Supplementary Table 3

Included studies using a non-tapered sample shape, arranged by publication year and last name of the first author. All retrieved measurements are from the gauge section of the sample. Aspect ratios and clamping modifications are highlighted (light and dark grey respectively).

First Author, Last name	Year	Human Soft-Tissue Sample	Width W_0 [mm]	Thickness [mm]	Cross-sectional Area [mm^2]	Gauge Length L_1 [mm]	Aspect Ratio $L_1 : W_0$	Clamping Modifications
Hoffman (Hoffman et al., 1977)	1977	Aorta (thoracic, descending)	1.5					
Banks (Banks et al., 1978)	1978	Pulmonary artery (thorax) Pulmonary Vein (thorax)	10					
Andreassen (Andreassen et al., 1980)	1980	Cornea (eye; normal and keratoconus)	2.4	0.52	1.25	3.5	1.46	
van Noort (van Noort et al., 1981)	1981	Dura mater (cranial)	5			40	8	Paper
Daly (Daly, 1982)	1982	Skin (abdomen)	1					
Akizuki (Akizuki et al., 1986)	1986	Articular cartilage (knee; normal, fibrillated, osteoarthritic)	1.8	0.25	0.45			
Akizuki (Akizuki et al., 1987)	1987	Articular cartilage (knee; normal, fibrillated, osteoarthritic)	1.8	0.25	0.45			
Sherebrin (Sherebrin et al., 1989)	1989	Aorta (thoracic; longitudinal and circumferential)	5					Sandpaper
Steiger (Steiger et al., 1989)	1989	Artery (intracranial; cerebral; aneurysm)	2 to 5					
Yoganandan (Yoganandan et al., 1989)	1989	Ligament (spinal, cervical; anterior longitudinal and flavum)						
Donovan (Donovan et al., 1990)	1990	Vein (leg; saphenous)	3.7 to 8.3	3.7 to 8.3	10.75 to 54.11			
Oxlund (Oxlund et al., 1990)	1990	Chorioamniotic membrane	4	0.044 to 0.243	0.176 to 0.972	7	1.75	Filter paper
van Alphen (van Alphen and Graebel, 1991)	1991	Lens, zonules, ciliary muscle, and choroid (eye)	5 (choroid) 5 (ciliary muscle)					
Rains	1992	Cartilage (neck; tracheal)	1	0.1	0.1	10 to 12	10 to 12	Glue

(Rains et al., 1992)								
Helmig (Helmig et al., 1993)	1993	Chorioamniotic membrane	4			7.4	1.85	Filter paper
He (He and Roach, 1994)	1994	Aorta (abdominal; normal, and aneurysm; longitudinal)	5					Sandpaper
Wolfinbarger (Wolfinbarger et al., 1994)	1994	Dura mater (cranial)	10	0.58	5.8	42	4.20	Sandpaper
Tissakht (Tissakht and Ahmed, 1995)	1995	Meniscus (knee; circumferential or circ. and radial or rad.)	1.75 to 3	1.5 to 2 (circ.) 0.8 to 2 (rad.)	2.625 (circ.) 0.875 (rad.)			
Pfaeffle (Pfaeffle et al., 1996)	1996	Interosseous membrane (forearm)	4.3	1.6	5.5			Epoxy putty, K-wires
Raghavan (Raghavan et al., 1996)	1996	Aorta (abdominal; aneurysm)	10					Cyanoacrylate glue
Har-Shai (Har-Shai et al., 1997)	1997	Fascia (face; superficial musculoaponeurotic system)	6 to 8	2 to 3				
Roberts (Roberts et al., 1997)	1997	Cartilage (neck; tracheal)	1	0.1	0.1	6 to 8	6 to 8	Cyanoacrylate glue
Afoke (Afoke et al., 1998)	1998	Fascia (hand; palmar; Dupuytren's contracture)		1.5				
Kim (Kim et al., 1998)	1998	Phayngeal tissue	12.79	3.15		40.2	3.14	
Sacks (Sacks et al., 1998)	1998	Dura mater (cranial; parallel and perpendicular fibers)	2	0.35 (parallel) 0.37 (perpend.)	0.7 (parallel) 0.4 (perpend.)			Cyanoacrylate glue, sandpaper
Tóth (Tóth et al., 1998)	1998	Artery (intracranial; cerebral; aneurysm)	1.5			3	2	
Davis (Davis and Wastell, 2000)	2000	Skin (scar; HIV and non-HIV)	1			5	5	Sutures
Elliott (Elliott and Setton, 2001)	2001	Annulus fibrosus (spine; lumbar; disc)	2.86	1.37	3.92			
Clavert (Clavert et al., 2001)	2001	Tendon (arm; biceps muscle, long head)			15.99	68.68		
Pennati (Pennati, 2001)	2001	Umbilical vein and Wharton's jelly (umbilical cord)	4 (vein) 4 (Wharton's)	1.25 (vein)		8 (vein) 8 (Wharton's)	2 (vein) 2 (Wharton's)	

Wang (Wang et al., 2001)	2001	Aorta (abdominal; aneurysm; intraluminal thrombus)	2	0.6				Cyanoacrylate glue
Egorov (Egorov et al., 2002)	2002	Esophagus (thorax) Stomach (abdomen) Small bowel (abdomen) Large bowel (abdomen)	10 (esophagus) 10 (stomach) 10 (small bowel) 10 (large bowel)			25 (esophagus) 25 (stomach) 25 (small bowel) 25 (large bowel)	2.5 (esophagus) 2.5 (stomach) 2.5 (small bowel) 2.5 (large bowel)	
Schechtman (Schechtman and Bader, 2002)	2002	Tendon (foot; extensor digitorum longus muscle)			2.91	72		Sandblasted grips
Vanags (Vanags et al., 2003)	2003	Esophagus (thorax; wall; esophagitis)		4				
Vorp (Vorp et al., 2003)	2003	Aortic (thoracic, ascending; aneurysm)	3					Cyanoacrylate glue
Butler (Butler and Walsh, 2004)	2004	Ligament (ankle; anterior tibiotalar or ATTL, posterior tibiotalar or PTTL, tibiocalcaneal or TCL, anterior tibiofibular or ATiFL, posterior tibiofibular or PTiFL,anterior talofibular or ATFL, posterior talofibular or PTFL, and calcaneofibular or CFL)	16.7 (ATTL) 16.6 (PTTL) 19.7 (TCL) 16.3 (ATiFL) 18.3 (PTiFL) 11.1 (ATFL) 13.0 (PTFL) 10.5 (CFL)	2.5 (ATTL) 2.9 (PTTL) 2.8 (TCL) 1.8 (ATiFL) 2.7 (PTiFL) 1.8 (ATFL) 2.3 (PTFL) 1.5 (CFL)	41.75 (ATTL) 48.14 (PTTL) 55.16 (TCL) 29.34 (ATiFL) 49.41 (PTiFL) ATFL 19.98 29.9 (PTFL) 15.75 (CFL)	5	0.30 (ATTL) 0.30 (PTTL) 0.25 (TCL) 0.31 (ATiFL) 0.27 (PTiFL) 0.45 (ATFL) 0.38 (PTFL) 0.48 (CFL)	Sandpaper
Holzapfel (Holzapfel et al., 2004)	2004	Atherosclerotic plaque (pelvis; iliac artery)	2.2 to 5.6	0.24 to 1.7				Sandpaper
Oyen (Oyen et al., 2004)	2004	Amniotic membrane (fetal)	6			11	1.83	Sandpaper
Stradins (Stradins et al., 2004)	2004	Aortic and pulmonary valves (thorax)	3	0.61 (aortic) 0.4 (pulmonary)	1.83 (aortic) 1.2 (pulmonary)			
Vogel (Vogel et al., 2004)	2004	Fetal membrane	4					
Grässel (Grässel et al., 2005)	2005	Fascia (abdominal; linea alba; supra- and infra-umbilical)	1					Sandpaper
Holzapfel (Holzapfel et al., 2005)	2005	Artery (heart; coronary, left anterior descending or LAD)	2.81	0.87		7.21	2.61 (coronary) 2.61 (LAD)	
Huang (Huang et al., 2005)	2005	Cartilage (shoulder; glenohumeral)	1.5	0.25	0.38	5	3.33	Sandpaper
Oyen (Oyen et al., 2005)	2005	Amniotic membrane (fetal)	5.5	0.05	0.28	11	2	Sandpaper

