

Peer Reviewed Articles Published on ShearWave™ Elastography for Muscles and Tendons Imaging

1. **Non-invasive assessment of human multifidus muscle stiffness using ultrasound shear wave elastography: A feasibility study.** Moreau B, Vergari C, Gad H, Sandoz B, Skalli W, Laporte S. Proc Inst Mech Eng H. 2016 Aug;230(8):809-14.
2. **A Six-Week Resistance Training Program Does Not Change Shear Modulus of the Triceps Brachii.** Akagi R, Shikiba T, Tanaka J, Takahashi H. J Appl Biomech. 2016 Aug;32(4):373-8.
3. **Shear Modulus of the Lower Leg Muscles in Patients with Medial Tibial Stress Syndrome.** Akiyama K, Akagi R, Hirayama K, Hirose N, Takahashi H, Fukubayashi T. Ultrasound Med Biol. 2016 Aug;42(8):1779-83.
4. **The difference in passive tension applied to the muscles composing the hamstrings - Comparison among muscles using ultrasound shear wave elastography.** Nakamura M, Hasegawa S, Umegaki H, Nishishita S, Kobayashi T, Fujita K, Tanaka H, Ibuki S, Ichihashi N. Man Ther. 2016 Aug;24:1-6.
5. **Effects of two stretching methods on shoulder range of motion and muscle stiffness in baseball players with posterior shoulder tightness: a randomized controlled trial.** Yamauchi T, Hasegawa S, Nakamura M, Nishishita S, Yanase K, Fujita K, Umehara J, Ji X, Ibuki S, Ichihashi N. J Shoulder Elbow Surg. 2016 Jul 27. pii: S1058-2746(16)30114-8. doi: 10.1016/j.jse.2016.04.025.
6. **Abdominal wall muscle elasticity and abdomen local stiffness on healthy volunteers during various physiological activities.** Tran D, Podwojewski F, Beillas P, Ottenio M, Voirin D, Turquier F, Mitton D. J Mech Behav Biomed Mater. 2016 Jul;60:451-9.
7. **Quantifying passive muscle stiffness in children with and without cerebral palsy using ultrasound shear wave elastography.** Brandenburg JE, Eby SF, Song P, Kingsley-Berg S, Bamlet W, Sieck GC, An KN. Dev Med Child Neurol. 2016 Jul 4. doi: 10.1111/dmcn.13179.
8. **Muscle force loss and soreness subsequent to maximal eccentric contractions depend on the amount of fascicle strain in vivo.** Guilhem G, Doguet V, Hauraix H, Lacourpaille L, Jubeau M, Nordez A, Dorel S. Acta Physiol (Oxf). 2016 Jun;217(2):152-63.
9. **Shear Wave Elastography (SWE) for the Evaluation of Patients with Tendinopathies.** Dirrachs T, Quack V, Gatz M, Tingart M, Kuhl CK, Schradling S. Acad Radiol. 2016 Jun 15. pii: S1076-6332(16)30091-5. doi: 10.1016/j.acra.2016.05.012.
10. **Ultrasound shear wave elastography in assessment of muscle stiffness in patients with Parkinson's disease: a primary observation.** Du LJ, He W, Cheng LG, Li S, Pan YS, Gao J. Clin Imaging. 2016 May 29;40(6):1075-1080.
11. **Quantitative ultrasound mapping of regional variations in shear wave speeds of the aging Achilles tendon.** Slane LC, Martin J, DeWall R, Thelen D, Lee K. Eur Radiol. 2016 May 28.
12. **Quantitative Evaluation of Passive Muscle Stiffness in Chronic Stroke.** Eby S, Zhao H, Song P, Vareberg BJ, Kinnick R, Greenleaf JF, An KN, Chen S, Brown AW. Am J Phys Med Rehabil. 2016 May 4.

