

Supplemental Appendix: Table 1. Reports of ruptured tendons in AAS users or suspected AAS users

A. Cases with acknowledged AAS use

Study	Tendon ^a	Age, yrs ^b	AAS Use		Activity at time of injury	Prodromal symptoms?	Comment
			Duration	Current?			
Hill et al., 1983	L Quadriceps	24	Several yrs	Yes	Weightlifting	None mentioned	Pt. also had "minor rupture" of R quadriceps, treated conservatively; this may have been a muscle tear rather than a tendon tear.
Kramhoft & Solegaard, 1986	Ext pollicis longus	42	4 mo	NS	Weightlifting	Two months of wrist pain prior to tendon rupture.	
Herrick & Herrick, 1987	L Triceps	32	NS	No	Weightlifting	Ulnar neuritis plus triceps tendonitis and bursitis for several months prior to rupture.	
Bach et al., 1987	L Triceps	33	NS	Yes	Weightlifting	Arm weakness for 28 mo prior to evaluation	The patient also exhibited a probable R partial bicep tendon rupture
Stannard & Bucknell, 1993	Triceps	35	> 5 yrs	No	Weightlifting	Olecranon bursitis for 18 mo prior to injury, treated with 6 corticosteroid injections.	Corticosteroid injections may have contributed to tendon vulnerability (see Lambert et al., 1995 [ref]).
Visuri & Lindholm, 1994	Bilateral biceps	22	6 yrs	NS	Lifting object; boxing	None mentioned	Pt. tore both biceps tendons on separate occasions 9 months apart
David et al., 1995	Bilat quadriceps	32	> 10 yrs	NS	Weightlifting	None mentioned	Pt. tore both quadriceps tendons simultaneously while squatting 400 lbs.
Liow & Tavares, 1995	Bilat quadriceps	29	NS	No	Jump	"...pain in the quadriceps tendon prior to this injury"	Pt. ruptured both quadriceps tendons simultaneously after jumping from 15 feet.
Evans et al., 1998: case 1	Biceps + triceps	38	10 yrs	Yes	Weightlifting	None mentioned	Pt had distal biceps plus bilateral triceps tendon ruptures in 2 separate injuries 6 mo apart.
Evans et al., 1998: case 2	Biceps	31	1 yr	Yes	Lifting object	None mentioned	
Sollender et al. (4 cases)	Triceps	NS ^c	NS	NS	Batting baseball; weightlifting ^d	Two pts. had received corticosteroid injections in elbow for "tendonitis" several weeks prior to rupture.	Only one case presented in detail; this man ruptured his contralateral triceps tendon 4 mo after the initial rupture. Note possible role of corticosteroids in 2 cases.
Cope et al., 2003 (3 cases)	Biceps	39-44	See comments	See comments	Lifting object (2) Weightlifting (1)	None mentioned	All 3 pts. are described as "high-demand bodybuilders," but only 1 admitted to AAS use. It is likely that the other 2 pts had surreptitiously used AAS as well.
Lewis et al., 2005	Bilat quadriceps	35	6 yrs	NS	Weightlifting	Arthroscopy of R knee for "suspected meniscal pathology" 12 wks prior to tendon rupture	
Isenberg et al., 2008	Achilles + patellar	29	3 yrs	Yes	Soccer, weightlifting	None mentioned	Pt. ruptured both achilles tendons and one patellar tendon within an 18-mo time span.
März & Novotný, 2008	Quadriceps, pectoralis, biceps	25	11 mo	See comments	Carrying load, Weightlifting	Shoulder soreness prior to pectoralis rupture; no prodromal symptoms prior to the other two ruptures.	The patient took six 8-week courses of AAS over a span of several years; it is unclear whether he was actually on AAS at the times of his three successive tendon ruptures.

B. Cases with likely AAS use not explicitly acknowledged

Sherman et al., 1984	Triceps	34	See comments	See comments	Fall	None mentioned	Pt not explicitly asked about AAS use, but described as "professional bodybuilder."
Budoff & Gordon, 2000	R Latissimus dorsi	29	See comments	See comments	Fall from ladder	None mentioned	Although pt denied AAS use, he is described as a "professional bodybuilder" who bench-pressed 560 lbs, suggesting surreptitious AAS use.
Battista et al., 2003	R Achilles	33	See comments	See comments	Basketball	None mentioned	Pt. claimed only androstenedione use, but his weight of 230 lbs at 71" height suggests surreptitious AAS use. Notably, patient reported rupture of L achilles about 18 mo earlier.
Äärimaa et al., 2004	Pectoralis	21-35	NS	NS	Weightlifting (11) Gymnastics (1)	None mentioned	Retrospective survey of 33 cases of ruptured pectoralis tendons, of whom 12 cases were listed as "steroid suspicion."

Abbreviations: AAS - anabolic-androgenic steroids; NS - not specified

^a In all cases, "pectoralis" = pectoralis major, "biceps" = biceps brachii, and "triceps" = triceps brachii.

^b In cases where an individual sustained more than one tendon rupture, the age at the time of the first episode is supplied.

^c All 4 cases described as "middle-aged men."

^d The one man described in detail ruptured one tricep tendon batting a baseball and the contralateral triceps tendon in a fall; at least one of the other 3 men appears to have ruptured his tendon while weightlifting; details on the other men are not given.