Richmon (Richmon et al., 2005)	2005	Aorta (abdominal; aneurysm)	8	1.57	12.56	7.3	0.91	
Defrate (Defrate et al., 2006)	2006	Tendon (foot; Achilles)	11		61 to 65.7			Beads, sandpaper
Di Martino (Di Martino et al., 2006)	2006	Aorta (abdominal; aneurysm; elective repair and ruptured)	2.5		2.5 (elective) 3.6 (ruptured)			
Lyu (Lyu et al., 2006)	2006	Plica (knee; mediopatellar)	2.1	1.5	3.15	10	4.76	Paper, adhesive
Raghavan (Raghavan et al., 2006)	2006	Aorta (abdominal; aneurysm)	8	1.48				
Seehra (Seehra and Silver, 2006)	2006	Skin	4	1	4	20	5	
Vande Geest (Vande Geest et al., 2006)	2006	Aorta (abdominal; aneurysm)	5					
Wagner (Wagner et al., 2006)	2006	Annulus fibrosus (spine; lumbar; anterior and contra-lateral)	5	2				Cyanoacrylate glue, sutures
Cheng (Cheng et al., 2007)	2007	Tympanic membrane (ear)	2	0.08				
Lujan (Lujan et al., 2007)	2007	Ligament (knee; medial collateral)	1.81	1.48	2.68	15.06	8.32	
Giannini (Giannini et al., 2008)	2008	Tendon (leg; posterior tibial muscle)			21.9 to 25.6			Cryoclamps
Kureshi (Kureshi et al., 2008)	2008	Fascia (abdominal; transversalis muscle)				5		
Rubod (Rubod et al., 2008)	2008	Vaginal wall (pelvis)	4	1.8		14	3.5	Hook-loop-tape
Smith (Smith et al., 2008)	2008	Labrum (shoulder; glenoid)	1	1	1	6	6	Cryoclamps
Xiong (Xiong et al., 2008)	2008	Aorta (abdominal; aneurysm and non-aneurysm; axial and circumferential)	5	1.5 to 1.9	7.5 to 9.5			Sandpaper
Birch (Birch and Srodon, 2009)	2009	Soft palate (mouth)	5.4	5.2	28.08			Acrylic blocks, cyanoacrylate Glue

Huang (Huang et al., 2009)	2009	Tendon (shoulder; supraspinatus muscle)	6.5	1.5				Sandpaper
Jabareen (Jabareen et al., 2009)	2009	Fetal membrane (amnion and chorion)	15 (amnion) 15 (chorion)	0.11 (amnion) 0.43 (chorion)	1.65 (amnion) 6.45 (chorion)	40	2.67 (amnion) 2.67 (chorion)	Sandpaper
Lake (Lake et al., 2009)	2009	Tendon (shoulder; supraspinatous muscle)	5	0.4	2.0			
O'Connell (O'Connell et al., 2009)	2009	Annulus fibrosus (spine; lumbar; circumferential and radial)	2.8 (circ.) 2.3 (rad.)	1.9 (circ.) 1.8 (rad.)				
Teng (Teng et al., 2009)	2009	Artery (neck; carotid)	2	1.24				Sandpaper, Cyanoacrylate glue,
Atienza (Atienza, 2010)	2010	Artery (heart; coronary; circumferential)	1	0.42 to 1.35	0.42 to 1.35			Cyanoacrylate glue
Claes (Claes et al., 2010)	2010	Artery (heart; coronary)	1	0.42 to 1.35	0.42 to 1.35			Cyanoacrylate glue
Duprey (Duprey et al., 2010)	2010	Aorta (thoracic, ascending; aneurysm)		1.86				Sandpaper
Elsheikh (Elsheikh et al., 2010)	2010	Sclera (eye)	4	1.06	4.24	12.1	3.03	
Hanuza (Hanuza et al., 2010)	2010	Aorta (thoracic)	10			30	3	
Komolafe (Komolafe and Doehring, 2010)	2010	Tendon (foot; Achilles)	4	1				
Lake (Lake et al., 2010)	2010	Tendon (shoulder; supraspinatus muscle)	5	0.5	2.5	13.9	2.78	
Martins (Martins et al., 2010)	2010	Vaginal wall (pelvis)		1.47				
Myers (Myers et al., 2010)	2010	Cervix (pelvis)		2		10		Sandpaper, cyanoacrylate glue
Abraham (Abraham et al., 2011)	2011	Meniscal attachments (knee)			3.7	6.1		
Costalat (Costalat et al., 2011)	2011	Artery (intracranial; aneurysm)		0.37	0.62			
Clay (Clay et al., 2011)	2011	Vaginal wall (pelvis; pelvic organ prolapse)	4			14	3.5	Hook-loop-tape

Gabriel (Gabriel et al., 2011)	2011	Vaginal tissue (pelvis) Skin (abdomen; infraumbilical) Aponeurosis (abdominal; infraumbilical)	4 (vaginal) 4 (skin) 4 (aponeurosis)	1 to 2	4 to 8	15 (vaginal) 15 (skin) 15 (aponeurosis)	3.75 (vaginal) 3.75 (skin) 3.75 (aponeurosis)	Hook-and-loop-tape
Khanafer (Khanafer et al., 2011)	2011	Aorta (thoracic, ascending; aneurysm)	3					Sandpaper
Kirlova (Kirilova et al., 2011)	2011	Fascia (abdominal; umbilical and inguinal; longitudinal and transverse)	10 (umbilical) 10 (inguinal)			30 (umbilical) 30 (inguinal)	3 (umbilical) 3 (inguinal)	
Martins (Martins et al., 2011b)	2011	Vaginal tissue (pelvis)						
Martins (Martins et al., 2011a)	2011	Bladder (pelvis)	10					
Pavan (Pavan et al., 2011)	2011	Aponeurosis (foot; plantar)	5	2.57	12.85	10	2	
Pena (Pena et al., 2011)	2011	Vaginal tissue (pelvis)	6	2.34	14.04	16	2.67	
Raghavan (Raghavan et al., 2011)	2011	Aorta (abdominal; aneurysm)	4	1.6				
Bourgouin (Bourgouin et al., 2012)	2012	Small intestine (abdomen)	25	1	25	32.7	1.31	
Celi (Celi et al., 2012)	2012	Aorta (abdominal; aneurysm, intraluminal and thrombus)	18					
Geraghty (Geraghty et al., 2012)	2012	Sclera (eye)	4	0.8	3.2	12.12	3.03	
Klinich (Klinich et al., 2012)	2012	Placenta tissue	25			60	2.4	Cryoclamps
Lake (Lake et al., 2012)	2012	Tendon (shoulder; supraspinatous muscle)	5	0.4	2.0			
Martins (Martins et al., 2012)	2012	Fascia (abdominal; rectus sheath)		1				Aluminum, sandpaper, hook-and-loop-tape
Rubod (Rubod et al., 2012)	2012	Vagina, bladder, and rectum (pelvis)	4	1.5	6	15	3.75	Hook-and-loop-tape
Teng (Teng et al., 2012)	2012	Muscle (neck; trachealis; mucosa, submucosa, and adventitia layers)						Sandpaper

