

**Clinical
evidence**

Aplio



Glossary

<i>ATI</i>	–	Attenuation Imaging
<i>CEUS</i>	–	Contrast-Enhanced Ultrasound
<i>D-THI</i>	–	Differential Tissue Harmonic Imaging
<i>IMT</i>	–	Intima-Media Thickness
<i>MPI</i>	–	Myocardial Performance Index
<i>NLV</i>	–	Normalized Local Variance
<i>SE</i>	–	Strain Elastography
<i>SMI</i>	–	Superb Micro-vascular Imaging
<i>SWD</i>	–	Shear Wave Dispersion
<i>SWE</i>	–	Shear Wave Elastography
<i>TDI</i>	–	Tissue Doppler Imaging
<i>WMT</i>	–	Wall Motion Tracking



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Gastrointestinal imaging



WFUMB Guidelines/Guidance on Liver Multiparametric Ultrasound. Part2: Guidance on Liver Fat Quantification

Ferraioli G, Barr RG, Berzigotti A, Sporea I, Wong VW, Reiberger T, Karlas T, Thiele M, Cardoso AC, Ayonrinde OT, Castera L, Dietrich CF, Iijima H, Lee DH, Kemp W, Oliveira CP, Sarin SK

***Ultrasound Med Biol.* 2024;50301-5629(24)00143-1**

DOI: 10.1016/j.ultrasmedbio.2024.03.014 | **PMID:** 38658207



US Markers and Necroinflammation, Steatosis, and Fibrosis in Metabolic Dysfunction-associated Steatotic Liver Disease: The iLEAD Study

Sugimoto K, Moriyasu F, Dioguardi Burgio M, Vilgrain V, Jesper D, Strobel D, Blank V, Karlas T, Grant EG, Kelahan LC, Gabriel H, Choi BI, Nishimura T, Iijima H, Dubinsky TJ, Gao J, Lee DH, Lee JY, Zhao Y, Huang P, Zeng J, Lim A, Xie X, Barr RG, Cantisani V, Ferraioli G, Sakamaki K, Itoi T, Kage M, Yano H

***Radiology* 2024; 312(2):e233377**

DOI: 10.1148/radiol.233377 | **PMID:** 39162633



Quantitative Ultrasound Biomarkers to Assess Nonalcoholic Fatty Liver Disease

Gao J, Zapata I, Chen J, Erpelding TN, Adamson C, Park D

***J Ultrasound Med.* 2023; 42(8):1675-1688**

DOI: 10.1002/jum.16185 | **PMID:** 36744595



Quantification of Liver Fat Content with Ultrasound: A WFUMB Position Paper

Ferraioli G, Berzigotti A, Barr RG, Choi BI, Cui XW, Dong Y, Gilja OH, Lee JY, Lee DH, Moriyasu F, Piscaglia F, Sugimoto K, Wong GL, Wong VW, Dietrich CF

***Ultrasound Med Biol.* 2021;47(10):2803-2820**

DOI: 10.1016/j.ultrasmedbio.2021.06.002 | **PMID:** 34284932

Original paper

Liver

SWE, SWD, ATI



Influence of dispersion slope on the diagnosis of liver fibrosis by the shear wave in metabolic dysfunction-associated steatotic liver disease

Ueda N, Mokuda S, Kawaoka T, Uchikawa S, Amioka K, Tsuge M, Asada K, Okada Y, Kobayashi Y, Ishikawa M, Arase T, Arihiro K, Oka S
Hepato Res. **2024;1–9**

DOI: 10.1111/hepr.14061 | **PMID:** 38806293

Original paper

Liver

SWE, SWD, ATI



Impact of Breathing Phase, Liver Segment, and Prandial State on Ultrasound Shear Wave Speed, Shear Wave Dispersion, and Attenuation Imaging of the Liver in Healthy Volunteers

Pavard C, Kupfer S, Kirchner IN, Nambiar S, Martin A, Korta Martiartu N, Frauenfelder T, Rominger MB, Ruby L
Diagnostics. **2023;13(5):989**

DOI: 10.3390/diagnostics13050989 | **PMID:** 36900133 | **PMCID:** PMC10001107

Original paper

Liver

SWE, SWD, ATI



Shear wave elastography and shear wave dispersion imaging in primary biliary cholangitis - a pilot study

Schulz M, Wilde AB, Demir M, Müller T, Tacke F, Wree A
Quant Imaging Med Surg. **2022;12(2):1235-1242**

DOI: 10.21037/qims-21-657 | **PMID:** 35111619 | **PMCID:** PMC8739107

Original paper

Liver

SWE, SWD, ATI



Reliability of Performing Multiparametric Ultrasound in Adult Livers

Gao J, Lee R, Trujillo M
J Ultrasound Med. **2022;41(3):699-711**

DOI: 10.1002/jum.15751 | **PMID:** 33982805

Original paper

Liver

SWE, SWD, ATI



Post-COVID-19 Liver Injury: Comprehensive Imaging With Multiparametric Ultrasound

Radzina M, Putrins DS, Micena A, Vanaga I, Kolesova O, Platkajis A, Viksna L

J Ultrasound Med. 2022;41(4):935-949

DOI: 10.1002/jum.15778 | **PMID:** 34241914 | **PMCID:** PMC8427044

Original paper

Liver

SWE, SWD, ATI



Diagnostic Performance of 2-D Shear-Wave Elastography with Propagation Maps and Attenuation Imaging in Patients with Non-Alcoholic Fatty Liver Disease

Podrug K, Sporea I, Lupusoru R, Pastrovic F, Mustapic S, Bâldea V, Bozin T, Bokun T, Salkic N, Şirli R, Popescu A, Puljiz Z, Grgurevic I

Ultrasound Med Biol. 2021;47(8):2128-2137

DOI: 10.1016/j.ultrasmedbio.2021.03.025 | **PMID:** 33985827

Original paper

Liver

SWE, SWD, ATI



Multiparametric US for Identifying Patients with High-Risk NASH: A Derivation and Validation Study

Sugimoto K, Lee DH, Lee JY, Yu SJ, Moriyasu F, Sakamaki K, Oshiro H, Takahashi H, Kakegawa T, Tomita Y, Abe M, Yoshimasu Y, Takeuchi H, Choi BI, Itoi T

Radiology. 2021;301(3):625-634

DOI: 10.1148/radiol.2021210046 | **PMID:** 34519576

Original paper

Liver

SWE, SWD, ATI



Reduction of Shear Wave Elastography but Not Shear Wave Dispersion After Successful Hepatitis C Treatment With Direct-Acting Antiviral Agents

Su PY, Su WW, Wu LS, Hsu PK, Huang SP, Hsu YC

J Ultrasound Med. 2021;40(9):1919-1926

DOI: 10.1002/jum.15576 | **PMID:** 33400288

Original paper	Liver	SWE, SWD, ATI
	Shear Wave Elastography and Shear Wave Dispersion Imaging in the Assessment of Liver Disease in Alpha1-Antitrypsin Deficiency Schulz M, Kleinjans M, Strnad P, Demir M, Holtmann TM, Tacke F, Wree A <i>Diagnostics.</i> 2021;11(4):629	
DOI: 10.3390/diagnostics11040629 PMID: 33807358 PMCID: PMC8066059		

Original paper	Liver	SWE, SWD, ATI
	Assessment of chronic liver disease by multiparametric ultrasound: results from a private practice outpatient facility Aitharaju V, De Silvestri A, Barr RG <i>Abdom Radiol.</i> 2021;46(11):5152-5161	
DOI: 10.1007/s00261-021-03225-2 PMID: 34304291		

Original paper	Liver	SWE, SWD, ATI
	Accuracy of Two-Dimensional Shear Wave Elastography and Attenuation Imaging for Evaluation of Patients with Nonalcoholic Steatohepatitis Lee DH, Cho EJ, Bae JS, Lee JY, Yu SJ, Kim H, Lee KB, Han JK, Choi BI <i>Clin Hepatol Gastroenterol.</i> 2021;19(4):797-805	
DOI: 10.1016/j.cgh.2020.05.034 PMID: 32450363		

Review article	Liver	SWE, SWD, ATI
	Quantitative Evaluation of Hepatic Steatosis Using Advanced Imaging Techniques: Focusing on New Quantitative Ultrasound Techniques Park J, Lee JM, Lee G, Jeon SK, Joo I <i>Korean J Radiol.</i> 2022;23(1):13-29	
DOI: 10.3348/kjr.2021.0112 PMID: 34983091 PMCID: PMC8743150		

Original paper

Liver

CEUS, SMI



Noninvasive Visualization of Tumor Blood Vessels within Hepatocellular Carcinoma by Application of Superb Microvascular Imaging to Contrast-Enhanced Ultrasonography

Ota Y, Aso K, Yokoo H, Fujiya M
***Diagnostics.* 2024;14(7):678**

DOI: 10.3390/diagnostics14070678 | **PMID:** 38611593 | **PMCID:** PMC11011652

Original paper

Liver

CEUS, Fusion



Contrast-enhanced ultrasonography-CT/MRI fusion guidance for percutaneous ablation of inconspicuous, small liver tumors: improving feasibility and therapeutic outcome

Lee Y, Yoon JH, Han S, Joo I, Lee JM
***Cancer Imaging.* 2024;24(1):4**

DOI: 10.1186/s40644-023-00650-y | **PMID:** 38172949 | **PMCID:** PMC10762814

Original paper

Liver

CEUS, Fusion



Usefulness of contrast-enhanced ultrasound-guided biopsy for suspected viable hepatocellular carcinoma after treatment: a single-arm prospective study

Yoo J, Lee DH
***Ultrasonography.* 2024;43(2):88-97**

DOI: 10.14366/usg.23133 | **PMID:** 38310870 | **PMCID:** PMC10915121

Original paper

Liver

SWE, ATI



Transient elastography with controlled attenuation parameter versus two-dimensional shear wave elastography with attenuation imaging for the evaluation of hepatic steatosis and fibrosis in NAFLD

Seo JW, Kim YR, Jang JK, Kim SY, Cho YY, Lee ES, Lee DH
***Ultrasonography.* 2023;42(3):421-431**

DOI: 10.14366/usg.22212 | **PMID:** 37076274 | **PMCID:** PMC10331060

Original paper

Liver (Phantom)

SWE, SWD



Influence of Measurement Depth and Acquisition Parameters on Shear Wave Speed and Shear Wave Dispersion in Certified Phantoms Using a Canon Aplio Clinical Ultrasound Scanner

Obrist A, Ruby L, Martin A, Frauenfelder T, Rominger M, Pavard C
Ultrasound Med Biol. **2023;49(8):1742-1759**

DOI: 10.1016/j.ultrasmedbio.2023.03.021 | PMID: 37156674

Original paper

Liver

SWE, ATI



Two-dimensional Shear-Wave Elastography and US Attenuation Imaging for Nonalcoholic Steatohepatitis Diagnosis: A Cross-sectional, Multicenter Study

Jang JK, Lee ES, Seo JW, Kim YR, Kim SY, Cho YY, Lee DH
Radiology. **2022;305(1):118-126**

DOI: 10.1148/radiol.220220 | PMID: 35727151

Original paper

Liver

SWE, SWD



Clinical Feasibility of Shear Wave Dispersion Slope for Noninvasive Diagnosis of Nonalcoholic Steatohepatitis in Patients With Morbid Obesity

Kim Y, Hwang J, Bae SH, Hong SS, Chang YW, Kim HJ, Kim SH, Jin SY
Ultrasound Q. **2022;38(2):149-154**

DOI: 10.1097/ruq.0000000000000599 | PMID: 35250014

Original paper

Liver

SWE, SWD



Efficacy of shear wave elastography for assessment of liver function in patients with heart failure

Nakayama R, Takaya Y, Nakamura K, Toh N, Ito H
ESC Heart Fail. **2021;8(3):1751-1758**

DOI: 10.1002/ehf2.13318 | PMID: 33760377 | PMCID: PMC8120356

Original paper

Liver

SWE, SWD



Shear-Wave Dispersion Slope of the Liver: Effect of Study Protocol and Ascites on the Measurement Applicability

Zhang XQ, Zeng J, Jin JY, Wang JF, Chi YY, Zheng RQ
Ultrasound Med Biol. 2022;48(1):59-67

DOI: 10.1016/j.ultrasmedbio.2021.09.012 | **PMID:** 34702641

Original paper

Liver (Phantom)

SWE, SWD



Sources of Variability in Shear Wave Speed and Dispersion Quantification with Ultrasound Elastography: A Phantom Study

Korta Martiartu N, Nambiar S, Nascimento Kirchner I, Paverd C, Cester D, Frauenfelder T, Ruby L, Rominger MB
Ultrasound Med Biol. 2021;47(12):3529-3542

DOI: 10.1016/j.ultrasmedbio.2021.08.013 | **PMID:** 34548187

Original paper

Liver

SWE, SWD



Shear Wave Dispersion Imaging for the Characterization of Focal Liver Lesions - A Pilot study

Jesper D, Fiedler S, Klett D, Waldner MJ, Schellhaas B, Zundler S, Neurath MF, Pfeifer L
Ultraschall Med. 2022;43(5):507-513

DOI: 10.1055/a-1610-9171 | **PMID:** 34614516

Original paper

Liver

SWE, SWD



Performance and cutoffs for liver fibrosis staging of a two-dimensional shear wave elastography technique

Ferraioli G, Maiocchi L, Dellafiore C, Tinelli C, Above E, Filice C
Eur J Gastroenterol Hepatol. 2021;33(1):89-95

DOI: 10.1097/meg.0000000000001702 | **PMID:** 32118850

Original paper **Liver** SWE, ATI



The effect of water intake on ultrasound tissue characteristics and hemodynamics of adult livers

Lee J, Lee R, Erpelding T, Siddoway RL, Gao J
Clin Exp Hepatol. 2021;7(2):223-230

DOI: 10.5114/ceh.2021.107068 | PMID: 34295991 | PMCID: PMC8284166

Original paper **Liver** SMI, CEUS



Comparison of Super-Resolution US and Contrast Material-enhanced US in Detection of the Spoke Wheel Sign in Patients with Focal Nodular Hyperplasia

Kang TW, Jeong WK, Kim YY, Min JH, Kim YK, Kim SH, Sinn DH, Kim K
Radiology. 2021;298(1):82-90

DOI: 10.1148/radiol.2020200885 | PMID: 33107798

Original paper **Liver** ATI



Hepatic steatosis: Qualitative and quantitative sonographic assessment in comparison to histology

Tan ZX, Mehta B, Kusel K, Seow J, Zelesco M, Abbott S, Simons R, Boardman G, Welman CJ, Ayonrinde OT
Australas J Ultrasound Med. 2024;1836-6864

DOI: 10.1002/ajum.12381

Original paper **Liver (Phantom)** ATI



Confounders of Ultrasound Attenuation Imaging in a Linear Probe Using the Canon Aplio i800 System: A Phantom Study

Hänni O, Ruby L, Paverd C, Frauenfelder T, Rominger MB, Martin A
Diagnostics. 2024;14(3):271

DOI: 10.3390/diagnostics14030271 | PMID: 38337786 | PMCID: PMC10855333

Original paper

Liver

ATI



The Effect of Measurement Depth and Technical Considerations in Performing Liver Attenuation Imaging

Adamson C, Dong J, Hagenstein LD, Jenkins J, Lee M, Gao J
J Transl Gastroen. 2024;2(1):1-8

DOI: 10.14218/JTG.2023.00047

Original paper

Liver

ATI



Does Meal or Water Intake Affect Ultrasound Attenuation Coefficient Estimate?

