries. The questionnaire was review with each athlete for accuracy and completeness. Current injuries and disability from old injuries caused by weight training were evaluated by high school athletic trainers and physicians during the physical examination.
Zemper 1990	Retrospective	Weight training activities in football team 10908 players	Full participation for one or more days	The injury report form AIMS, Athletic Injury Monitoring System. Reported injury rates as the number of injuries per 1000 athletes exposures. Data from 1986 to 1989