Trindale (Trindade et al., 2012)	2012	Tendon and fascia (head; temporalis muscle)	2					
Dodson (Dodson et al., 2013)	2013	Umbilical artery (normal, preeclampsia; axial and circumferential)						
Khanafer (Khanafer et al., 2013)	2013	Aorta (thoracic, ascending; aneurysm)	3					
Kirlova (Kirilova et al., 2013)	2013	Fascia (abdominal; umbilical; longitudinal and transverse)	10					
Kobielarz (Kobielarz and Jankowski, 2013)	2013	Aorta (abdominal aneurysm)	5					
Li (Li et al., 2013)	2013	Aorta and artery (pulmonary)	6					Cryoclamps
Martins (Martins et al., 2013a)	2013	Vaginal						
Martins (Martins et al., 2013b)	2013	Ligament (pelvis; uterosacral)	10					
Pichamuthu (Pichamuthu et al., 2013)	2013	Aorta (thoracic, ascending; bicuspid and tricuspid aortic valves)	10			40	4	Sandpaper, cyanoacrylate glue
Reeps (Reeps et al., 2013)	2013	Aorta (abdominal; aneurysm)	5	1.57	7.85	7.3	1.46	
Rivaux (Rivaux et al., 2013)	2013	Ligament (pelvis; uterosacral or USL, round or RL, and broad or BL)	4 (USL) 4 (RL) 4 (BL)			14 (USL) 14 (RL) 14 (BL)	3.5 (USL) 3.5 (RL) 3.5 (BL)	
Trindale (Trindade et al., 2013)	2013	Muscle (head; temporalis)	4					
Faturechi (Faturechi et al., 2014)	2014	Fetal membrane (amnion)	8	0.05				
Isaacs (Isaacs et al., 2014)	2014	Annulus fibrosus (spine; thoracic and lumbar)	2	0.16	0.32	5	2.50	Sandpaper cyanoacrylate glue
Karimi (Karimi et al., 2014)	2014	Artery and vein (umbilical)	2					
Stecco (Stecco et al., 2014)	2014	Fascia (hip/thigh; crural; anterior and posterior)	3			10	3.3	Hook-and-loop tape

Tavares (Tavares Monteiro et al., 2014)	2014	Aorta (abdominal; aneurysm)	5					
Teng (Teng et al., 2014)	2014	Artherosclerotic plaque (neck; carotid, external; media, fibrous cap, lipid, and intraplaque hemorrhage/thrombus or IPH/T)	1.85 (media) 0.97(fibrous cap) 1.74 (lipid) 1.62 (IPH/T)	0.91 (media) 0.26 (fibrous cap) 1.28 (lipid) 1.31 (IPH/T)	1.68 (media) 0.25 (fibrous cap) 2.23 (lipid) 2.12 (IPH/T)			
Voycheck (Voycheck et al., 2014)	2014	Joint capsule (shoulder; glenohumeral)	10	0.4	0.4		2.4	
Chebil (Chebil et al., 2015)	2015	Ligament (intraabdominal; gastrocolic)	25	4.30	107.5	107	4.28	Sandpaper
Faturechi (Faturechi et al., 2015)	2015	Chorioamniotic membrane	8	0.05	0.4			Sandpaper
Ferro (Ferro et al., 2015)	2015	Acetabular labrum (hip)			31.45	30		Wire-wrapped ends, sandpaper
Jankowska (Jankowska et al., 2015)	2015	Artery (heart; coronary; stages of atherosclerosis development or SAD)	5 (SAD I) 5 (SAD II) 5 (SAD III)	1.95 (SAD I) 0.98 (SAD II) 2.5 (SAD III)	3.9 (SAD I) 1.96 (SAD II) 5 (SAD III)	25 (SAD I) 25 (SAD II) 25 (SAD III)	5 (SAD I) 5 (SAD II) 5 (SAD III)	Texturized rubber
Kobielarz (Kobielarz et al., 2015)	2015	Aorta (thoracic; atherosclerotic	5					
Lopez (Lopez et al., 2015)	2015	Vaginal tissue (pelvis; anterior wall)						
Mauri (Mauri et al., 2015)	2015	Fetal membrane (amnion)	15			60	4	
Martufi (Martufi et al., 2015)	2015	Aorta (abdominal; wall or W and thrombus or T)	4	1.83 to 3.6 (W) 17 to 32 (T)	7.32 to 1.8 (W) 68 to 128 (T)			
Ninomiya (Ninomiya et al., 2015)	2015	Aorta (thoracic and abdominal)	4	1.3 (thoracic) 1.16 (abdominal)				
O'Leary (O'Leary et al., 2015)	2015	Aorta (abdominal; aneurysm)	4	1.24	4.96	16	4	
Pierce (Pierce et al., 2015)	2015	Aorta (thoracic and abdominal; aneurysm; longitudinal and circumferential)	4	1.98 (thoracic) 2.12 (abdominal)	7.92 (thoracic) to 8.48 (abdominal)			Sandpaper, glue
Skelley (Skelley et al.,	2015	Ligament (knee; anterior cruciate)		0.56		11.6		Sandpaper, cyanoacrylate glue

2015)								
Sun (Sun et al., 2015)	2015	Eyelid (eye; tarsus)	5.51	1.60				
Tanios (Tanios et al., 2015)	2015	Aorta (abdominal; aneurysm)	8					
Teng (Teng et al., 2015)	2015	Aorta (abdominal; aneurysm)	1.99	1.24				
Yamada (Yamada et al., 2015)	2015	Aorta (ascending; dissected)	3 (dissected) 3 (control)	1.66 (dissected) 1.46 (control	4.98 (dissected) 4.38 (control)	10	3.33 (dissected) 3.33 (control)	
Aisa (Aisa et al., 2016)	2016	Vein (leg; saphenous)						
Barrett (Barrett et al., 2016)	2016	Plaque tissue (neck; carotid)	25.02			5.16	0.20	
Brieu (Brieu et al., 2016)	2016	Vaginal tissue (pelvis; anterior and posterior wall)	4	1.80				
Cooney (Cooney et al., 2016)	2016	Fascia (abdominal; linea alba; transverse and longitudinal)	10.74 (tranverse) 11.94 (longitudinal)	1.37 (transverse) 1.27 (longitudinal)	14.71 (transverse) 15.16 (longitudinal)	20.57 (transverse) 25.43 (longitudinal)	1.92 (transverse) 2.13 (longitudinal)	Sandpaper
Criscenti (Criscenti et al., 2016)	2016	Tendon (knee; patello-femoral)	8.9 to 25.9	0.9 to 2.1	8.7 to 55.3		4	Sandpaper, cyanoacrylate glue
de Landsheere (de Landsheere et al., 2016)	2016	Vaginal tissue (pelvis)	4					
Gaur (Gaur et al., 2016)	2016	Diaphragm	19	2.25	34.34	34	1.79	Cryoclamps
Kirlova- Doneva (Kirilova-Doneva et al., 2016)	2016	Fascia (abdominal; umbilical)	10					
Liu (Liu et al., 2016)	2016	Skin (breast; stratum corneum)	7			15	2.14	Tape
Massalou (Massalou et al., 2016)	2016	Colon (abdomen)	25			40	1.60	
Morales-Orcajo (Morales-Orcajo et al., 2016)	2016	Tendon (foot; extensor digitorum brevis or EDB and longus or EDL; flexor digitorum brevis or FDB and longus or FDL; extensor hallucis longus or EHL; flexor hallucis longus or FHL; tibialis anterior or TA and			3.09 (EDB) 4.81 (EDL) 2.72 (FDB) 4.87 (FDL) 8.53 (EHL) 15.77 (FHL)			Steel clamps with milled holes

		posterior or TP; and peroneus brevis or PB and longus or PL muscles)			26.40 (TA) 24.02 (TP) 11.87 (PB) 16.59 (PL)			
Schleifenbaum (Schleifenbaum et al., 2016a)	2016	Ligaments (hip; ilio-, pubo-, and ischio-femoral)						Plastinated ends
Skelley (Skelley et al., 2016)	2016	Ligament (knee; anterior cruciate)		0.60				
Wright (Wright et al., 2016b)	2016	Ligament (knee; posterior cruciate)						Sandpaper
Wright (Wright et al., 2016a)	2016	Disc (jaw; temporomandibular joint; anteroposterior or AP and mediolateral or ML)	2 (AP) 2 (AL)	2.2 (AP) 2.5 (AL)	4.4 (AP) 5.0 (AL)	7.1 (AP) 10.6 (ML)	3.55 (AP) 5.3 (ML)	
Yan (Yan et al., 2016)	2016	Meniscus (knee)						Collets
Antun (Antun et al., 2017)	2017	Fetal membrane	10					Filter paper
Brunenieks (Brunenieks et al., 2017)	2017	Colon (pelvis; rectum; normal and obstructed defecation syndrome or ODS)	5	2.89 (normal) 2.71 (normal) 2.28 (ODS, ant.) 2.12 (ODS, post.)	14.45 (normal) 13.55 (normal) 11.4 (ODS, ant.) 10.6 (ODS, post.)			
Kumaraswamy (Kumaraswamy et al., 2017)	2017	Skin (breast)	11.97	1.	18.07	43	3.59	Sandpaper
Ollivier (Ollivier et al., 2017)	2017	Aorta (abdominal; aneurysm; fibrous and calcified)	4	1.2		16	4	
Astruc (Astruc et al., 2018)	2018	Rectus sheath (abdominal; anterior and posterior sheath, linea alba)	10 (ARS) 10 (PRS) 10 (LA)	0.73 (ARS) 0.58 (PRS) 1.97 (LA)	7.3 (ARS) 5.8 (PRS) 19.7 (LA)	15 (ARS) 15 (PRS) 15 (LA)	1.5 (ARS) 1.5 (PRS) 1.5 (LA)	Grips with stiches and grids
Bai (Bai et al., 2018)	2018	Aorta (thoracic, ascending)	5					
Brunel (Brunel et al., 2018)	2018	Artery (intracranial; cerebral; aneurysm)						
Deveja (Deveja et al., 2018)	2018	Aorta (thoracic; ascending; bicuspid and tricuspid aortic valves)	10					Sandpaper, cyanoacrylate glue
Fatemifar (Fatemifar et al., 2018)	2018	Trabeculae carneae (heart; muscle)	2.06	1.11	2.29			Suture hooks