Ferraioli G, De Silvestri A, Barr RG
J Ultrasound Med. 2024 Apr 22

DOI: 10.1002/jum.16465 | **PMID:** 38646915

Original paper

Liver

ATI



Toward acquisition protocol standardization for estimating liver fat content using ultrasound attenuation coefficient imaging

Ferraioli G, Raimondi A, De Silvestri A, Filice C, Barr RG
Ultrasonography. 2023;42(3):446-456

DOI: 10.14366/usg.23014 | **PMID:** 37364867 | **PMCID:** PMC10331055

Original paper

Liver

ATI



Ultrasound Attenuation Imaging vs MRI-PDFF, Echogenicity and Liver Function for Assessing Degree of Steatosis in NAFLD and Non-NAFLD Patients

Thomas M, Dighe M, Kolokythas O, Zecevic M, Wilson A, Erpelding T, Dubinsky TJ
Ultrasound Q. 2023;39(4):188-193

DOI: 10.1097/ruq.0000000000000648 | **PMID:** 37543732

Original paper **Liver** ATI



**Liver Fat Quantification With Ultrasound:
Depth Dependence of Attenuation Coefficient**

Ferraioli G, Raimondi A, Maiocchi L, De Silvestri A, Poma G, Kumar V,
Barr RG
J Ultrasound Med. **2023;42(10):2247-2255**

DOI: 10.1002/jum.16242 | PMID: 37159490

Original paper **Liver** ATI



**Application of attenuation imaging for the detection of
fatty liver in potential liver donors**

Bae JS, Lee DH, Suh KS, Lee KW, Yi NJ, Hong SK
Eur J Radiol. **2023;166:110958**

DOI: 10.1016/j.ejrad.2023.110958 | PMID: 37451137

Original paper **Liver** ATI



**US Attenuation Imaging for the Evaluation and Diagnosis
of Fatty Liver Disease**

Lee SJ, Kim YR, Lee YH, Yoon KH
J Korean Soc Radiol **2023;84(3):666-675**

DOI: 10.3348/jksr.2022.0053 | PMID: 37324990 | PMCID: PMC10265227

Original paper **Liver** ATI



**The Future Is Beyond Bright: The Evolving Role of
Quantitative US for Fatty Liver Disease**

Ozturk A, Kumar V, Pierce TT, Li Q, Baikpour M, Rosado-Mendez I,
Wang M, Guo P, Schoen S Jr, Gu Y, Dayavansha S, Grajo JR, Samir AE
Radiology. **2023;309(2):e223146**

DOI: 10.1148/radiol.223146 | PMID: 37934095

Original paper

Liver

ATI



Diagnostic Performance Comparison Between Ultrasound Attenuation Measurements From Right and Left Hepatic Lobes for Steatosis Detection in Non-alcoholic Fatty Liver Disease

Torkzaban M, Wessner CE, Haleboua-DeMarzio D, Rodgers SK, Lyshchik A, Nam K

Acad Radiol. **2023;30(9):1838-1845**

DOI: 10.1016/j.acra.2022.12.025 | **PMID:** 36586759

Meta-analysis

Liver

ATI



Accuracy of the ultrasound attenuation coefficient for the evaluation of hepatic steatosis: a systematic review and meta-analysis of prospective studies

Jang JK, Choi SH, Lee JS, Kim SY, Lee SS, Kim KW

Ultrasonography. **2022;41(1):83-92**

DOI: 10.14366/usg.21076 | **PMID:** 34399043 | **PMCID:** PMC8696131

Original paper

Liver

ATI



Assessment of the inter-platform reproducibility of ultrasound attenuation examination in nonalcoholic fatty liver disease

Jeon SK, Lee JM, Joo I, Yoon JH

Ultrasonography. **2022;41(2):355-364**

DOI: 10.14366/usg.21167 | **PMID:** 34933319 | **PMCID:** PMC8942738

Original paper

Liver

ATI



Noninvasive assessment of hepatic steatosis using a pathologic reference standard: comparison of CT, MRI, and US-based techniques

Bae JS, Lee DH, Suh KS, Kim H, Lee KB, Lee JY, Han JK

Ultrasonography. **2022;41(2):344-354**

DOI: 10.14366/usg.21150 Table 2 has been updated. For the latest version, please click [here](#).

Original paper

Liver

ATI



Diagnostic performance of ultrasound attenuation imaging for assessing low-grade hepatic steatosis
Jang JK, Kim SY, Yoo IW, Cho YB, Kang HJ, Lee DH
Eur Radiol. **2022;32(3):2070-2077**

DOI: 10.1007/s00330-021-08269-y | PMID: 34549325

Original paper

Liver

ATI



Hepatic steatosis: Ultrasound assessment using attenuation imaging (ATI) with liver biopsy correlation
Welman CJ, Saunders J, Zelesco M, Abbott S, Boardman G, Ayonrinde OT
J Med Imaging Radiat Oncol. **2023;67(1):45-53**

DOI: 10.1111/1754-9485.13412 | PMID: 35466506

Original paper

Liver

ATI



A Pre-Release Algorithm With a Confidence Map for Estimating the Attenuation Coefficient for Liver Fat Quantification
Barr RG, Cestone A, De Silvestri A
J Ultrasound Med. **2022;41(8):1939-1948**

DOI: 10.1002/jum.15870 | PMID: 34730847

Original paper

Liver

ATI



Focal fatty sparing as an indicator of higher-grade fatty liver assessed by attenuation imaging: a prospective clinical study in NAFLD population
Miller E, Schmidberger J, Kratzer W
Z Gastroenterol. **2022;60(10):1483-1489**

DOI: 10.1055/a-1695-3637 | PMID: 34905800

Original paper

Liver

ATI



The most appropriate region-of-interest position for attenuation coefficient measurement in the evaluation of liver steatosis

Sugimoto K, Abe M, Oshiro H, Takahashi H, Kakegawa T, Tomita Y, Yoshimasu Y, Takeuchi H, Itoi T

J Med Ultrason. 2021;48(4):615-621

DOI: 10.1007/s10396-021-01124-z | **PMID:** 34453648

Original paper

Liver

ATI



Usefulness of US attenuation imaging for the detection and severity grading of hepatic steatosis in routine abdominal ultrasonography

Kwon EY, Kim YR, Kang DM, Yoon KH, Lee YH

Clin Imaging. 2021;76:53-59

DOI: 10.1016/j.clinimag.2021.01.034 | **PMID:** 33549920

Original paper

Liver

ATI



Performance of the Attenuation Imaging Technology in the Detection of Liver Steatosis

Ferraioli G, Maiocchi L, Saviotto G, Tinelli C, Nichetti M, Rondanelli M, Calliada F, Preda L, Filice C

J Ultrasound Med. 2021;40(7):1325-1332

DOI: 10.1002/jum.15512 | **PMID:** 32960457 | **PMCID:** PMC8246860

Original paper

Liver

ATI



Attenuation Imaging with Ultrasound as a Novel Evaluation Method for Liver Steatosis

Hsu PK, Wu LS, Yen HH, Huang HP, Chen YY, Su PY, Su WW

J Clin Med. 2021;10(5):965

DOI: 10.3390/jcm10050965 | **PMID:** 33801163 | **PMCID:** PMC7957732

Review article

Liver

ATI



US Attenuation for Liver Fat Quantification: An AIUM-RSNA QIBA Pulse-Echo Quantitative Ultrasound Initiative

Ferraioli G, Kumar V, Ozturk A, Nam K, de Korte CL, Barr RG
Radiology. 2022;302(3):495-506

DOI: 10.1148/radiol.210736 | PMID: 35076304

Review article

Liver

ATI



Quantitative assessment of fatty liver using ultrasound attenuation imaging

Lee DH
J Med Ultrason. 2021;48(4):465-470

DOI: 10.1007/s10396-021-01132-z | PMID: 34453237

Original paper

Liver

SWD



Shear wave dispersion to assess liver disease progression in Fontan-associated liver disease

Nagasawa T, Kuroda H, Abe T, Saiki H, Takikawa Y
PLoS One. 2022;17(7):e0271223

DOI: 10.1371/journal.pone.0271223 | PMID: 35802664 | PMCID: PMC9269959

Original paper

Liver

SWE



Diagnostic Performance of Quantitative Ultrasound Parameters in Non-alcoholic Fatty Liver Disease

Torkzaban M, Wessner CE, Haleboua-DeMarzio D, Lyschchik A, Nam K
Acad Radiol. 2024;31(1):199-211

DOI: 10.1016/j.acra.2023.07.001 | PMID: 37507328

Original paper

Liver

SWE



Performance of two-dimensional shear wave elastography and transient elastography compared to liver biopsy for staging of liver fibrosis

Kovatsch A, Honcharova-Biletska H, Segna D, Steigmiller K, Blümel S, Deibel RA, Kühlewindt T, Leinenkugel G, Müller S, Furrer E, Schawkat K, Reiner CS, Weber A, Müllhaupt B, Scharl M, Gubler C, Jüngst C
***Eur J Clin Invest.* 2023;53(7):e13980**

DOI: 10.1111/eci.13980 | **PMID:** 36880934

Original paper

Liver

SWE



Correlation of Liver Elastography as a Predictor of Esophageal Varices and Its Comparison With Ultrasound Abdomen and Liver Function Tests in Patients With Chronic Liver Disease

As N, Lakshmanan S, Senthil N, R Varsha
***Cureus.* 2023;15(7):e41652**

DOI: 10.7759/cureus.41652 | **PMID:** 37565128 | **PMCID:** PMC10411853

Original paper

Liver

SWE



Usefulness of 2D shear wave elastography for the evaluation of hepatic fibrosis and treatment response in patients with autoimmune hepatitis

Soh EG, Lee YH, Kim YR, Yoon KH, Choi KH
***Ultrasonography.* 2022;41(4):740-749**

DOI: 10.14366/usg.21266 | **PMID:** 36195317 | **PMCID:** PMC9532207

Multicenter study **Liver**

SWE



Comparison of liver stiffness measurements by a 2D-shear wave technique and transient elastography: results from a European prospective multi-centre study

Ronot M, Ferraioli G, Müller HP, Friedrich-Rust M, Filice C, Vilgrain V, Cosgrove D, Lim AK
***Eur Radiol.* 2021;31:1578–1587**

DOI: 10.1007/s00330-020-07212-x | **PMID:** 32902745

Original paper

Liver

SWE



Clinical relevance of Shear Wave Elastography compared with Transient Elastography and other markers of liver fibrosis

Ayonrinde OT, Zelesco M, Welman CJ, Abbott S, Adris N
Intern Med J. 2022;52(4):640-650

DOI: 10.1111/imj.15603 | PMID: 34726820 | PMCID: PMC9311739

Original paper

Liver (Phantom)

SWE



Intra-System Reliability Assessment of 2-Dimensional Shear Wave Elastography

Edwards C, Cavanagh E, Kumar S, Clifton V, Fontanarosa D
Appl Sci. 2021;11(7):2992

DOI: 10.3390/app11072992

Original paper

Liver

SWE



2D shear wave elastography is better than transient elastography in predicting post-hepatectomy complication after resection

Lee DH, Lee ES, Bae JS, Lee JY, Han JK, Yi NJ, Lee KW, Suh KS, Kim H, Lee KB, Choi BI
Eur Radiol. 2021;31:5802-5811

DOI: 10.1007/s00330-020-07662-3 | PMID: 33459859

Original paper

Liver (animal model)

SWE



Test-retest repeatability of ultrasonographic shear wave elastography in a rat liver fibrosis model: toward a quantitative biomarker for preclinical trials

Shin Y, Huh J, Ham SJ, Cho YC, Choi Y, Woo DC, Lee J, Kim KW
Ultrasonography. 2021;40(1):126-135