13. **Increased Upper Trapezius Muscle Stiffness in Overhead Athletes with Rotator Cuff Tendinopathy.** Leong HT, Hug F, Fu SN. PLoS One. 2016 May 9;11(5):e0155187.
14. **Quantified Mechanical Properties of the Deltoid Muscle Using the Shear Wave Elastography: Potential Implications for Reverse Shoulder Arthroplasty.** Hatta T, Giambini H, Sukegawa K, Yamanaka Y, Sperling JW, Steinmann SP, Itoi E, An KN. PLoS One. 2016 May 6;11(5):e0155102.
15. **Reliability of Abdominal Muscle Stiffness Measured Using Elastography during Trunk Rehabilitation Exercises.** MacDonald D, Wan A, McPhee M, Tucker K, Hug F. Ultrasound Med Biol. 2016 Apr;42(4):1018-25.
16. **Application of shear wave elastography in the evaluation of neck-shoulder myofascial pain syndrome.** Guo L, Zhang C, Zhang DD, Gao JH, Liu GH, Wang SQ. Zhongguo Gu Shang. 2016 Feb;29(2):142-5.
17. **Quantification of muscle co-contraction using supersonic shear wave imaging.** Raiteri BJ, Hug F, Cresswell AG, Lichtwark GA. J Biomech. 2016 Feb 8;49(3):493-5.
18. **Ultrasound shear wave velocity in skeletal muscle: A reproducibility study.** Dorado Cortez C, Hermitte L, Romain A, Mesmann C, Lefort T, Pialat JB. Diagn Interv Imaging. 2016 Jan;97(1):71-9.
19. **Tissue elasticity of in vivo skeletal muscles measured in the transverse and longitudinal planes using shear wave elastography.** Chino K, Kawakami Y, Takahashi H. Clin Physiol Funct Imaging. 2015 Dec 22. doi: 10.1111/cpf.12315.
20. **Muscle hardness of the triceps brachii before and after a resistance exercise session: a shear wave ultrasound elastography study.** Akagi R, Tanaka J, Shikiba T, Takahashi H. Acta Radiol. 2015 Dec;56(12):1487-93.
21. **The association of muscle and tendon elasticity with passive joint stiffness: In vivo measurements using ultrasound shear wave elastography.** Chino K, Takahashi H. Clin Biomech (Bristol, Avon). 2015 Dec;30(10):1230-5.
22. **Effect of hip and knee position on tensor fasciae latae elongation during stretching: An ultrasonic shear wave elastography study.** Umehara J, Ikezoe T, Nishishita S, Nakamura M, Umegaki H, Kobayashi T, Fujita K, Ichihashi N. Clin Biomech (Bristol, Avon). 2015 Dec;30(10):1056-9.
23. **Posterior Shoulder Capsules Are Thicker and Stiffer in Healthy College Baseball Players: A Quantitative Assessment Using Shear-Wave Ultrasound Elastography.** Takenaga T, Sugimoto K, Goto H, Nozaki M, Fukuyoshi M, Tsuchiya A, Murase A, Ono T, Otsuka T. Am J Sports Med. 2015 Dec;43(12):2935-42.
24. **Quantitative assessment of rotator cuff muscle elasticity: Reliability and feasibility of shear wave elastography.** Hatta T, Giambini H, Uehara K, Okamoto S, Chen S, Sperling JW, Itoi E, An KN. J Biomech. 2015 Nov 5;48(14):3853-8.
25. **Age-Related Differences in Muscle Shear Moduli in the Lower Extremity.** Akagi R, Yamashita Y, Ueyasu Y. Ultrasound Med Biol. 2015 Nov;41(11):2906-12.
26. **Use of shear wave ultrasound elastography to quantify muscle properties in cerebral palsy.** Lee SS, Gaebler-Spira D, Zhang LQ, Rymer WZ, Steele KM. Clin Biomech (Bristol, Avon). 2015 Oct 18. pii: S0268-0033(15)00267-3. doi: 10.1016/j.clinbiomech.2015.10.006.
27. **In Vivo Measures of Shear Wave Speed as a Predictor of Tendon Elasticity and Strength.** Martin JA, Biedrzycki AH, Lee KS, DeWall RJ, Brounts SH, Murphy WL, Markel MD, Thelen DG. Ultrasound Med Biol. 2015 Oct;41(10):2722-30.