Guo (Guo et al., 2018)	2018	Fascia (foot; plantar)	2	0.65				Zig-zag grip
Karimi (Karimi and Razaghi, 2018)	2018	Lung (thorax)	15.1	6.46				
Karimi (Karimi and Shojaei, 2018)	2018	Liver (abdomen)	24.35	9.93				Sandpaper, cyanoacrylate glue
Leng (Leng et al., 2018)	2018	Artery (neck; carotid; atherosclerotic media and fibrous cap						
Otsuka (Otsuka et al., 2018)	2018	Fascia lata (hip; longitudinal and transverse)	40	0.19 to 0.8	7.6 to 32.0			Sandpaper, glue
Pham (Pham et al., 2018)	2018	Annulus fibrous (spine; lumbar)	1.75	0.5	0.87	4.37	2.49	Cotton fibre tabs, cyanoacrylate Glue
Wagner (Wagner et al., 2018)	2018	Fetal membrane (amnion)	4					
Xiang (Xiang et al., 2018)	2018	Corneal stroma (eye)	1.2			1.5	1.25	
Xue (Xue et al., 2018)	2018	Corneal stroma (eye)	1	0.1	0.1	1.5	1.5	Roughened-surface grips
Amabili (Amabili et al., 2019)	2019	Aorta (thoracic, descending; intima, media and adventitia layers)	8	0.15 (intima) 1.02 (media) 0.59 (adventitia)				
Khanafer (Khanafer et al., 2019)	2019	Aorta (thoracic, ascending)	3					
Kochova (Kochova et al., 2019)	2019	Perineal body (pelvis)	14	7	98	10	0.71	
Koh (Koh et al., 2019)	2019	Fetal membrane (amnion)	5					Sandpaper, cyanoacrylate glue
Kozun (Kozun et al., 2019)	2019	Aorta (thoracic, ascending; aneurysm and normal)	5			20	4	
Massalou (Massalou et al., 2019a)	2019	Large intestine (abdomen)	25			40	1.6	
Massalou (Massalou et al., 2019b)	2019	Large intestine (abdomen; ascending, transverse, descending and sigmoid)	25 (ascending) 25 (transverse) 25 (descending) 25 (sigmoid)	1.2 (ascending) 1.2 (transverse) 1.4 (descending) 1.6 (sigmoid)	30 (ascending) 30 (transverse) 35 (descending) 37.6 (sigmoid)	40 (ascending) 40 (transverse) 40 (descending) 40 (sigmoid)	1.6 (ascending) 1.6 (transverse) 1.6 (descending) 1.6 (sigmoid)	
Rotta	2019	Stomach (abdomen)	10 to 30	3.57 to 4.25	35.7 to 127.5			

(Rotta et al., 2019)								
Shan (Shan et al., 2019)	2019	Aponeurosis (leg; triceps surae muscles)						Sandpaper
Sokolis (Sokolis, 2019)	2019	Ureter (abdomen)	3			15	5	Sandpaper
Amabili (Amabili et al., 2020)	2020	Aorta (thoracic, descending; dissected; intima, media and adventitia layers; axial and circumferential)	8	0.2 (intima) 0.98 (media) 1.9 (adventitia)	1.6 (intima) 7.84 (media) 15.2 (adventitia)			
Bhat (Bhat et al., 2020)	2020	Artery (neck; carotid; intima layer)	1.5	1	1.5			
Carniel (Carniel et al., 2020)	2020	Stomach (abdomen)	9.93	4.51	44.78	15	1.51	Glue, balsa wood
Fischer (Fischer et al., 2020)	2020	Iliotibial tract (thigh)	11.3	0.9	1.02	50	4.42	Plastination, wooden taps
Gaur (Gaur et al., 2020)	2020	Diaphragm		2.25			1.9	Cryoclamps
Gawargious (Gawargious et al., 2020)	2020	Sclera (eye)	2			5	2.5	
Gomes (Gomes et al., 2020)	2020	Perivascular tissue (periaortic aneurysm)	10	4	40	40	4	
Kriilova-Doneva (Kirilova-Doneva et al., 2020)	2020	Fascia (abdominal; umbilical, inguinal and abdominal; different ages)	10 (<60 years) 10 (61-80 years), 10 (>80 years)	0.71 (<60 years) 1.61 (61-80 years), 1.45 (>80 years)	7.1 (<60 years) 16.1 (61-80 years), 14.5 (>80 years)	30	3	Roughened rubber
Kobielarz (Kobielarz, 2020)	2020	Aorta (abdominal; normal and aneurysm)	5			25	5	
Liu (Liu et al., 2020b)	2020	Corneal stroma (eye)		0.13				
Liu (Liu et al., 2020a)	2020	Cornea (eye; lenticule, nasal-tempora or NT and superior-inferior or SI)	1.2 (NT) 1.2 (SI)			1.5 (NT) 1.5 (SI)	1.25 (NT) 1.25 (SI)	
Nguyen (Nguyen et al., 2020)	2020	Sclera (eye)						
Novotny (Novotny et al., 2020)	2020	Artery (pelvis; iliac)	3					
Paritala (Paritala et al., 2020)	2020	Carotid plaque (neck; artery).	3.14	1.17	3.21	5	1.59	Sandpaper, cyanoacrylate glue

Shin (Shin et al., 2020)	2020	Optic nerve sheath (eye; inner and/or outer layers)	2 (inner) 2 (outer) 2 (both)		0.67 (inner) 0.49 (outer) 0.92 (both)	4 (inner) 4 (outer) 4 (both)	2 (inner) 2 (outer) 2 (both)	Cyanoacrylate glue, cardboard, serrated grips
Franchini (Franchini et al., 2021)	2021	Aorta (thoracic, descending; intima, media and adventitia layers; circumferential and longitudinal)	5	1.67	8.35			
Gomes (Gomes et al., 2021)	2021	Perivascular tissue (periaortic, aneurysm)	10	4	40	40	4	
He (He et al., 2021b)	2021	Retina, choroid and sclera (eye; age-related macular degeneration)	1.5 (retina) 1.5 (choroid) 0.5 (sclera)			1 (retina) 1 (choroid) 1 (sclera)	0.67 (retina) 0.67 (choroid) 2 (sclera)	
Kozun (Kozun et al., 2021)	2021	Aorta (thoracic; atherosclerosis)	5	1.1	5.5	25	5	
Park (Park et al., 2021)	2021	Sclera (eye; anterior, equatorial, posterior, peripapillary) Optic nerve sheath (eye)	0.6 (anterior) 0.6 (equatorial) 0.7 (posterior) 0.8 (peripapillary) 1.3 (nerve sheath)				4.9 (anterior) 4.7 (equatorial) 4.6 (posterior) 3.5 (peripapillary) 5.6 (nerve sheath)	
Todros (Todros et al., 2021)	2021	Plantar fascia (foot)	5			15	3	
Xue (Xue et al., 2021)	2021	Cornea (eye)	1	0.111	0.11	1.5	1.5	Roughen thread surface
Baldit (Baldit et al., 2022)	2022	Umbilical cord (Wharton's Jelly)	4.69	1.01	4.74	11.98	11.86	Cyanoacrylate glue
Chang (Chang et al., 2022)	2022	Meniscus (knee)	4	1	4	5 to 7	1.25 to 1.75	Aluminum beads, cyanoacrylate glue
Durcan (Durcan et al., 2022)	2022	Esophagus (thorax; muscularis propria and mucosa, and submucosa; axial and circumferential)	4.1				4 ASTM E8/E8M-13	
Kirlova-Doneva (Kirilova-Doneva and Pashkouleva, 2022)	2022	Fascia (abdominal; umbilical and transversalis)	10 (umbilical) 10 (transversalis)			40 (umbilical) 40 (transversalis)	4 (umbilical) 4 (transversalis)	
Ma (Ma et al., 2022)	2022	Sclera (eye) Dura matter (cranial)	3					
Metschl (Metschl et al., 2022)	2022	Aorta (abdominal; aneurysm)	8			7.3	0.91	
Song (Song et al., 2022)	2022	Stroma (eye; corneal)	1					
Tokgoz (Tokgoz et al.,	2022	Aorta (thoracic, ascending and descending; aneurysm; intima, media	1.5	0.99 (intima) 1.67 (media)	1.49 (intima) 2.51 (media)			