DOI: 10.14366/usg.19088 | PMID: 32580267 | PMCID: PMC7758098



Shear wave speed measurement bias in a viscoelastic phantom across six ultrasound elastography systems: a comparative study with transient elastography and magnetic resonance elastography

Kishimoto R, Suga M, Usumura M, Iijima H, Yoshida M, Hachiya H, Shiina T, Yamakawa M, Konno K, Obata T, Yamaguchi T

J Med Ultrason. 2022;49(2):143-152

DOI: 10.1007/s10396-022-01190-x | **PMID:** 35061118 | **PMCID:** PMC9038798



Non-invasive imaging biomarkers to assess nonalcoholic fatty liver disease: A review

Trujillo MJ, Chen J, Rubin JM, Gao J

Clin Imaging. 2021;78:22-34

DOI: 10.1016/j.clinimag.2021.02.039 | **PMID:** 33721575



Quantitative Assessment of Fatty Liver using Ultrasound with Normalized Local Variance Technique

Bae JS, Lee DH, Lee JY, Kim H, Yu SJ, Lee JH, Cho EJ, Lee YB, Han JK, Choi BI

Ultraschall Med. 2021;42(6):599-606

DOI: 10.1055/a-1143-3091 | **PMID:** 32323278



Ultrasound Doppler technique for the diagnosis of focal nodular hyperplasia - case series and systematic review

Sawatzki M, Burkart T, Baumeler S, Semela D, Dong Y, Jenssen C, Srivastava D, Dietrich CF

Med Ultrason. 2024;26(1):72-82

DOI: 10.11152/mu-4301 | **PMID:** 38150700

Original paper

Liver

SMI



The feasibility of early response evaluation using superb microvascular imaging one day after transcatheter arterial chemoembolization for hepatocellular carcinoma

Oh S, Kwon H, Lim K, Cho J, Kang E, Kim S, Baek Y
J Clin Ultrasound. 2023;51(5):866-875

DOI: 10.1002/jcu.23449 | PMID: 36897661

Original paper

Liver

SMI



Superb microvascular imaging technology of ultrasound examinations for the evaluation of tumor vascularity in hepatic hemangiomas

Jeon SK, Lee JY, Han JK
Ultrasonography. 2021;40(4):538-545

DOI: 10.14366/usg.20177 | PMID: 33866773 | PMCID: PMC8446495

Review article

Liver

SMI



Additional value of superb microvascular imaging of ultrasound examinations to evaluate focal liver lesions

Jeon SK, Lee JY, Kang HJ, Han JK
Eur J Radiol. 2022;152:110332

DOI: 10.1016/j.ejrad.2022.110332 | PMID: 35552066

Original paper

Liver

CEUS



Contrast-enhanced ultrasound can guide the therapeutic strategy by improving the detection of colorectal liver metastases

Sawatzki M, Güller U, Güsewell S, Husarik DB, Semela D, Brand S
J Hepatol. 2021;74(2):419-427

DOI: 10.1016/j.jhep.2020.09.036 | PMID: 33065168

Original paper

Liver

Smart Fusion



Utility of fusion imaging for the evaluation of ultrasound quality in hepatocellular carcinoma surveillance

Kim YY, Cho SB, Lee JS, Lee HW, Choi JY, Kim SU
Ultrasonography. 2023;42(4):580-588

DOI: 10.14366/usg.23106 | **PMID:** 37722723 | **PMCID:** PMC10555691

Original paper

Liver (Phantom)



The application of high-performance ultrasound probes increases anatomic depiction in obese patients

Heinitz S, Müller J, Jenderka KV, Schlögl H, Stumvoll M, Blüher M, Blank V, Karlas T
Sci Rep. 2023;13(1):16297

DOI: 10.1038/s41598-023-43509-9 | **PMID:** 37770538 | **PMCID:** PMC10539468

Original paper

Bowel

SWE, SWD



Evaluation of ulcerative colitis activity using transabdominal ultrasound shear wave elastography

Yamada K, Ishikawa T, Kawashima H, Ohno E, Iida T, Ishikawa E, Mizutani Y, Sawada T, Maeda K, Yamamura T, Kakushima N, Furukawa K, Nakamura M, Ishigami M, Fujishiro M
Quant Imaging Med Surg. 2022;12(1):618-626

DOI: 10.21037/qims-21-403 | **PMID:** 34993106 | **PMCID:** PMC8666736

Original paper

Bowel

SMI



Serum leucine-rich alpha-2 glycoprotein levels for predicting active ultrasonographic findings in intestinal lesions of patients with Crohn's disease in clinical remission

Nasuno M, Shimazaki H, Nojima M, Hamada T, Sugiyama K, Miyakawa M, Tanaka H
Medicine. 2023;102(32):e34628

DOI: 10.1097/md.00000000000034628 | **PMID:** 37565885 | **PMCID:** PMC10419375

Original paper

Spleen (animal model)

SWE, SWD



Elucidation of spleen elasticity and viscosity in a carbon tetrachloride rat model of liver cirrhosis using a new ultrasound elastography

Furuichi Y, Sugimoto K, Oshiro H, Abe M, Takeuchi H, Yoshimasu Y, Itoi T
J Med Ultrasonics. 2021;48(4):431-437

DOI: 10.1007/s10396-021-01110-5 | PMID: 34185192

Original paper

Pancreas

SWE, SWD



An initial trial of quantitative evaluation of autoimmune pancreatitis using shear wave elastography and shear wave dispersion in transabdominal ultrasound

Suzuki H, Ishikawa T, Ohno E, Iida T, Uetsuki K, Yashika J, Yamada K, Yoshikawa M, Furukawa K, Nakamura M, Honda T, Ishigami M, Kawashima H, Fujishiro M
Pancreatology. 2021;21(4):682-687

DOI: 10.1016/j.pan.2021.02.014 | PMID: 33648879

Review article

GI Tract



Basic practices for gastrointestinal ultrasound

Nishida M, Hasegawa Y, Hata J
J Med Ultrasonics. 2023;50:285-310

DOI: 10.1007/s10396-022-01236-0 | PMID: 36087155 | PMCID: PMC10354189



Genitourinary imaging



Quantitative ultrasound for non-invasive evaluation of subclinical rejection in renal transplantation

Kim DG, Lee JY, Ahn JH, Lee T, Eom M, Cho HS, Ku J
Eur Radiol. 2023;33(4):2367-2377

DOI: 10.1007/s00330-022-09260-x | **PMID:** 36422649



The Role of Superb Microvascular Imaging and Shear Wave Elastography in the Prediction of Hemorrhage Complications After Renal Parenchyma Biopsy

Günay B, Uslu B, Çelik AO, Korkmaz S, Ustabaşıoğlu FE, Solak S, Kula O, Tunçbilek N
Ultrasound Q. 2023;39(4):242-249

DOI: 10.1097/ruq.0000000000000656 | **PMID:** 37918031



Prediction of acute rejection in renal allografts using shear-wave dispersion slope

Kim TM, Ahn H, Cho JY, Han A, Min SI, Ha J, Kim SY
Eur Radiol. 2023 Dec 13

DOI: 10.1007/s00330-023-10492-8 | **PMID:** 38091056



Evaluation of renal circulation in heart failure using superb microvascular imaging, a microvascular flow imaging system

Kikuchi S, Kayama K, Kawada Y, Kitada S, Seo Y
J Med Ultrasonics. 2024;51:283-292

DOI: 10.1007/s10396-023-01397-6 | **PMID:** 38236503

Original paper

Renal

SMI



The role of superb microvascular imaging in detecting low-grade inflammation among adults and those with chronic kidney disease: A preliminary study

Nayman A, Seher N, Öztürk M, Özer H, Çelik G
Turk J Med Sci. 2023;53(3):692-700

DOI: 10.55730/1300-0144.5632 | PMID: 37476893 | PMCID: PMC10388039

Case report

Renal

SMI



Intra-operative duplex ultrasound scanning in renal transplantation: protocol and service requirements

Thebridge L, Fisher C, Puttaswamy V, Pollock C, Clarke J
J Med Radiat Sci. 2024 Mar 26

DOI: 10.1002/jmrs.786 | PMID: 38530020

Original paper

Renal

SWE



Shear Wave Elastography for Assessing Liver Stiffness in HCV-Infected Kidney Transplant Recipients after Direct-Acting Antiviral Treatment: A Comparative Study with Magnetic Resonance Elastography

Almutawakel S, Halleck F, Dürr M, Grittner U, Schrezenmeier E, Budde K, Althoff CE, Hamm B, Sack I, Fischer T, Marticorena Garcia SR
J Clin Med. 2023;12(24):7547

DOI: 10.3390/jcm12247547 | PMID: 38137615 | PMCID: PMC10743898

Original paper

Renal (animal model)

SWE



Periostin deficiency attenuates kidney fibrosis in diabetic nephropathy by improving pancreatic β -cell dysfunction and reducing kidney EMT

Cho A, Jin W, Lee J, Shin N, Lee MS, Li L, Yang SH, Park KS, Yang CW, Kim DK, Oh YK, Lim CS, Lee JP
Sci Rep. 2023;13(1):17599

DOI: 10.1038/s41598-023-44177-5 | PMID: 37845302 | PMCID: PMC10579313

Original paper

Renal

D-THI



Second-Generation Differential Tissue Harmonic Imaging Improves the Visualization of Renal Lesions

Forsberg F, Stanczak M, Sinanan JK, Blackman R
J Ultrasound Med. **2023;42(4):853-857**

DOI: 10.1002/jum.16071 | **PMID:** 35920345

Original paper

Renal

CEUS



Contrast-enhanced ultrasound (CEUS) reliably rules out neoplasm in developmental renal pseudotumor

Spiesecke P, Fischer T, Maxeiner A, Hamm B, Lerchbaumer MH
Acta Radiol. **2021;62(6):821-829**

DOI: 10.1177/0284185120939291 | **PMID:** 32631079

Original paper

Renal



Utility of ultrasonography for predicting indications for tolvaptan in patients with autosomal dominant polycystic kidney disease

Iijima H, Tada T, Hashimoto M, Nishimura T, Kiriki M, Higashiura A, Iwasaki A, Honda M, Nagasawa Y, Yamakado K
J Med Ultrasonics. **2023;50(1): 81-87**

DOI: 10.1007/s10396-022-01261-z | **PMID:** 36333536 | **PMCID:** PMC9892067

Topic paper

Prostate

SMI, Intervention



Advanced ultrasound in the diagnosis of prostate cancer

Correas JM, Halpern EJ, Barr RG, Ghai S, Walz J, Bodard S, Dariane C, de la Rosette J
World J Urol. **2021;39(3):661-676**

DOI: 10.1007/s00345-020-03193-0 | **PMID:** 32306060

Original paper

Prostate (Phantom)

SWE



Variability of Transrectal Shear Wave Elastography in a Phantom Model

Lee J, Yoon SK, Cho JH, Kwon HJ, Kim DW, Lee JW
J Korean Soc Radiol. 2023;84(5):1110-1122

DOI: 10.3348/jksr.2023.0051 | PMID: 37869125 | PMCID: PMC10585080

Original paper

Prostate

Fusion



Safety and efficacy of software-assisted MRI-TRUS fusion-guided transperineal prostate biopsy in an outpatient setting using local anaesthesia

De Vulder N, Slots C, Geldof K, Ramboer K, Dekimpe P, Uvin P, Walgraeve MS, Van Holsbeeck A, Gieraerts K
Abdom Radiol. 2023;48(2):694-703

DOI: 10.1007/s00261-022-03745-5 | PMID: 36399208

Review article

Prostate

SMI



Intraoperative ultrasound monitoring with superb microvascular imaging in focal cryotherapy for prostate cancer

Matsugasumi T, Iwata T, Yamada Y, Shiraishi T, Fujihara A, Okihara K, Ukimura O
J Med Ultrasonics. 2022 ;49(3):497-498

DOI: 10.1007/s10396-022-01206-6 | PMID: 35403932

Original paper

Urethral

SWE, CEUS



Contrast-Enhanced Ultrasound and Shear Wave Elastography: Novel Methods for the Evaluation of Urethral Stricture Disease

Chung PH, Leong JY, Machado P, Wessner CE, Trabulsi EJ, Halpern EJ, Eisenbrey JR, Forsberg F
J Urol. 2022;207(1):152-160

DOI: 10.1097/JU.0000000000002146 | PMID: 34428090



General imaging - other

Original paper

Thyroid

SWE, SMI



Multimodal ultrasonography evaluation in thyroid nodule characterization: what is the ideal algorithm?