28. **Massage induces an immediate, albeit short-term, reduction in muscle stiffness.** Eriksson Crommert M, Lacourpaille L, Heales LJ, Tucker K, Hug F. *Scand J Med Sci Sports*. 2015 Oct;25(5):e490-6.
29. **Reliability of ultrasound elastography for the quantification of transversus abdominis elasticity.** Hirayama K, Akagi R, Takahashi H. *Acta Radiol Open*. 2015 Sep 8;4(9):2058460115603420. doi: 10.1177/2058460115603420.
30. **Elastography Study of Hamstring Behaviors during Passive Stretching.** Le Sant G, Ates F, Brasseur JL, Nordez A. *PLoS One*. 2015 Sep 29;10(9):e0139272.
31. **Reliable protocol for shear wave elastography of lower limb muscles at rest and during passive stretching.** Dubois G, Kheireddine W, Vergari C, Bonneau D, Thoreux P, Rouch P, Tanter M, Gennisson JL, Skalli W. *Ultrasound Med Biol*. 2015 Sep;41(9):2284-91.
32. **Comparison Between Neck and Shoulder Stiffness Determined by Shear Wave Ultrasound Elastography and a Muscle Hardness Meter.** Akagi R, Kusama S. *Ultrasound Med Biol*. 2015 Aug;41(8):2266-71.
33. **Muscle shear elastic modulus is linearly related to muscle torque over the entire range of isometric contraction intensity.** Ateş F, Hug F, Bouillard K, Jubeau M, Frappart T, Couade M, Bercoff J, Nordez A. *J Electromyogr Kinesiol*. 2015 Aug;25(4):703-8.
34. **Acute effects of static stretching on the hamstrings using shear elastic modulus determined by ultrasound shear wave elastography: Differences in flexibility between hamstring muscle components.** Umegaki H, Ikezoe T, Nakamura M, Nishishita S, Kobayashi T, Fujita K, Tanaka H, Ichihashi N. *Man Ther*. 2015 Aug;20(4):610-3.
35. **Lumbar annulus fibrosus biomechanical characterization in healthy children by ultrasound shear wave elastography.** Vergari C, Dubois G, Vialle R, Gennisson JL, Tanter M, Dubousset J, Rouch P, Skalli W. *Eur Radiol*. 2015 Jul 22.
36. **Feasibility and reliability of quantifying passive muscle stiffness in young children by using shear wave ultrasound elastography.** Brandenburg JE, Eby SF, Song P, Zhao H, Landry BW, Kingsley-Berg S, Bamlet WR, Chen S, Sieck GC, An KN. *J Ultrasound Med*. 2015 Apr;34(4):663-70.
37. **Contracting biceps brachii elastic properties can be reliably characterized using supersonic shear imaging.** Lapole T, Tindel J, Galy R, Nordez A. *Eur J Appl Physiol*. 2015 Mar;115(3):497-505.
38. **Effects of hip and head position on ankle range of motion, ankle passive torque, and passive gastrocnemius tension.** Andrade RJ, Lacourpaille L, Freitas SR, McNair PJ, Nordez A. *Scand J Med Sci Sports*. 2015 Feb 12. doi: 10.1111/sms.12406.
39. **Non-invasive assessment of muscle stiffness in patients with Duchenne muscular dystrophy.** Lacourpaille L, Hug F, Guével A, Péréon Y, Magot A, Hogrel JY, Nordez A. *Muscle Nerve*. 2015 Feb;51(2):284-6.
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42. **Deloading tape reduces muscle stress at rest and during contraction.** Hug F, Ouellette A, Vicenzino B, Hodges PW, Tucker K. *Med Sci Sports Exerc*. 2014 Dec;46(12):2317-25.

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50. **Muscle shear modulus measured with ultrasound shear-wave elastography across a wide range of contraction intensity.** Yoshitake Y, Takai Y, Kanehisa H, Shinohara M. *Muscle Nerve.* 2014 Jul;50(1):103-13.
51. **Task dependency of motor adaptations to an acute noxious stimulation.** Hug F, Hodges PW, Tucker K. *J Neurophysiol.* 2014 Jun 1;111(11):2298-306.
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