2022)		and adventitia layers; axial and circumferential)		0.85 (adventitia)	1.275 (adventitia)				

Supplementary Table 4

Included studies using a tapered sample shape, arranged by publication year and last name of the first author. All retrieved measurements are from the gauge section of the sample. Aspect ratios and clamping modifications are highlighted (light and dark grey respectively).

First Author, Last name	Year	Human Soft-Tissue Sample	Width W_0 [mm]	Thickness [mm]	Cross-sectional Area [mm²]	Gauge Length L_1 [mm]	Aspect Ratio $L_1 : W_0$	Clamping Modifications
Kempson (Kempson et al., 1968)	1968	Cartilage (knee; femoral)	1.6			6.35	3.98	
Kempson (Kempson et al., 1973)	1973	Cartilage (knee; femoral)	1.6			6.35	3.98	
Weightman (Weightman, 1976)	1976	Cartilage (knee; femoral)		0.2				
Weightman (Weightman et al., 1978)	1978	Cartilage (knee; femoral)		0.2				
Mohan (Mohan and Melvin, 1982)	1982	Aorta (thoracic; longitudinal and transverse)	6.36 4.57			19.05 7.87	3.00 1.72	
Kempson (Kempson, 1991)	1991	Cartilage (knee; femoral) Cartilage (foot; talar)	10 (knee) 10 (foot)	0.2 (knee) 0.2 (foot)	2 (knee) 2 (foot)	30 (knee) 30 (foot)	3 (knee) 3 (foot)	
Loree (Loree et al., 1994)	1994	Aorta (abdominal; atherosclerotic plaque)	4.8	1.2		7.9	1.64	Sandblasted clamps
Skaggs (Skaggs et al., 1994)	1994	Annulus fibrosis (spine; lumbar)	1.51	0.63		2.9	1.92	
Ebara (Ebara et al., 1996)	1996	Anulus fibrosus (spine; lumbar)	4.4	2.3	10.12	3.7	0.84	Polishing paper
Di Martino (Di Martino et al., 1998)	1998	Aorta (abdominal; thrombus)	4		14.5	22	5.5	Ribbed clamps
Quapp (Quapp and Weiss, 1998)	1998	Ligament (knee; medial collateral)	1.75 (longitudinal) 3.56 (transverse)	1.57 (longitudinal) 1.29 (transverse)	2.75 (longitudinal) 4.59 (transverse)	10 (longitudinal) 6 (transverse)	5.71 (longitudinal) 1.69 (transverse)	Gauze-wrapped ends
Lechner (Lechner et al., 2000)	2000	Meniscus (knee; medial)	1	0.5 to 3.0	0.5 to 3.0	10	10	Sandpaper, cyanoacrylate glue
Bellucci (Bellucci and Seedhom, 2001)	2001	Cartilage (knee, femoral and tibial)	1	0.2				Plastic blocks, Cyanoacrylate Glue

Moore(Moore et al., 2004)	2004	Joint capsule (shoulder; glenohumeral; posterior; longitudinal and transverse)	2.5 (longitudinal) 2.5 (transverse)		5.7 (longitudinal) 4.8 (transverse)	12.5 (longitudinal) 12.5 (transverse)	5 (longitundinal) 5 (transverse)	
Carpenter (Carpenter et al., 2005)	2005	Tendon (arm; biceps, long head; full-thickness tear and no tear)	3		20 (no tear) 15 (tear)			Cryoclamps (frozen normal saline block)
Moore (Moore et al., 2005)	2005	Joint capsule (shoulder; glenohumeral, posterior; longitudinal and transverse)	2.5 (longitudinal) 2.5 (transverse)		4.0 (longitudinal) 3.1 (transverse)	12.5 (longitudinal) 12.5 (transverse)	5 (longitudinal) 5 (transverse)	
Schmid (Schmid et al., 2005)	2005	Aorta (axial and circumferential)						Sandpaper
Stemper (Stemper et al., 2005)	2005	Artery (neck; internal carotid)	7.9			15.9	2.01	Wire-mesh
Ticker (Ticker et al., 2006)	2006	Ligament (shoulder; inferior glenohumeral)		1				
Temple (Temple et al., 2007)	2007	Cartilage (knee; femoral)	0.8			4	5	
Bae (Bae et al., 2008)	2008	Cartilage (knee; patellar)	0.8	0.3	0.24	4	5	
Craiem (Craiem et al., 2008)	2008	Aorta (thoracic, ascending)	2	2.00 to 2.25				Cyanoacrylate glue
Manoogian (Manoogian et al., 2008)	2008	Chorion and placenta	7	5	42.2 (chorion) 27.1 (placenta)	17	2.43 (chorion) 2.43 (placenta)	Serrated grip
Walraevens (Walraevens et al., 2008)	2008	Aorta (abdominal; calcified and normal)	4 (calcified) 4 (normal)				5 (calcified) 5 (normal)	
Iliopoulos (Iliopoulos et al., 2009b)	2009	Aorta (thoracic, ascending; aneurysm and control)	2 (control) 2 (aneurysm)	1.73 (control) 1.63 (aneurysm)		25 (control) 25 (aneurysm)	12.5 (control) 12.5 (aneurysm)	Sandpaper
Iliopoulos (Iliopoulos et al., 2009a)	2009	Aorta (thoracic, ascending; aneurysm)	2	1.71		25	12.5	Sandpaper
Maher (Maher et al., 2009)	2009	Atherosclerotic plaques (neck; carotid)	1			4	4	Sandpaper
Manoogian (Manoogian et al., 2009)	2009	Placenta	7		28.4	17	2.43	Sandpaper
Temple-Wong (Temple-Wong et al., 2009)	2009	Cartilage (knee; femoral, lateral condyle)	1.6			6.35	3.98	

Abramowitch (Abramowitch et al., 2010)	2010	Tendon (leg; semitendinosus and gracilis muscles)	3		15.53	30	10	Gauze
Chauvet (Chauvet et al., 2010)	2010	Dura mater (cranial)		1.11				
Guinea (Guinea et al., 2010)	2010	Aorta (thoracic, descending; longitudinal and circumferential)	2	1.9 to 2.1		10	5	Cyanoacrylate glue
Fessel (Fessel et al., 2011)	2011	Tendon (arm; flexor digitorum profundus muscle)						Ends wrapped in cloth
Garcia-Herrera (Garcia-Herrera et al., 2012a)	2012	Aorta (thoracic, ascending; newborn and young adult)	2 (newborn) 2 (young adult)	1.5 to 2.4	3.0 to 4.8	10 (newborn) 10 (young adult)	5 (newborn) 5 (young adult)	
Garcia-Herrera (Garcia-Herrera et al., 2012b)	2012	Aorta (thoracic, descending)	2	1.8	3.6	10	5	
Ni Annaidh (Ní Annaidh et al., 2012)	2012	Skin (back)	6	2.56	15.36	33	5.5	
Weisbecker (Weisbecker et al., 2012)	2012	Aorta (thoracic or T and abdominal or A; intima, media, adventitia layers; circumferential and axial)	4 (intima, T) 4 (media, T) 4 (adventia, T) 4 (intima, A) 4 (intima, A) 4 (intima, A)	0.48 (intima, T) 1.18 (media, T) 0.93 (adventia, T) 0.68 (intima, A) 0.94 (intima, A) 1.07 (intima, A)		10 (intima, T) 10 (media, T) 10 (adventia, T) 10 (intima, A) 10 (intima, A) 10 (intima, A)	2.5 (intima, T) 2.5 (media, T) 2.5 (adventia, T) 2.5 (intima, A) 2.5 (intima, A) 2.5 (intima, A)	
Iliopoulos (Iliopoulos et al., 2013)	2013	Coronary sinus	2	1.57	3.14	7	3.5	
Ben Abdelounis (Ben Abdelounis et al., 2013)	2013	Rectus sheath (abdomen; anterior)	5	1.2	6	20	4	Sandpaper
Forsell (Forsell et al., 2013)	2013	Aorta (abdominal; aneurysm)	4	15.7				Sandpaper, cyanoacrylate glue
Weisbecker (Weisbecker et al., 2013)	2013	Aorta (thoracic; intima, media, adventia layers; circumferential and axial)	4			10	2.5	
Fields (Fields et al., 2014)	2014	Cartilage (spine; lumbar; endplate)	1.5			5	3.33	
Hammer (Hammer et al., 2014)	2014	Fascia (leg; iliotibial tract)	10					Plastinated ends
Kritharis (Kritharis et al.,	2014	Aorta (ascending; sinus; circumferential or circ. and	2			7	3.5 (circ.) 3.5 (long.)	