Gürsel BE, Çağlar B, Özpar R, Saraydaroğlu Ö, Gökalp G, Topal NB
Med Ultrason. 2024;26(1):41-49

DOI: 10.11152/mu-4325 | PMID: 38537188

Original paper

Thyroid

SMI, CEUS



A Comparative Study of Two Radiomics-Based Blood Flow Modes with Thyroid Imaging Reporting and Data System in Predicting Malignancy of Thyroid Nodules and Reducing Unnecessary Fine-Needle Aspiration Rate

Ren JY, Lin JJ, Lv WZ, Zhang XY, Li XQ, Xu T, Peng YX, Wang Y, Cui XW
Acad Radiol. 2024;S1076-6332(24)00077-1

DOI: 10.1016/j.acra.2024.02.007 | PMID: 38453602

Original paper

Thyroid

SMI



Ultrasound microflow patterns help in distinguishing malignant from benign thyroid nodules

Li W, Gao L, Du Y, Wang Y, Yang X, Wang H, Li J
Cancer Imaging. 2024;24(1):18

DOI: 10.1186/s40644-024-00663-1 | PMID: 38268031 | PMCID: PMC10809443

Original paper

Thyroid

SMI



Diagnostic performance of ACR-TIRADS combined with superb microvascular imaging for differential diagnosis of mummified thyroid nodules and papillary thyroid carcinomas

Tian J, Liang J, Lin Y, Wang L, Chen X
Endocr Connect. 2024;13(3):e230388

DOI: 10.1530/ec-23-0388 | PMID: 38235807 | PMCID: PMC10895311

Meta-analysis

Thyroid

SMI



The value of conventional ultrasound combined with superb microvascular imaging and color Doppler flow imaging in the diagnosis of thyroid malignant nodules: a systematic review and meta-analysis

Jiang L, Zhang D, Chen YN, Yu XJ, Pan MF, Lian L
Front Endocrinol. **2023;14:1182259**

DOI: 10.3389/fendo.2023.1182259 | PMID: 37415660 | PMCID: PMC10321595

Observational study

Thyroid

SMI



Quantitative analysis of vascularity for thyroid nodules on ultrasound using superb microvascular imaging

Hong MJ, Ahn HS, Ha SM, Park HJ, Oh J
Medicine. **2022;101(5):e28725**

DOI: 10.1097/md.00000000000028725 | PMID: 35119020 | PMCID: PMC8812680

Original paper

Brain

SMI



Neurosurgical intraoperative ultrasonography using contrast enhanced superb microvascular imaging -vessel density and appearance time of the contrast agent

Ishikawa M, Masamoto K, Hachiya R, Kagami H, Inaba M, Naritaka H, Katoh S
Br J Neurosurg. **2023;37(3):485-494**

DOI: 10.1080/02688697.2020.1772958 | PMID: 32648779

Review article

Brain

SMI, Fusion, CEUS



Intraoperative ultrasound in brain tumor surgery: A review and implementation guide

Dixon L, Lim A, Grech-Sollars M, Nandi D, Camp S
Neurosurg Rev. **2022;45(4):2503-2515**

DOI: 10.1007/s10143-022-01778-4 | PMID: 35353266 | PMCID: PMC9349149



Noninvasive CSF shunt patency evaluation by superb microvascular imaging

Putzer D, Brawanski K, Verius M, Oberherber H, Thome C, Gizewski ER, Gruber H

Neurosurg Rev. 2023;46(1):190

DOI: 10.1007/s10143-023-02090-5 | PMID: 37526749 | PMCID: PMC10393836



Identifying Functional Lymph Nodes in Lower Extremity Lymphedema Patients: The Role of High-frequency Ultrasound

Alshomer F, Jeong HH, Pak CJ, Suh HP, Hong JP

J Reconstr Microsurg. 2024 Feb 15

DOI: 10.1055/a-2238-7985 | PMID: 38176427



Evaluation of lymphatic vessel diameters in healthy people using lymphatic ultrasound examination

Hara H, Mihara M

J Vasc Surg Venous Lymphat Disord. 2022;10(3):758-764

DOI: 10.1016/j.jvsv.2021.09.007 | PMID: 34597838



The use of 33 MHz ultra-high-frequency ultrasonography for the evaluation of sweat glands in the axilla with osmidrosis

Shinaoka A, Nakahara R, Saeki M

PLoS One. 2021;16(5):e0251600

DOI: 10.1371/journal.pone.0251600 | PMID: 33984036 | PMCID: PMC8118561

Case report

Lymphatic

33 MHz



Comparison of Various Kinds of Probes for Lymphedematous Limbs

Hara H, Mihara M

Plast Reconstr Surg Glob Open. 2021;9(3):e3490

DOI: 10.1097/GOX.0000000000003490 | **PMID:** 33968554 | **PMCID:** PMC8099413

Original paper

Testis (animal model)

SMI, SWE



The value of multimodal ultrasonography in the evaluation of late presenting testicular torsion in a rat experimental model

Herek D, Çakmak V, Çomut E, Herek Ö

Br J Radiol. 2024 Feb 2;97(1154):377-385

DOI: 10.1093/bjr/tqad059 | **PMID:** 38302083

Original paper

Testis

SMI



Comparison of conventional Doppler imaging techniques and superb microvascular imaging in determination of vascularization in undescended testes

Ates F, Sivri M, Durmaz MS, Sekmenli T, Gunduz M, Ciftci I

J Ultrason. 2023 May 11;23(93):e66-e72

DOI: 10.15557/jou.2023.0013 | **PMID:** 37520746 | **PMCID:** PMC10379854

Original paper

Eye

SMI



Quantitative evaluation of ocular vascularity and correlation analysis in patients with diabetic retinopathy by SMI and OCTA

Wei J, Chen C, Shen Y, Li F, Yiyang S, Liu H

BMC Ophthalmol. 2024;24(1):76

DOI: 10.1186/s12886-024-03338-4 | **PMID:** 38373920 | **PMCID:** PMC10875800

Original paper

Eye

Elastography



A quantitative sonoelastography evaluation of ocular and periocular elasticity after intravitreal ranibizumab injection

Sayin N, Kocak I, Pehlivanoğlu S, Pekel G, Er A, Bayramoğlu SE, Aydın A
J Fr Ophtalmol. **2023;46(9):1030-1038**

DOI: 10.1016/j.jfo.2023.03.016 | **PMID:** 37598105

Original paper

Skin

SMI



Superb microvascular imaging for evaluating the activity of juvenile localised scleroderma: a preliminary study

Chen X, Zhou L, Xia Y, Wong YN, He Q, Tang P, Zhang S, Liu T, Wang Z, Xu N
Eur Radiol. **2024 Apr 23**

DOI: 10.1007/s00330-024-10738-z | **PMID:** 38652159

Review article

Salivary glands

Doppler



Three-dimensional images of ultrasonography in Sjogren's syndrome

Ohshima M, Suzuki T, Suzuki A, Nagata N, Maejima A
QJM. **2022;115(5):316-317**

DOI: 10.1093/qjmed/hcac084 | **PMID:** 35333337

Review article

Salivary glands

Smart3D



Three-dimensional ultrasonographic imaging of Mikulicz's disease

Suzuki A, Nagata N, Ohshima M, Suzuki T, Minemura N, Yoshida M
Clin Rheumatol. **2022;41(2):583-584**

DOI: 10.1007/s10067-021-05932-z | **PMID:** 34559333

Original paper

Tongue

SWE



Reliability of Sonoelastography Measurement of Tongue Muscles and Its Application on Obstructive Sleep Apnea

Chu CA, Chen YJ, Chang KV, Wu WT, Özçakar L

Front Physiol. 2021;12:654667

DOI: 10.3389/fphys.2021.654667 | PMID: 33841189 | PMCID: PMC8027470



Pediatric imaging

Original paper

Liver

ATI, SWE, SWD



Validation of attenuation imaging coefficient, shear wave elastography, and dispersion as emerging tools for non-invasive evaluation of liver tissue in children

Cetiner M, Schiepek F, Finkelberg I, Hirtz R, Büscher AK
Front Pediatr. **2023;11:1020690**

DOI: 10.3389/fped.2023.1020690 | **PMID:** 37138563 | **PMCID:** PMC10150017

Original paper

Liver

SWE, ATI



Comparison of Quantitative Liver US and MRI in Patients with Liver Disease

Alves VPV, Dillman JR, Tkach JA, Bennett PS, Xanthakos SA, Trout AT
Radiology. **2022;304(3):660-669**

DOI: 10.1148/radiol.212995 | **PMID:** 35608446

Original paper

Liver

SWE, ATI



Liver shear wave elastography and attenuation imaging coefficient measures: prospective evaluation in healthy children

Cailloce R, Tavernier E, Brunereau L, Fievet A, Falip C, Dujardin F, Willot S, Patat F, Morel B
Abdom Radiol. **2021;46(10):4629-4636**

DOI: 10.1007/s00261-021-02960-w | **PMID:** 34100966

Original paper

Liver

SMI



Superb Microvascular Imaging in Pediatric Focal Nodular Hyperplasia

Hwang SM, Yoo SY, Jeong WK, Lee MW, Jeon TY, Kim JH
J Pediatr Hematol Oncol. **2024;46(3):e233-e240**

DOI: 10.1097/mpb.0000000000002826 | **PMID:** 38408130 | **PMCID:** PMC10956684

Original paper

Liver

ATI



Accuracy of Attenuation Imaging in Assessment of Pediatric Liver Steatosis: Correlation with Controlled Attenuation Parameter

Kim PH, Cho YA, Yoon HM, Bak B, Lee JS, Jung AY, Oh SH, Kim KM
Ultrasonography. 2022;41(4):761-769

DOI: 10.14366/usg.21246 | PMID: 35765803 | PMCID: PMC9532206

Original paper

Liver

ATI



Feasibility of Ultrasound Attenuation Imaging for Assessing Pediatric Hepatic Steatosis

Song K, Son NH, Chang DR, Chae HW, Shin HJ
Biology. 2022;11(7):1087

DOI: 10.3390/biology11071087 | PMID: 36101465 | PMCID: PMC9313139

Original paper

Liver

SWE



Ultrasound Shear Wave Elastography, Shear Wave Dispersion and Attenuation Imaging of Pediatric Liver Disease with Histological Correlation

Cetinic I, de Lange C, Simrén Y, Ekvall N, Östling M, Stén L, Boström H, Lagerstrand K, Hebelka H
Children. 2022;9(5):692

DOI: 10.3390/children9050692 | PMID: 35626865 | PMCID: PMC9139364

Case report

Liver

SWE



Shear Wave Elastography in the Differentiation of Nonfibrotic Versus Fibrotic Liver Disease in Children: A Prospective Study With Histological Correlation

Hebelka H, de Lange C, Boström H, Ekvall N, Lagerstrand K
JPGN Reports. 2022;3(1):e156

DOI: 10.1097/PG9.0000000000000156 | PMID: 37168740 | PMCID: PMC10158420



Evaluation of synovial inflammation in juvenile idiopathic arthritis using superb microvascular imaging compared with power Doppler ultrasound

Sun P, Tong Y, Xu X, Gao M, Shi J

Clin Exp Rheumatol. 2024;42(5):1127-1134

DOI: 10.55563/clinexprheumatol/ksl2uy | **PMID:** 37812475



Investigating the Accuracy of Quantitative Echocardiographic-Modified Task Force Criteria for Arrhythmogenic Ventricular Cardiomyopathy in Adolescent Male Elite Athletes

Sharma C, Dorobantu DM, Ryding D, Perry D, McNally SR, Stuart AG, Williams CA, Pieleas GE

Pediatr Cardiol. 2022;43(2):457-464

DOI: 10.1007/s00246-021-02744-5 | **PMID:** 34689217 | **PMCID:** PMC8850234



Ultrasound findings of subpial hemorrhage in neonates

Lim YJ, Shin SM, Kim H, Chung ML, Hahn S, Cho YJ

Ultrasonography. 2023;42(2):333-342

DOI: 10.14366/usg.22199 | **PMID:** 36950778 | **PMCID:** PMC10071067



Changes in structural brain development after selective fetal growth restriction in monochorionic twins

Groene SG, de Vries LS, Slaghekke F, Haak MC, Heijmans BT, de Bruin C, Roest AAW, Lopriore E, van Klink JMM, Steggerda SJ

Ultrasound Obstet Gynecol. 2022;59(6):747-755

DOI: 10.1002/uog.24832 | **PMID:** 34931729 | **PMCID:** PMC9415097

Original paper

Nerve



Correlation of age and the diameter of the cervical nerve roots C5 and C6 during the first 2 years of life analyzed by high-resolution ultrasound imaging

van der Linde J, Jenny C, Hundsberger T, Broser PJ
Brain Behav. 2022,12(8):e2649

DOI: 10.1002/brb3.2649 | PMID: 35810481 | PMCID: PMC9392521

Original paper

Pancreas

SWE



Pancreas ultrasound two-dimensional shear wave elastography in healthy children

Qiu L, Trout AT, Bennett PS, Dillman JR
Pediatr Radiol. 2021;51(3):403–409

DOI: 10.1007/s00247-020-04863-2 | PMID: 33156431



Musculoskeletal imaging

Original paper

Upper limb

SMI, SWE



The place of B-mode ultrasonography, shear-wave elastography, and superb microvascular imaging in the diagnosis of De Quervain tenosynovitis

Ten B, Asfuroğlu ZM, Eskandari MM, Temel G, Esen K, Yüksek HH, Balcı Y
J Clin Ultrasound. 2024;52(5):499-510

DOI: 10.1002/jcu.23661 | PMID: 38446065

Original paper

Upper limb

SMI, SWE



Acute effect of resistance exercise at different velocities on stiffness and vascularity of the biceps brachii muscle: a preliminary study

Ustabaşioğlu FE, Ağirdemir FE, Ustabaşioğlu F, Sunal BS
Acta Radiol. 2023;64(4):1500-1507

DOI: 10.1177/02841851221125380 | PMID: 36112819

Original paper

Upper limb

SMI, SWE



Diagnosis of Carpal Tunnel Syndrome using Shear Wave Elastography and High-frequency Ultrasound Imaging

Nam K, Peterson SM, Wessner CE, Machado P, Forsberg F
Acad Radiol. 2021;28(9):e278-e287

DOI: 10.1016/j.acra.2020.08.011 | PMID: 32928634

Case report

Upper limb

SMI, SWE



Multiparametric ultrasound images of three different cases of schwannoma of the peripheral nervous system

Zardi EM, Chello C
J Clin Ultrasound. 2023;51(4):745-747

DOI: 10.1002/jcu.23452 | PMID: 36930697

Original paper

Upper limb

SMI



Intraneural vascularity of the median, ulnar and common peroneal nerve: Microvascular ultrasound and pathophysiological implications

Deeg J, Mündel F, Loizides A, Gruber L, Gruber H
Australas J Ultrasound Med. **2023;26(3):175-183**

DOI: 10.1002/ajum.12334 | **PMID:** 37701776 | **PMCID:** PMC10493359

Original paper

Upper limb

SMI



Assessment of common extensor tendon vascularization using superb microvascular imaging: a potential tool in the evaluation of extracorporeal shock wave therapy and therapeutic ultrasound effectiveness in lateral epicondylitis

Ustabaşıoğlu F, Günay B, Samancı C, Emre Ustabaşıoğlu F
Acta Radiol. **2023;64(10):2828-2835**

DOI: 10.1177/02841851231191069 | **PMID:** 37553907

Original paper

Upper limb

SWE



Are Rotator Muscle Performance and Posterior Shoulder Capsule Tightness Related to Glenohumeral Internal Rotation Deficit in Male College Baseball Players?

Lee JH, Park JS, Park HJ, Ryoo HJ, Jeong WK
Clin Orthop Surg. **2022;14(4):576-584**

DOI: 10.4055/cios21212 | **PMID:** 36518941 | **PMCID:** PMC9715928

Original paper

Upper limb

SWE



Correlation of glenohumeral internal rotation deficit with shear wave ultrasound elastography findings for the posterior inferior shoulder capsule in college baseball players

Park HJ, Jeon JH, Suh DK, Lee CS, Lee JH, Jeong WK
J Shoulder Elbow Surg. **2021;30(7):1588-1595**

DOI: 10.1016/j.jse.2020.09.036 | **PMID:** 33144224

Original paper

Upper limb

SWE



Evaluation of plantar fasciopathy shear wave elastography: a comparison between patients and healthy subjects

Schillizzi G, Alviti F, D'Ercole C, Elia D, Agostini F, Mangone M, Paoloni M, Bernetti A, Pacini P, Polti G, Minafra P, Cantisani V

J Ultrasound. 2021;24(4):417-422

DOI: 10.1007/s40477-020-00474-7 | PMID: 32418168 | PMCID: PMC8572281

Original paper

Upper limb



Longer Tendon-Bone Distances of the A2 and A4 Annular Pulleys in Experienced High-Level Sport Climbers: Injury or Adaptation?

Iruretagoiena X, De la Fuente J, Rodríguez-López ES, Davila F, Dorronsoro A, Goenaga L, Blasi M

Wilderness Environ Med. 2021;32(4):450-456

DOI: 10.1016/j.wem.2021.07.008 | PMID: 34538713

Review article

Upper limb

SMI



The prevalence of neovascularity in rotator cuff tendinopathy: comparing conventional Doppler with superb microvascular imaging

Ooi CC, Wong SK, Ma VC, Tan GM, Teng KQ, Mohamed SN, Png MA

Clin Radiol 2022;77(6):e442-e448

DOI: 10.1016/j.crad.2022.03.003 | PMID: 35428470

Original paper

Lower limb

SMI



Superb microvascular imaging (SMI) detects increased vascularity of the torn anterior cruciate ligament

Takeuchi S, Rothrauff BB, Kanto R, Onishi K, Fu FH

Knee Surg Sports Traumatol Arthrosc. 2022;30(1):93-101

DOI: 10.1007/s00167-021-06640-6 | PMID: 34121144

Original paper

Peripheral nerves

SMI, SWE



Evaluation of Accuracy of Shear Wave Elastography and Superb Microvascular Imaging Methods in Diagnosis of Piriformis Syndrome: A Preliminary Study

Gülsaran U, Ustabaşıoğlu F, Günay B, Ustabaşıoğlu FE
Ultrasound Med Biol. 2022;48(12):2521-2529

DOI: 10.1016/j.ultrasmedbio.2022.08.004 | PMID: 36123220

Original paper

Peripheral nerves

SMI



Diagnostic Utility of Superb Microvascular Imaging and Power Doppler Ultrasonography for Visualizing Enriched Microvascular Flow in Patients With Carpal Tunnel Syndrome

Endo T, Matsui Y, Kawamura D, Urita A, Momma D, Ota M, Shibayama H, Iwai T, Nishida M, Iwasaki N
Front Neurol. 2022;13:832569

DOI: 10.3389/fneur.2022.832569 | PMID: 35432160 | PMCID: PMC9008197

Original paper

Peripheral nerves

SMI



Median Nerve's Microcirculation in Carpal Tunnel Syndrome: Superb Microvascular Imaging

Yildiran G, Seher N, Sutcu M, Nayman A, Akdag O, Tosun Z
Plastic and Reconstructive Surgery. 2021; 147(6):1355-1360

DOI: 10.1097/prs.00000000000007940 | PMID: 33974590

Original paper

Peripheral nerves (animal model)

SWD



Quantification of Nerve Viscosity Using Shear Wave Dispersion Imaging in Diabetic Rats: A Novel Technique for Evaluating Diabetic Neuropathy

Liu F, Li D, Xin Y, Liu F, Li W, Zhu J
Korean J Radiol. 2022;23(2):237-245

DOI: 10.3348/kjr.2021.0603 | PMID: 35029080 | PMCID: PMC8814712

Original paper

Peripheral nerves (animal model)



High-resolution ultrasonography is a more useful primary diagnostic tool than magnetic resonance imaging for subungual glomus tumors: a single-center retrospective study

Kim YB, Choi IC, Park JH, Nam JJ, Hwang KS, Park JW
Arch Hand Microsurg 2023;28(1):33-38

DOI: 10.12790/ahm.22.0060

Original paper

Peripheral nerves



Anatomical study of the medial calcaneal nerve using high-resolution ultrasound

Deniel C, Guenoun D, Guillin R, Moraux A, Champsaur P, Le Corroller T
Eur Radiol. 2023;33(10):7330-7337

DOI: 10.1007/s00330-023-09699-6 | PMID: 37209124

Case report

Peripheral nerves



Novel Minimally Invasive Ultrasound-Guided Cubital Tunnel Release: Extending the Scope?

Gruber H, Honold S, Skalla E, Konschake M, Loizides A
Ultraschall Med. 2022;43(4):403-405

DOI: 10.1055/a-1511-8359 | PMID: 34058780

Review article

Peripheral nerves

SMI



Assessment of the carpal tunnel and associated neural structures with superb microvascular imaging: a scoping review

Lin TY, Shen PC, Chang KV, Wu WT, Özçakar L
Expert Rev Med Devices. 2024;21(1-2):141-147

DOI: 10.1080/17434440.2023.2285856 | PMID: 37978908

Original paper

Miscellaneous

SMI, CEUS



Superb microvascular imaging is as sensitive as contrast-enhanced ultrasound for detecting synovial vascularity in rheumatoid arthritis

Diao XH, Shen Y, Chen L, Zhan J, Fang L, Liu YC, Chen Y

Quant Imaging Med Surg. 2022;12(5):2866-2876

DOI: 10.21037%2Fqims-21-859 | PMID: 35502398 | PMCID: PMC9014166

Abstract

Miscellaneous

SMI



Vessel wall inflammation detected with superb microvascular imaging in behçet syndrome

Kayadibi Y, Ozguler Y, Melikoglu M, Esatoglu SN, Kimyon U, Kalyoncu Ucar A, Adaletli I, Hatemi G

Annals of the Rheumatic Diseases 2023;82:112-113

DOI: 10.1136/annrheumdis-2023-eular.6177

Review article

Miscellaneous

SMI



The Use of Superb Microvascular Imaging in Evaluating Rheumatic Diseases: A Systematic Review

Seskute G, Jasionyte G, Rugiene R, Butrimiene I

Medicina. 2023;59(9):1641

DOI: 10.3390/medicina59091641 | PMID: 37763760 | PMCID: PMC10537482

Original paper

MSK (animal model)

SWE, SWD



Developing an in-vivo physiological porcine model of inducing acute atraumatic compartment syndrome towards a non-invasive diagnosis using shear wave elastography

Kang JW, Park JW, Lim TH, Kim KT, Lee SJ

Sci Rep. 2021;11(1):21891

DOI: 10.1038/s41598-021-01405-0 | PMID: 34750470 | PMCID: PMC8576040

Original paper

MSK

SWE



Limitations of Muscle Ultrasound Shear Wave Elastography for Clinical Routine—Positioning and Muscle Selection

Romano A, Staber D, Grimm A, Kronlage C, Marquetand J
Sensors. 2021;21(24):8490

DOI: 10.3390/s21248490 | PMID: 34960581 | PMCID: PMC8706081

Original paper

MSK

SWE



Muscle Ultrasound Shear Wave Elastography as a Non-Invasive Biomarker in Myotonia

Kronlage C, Grimm A, Romano A, Stahl JH, Martin P, Winter N, Marquetand J
Diagnostics. 2021;11(2):163

DOI: 10.3390/diagnostics11020163 | PMID: 33498617 | PMCID: PMC7911703

Original paper

MSK

Fusion



Application of Intraoperative CT-Ultrasound Fusion Imaging in Hip Endoscopy for Treatment of Iatrogenic Impingement Due to PLLA Screw: A Novel Surgical Technique

Miyatake K, Choe H, Takahiro F, Kawabata Y, Kusaba Y, Inaba Y
Arthrosc Tech. 2023;12(6):e801-e805

DOI: 10.1016/j.eats.2023.02.009 | PMID: 37424642 | PMCID: PMC10323672

Original paper

MSK



Usefulness of muscle ultrasound in appendicular skeletal muscle mass estimation for sarcopenia assessment

Baek SH, Sung JH, Park JW, Son MH, Lee JH, Kim BJ
PLoS One. 2023;18(1):e0280202

DOI: 10.1371/journal.pone.0280202 | PMID: 36649288 | PMCID: PMC9844922

Original paper **MSK**



Surface Electromyography-Driven Parameters for Representing Muscle Mass and Strength

Sung JH, Baek SH, Park JW, Rho JH, Kim BJ
Sensors. 2023;23(12):5490

DOI: 10.3390/s23125490 | **PMID:** 37420659 | **PMCID:** PMC10302141

Case report **Spine** *SMI*



Ligamentum Flavum Rupture by Epidural Injection Using Ultrasound with SMI Method

Maeda M, Maeda N, Masuda K, Kamatani Y, Takamasa S, Tanaka Y
Tomography. 2023;9(1):285-298

DOI: 10.3390/tomography9010023 | **PMID:** 36828375 | **PMCID:** PMC9964737

Case report **Spine** *SMI*



Direct Visualization of Cervical Interlaminar Epidural Injections Using Sonography

Maeda N, Maeda M, Tanaka Y
Tomography. 2022; 8(4):1869-1880

DOI: 10.3390/tomography8040157 | **PMID:** 35894022 | **PMCID:** PMC9341393

Case report **Spine** *SMI*



Ultrasound-Guided Cervical Intervertebral Disc Injection Without Fluoroscopy

Maeda M, Maeda N, Masuda K, Nagano T, Tanaka Y
J Ultrasound Med. 2023;42(1):239-246

DOI: 10.1002/jum.15989 | **PMID:** 35420732

Case report

Spine



Ultrasound-Guided Lumbar Intradiscal Injection: A Case Report With a High-Resolution Ultrasound Image

Omodani T, Park K, Katayama H

Cureus. 2023;15(11):e49630

DOI: 10.7759/cureus.49630 | **PMID:** 38161924 | **PMCID:** PMC10755687

Case report

Spine



Diagnosis of Lumbar Transverse Process Fractures in Orthopedic Clinics Using Sonography

Maeda M, Maeda N, Masuda K, Nagano T, Tanaka Y

J Ultrasound Med. 2022;41(7):1825-1835

DOI: 10.1002/jum.15846 | **PMID:** 34676569



Women's Health imaging

Meta-analysis	Breast	SMI, SWE, SE
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Which combination of different ultrasonography modalities is more appropriate to diagnose breast cancer? A network meta-analysis (a PRISMA-compliant article)

Zhou Y, Wu J

Medicine. 2022;101(31):e29955

DOI: 10.1097/md.0000000000002995 | PMID: 35945707 | PMCID: PMC9351919

Original paper	Breast	SMI, SWE
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Prediction of complete response after neoadjuvant chemotherapy for invasive breast cancers: The utility of shear wave elastography and superb microvascular imaging in pretreatment breast ultrasound

Lee EJ, Chang YW

Eur J Radiol. 2024;175:111432

DOI: 10.1016/j.ejrad.2024.111432 | PMID: 38554672

Original paper	Breast	SWE, SWD
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Clinical applications of shear wave dispersion imaging for breast lesions: a pictorial essay

Bae MS, Kim HY, Oh H, Seo BK

Ultrasonography. 2023;42(4):589-599

DOI: 10.14366/usg.23079 | PMID: 37691417 | PMCID: PMC10555686

Original paper	Breast	SMI, SWE
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The Diagnostic Role of Shear Wave Elastography and Superb Microvascular Imaging in the Evaluation of Suspicious Microcalcifications

Kayadibi Y, Deger E, Kurt SA, Ucar AK, Adaletli I, Ozturk T, Kocael CP, Velidedeoglu M, Icten GE

J Ultrasound Med. 2023;42(10):2295-2306

DOI: 10.1002/jum.16252 | PMID: 37146224

Original paper **Breast** SMI, SWE



The potential role of combined shear wave elastography and superb microvascular imaging for early prediction the pathological response to neoadjuvant chemotherapy in breast cancer

Qi J, Wang C, Ma Y, Wang J, Yang G, Wu Y, Wang H, Mi C
Front Oncol. **2023;13:1176141**