2014)		longitudinal or long.)						
Nagle (Nagle et al., 2014)	2014	Muscle (pelvis; levator ani)	3	7.55	22.65	39.58	13.19	
Qian (Qian et al., 2014)	2014	Aponeurosis (hand; finger extensor)	2	1.07 to 2.23		10	5	Gauze
Fischenich (Fischenich et al., 2015)	2015	Meniscus (knee)	1	1	1	5	5	Polishing paper, cyanoacrylate glue
Freutel (Freutel et al., 2015)	2015	Meniscus (knee)	2.1	1				Sandpaper, cyanoacrylate glue
Kolz (Kolz et al., 2015)	2015	Tendon (arm; biceps muscle, long head)						
Ottenio (Ottenio et al., 2015)	2015	Skin	5.2 (longitudinal) 3.55 transverse)	2.30	11.96 (longitudinal) 8.17 (transverse)	71 (longitudinal) 12.5 (transverse)	13.65 (longitudinal) 3.52 (transverse)	
Sassani (Sassani et al., 2015)	2015	Aorta (abdominal; aneurysm)	4	2.90	11.6	12	3	Sandpaper
Schriefl (Schriefl et al., 2015)	2015	Aorta (abdominal)				4		
Utarouiu (Untaroiu et al., 2015)	2015	Liver parenchyma (abdomen)	10	5.00	50	55.5	5.55	
Courtail (Courtial et al., 2016)	2016	Aorta (abdominal)	4			17	4.25	
Ferrara (Ferrara et al., 2016)	2016	Aorta (thoracic, ascending; dilated)						Sandpaper, cyanoacrylate glue
Schleifenbaum (Schleifenbaum et al., 2016b)	2016	Muscle (thigh; quadriceps femoris)	>14					Suture, plastinated ends
Smeets (Smeets et al., 2017b)	2017	Ligaments (knee)						Sandpaper, cyanoacrylate glue
Smeets (Smeets et al., 2017c)	2017	Ligament (knee; anterolateral) Ligament (shoulder; glenohumeral)						Cyanoacrylate glue
Smeets (Smeets et al., 2017a)	2017	Tendon (leg; gracilis, semitendinosus and quadriceps muscles) Fascia (leg; iliotibial tract)						Sandpaper, cyanoacrylate glue
Smoljkic (Smoljkic et al., 2017)	2017	Aorta (thoracic, ascending; aneurysm)	2	2.72	5.44			Sandpaper

Tenorio (Tenorio et al., 2017)	2017	Parietal pleura (thorax)	2					
Falland-Cheung (Falland-Cheung et al., 2018)	2018	Scalp (head)	4			16	4 ISO 527-2	
Ferrara (Ferrara et al., 2018)	2018	Aorta (thoracic, ascending; dilated)						
Manopoulos (Manopoulos et al., 2018)	2018	Aorta (thoracic, ascending; inner and outer layers; circumferential or circ. and longitudinal or long.)	3 (circ., in.) 3 (circ., out.) 3 (long., in.) 3 (long., out.)	1.89 (circ., in.) 0.25 (circ., out.) 1.28 (long., in.) 0.26 (long., out.)	5.67 (circ., in.) 0.75 (circ., out.) 3.84 (long., in.) 10.26 (long., out.)	8 (circ., in.) 8 (circ., out.) 8 (long., in.) 8 (long., out.)	2.67 (circ., in.) 2.67 (circ., out.) 2.67 (long., in.) 2.67 (long., out.)	Sandpaper, cyanoacrylate glue
Scholze (Scholze et al., 2018)	2018	Scalp (head) Fascia (leg; iliotibial band) Tendon (forearm; flexor digitorum superficialis and profundus muscles)						3D-printed pyramids
Aydin (Aydin et al., 2019)	2019	Dura mater (cranial)	6	0.48 to 0.65		25	4.17 JISK6251-5	
Gremare (Gremare et al., 2019)	2019	Fetal membrane (amnion)	2.5	0.0045	0.01125	6	2.40	
Kizmazoglu (Kizmazoglu et al., 2019)	2019	Dura mater (cranial)	5			20	4 JISK6251-5-2004	
Lozano (Lozano et al., 2019)	2019	Fascia (iliotibial tract)						3D printed clamps
Sherifova (Sherifova et al., 2019)	2019	Aorta (thoracic, descending; aneurysmal and non-aneurysmal)	4			5	1.25 (aneurysm) 1.25 (non-aneurysm)	
Zwirner (Zwirner et al., 2019a)	2019	Fascia (leg; iliotibial tract)	12					Plastinated ends
Zwirner (Zwirner et al., 2019b)	2019	Dura mater (cranial)	5		2.84	10	2	3D-printed pyramids
Choi (Choi et al., 2020)	2020	Mucosa (mouth; buccal, hard palate, gingiva)	5	2	10	58	11.6 ISO 527-2	
Zwirner (Zwirner et al., 2020a)	2020	Muscle (head; temporalis)	5			10	2	3D-printed pyramids
Zwirner (Zwirner et al., 2020c)	2020	Fascia (head; temporalis muscle)	5		4	10	2	3D-printed pyramids
Zwirner	2020	Fascia (leg; iliotibial tract)					5	

(Zwirner et al., 2020b)							ISO 527-1	
Zwirner (Zwirner et al., 2019b; Zwirner et al., 2020d)	2020	Dura mater (cranial)	5		2.84	10	2	3D-printed pyramids
Grgic (Grgić et al., 2021)	2021	Tendon (leg; gracillus and quadricep muscles)	9.12 (gracillus) 9.91 (quadriceps)	2.73 (gracillus) 2.46 (quadriceps)	10.65 (gracillus) 19.36 (quadriceps)	25 12	6.25 (gracillus) 6 (quadricep) ISO 527-1:1993	
He (He et al., 2021a)	2021	Aorta (thoracic, ascending; aneurysm; circumferential and longitudinal)					4	Sandpaper, cyanoacrylate glue
Nesbitt (Nesbitt et al., 2021)	2021	Meniscus (knee; lateral; younger or Y versus older or O; longitudinal and transverse)	1.0 (longitudinal) 1.3 (transverse)		0.79 and 0.76 (Y and O, longitudinal) 1.15 and 1.18 (Y and O, transverse)	5 (longitudinal) 3 (transverse)	5 (longitudinal) 2.31 (transverse)	
Polzer (Polzer et al., 2021)	2021	Aorta (abdominal; aneurysm)	2	1.48	2.96	4	2	
Wertheimer (Wertheimer et al., 2021)	2021	Tendon (leg; gracillus and quadriceps muscles)	5.19 (gracillus) 9.61 (quadriceps)	2.64 (gracillus) 2.45 (quadriceps)	10.51 (gracillus) 19.28 (quadriceps)		5 (gracilus) 5 (quadriceps) ISO 527-1:1993 5A and 5B	
Zwirner (Zwirner et al., 2021b)	2021	Fascia (face; temporal muscle orTMF) Dura mater (cranial)	5	1.46 (TMF) 0.63 (dura)	7.3 (TMF) 3.15 (dura)	10	2	3D-printed pyramids
Henderson (Henderson et al., 2022)	2022	Meniscus (knee; medial)	1	0.9	0.9	5	5	Cloth, cyanoacrylate glue
Zwirner (Zwirner et al., 2022)	2022	Scalp (head, temporal cutis and subcutis) Fascia (head; temporalis muscle) Muscle (head; temporalis) Dura mater (cranial; temporal)					5 (scalp) 5 (fascia) 5 (muscle) 5 (dura mater) ISO 527-2	

Supplementary Table 5

Included studies using both a non-tapered and tapered sample shape, arranged by publication year and last name of the first author. All retrieved measurements are from the gauge section of the sample. Aspect ratios and clamping modifications are highlighted (light and dark grey respectively).