DOI: 10.3389/fonc.2023.1176141 | PMID: 37746288 | PMCID: PMC10515084

Original paper **Breast** SMI, SWE



Preoperative Role of Superb Microvascular Imaging and Shear-Wave Elastography for Prediction of Axillary Lymph Node Metastasis in Patients With Breast Cancer

Bulut IN, Kayadibi Y, Deger E, Kurt SA, Velidedeoglu M, Onur I, Ozturk T, Adaletli I
Ultrasound Q. **2023;40(2):p 111-118**

DOI: 10.1097/ruq.0000000000000671 | PMID: 37908027

Original paper **Breast** SMI, SWE



Prediction of Molecular Subtypes Using Superb Microvascular Imaging and Shear Wave Elastography in Invasive Breast Carcinomas

Kurt SA, Kayadibi Y, Saracoglu MS, Ozturk T, Korkmazer B, Cerit M, Velidedeoğlu M
Acad Radiol. **2023;30(1):14-21**

DOI: 10.1016/j.acra.2022.04.017 | PMID: 35659854

Original paper **Breast** SMI, SWE



Prospective analysis of breast masses using the combined score for quantitative ultrasonography parameters

Lee EJ, Chang YW
Sci Rep. **2022;12(1):16205**

DOI: 10.1038/s41598-022-19971-2 | PMID: 36171328 | PMCID: PMC9519555

Original paper

Breast

SMI



Using a combination of superb microvascular imaging and other auxiliary ultrasound techniques to increase the accuracy of gray-scale ultrasound for breast masses

Abedi M, Sahebi L, Eslami B, Saberi A, Orouji M, Alipour S, Shahsavarhaghighi S

BMC Cancer. 2024;24(1):224

DOI: 10.1186/s12885-024-11981-9 | **PMID:** 38365653 | **PMCID:** PMC10873956

Original paper

Breast

SMI



Association between vascular ultrasound features and DNA sequencing in breast cancer: a preliminary study

Han MR, Park AY, Seo BK, Bae MS, Kim JS, Son GS, Lee HY, Chang YW, Cho KR, Song SE, Woo OH, Ju HY, Oh H

Discov Oncol. 2023;14(1):52

DOI: 10.1007/s12672-023-00657-8 | **PMID:** 37120792 | **PMCID:** PMC10149538

Original paper

Breast

SMI



Diagnostic value of the vascular index measured by superb microvascular imaging for evaluating breast tumors: a meta-analysis

Luo J, Li T, Liu Y

Med Ultrason. 2023;25(4):415-422

DOI: 10.11152/mu-4124 | **PMID:** 37931014

Original paper

Breast

SMI



Superb microvascular imaging for evaluation of microvasculature in breast nodules compared with conventional Doppler imaging

Zhang X, Cheng F, Song X, Wang P, Tian S, Zhao X, Wang Q, Zhang M

Quant Imaging Med Surg. 2023;13(10):7029-7040

DOI: 10.21037/qims-23-136 | **PMID:** 37869333 | **PMCID:** PMC10585493

Original paper

Breast

SMI



Evaluation of nipple vascularity using superb microvascular imaging in patients with reduction mammoplasty

Gun Koplay T, Uysal E

Medicine. **2023;102(43):e35796**

DOI: 10.1097/md.00000000000035796 | PMID: 37904398 | PMCID: PMC10615389

Original paper

Breast

SMI



Diagnostic Performance of Superb Microvascular Imaging in Differentiating Benign and Malignant Axillary Lymph Nodes

Kurt SA, Eryurekli AE, Kayadibi Y, Samanci C, Velidedeoglu M, Onur I, Arslan S, Taskin F

Ultrasound Q. **2023;39(2):74-80**

DOI: 10.1097/ruq.0000000000000617 | PMID: 35943392

Original paper

Breast

SMI



Predicting axillary nodal metastasis based on the side of asymmetrical cortical thickening in breast cancer: Evaluation with grayscale and microvascular imaging findings

Aladag Kurt S, Kayadibi Y, Onur I, Uslu Besli L, Necati Sanli A, Velidedeoglu M

Eur J Radiol. **2023;158:110643**

DOI: 10.1016/j.ejrad.2022.110643 | PMID: 36535079

Original paper

Breast

SMI



Added Value of the Vascular Index on Superb Microvascular Imaging for the Evaluation of Breast Masses: Comparison With Grayscale Ultrasound

Chae EY, Yoon GY, Cha JH, Shin HJ, Choi WJ, Kim HH

J Ultras Med. **2021;40(4):715-723**

DOI: 10.1002/jum.15441 | PMID: 32815564

Original paper

Breast

SMI



Reproducibility and diagnostic performance of the vascular index of superb microvascular imaging in real-time breast ultrasonography for evaluating breast masses

Lee EJ, Chang YW, Oh E, Hwang J, Kim HJ, Hong SS
Ultrasonography. 2021;40(3):398-406

DOI: 10.14366/usg.20153 | **PMID:** 33455154 | **PMCID:** PMC8217793

Review article

Breast

SMI



Translating new breast ultrasound techniques into clinical practice: evaluating their intended uses and describing other unexpected uses for them

Ong EMW
Transl Breast Cancer Res. 2023;4:23

DOI: 10.21037/tbcr-23-29 | **PMID:** 38751486 | **PMCID:** PMC11093072

Review article

Breast

SMI



Superb Microvascular Imaging for the Differentiation of Benign and Malignant Breast Lesions: A System Review and Meta-Analysis

Chen SH, Xiang XZ, Che PF, Hu B, Shui DY, Zhao Y, Wang L
J Ultrasound Med. 2023;42(7):1385-1399

DOI: 10.1002/jum.16159 | **PMID:** 36579829

Review article

Breast

SMI



Breast Ultrasound Microvascular Imaging and Radiogenomics

Park AY, Seo BK, Han MR
Korean J Radiol. 2021;22(5):677-687

DOI: 10.3348/kjr.2020.1166 | **PMID:** 33569931 | **PMCID:** PMC8076833

Original paper	Breast	SWE
	Correlation of shear-wave elastography parameters with the molecular subtype and axillary lymph node status in breast cancer Kim HJ, Kim HH, Choi WJ, Chae EY, Shin HJ, Cha JH <i>Clin Imaging. 2023;101:190-199</i>	
DOI: 10.1016/j.clinimag.2023.06.006 PMID: 37418896		

Original paper	Breast	SWE
	What shear wave elastography parameter best differentiates breast cancer and predicts its histologic aggressiveness? Kim H, Lee J, Kang BJ, Kim SH <i>Ultrasonography. 2021;40(2):265-273</i>	
DOI: 10.14366/usg.20007 PMID: 32660207 PMCID: PMC7994732		

Original paper	Breast	SWE
	US-Elastography for Breast Lesion Characterization: Prospective Comparison of US BIRADS, Strain Elastography and Shear wave Elastography Cantisani V, David E, Barr RG, Radzina M, de Soccio V, Elia D, De Felice C, Pediconi F, Gigli S, Occhiato R, Messineo D, Fresilli D, Ballesio L, D'Ambrosio F <i>Ultraschall Med. 2021;42(05):533-540</i>	
DOI: 10.1055/a-1134-4937 PMID: 32330993		

Original paper	Breast	Strain Elastography
	Can strain US-elastography with strain ratio (SRE) improve the diagnostic accuracy in the assessment of breast lesions? Elia D, Fresilli D, Pacini P, Cardaccio S, Polti G, Guiban O, Celletti I, Kutrolli E, De Felice C, Occhiato R, De Vito C, Amabile MI, De Luca A, D'Andrea V, Vergine M, Pediconi F, D'Ambrosio F, Cantisani V <i>J Ultrasound. 2021;24(2):157-163</i>	
DOI: 10.1007/s40477-020-00505-3 PMID: 32651770 PMCID: PMC8137748		

Original paper

Breast

MicroPure



Clinical Utility of MicroPure US Imaging for Breast Microcalcifications

Lee H, Kim SH, Kang BJ, Lee JM
J Korean Soc Radiol. 2022;83(4):876-886

DOI: 10.3348/jksr.2021.0082 | **PMID:** 36238918 | **PMCID:** PMC9550630

Case report

Breast

Fusion



Virtual Navigator Real-Time Ultrasound Fusion Imaging with Positron Emission Tomography/Computed Tomography for Preoperative Breast Cancer

Mori M, Kubota K, Fujioka T, Katsuta L, Yashima Y, Nomura K, Yamaga E, Tsuchiya J, Hosoya T, Oda G, Nakagawa T, Onishi I, Tateishi U
Medicina. 2021;57(12):1289

DOI: 10.3390/medicina57121289 | **PMID:** 34946234 | **PMCID:** PMC8707204

Original paper

Breast



Use of High-Resolution Ultrasound in Characterizing a Breast Implant and Detecting a Rupture of the Device

Nam SE, Bang BS, Lee EK, Sung JY, Song KY, Yoo YB, Park DW, Kim JH
Plast Reconstr Surg. 2023;152(1):39-43

DOI: 10.1097/prs.00000000000010201 | **PMID:** 36688630

Original paper

Breast



Semiannual Breast US or MRI Screening in Patients with a Personal History of Breast Cancer

Ha SM, Lee JM, Kim SO, Moon WK, Chang JM
Radiology 2023; 307(5):e221660

DOI: 10.1148/radiol.221660 | **PMID:** 37158719

Original paper

Breast



Primary neuroendocrine carcinomas of the breast and neuroendocrine differentiated breast cancers: Relationship between histopathological and radiological features

Kayadibi Y, Erginoz E, Cavus GH, Kurt SA, Ozturk T, Velidedeoglu M
Eur J Radiol. **2022;147:110148**

DOI: 10.1016/j.ejrad.2021.110148 | PMID: 35007984

Original paper

Breast



Glandular Tissue Component and Breast Cancer Risk in Mammographically Dense Breasts at Screening Breast US

Lee SH, Ryu HS, Jang MJ, Yi A, Ha SM, Kim SY, Chang JM, Cho N, Moon WK
Radiology. **2021;301(1):57-65**

DOI: 10.1148/radiol.2021210367 | PMID: 34282967

Original paper

Uterus

CEUS



Evaluation of Uterine Fibroid Vascularity Using Contrast-Enhanced Ultrasound in Comparison with Contrast-Enhanced Magnetic Resonance Imaging

Machado P, Tan A, Forsberg F, Gonsalves CF
Ultrasound Med Biol. **2024;50(3):394-398**

DOI: 10.1016/j.ultrasmedbio.2023.11.012 | PMID: 38123378

Original paper

Uterus

CEUS



Contrast-Enhanced Ultrasound and High Sensitive Doppler for Monitoring Outcomes of Uterine Artery Embolization

Machado P, Gillmore K, Tan A, Gonsalves C, Forsberg F
Acad Radiol. **2023;30 (2):S211-S219**

DOI: 10.1016/j.acra.2023.04.021 | PMID: 37330354

Original paper

Uterus

SMI



Novel application to evaluate endometrial blood flow using transvaginal superb microvascular imaging: A preliminary study describing physiological changes from ovulation to mid-luteal phase

Mitao H, Yoshizato T, Fujita T, Fukagawa M, Nakashima A, Horinouchi T, Ushijima K

***Acta Obstet Gynecol Scand.* 2023;102(7):914-920**

DOI: 10.1111/aogs.14585 | **PMID:** 37194424 | **PMCID:** PMC10333658

Original paper

Uterus

SMI



Ectopic uterine cervical ripening dilator

Hasegawa J, Nishimura Y, Saji S

***J Med Ultrason.* 2024;51(1):145-146**

DOI: 10.1007/s10396-023-01361-4 | **PMID:** 37715881

Original paper

Uterus

SMI



Potential diagnostic value of quantitative superb microvascular imaging in premalignant and malignant cervical lesions

Zhu Y, Tang Y, Jiang Z, Zhang J, Jia S, Li Y, Luo X, Kato T, Zhang G

***Front Oncol.* 2023;13:1250842**

DOI: 10.3389/fonc.2023.1250842 | **PMID:** 37692857 | **PMCID:** PMC10492516

Original paper

Cervix

SMI



Ultrasound Microvessel Visualization in Cervical Cancer: Association Between Novel Ultrasound Techniques and Histologic Microvessel Densities

Zhong J, Huang L, Su M, Wu M, Lin X, Shui X, Jiang Y, Zhang X

***Ultrasound Med Biol.* 2023;49(12):2537-2547**

DOI: 10.1016/j.ultrasmedbio.2023.08.017 | **PMID:** 37730477

Original paper

Cervix

SWE



Reliability of shear-wave elastography (SWE) for investigating cervix elastic properties in normal and benign pathological situations

Castro L, García-Mejido JA, Holgado A, García R, Fernández-Palacín A, Sainz JA

***Clin. Exp. Obstet. Gynecol.* 2021;48(3):583–589**

DOI: 10.31083/j.ceog.2021.03.2420

Original paper

Cervix

SWE



Shear Wave Elastography of the Maternal Cervix: A Comparison of Transvaginal and Transabdominal Ultrasound Approaches

O'Hara S, Zelesco M, Sun Z

***J Ultras Med.* 2021;40(4):701–712**

DOI: 10.1002/jum.15440 | **PMID:** 32830896

Observational study

Ovary



Diagnostic performance of ultrasound in assessing the extension of disease in advanced ovarian cancer

Moruzzi MC, Bolomini G, Esposito R, Mascilini F, Ciccarone F, Quagliozzi L, Giudice MT, Beneduce G, Ficarelli S, Moroni R, Scambia G, Fagotti A, Testa AC, Moro F