First Author, Last name	Year	Human Soft-Tissue Sample	Width W_0 [mm]	Thickness [mm]	Cross-sectional Area [mm²]	Gauge Length L_1 [mm]	Aspect Ratio $L_1 : W_0$	Clamping Modifications
Stabile (Stabile et al., 2004)	2004	Membrane/ligament (forearm; interosseous membrane; transverse and longitudinal)	4 (transverse) 2 (longitudinal)	5.7 (transverse) 2.5 (longitudinal)		6 (transverse) 10 (longitudinal)	1.5 (non-tapered, transverse) 5 (tapered, longitudinal)	Cotton gauze
Sokolis (Sokolis et al., 2012b)	2012	Aorta (thoracic, ascending; aneurysm; tricuspid aortic valve dysfunction)	10 (non-tapered) 2 (tapered)			25 (tapered)	Non-tapered 12.5 (tapered)	Sandpaper, cyanoacrylate glue
Sokolis (Sokolis et al., 2012a)	2012	Aorta (thoracic, ascending; aneurysm; tricuspid aortic valve dysfunction)	10 (non-tapered) 2 (tapered)			25 (tapered)	Non-tapered 12.5 (tapered)	Sandpaper, cyanoacrylate glue
Sokolis (Sokolis and Iliopoulos, 2014)	2014	Aorta (thoracic, ascending; aneurysm)	10 (non-tapered) 2 (tapered)			7 (tapered)	Non-tapered 3.5 (tapered)	Sandpaper, cyanoacrylate glue
Sang (Sang et al., 2018)	2018	Artery (neck; carotid)	2.4 (non-tapered) 1.2 (tapered)	0.32	0.77 (non-tapered) 0.38 (tapered)			Sandpaper, foam tape
Sokolis (Sokolis and Angouras, 2021)	2021	Aorta (thoracic; ascending, aneurysm; aortic stenosis, aortic insufficiency, tricuspid aortic valve dysfunction)	10 (non-tapered) 2 (tapered)			7	Non-tapered 3.5 (tapered)	Sandpaper, cyanoacrylate glue
Zwirner (Zwirner et al., 2021a)	2021	Tendon (foot; plantaris muscle and peroneus tertius muscles) Ligament (ankle; medial or ML and lateral LL)			2.7 (plantaris) 5.0 (peroneus), 10.9 (medial) 12.7 (lateral)	21 (non-tapered) 21 (tapered, ligament)	Non-tapered 4 (tapered, ML) 4 (tapered, LL) !SO 527-2:1996	3D-printed pyramids

Supplementary Table 6

Included studies using sample shapes other than tapered or non-tapered, arranged by publication year and last name of the first author. All retrieved measurements are from the gauge section of the sample. Clamping modifications are highlighted (dark grey respectively).

Reference	Year	Human Soft-tissue Sample	Width, Diameter, or Circumference [mm]	Thickness [mm]	Cross-sectional Area [mm²]	Gauge Length L_1 [mm]	Sample Shape	Clamping Modifications
Lee (Lee and Haut, 1989)	1989	Vein (intracranial; parasagittal)	4.4 (circumference)	0.05 (wall)		5	Tube	Sandpaper
Bilston (Bilston and Thibault, 1996)	1996	Spinal cord (cervical and thoracic)	10.58 (diameter)		87.93	35.71	Cylinder	Cyanoacrylate glue, plastic mounting plates
Zarzur (Zarzur, 1996)	1996	Dura matter (vertebral; lumbar)	20				Square	
Schechtman (Schechtman and Bader, 1997)	1997	Tendon (forearm; extensor digitorum longus muscle)			2.91	72	Cylinder	
Monson (Monson et al., 2003)	2003	Artery and vein (intracranial; cerebral; temporal lobe)	0.52 (artery diameter) 0.71 (vein diameter)	0.10 (artery) 0.12 (vein)	0.169 (artery) 0.335 (vein)		Cylinder	Sandpaper
DeFrate (DeFrate et al., 2004)	2004	Tendon (leg; Achilles)	11 (diameter)				Cylinder	Sandpaper
Haraldsson (Haraldsson et al., 2005)	2005	Tendon (knee; patellar)	0.3 to 0.4 (diameter)				Cylinder	Cyanoacrylate glue
Haraldsson (Haraldsson et al., 2008)	2008	Ligament (knee; anterior cruciate or ACL) Tendon (leg; Achilles)	0.3 to 0.76 (diameter)				Cylinder (ACL) Cylinder (Achilles)	Cyanoacrylate glue
Hansen (Hansen et al., 2010)	2010	Tendon (knee; patellar)	0.3 to 0.4 (diameter)			15 10	Cylinder	Cyanoacrylate glue
Oxlund (Oxlund et al., 2010a)	2010	Cervix (pelvis)	2 (diameter)			4	Cylinder	
Oxlund (Oxlund et al., 2010b)	2010	Cervix (pelvis)	2 (diameter)			4	Cylinder	
Hanson (Hanson et al., 2012)	2012	Tendon (leg; iliopsoas muscle and Achilles)	0.7 (diameter)			10	Cylinder	Cyanoacrylate glue
Hou (Hou et al., 2013)	2013	Vein (fetal; umbilical) Artery (intracranial; middle cerebral)	2.92 to 3.06 (vein diameter) 3.02 to 3.10 (artery diameter)	0.198 to 0.206 (vein) 0.201 to 0.212 (artery)			Cylinder	

Davis (Davis et al., 2016)	2016	Artery (neck; carotid; atherosclerotic fibrous cap)		5			Single-notched tensile bar	Sandpaper
Fomikina (Fomkina et al., 2016)	2016	Artery (intracranial; cerebellar)					Cylinder	
Hohmann (Hohmann et al., 2019)	2019	Tendon (arm; biceps, long head)	8.7 (fresh, diameter) 5.6 (fresh-frozen, diamater) 5.1 (Thiel, diameter) 4.6 (formalin, diameter)		4.0 (fresh) 2.3 (fresh-frozen) 2.2 (Thiel) 2.6 (formalin)	20	Cylinder	
Jacquet (Jacquet et al., 2019)	2019	Meniscus (knee; lateral)					Wedge	
Stouthandel (Stouthandel et al., 2020)	2020	Nerve (arm; median)					Cylinder	
Gaecia-Vilana (García-Vilana and Sánchez-Molina, 2022)	2022	Vein (intercranial; cerebral bridging)					Cylinder	
Scholze (Scholze et al., 2022)	2022	Tendon (arm; flexor digitorum profundus and flexor digitorum superficialis muscles)			13.42	40	Cylinder	

Supplementary Table 7

Included studies with no sample shape specified, arranged by publication year and last name of the first author. All retrieved measurements are from the gauge section of the sample. Clamping modifications are highlighted (dark grey).