***Am J Obstet Gynecol.* 2022;227(4):601.e1–601.e20**

DOI: 10.1016/j.ajog.2022.05.029 | **PMID:** 35752305

Original paper

Ovary

Fusion



Fusion imaging in preoperative assessment of extent of disease in patients with advanced ovarian cancer: feasibility and agreement with laparoscopic findings

Moro F, Bertoldo V, Avesani G, Moruzzi MC, Mascilini F, Bolomini G, Caliolo G, Esposito R, Moroni R, Zannoni GF, Fagotti A, Manfredi R, Scambia G, Testa AC

***Ultrasound Obstet Gynecol.* 2021;58(6):916–925**

DOI: 10.1002/uog.23650 | **PMID:** 33847427



Ultrasound-guided targeted biopsies of CT-based radiomic tumour habitats: technical development and initial experience in metastatic ovarian cancer

Beer L, Martin-Gonzalez P, Delgado-Ortet M, Reinius M, Rundo L, Woitek R, Ursprung S, Escudero L, Sahin H, Funingana IG, Ang JE, Jimenez-Linan M, Lawton T, Phadke G, Davey S, Nguyen NQ, Markowitz F, Brenton JD, Crispin-Ortuzar M, Addley H, Sala E
Eur Radiol. 2021;31:3765–3772

DOI: 10.1007/s00330-020-07560-8 | **PMID:** 33315123 | **PMCID:** PMC8128813



Strategies for Safe and Effective Core Needle Biopsy of Thyroid Nodules with Macrocalcification

Shin JH
Int J Thyroidol 2023;16(2):195-199

DOI: 10.11106/ijt.2023.16.2.195



Obstetric imaging

Original paper

Placenta

SMI, SWE



Evaluation of placenta in patients with gestational diabetes using shear wave elastography and superb microvascular imaging

Çelik AO, Günay B, Çoker GB, Ustabaşioğlu FE, Ateş S, Tunçbilek N
Acta Radiol. 2024;65(3):318-323

DOI: 10.1177/02841851231217201 | PMID: 38111238

Case report

Placenta

SMI



Superb Micro-Vascular Imaging in Prenatal Ultrasound Diagnosis of Placental Infarction: A Case Report

Wu YZ, Song QY
Int J Womens Health. 2024;16:325-330

DOI: 10.2147/ijwh.s440522 | PMID: 38444592 | PMCID: PMC10913809

Original paper

Placenta

SMI



Superb Microvascular Imaging Generation 4 for Demonstration of Placental Microvasculature

Hata T, Kawahara T, Koyanagi A, Takayoshi R, Miyake T
Donald School J Ultrasound Obstet Gynecol. 2023;17(2):109-111

DOI: 10.5005/jp-journals-10009-1978

Original paper

Placenta

SMI



Longitudinal assessment of spiral and uterine arteries in normal pregnancy using novel ultrasound tool

Horgan R, Sinkovskaya E, Saade G, Kalafat E, Rice MM, Heeze A, Abuhamad A
Ultrasound Obstet Gynecol. 2023;62(6):860-866

DOI: 10.1002/uog.26312 | PMID: 37470712

Original paper

Placenta

SMI



Assessment of late on-set fetal growth restriction using SMI (superb microvascular imaging) Doppler

Garcia-Jimenez R, Borrero González C, García-Mejido JA, Fernández-Palacín A, Robles A, Sosa F, Sainz-Bueno JA
Quant Imaging Med Surg. 2023;13(7):4305-4312

DOI: 10.21037/qims-22-807 | PMID: 37456297 | PMCID: PMC10347324

Original paper

Placenta

SMI



Intra- and Interobserver Reliability of Superb Microvascular Imaging (SMI) Doppler for Assessing Placental Microvasculature

Garcia-Jimenez R, García-Mejido JA, Valero I, Fernandez-Palacin A, Borrero C, Sainz-Bueno JA
Clin Exp Obstet Gynecol. 2022;49(8):177

DOI: 10.31083/j.ceog4908177

Case report

Placenta

SMI



Ultrasound features of placental chorioangioma detected by SMI technology before and after thrombosis of feeding vessels: analysis of a clinical case

Bastonero S, Sciarrone A, Galtarossa G, Pertusio A, Dusini I, Botta G, Benedetto C
Perinatal Journal 2022;30(2):200-205

DOI: 10.2399/prn.22.0302007

Case report

Placenta

SMI



Missing decidual Doppler signals as a new diagnostic criterion for placenta accreta spectrum: A case described using superb microvascular imaging

Horinouchi T, Yoshizato T, Kojiro-Sanada S, Kozuma Y, Yokomine M, Ushijima K
J Obstet Gynaecol Res. 2021;47(1):411-415

DOI: 10.1111/jog.14441 | PMID: 32830398

Case report

Placenta

SMI



Sono-embryological assessments of a true knot that developed into a hypercoiled cord and circumvallate placenta

Hasegawa J, Furuya N, Doi M, Sasaki T, Takagi M, Suzuki N
J Matern Fetal Neonatal Med. 2021;34(24):4162-4166

DOI: 10.1080/14767058.2019.1704247 | **PMID:** 31885291

Original paper

Placenta

SWE



Relationship between placental elastography, maternal pre-pregnancy body mass index and gestational weight gain

Edwards C, Cavanagh E, Kumar S, Clifton VL, Borg DJ, Priddle J, Marie-Luise W, Drovandi C, Fontanarosa D
Placenta. 2022;121:1-6

DOI: 10.1016/j.placenta.2022.02.015 | **PMID:** 35245719

Original paper

Placenta

SWE



Changes in placental elastography in the third trimester - Analysis using a linear mixed effect model

Edwards C, Cavanagh E, Kumar S, Clifton VL, Borg DJ, Priddle J, Wille ML, Drovandi C, Fontanarosa D
Placenta. 2021;114:83-89

DOI: 10.1016/j.placenta.2021.09.001 | **PMID:** 34500214

Case report

Placenta

ATI



Attenuation imaging as a new ultrasonographic application for identifying placental haematoma

Yamaguchi M, Umazume T, Noshiro K, Watari H
BMJ Case Reports. 2021;14(3):e239287

DOI: 10.1136/bcr-2020-239287 | **PMID:** 33653845 | **PMCID:** PMC7929843

Original paper

Placenta

33 MHz



Histological assessment of the placenta accreta spectrum diagnosed with a 33 MHz linear probe during Cesarean section

Hasegawa J, Furuya N, Doi M, Koike J, Homma C, Nieda M, Nishimura Y, Suzuki N

Ultrasound Med Biol. 2022;48(6):1151-1156

DOI: 10.1016/j.ultrasmedbio.2022.02.010 | PMID: 35331578

Original paper

Placenta



Prediction of perinatal survival in early-onset fetal growth restriction: role of placental growth factor

Rodríguez-Calvo J, Villalaláin C, Gómez-Arriaga PI, Quezada MS, Herraiz I, Galindo A

Ultrasound Obstet Gynecol. 2023;61(2):181-190

DOI: 10.1002/uog.26116 | PMID: 36370447 | PMCID: PMC10107431

Original paper

Placenta



Lower uterine segment scar assessment at 11-14 weeks' gestation to screen for placenta accreta spectrum in women with prior Cesarean delivery

Bhatia A, Palacio M, Wright AM, Yeo GSH

Ultrasound Obstet Gynecol. 2022;59(1):40-48

DOI: 10.1002/uog.23734 | PMID: 34254386

Original paper

Obstetrics

SWE



Evaluation of levator ani muscle elasticity after vaginal delivery and cesarean section using shear wave elastography

Okada Y, Nakagawa C, Shigeta M, Nomura Y, Inoue E, Ichizuka K, Yoshimura Y

J Med Ultrason. 2024;51(1):95-101

DOI: 10.1007/s10396-023-01369-w | PMID: 37740863 | PMCID: PMC10904486

Case report

Obstetrics



Unraveling the enigma: A case of dynamic morphological changes in the niche at 25 weeks of gestation recapitulating the ontogenesis of uterine scar dehiscence

Muto M, Kurokawa Y, Horinouchi T, Yokomine M, Yoshizato T, Tsuda N
J Clin Ultrasound. 2023;51(7):1179-1181

DOI: 10.1002/jcu.23534 | **PMID:** 37571810

Original paper

Obstetrics



Hepatic arterial buffer response in monochorionic diamniotic pregnancies with twin-to-twin transfusion syndrome

Cruz JJ, Bernardeco J, Cohen A, Serrano F
J Perinat Med. 2022;51(4):517-523

DOI: 10.1515/jpm-2022-0322 | **PMID:** 36279268

Case report

Obstetrics

SMI



Discrimination of fetal intracranial mass and hemorrhage via superb microvascular imaging in a case and review of literature

Ateş F, Sara Hİ, Durmaz MS
Aegean J Obstet Gynecol. 2021;3(1):22-4

DOI: 10.46328/aejog.v3i1.62

Letter

Obstetrics

Doppler



Prenatal diagnosis and therapeutic management of giant intrathoracic foregut duplication cyst

Raia-Barjat T, Scalabre A, Giraud A, Varlet F, Guibaud L, Massoud M
Ultrasound Obstet Gynecol. 2022;59(5):689-692

DOI: 10.1002/uog.24773 | **PMID:** 34529296

Review article

Obstetrics



How to do a second trimester anomaly scan

Carmen Prodan N, Hoopmann M, Jonaityte G, Oliver Kagan K
Arch Gynecol Obstet. 2023;307(4):1285-1290

DOI: 10.1007/s00404-022-06569-2 | PMID: 35543741 | PMCID: PMC10023640

Review article

Obstetrics



Hemodynamic pathways of gestational hypertension and preeclampsia

Gyselaers W
Am J Obstet Gynecol. 2022;226(2S):S988-S1005

DOI: 10.1016/j.ajog.2021.11.022 | PMID: 35177225

Original paper

Maternal

SMI



Evaluation of the thyroid gland vascularity during pregnancy using 2-dimensional color Superb Microvascular Imaging vascularization index technique

Ates F, Topaloglu ÖF, Secilmis O, Aktas G, Ozler S, Durmaz MS, Koplay M
Eur J Obstet Gynecol Reprod Biol. 2024;296:316-320

DOI: 10.1016/j.ejogrb.2024.03.017 | PMID: 38518486

Original paper

Maternal

MPI



Maternal cardiac function in twin pregnancy at 19-23 weeks' gestation

Nunez E, Huluta I, Gallardo Arozena M, Wright A, Nicolaidis KH, Charakida M
Ultrasound Obstet Gynecol. 2022;59(5):627-632

DOI: 10.1002/uog.24857 | PMID: 35020248

Original paper

Maternal

Doppler



Ophthalmic artery Doppler in combination with other biomarkers in prediction of pre-eclampsia at 19-23 weeks' gestation

Sapantzoglou I, Wright A, Arozena MG, Campos RV, Charakida M, Nicolaides KH
Ultrasound Obstet Gynecol. **2021;57(1):75-83**

DOI: 10.1002/uog.23528 | **PMID:** 33142353

Original paper

Fetal Echo

Doppler



Single left superior vena cava: antenatal diagnosis, associated anomalies and outcomes

Lopes KRM, Bartsota M, Doughty V, Carvalho JS
Ultrasound Obstet Gynecol. **2022;60(5):640-645**

DOI: 10.1002/uog.24966 | **PMID:** 35656845 | **PMCID:** PMC9828089

Original paper

Fetal echo

Doppler



Reference Ranges for Pulsed-Wave Doppler of the Fetal Cardiac Inflow and Outflow Tracts from 13 to 36 Weeks' Gestation

Zidere V, Vigneswaran TV, Syngelaki A, Charakida M, Allan LD, Nicolaides KH, Simpson JM, Akolekar R
J Am Soc Echocardiogr. **2021;34(9):1007-1016.e10**

DOI: 10.1016/j.echo.2021.04.017 | **PMID:** 33957251

Original paper

Fetal echo

WMT



Deficient Myocardial Organization and Pathological Fibrosis in Fetal Aortic Stenosis-Association of Prenatal Ultrasound with Postmortem Histology

Zwanenburg F, DeRuiter MC, Wisse LJ, van Munsteren CJ, Bartelings MM, Goumans MJ, Ten Harkel ADJ, Jongbloed MRM, Haak MC
J Cardiovasc Dev Dis. **2021;8(10):121**

DOI: 10.3390/jcdd8100121 | **PMID:** 34677190 | **PMCID:** PMC8540431

Original paper

Fetal echo

MPI



Cardiac time intervals and myocardial performance index for prediction of twin-twin transfusion syndrome

Gijtenbeek M, Eschbach SJ, Middeldorp JM, Klumper FJCM, Slaghekke F, Oepke D, Haak MC

Prenat Diagn. 2021;41(12):1498-1503

DOI: 10.1002/pd.5981 | PMID: 34107089 | PMCID: PMC9292435

Original paper

Fetal echo

TDI



Assessment of human fetal cardiac autonomic nervous system development using color tissue Doppler imaging

Zwanenburg F, Jongbloed MRM, van Geloven N, Ten Harkel ADJ, van Lith JMM, Haak MC

Echocardiography. 2021;38(6):974-981

DOI: 10.1111/echo.15094 | PMID: 34018638 | PMCID: PMC8252470

Case report

Fetal echo

SMI



A case of ventricular noncompaction associated with heterotaxy and atrioventricular block diagnosed at 15 weeks of gestation using superb microvascular imaging