Reference	Year	Human Soft-Tissue Sample	Width W_0 [mm]	Thickness [mm]	Cross sectional Area [mm²]	Gauge Length L_1 [mm]	Aspect Ratio $L_1 : W_0$	Clamping Modifications
Engin (Engin and Akkas, 1983)	1983	Peritoneum (intraabdominal)						
Breault-Janicki (Breault-Janicki et al., 1998)	1998	Ligament (forearm; extensor carpi radialis longus or brevis, or extensor pollicis longus; rheumatoid and 6 non-rheumatoid arthritis;)				15		
Tanaka (Tanaka et al., 2000)	2000	Intraarticular disc (jaw; (temporomandibular)						
Barber (Barber et al., 2001)	2001	Mitral valve leaflet (heart; myxomatous and normal; radial and circumferential)	10					Sandpaper
Kang (Kang et al., 2006)	2006	Intraarticular disc (jaw; (temporomandibular)	2					
Bursac (Bursac et al., 2009)	2009	Meniscus (knee; lateral and medial)	6.2	3.7		30		
Zimmern (Zimmern et al., 2009)	2009	Ligament (knee, anterolateral ligament			1.54	33.1		
Lawlor (Lawlor et al., 2011)	2010	Joint capsule (shoulder; glenohumeral)						
Trabelsi (Trabelsi et al., 2010)	2010	Trachea (neck)	6	2.1				
Wang (Wang et al., 2010)	2010	Tendon (leg; semitendinosus muscle)			20.44	30		
Svensson (Svensson et al., 2011)	2011	Tendon (knee; patellar)						
Voycheck (Voycheck et al.,	2011	Artery (neck; carotid; plaques)						

2010)								
Brandt (Brandt et al., 2012)	2012	Ligament (facial; retaining; orbital, zygomatic, maxillary, and mandibular)	6.7 (orbital) 6.8 (zygomatic) 7.0 (maxillary) 6.3 (mandibular)	2.0 (orbital) 3.1 (zygomatic) 2.7 (maxillary) 2.5 (mandibular)	13.4 (orbital) 21.08 (zygomatic) 14.7 (maxillary) 15.75 (mandibular)	10.9, (orbital) 12.2 (zygomatic) 12.7 (maxillary) 10.6 (mandibular)	1.63 (orbital 1.79 (zygomatic) 1.81 (maxillary) 1.68 (mandibular)	Suture
Casado (Casado et al., 2012)	2012	Mitral chordae tendineae (heart)			0.35	11		
Rainis (Rainis et al., 2012)	2012	Joint capsule (knee)						
Chebil (Chebil et al., 2013)	2013	Gastrocolic ligament (abdomen)	25					Sandpaper
Gultova (Gultova et al., 2013)	2013	Pericardium (heart)						
Jayyosi (Jayyosi et al., 2013)	2013	Liver (abdomen; Glisson capsule)						
Karimi (Karimi et al., 2013)	2013	Artery (heart; coronary)						
Ma (Ma et al., 2013)	2013	Nerve (arm; ulnar and median)				22 (median) 44 (ulnar)		
Chantereau (Chantereau et al., 2014)	2014	Pelvic floor (pelvis)						
Monea (Monea et al., 2014)	2014	Vein (intracranial; bridging vein-superior sagittal sinus complex)		0.04				Laparoscopic grasps
Swank (Swank et al., 2014)	2014	Tendon (leg; tibialis posterior)			22.4	32		
Tantius (Tantius et al., 2014)	2014	Umbilical cord				15.8 (5 to 35)		
Karimi (Karimi et al., 2015b)	2015	Artery (heart; coronary)						
Karimi (Karimi et al., 2015a)	2015	Vein (leg; saphenous)						
Liao (Liao et al., 2015)	2015	Tendon (leg; peroneus longus and brevis muscles; calcaneal)						Tissue paper

		Ligament (calcaneofibular)						
Rassoli (Rassoli et al., 2015)	2015	Vein (leg; saphenous)		0.50				
Weber (Weber et al., 2015)	2015	Tendon (forearm; numerous muscles)			0.45 to 20.61			Cryoclamp
Abdalbary (Abdalbary et al., 2016)	2016	Ligament (foot; deep transverse metatarsal; hallux valgus and normal)			3.0 (normal) 1.6 (hallux valgus)			
Karimi (Karimi et al., 2016)	2016	Artery (heart; coronary; atherosclerotic and normal)						Sandpaper
Safshekan (Safshekan et al., 2016)	2016	Trachea (neck; cartilage, smooth muscle or SM, connective tissue or CT)				4.13 (cartilage) 6.37 (SM) 1.60 (CT)		
Karimi (Karimi et al., 2017)	2017	Gallbladder (abdomen)						
Signorelli (Signorelli et al., 2018)	2018	Aneurysm (intracranial; ruptured and unruptured)				3		
Brečs (Brečs et al., 2019)	2019	Aorta (thoracic, ascending; dilated; longitudinal and circumferential)	5	2.35 (longitudinal) 2.34 (circumferential)				
Smith (Smith et al., 2019)	2019	Ligament (forearm; ulnar collateral, anterior and posterior bundles)		1.1				Sandpaper, cyanoacrylate glue
Castile (Castile et al., 2020)	2020	Ligament (knee; lateral collateral or LCL; anterolateral or ALL, anterolateral capsule or ALC)	9.5 to 11 (ALL) 18.4 to 20.8 (ALC)	1				Aluminum beads, cyanoacrylate glue
Chivot (Chivot et al., 2020)	2020	Tendon (leg; quadriceps)		1.80 to12.3				
Jaquet (Jacquet et al., 2020)	2020	Tendon (leg; semitendinosus muscle)						
Kadlub (Kadlub et al., 2020)	2020	Periosteum (head/jaw; mandibular, calvarial)	10					
Thomas (Thomas et al., 2020)	2020	Tendon (foot/ankle; flexor hallucis capsularis Interphalangeus)			2	10		Sandpaper
Ekiert (Ekiert et al.,	2021	Tendon (leg; Achilles; soleus and gastrocnemius				80		Sandpaper, cellulose wadding

2021)		muscles)						swab
Gatt (Gatt et al., 2021)	2021	Tendon (leg; Achilles, tibialis posterior and peroneus longus muscles)						Cloth
Kholinne (Kholinne et al., 2021)	2021	Interosseous membrane (forearm)						Toothed-clamps
Lisicky (Lisický et al., 2021)	2021	Atheroma (neck; carotid artery)		0.87 (women) 0.98 (men)				
Zellers (Zellers et al., 2021)	2021	Tendon (leg; Achilles)		1	19.14			Sandpaper
Strauss (Strauss et al., 2022)	2022	Tendon (leg; quadriceps)	10 to 12			25		Nylon tubing

Supplementary Table 8

International Organization for Standardization (ISO) standards of sample shape and dimensions used for mechanical testing of engineering materials. All retrieved measurements are from the gauge section of the sample.

ISO Standard	Material	Sample Shape	Width W_0 [mm]	Thickness [mm]	Cross sectional Area [mm^2]	Gauge Length L_1 [mm]	Overall Length [mm]	Aspect Ratio $L_1 : W_0$
ISO 527-2 (Standardization, 2012)	Polymer	Tapered	10	4	40	75	170	7.50
	Polymer	Tapered	10	4	40	50	150	5.00
	Polymer	Tapered	5	2	10	25	75	5.00
	Polymer	Tapered	2	2	4	10	30	5.00
	Polymer	Tapered	4	2	8	20	75	5.00
	Polymer	Tapered	2	1	2	10	35	5.00
ISO 527-3 (Standardization, 2018)	Polymer	Tapered	6	1	6	25	115	4.17
	Polymer	Tapered	10	1	10	50	150	5.00
	Polymer	Tapered	25.4	1	25.4	50	152	1.97
	Polymer	Non-tapered	10	1	10	50	150	5.00
	Polymer	Non-tapered	15	1	15	50	150	3.33
ISO 1421 (Standardization, 2016)	Rubber- or plastic-coated fabrics	Non-tapered	10			100	220	10.00
	Rubber- or plastic-coated fabrics	Non-tapered	30			150	260	5.00

	Rubber- or plastic-coated fabrics	Non-tapered	50			200	300	4.00
ISO 527-4 (Standardization, 2021a)	Composite	Non-tapered	25	2 to 10	50 to 250	150	250	6.00
	Composite	Non-tapered	50	2 to 10	100 to 500	150	250	3.00
ISO 527-5 (Standardization, 2021b)	Composite	Non-tapered	15	1	15	150	250	10.00
	Composite	Non-tapered	25	2	50	150	250	6.00
ISO 3376 (Standardization, 2020)	Leather	Tapered	10			50	110	5.00
	Leather	Tapered	20			100	190	5.00
ISO 13061-6 (Standardization, 2014)	Wood	Tapered	20	4	80	90	350	4.50

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