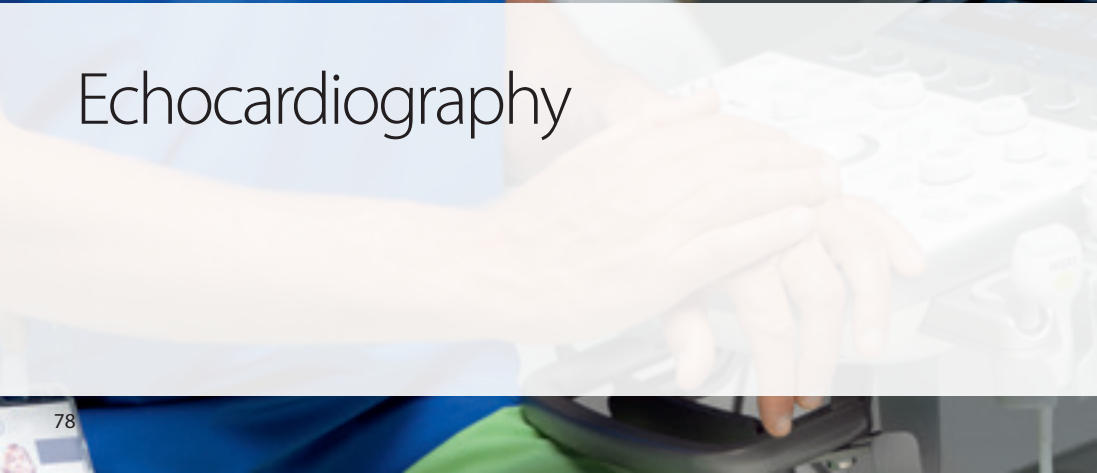
Muto M, Horinouchi T, Maeno Y, Yoshizato T, Mihara Y, Kusano H, Shimomura T, Sakamoto Y, Ushijima K

J Obstet Gynaecol Res. 2022;48(7):1983-1988

DOI: 10.1111/jog.15276 | PMID: 35491084



Echocardiography



Original paper

Heart

Auto EF LV



Artificial intelligence-assisted interpretation of systolic function by echocardiogram

Yamaguchi N, Kosaka Y, Haga A, Sata M, Kusunose K
Open Heart. 2023;10(2):e002287

DOI: 10.1136/openhrt-2023-002287 | PMID: 37460267 | PMCID: PMC10357654

Original paper

Heart

WMT



Current clinical use of speckle-tracking strain imaging: insights from a worldwide survey from the European Association of Cardiovascular Imaging (EACVI)

Sade LE, Joshi SS, Cameli M, Cosyns B, Delgado V, Donal E, Edvardsen T, Carvalho RF, Manka R, Podlesnikar T, Popescu BA, Hanzevacki JS, Sitges M, Dweck MR
Eur Heart J Cardiovasc Imaging. 2023;24(12):1583-1592

DOI: 10.1093/ehjci/jead170 | PMID: 37463125

Original paper

Heart

WMT



3D Atrial Strain for Predicting Recurrence of Atrial Fibrillation after Pulmonary Vein Isolation

Krizanovic-Grgic I, Anwer S, Steffel J, Hofer D, Saguner AM, Spengler CM, Breitenstein A, Tanner FC
J Clin Med. 2023;12(11):3696

DOI: 10.3390/jcm12113696 | PMID: 37297892 | PMCID: PMC10253337

Original paper

Heart

WMT



Exercise-induced myocardial T1 increase and right ventricular dysfunction in recreational cyclists: a CMR study

Ghekiere O, Herbots L, Peters B, Berg BV, Dresselaers T, Franssen W, Padovani B, Ducreux D, Ferrari E, Nchimi A, Demanez S, De Bosscher R, Willems R, Heidebuchel H, La Gerche A, Claessen G, Bogaert J, Eijnde BO
Eur J Appl Physiol. 2023;123(10):2107-2117

DOI: 10.1007/s00421-023-05259-4 | PMID: 37480391 | PMCID: PMC10492712

Original paper

Heart

WMT



The use of 2-D speckle tracking echocardiography in differentiating healthy adolescent athletes with right ventricular outflow tract dilation from patients with arrhythmogenic cardiomyopathy

Dorobantu DM, Riding N, McClean G, de la Garza MS, Abuli-Lluch M, Sharma C, Duarte N, Adamuz MC, Watt V, Hamilton RM, Ryding D, Perry D, McNally S, Stuart AG, Sitges M, Oxborough DL, Wilson M, Friedberg MK, Williams CA, Pieleś GE
Int J Cardiol. **2023;382:98-105**

DOI: 10.1016/j.ijcard.2023.04.001 | PMID: 37030404

Original paper

Heart

WMT



The use of 2-D speckle tracking echocardiography in assessing adolescent athletes with left ventricular hypertrabeculation meeting the criteria for left ventricular non-compaction cardiomyopathy

Dorobantu DM, Radulescu CR, Riding N, McClean G, de la Garza MS, Abuli-Lluch M, Duarte N, Adamuz MC, Ryding D, Perry D, McNally S, Stuart AG, Sitges M, Oxborough DL, Wilson M, Williams CA, Pieleś GE
Int J Cardiol. **2023;371:500-507**

DOI: 10.1016/j.ijcard.2022.09.076 | PMID: 36216087

Original paper

Heart

WMT



Quality Assurance of Segmental Strain Values Provided by Commercial 2-D Speckle Tracking Echocardiography Using in Silico Models: A Report from the EACVI-ASE Strain Standardization Task Force

Røsner A, Alessandrini M, Kjørnås D, Mirea O, Queirós S, Hooge JD
Ultrasound Med Biol. **2021;47(11):3079-3089**

DOI: 10.1016/j.ultrasmedbio.2021.07.011 | PMID: 34392996

Original paper

Heart

WMT



Characterisation of LV myocardial exercise function by 2-D strain deformation imaging in elite adolescent footballers

Pieleś GE, Gowing L, Ryding D, Perry D, McNally SR, Stuart AG, Williams CA
Eur J Appl Physiol. **2021;121(1):239-250**

DOI: 10.1007/s00421-020-04510-6 | PMID: 33030575 | PMCID: PMC7815563



Left atrial regional strain assessed by novel dedicated three-dimensional speckle tracking echocardiography

Kuraoka A, Ishizu T, Sato M, Igarashi M, Sato K, Yamamoto M, Machino-Ohtsuka T, Ieda M

J Cardiol. 2021;78(6):517-523

DOI: 10.1016/j.jjcc.2021.07.002 | PMID: 34334266



Efficacy of shear wave elastography for evaluating right ventricular myocardial fibrosis in monocrotaline-induced pulmonary hypertension rats

Nakayama R, Takaya Y, Nakamura K, Kondo M, Kobayashi K, Ohno Y, Amioka N, Akagi S, Yoshida M, Miyoshi T, Ito H

J Cardiol. 2021;78(1):17-23

DOI: 10.1016/j.jjcc.2021.01.015 | PMID: 33568315



Case series of mobile structures detected vividly by using superb microvascular imaging

Demura Y, Amano M, Yanagi Y, Mizumoto A, Jo Y, Izumi C

Eur Heart J Case Rep. 2022;6(10):ytac411

DOI: 10.1093/ehjcr/ytac411 | PMID: 36329863 | PMCID: PMC9617476



ST-Segment Elevation During Percutaneous Left Atrial Appendage Closure

Shoji T, Sato Y, Togashi D, Kuwata S, Izumo M, Harada T, Akashi YJ

JACC Case Rep. 2024;29(4):102216

DOI: 10.1016/j.jaccas.2023.102216 | PMID: 38379648 | PMCID: PMC10874982

Original paper **Heart**



Results of a focused cardiac ultrasound program conducted by neurologists within a stroke care network with cardiac imaging units

López-Dequidt I, Martínez-Monzonis A, Peña-Gil C, González-Maestro A, González-Salvado V, Rodríguez-Castro E, Santamaría-Cadavid M, Arias-Rivas S, Rodríguez-Yáñez M, Prieto González JM, González-Juanatey JR
Rev Esp Cardiol. **2023;76(2):103-111**

DOI: 10.1016/j.rec.2022.06.014 | **PMID:** 36038123

Original paper **Heart**

Stress Echo



A new protocol for a single-stage combined cardiopulmonary and echocardiography exercise test: a pilot study

Dorobantu DM, Wadey CA, Berryman B, Amir NH, Forsythe L, Stuart AG, Pieles GE, Williams CA
Eur Heart J - Imaging Methods Practice. **2024;2(1):qyae021**

DOI: 10.1093/ehjimp/qyae021

Review article **Heart**

Stress Echo



Clinical course and decision-making in heart failure by preload stress echocardiography: a preliminary study

Kusunose K, Yamada H, Saijo Y, Nishio S, Hirata Y, Ise T, Yamaguchi K, Fukuda D, Yagi S, Soeki T, Wakatsuki T, Sata M
ESC Heart Fail. **2022;9(6):4020-4029**

DOI: 10.1002/ehf2.14127 | **PMID:** 36017722 | **PMCID:** PMC9773745

Case report **Heart**

Fusion



Multiple Late Complications After Takeuchi Repair of Anomalous Left Coronary Artery From the Pulmonary Artery

Yokohama F, Toh N, Kotani Y, Watanabe N, Takaya Y, Akagi T, Kasahara S, Ito H
JACC Case Rep. **2021;3(5):731-735**

DOI: 10.1016/j.jaccas.2021.02.035 | **PMID:** 34317615 | **PMCID:** PMC8311193

Original paper

Congenital heart

WMT, SWE



Interplay between right atrial function and liver stiffness in adults with repaired right ventricular outflow obstructive lesions

Li VWY, So EKF, Li W, Chow PC, Cheung YF

Eur Heart J Cardiovasc Imaging. 2021;22(11):1285-1294

DOI: 10.1093/ehjci/jeaa344 | **PMID:** 33367540

Original paper

Congenital heart

Fusion



Usefulness of cardiac fusion imaging with computed tomography and Doppler echocardiography in the assessment of conduit stenosis in complex adult congenital heart disease

Watanabe N, Toh N, Takaya Y, Nakayama R, Yokohama F, Osawa K, Miyoshi T, Akagi T, Kanazawa S, Ito H

J Cardiol. 2021;78(6):473-479

DOI: 10.1016/j.jjcc.2021.06.008 | **PMID:** 34266716

Review article

Congenital heart

Fusion



Evolution of echocardiography in adult congenital heart disease: from pulsed-wave Doppler to fusion imaging

Toh N, Akagi T, Kasahara S, Ito H

J Echocardiogr. 2021;19(4):205-211

DOI: 10.1007/s12574-021-00533-w | **PMID:** 34047950



Vascular imaging



Study on the Consistency of Angiogenesis in Carotid Plaque Evaluated by Contrast-Enhanced Ultrasound and Superb Microvascular Imaging and Its Correlation With Stroke Occurrence

Li M, Guo R
J Ultrasound Med. 2024;43(4):771-779

DOI: 10.1002/jum.16409 | PMID: 38205964



The differences between carotid web and carotid web with plaque: based on multimodal ultrasonic and clinical characteristics

Hou C, Li S, Zhang L, Zhang W, He W
Insights Imaging. 2024;15(1):78

DOI: 10.1186/s13244-024-01650-7 | PMID: 38499954 | PMCID: PMC10948691



Diagnostic accuracy of superb microvascular imaging for detecting intraplaque neovascularization: a systematic review and meta-analysis

Zhao L, Han Y, Che Y, Zhang X, Luo M, Li J
Cardiovasc Diagn Ther. 2023;13(5):893-905

DOI: 10.21037/cdt-23-202 | PMID: 37941846 | PMCID: PMC10628429



Multimodal ultrasound-based carotid plaque risk biomarkers predict poor functional outcome in patients with ischemic stroke or TIA

Cheng L, Zheng S, Zhang J, Wang F, Liu X, Zhang L, Chen Z, Cheng Y, Zhang W, Li Y, He W
BMC Neurol. 2023;23(1):13

DOI: 10.1186/s12883-023-03052-6 | PMID: 36631804 | PMCID: PMC9835263

Original paper	Carotid	SMI, CEUS
	The Value of Superb Microvascular Imaging and Contrast-enhanced Ultrasound for the Evaluation of Neovascularization in Carotid Artery Plaques Guo Y, Wang X, Wang L, Wei X, Duan Y, Yang X, Zhang M, Zhao B <i>Acad Radiol.</i> 2023;30(3):403-411	

DOI: 10.1016/j.acra.2022.08.001 | PMID: 36123231

Original paper	Carotid	SMI, SWE
	Advance ultrasound techniques for the assessment of plaque vulnerability in symptomatic and asymptomatic carotid stenosis: a multimodal ultrasound study Li Y, Zheng S, Zhang J, Wang F, Liu X, He W <i>Cardiovasc Diagn Ther.</i> 2021;11(1):28-38	

DOI: 10.21037/cdt-20-876 | PMID: 33708475 | PMCID: PMC7944195

Original paper	Carotid	SMI
	Relationship between fibroblast growth factor in plasma and carotid plaque neovascularization: a pilot study Zamani M, Skagen K, Lindberg B, Bjerkeli V, Aukrust P, Halvorsen B, Skjelland M <i>Front Immunol.</i> 2024;15:1385377	

DOI: 10.3389/fimmu.2024.1385377 | PMID: 38711510 | PMCID: PMC11070475

Original paper	Carotid	SMI
	Value of carotid intima thickness in assessing advanced carotid plaque vulnerability: a study based on carotid artery ultrasonography and carotid plaque histology Zhao YC, Zhang J, Wang F, He YM, Xu MJ, Wang DH, Zhang M <i>Quant Imaging Med Surg.</i> 2024;14(2):1994-2007	

DOI: 10.21037/qims-23-1193 | PMID: 38415155 | PMCID: PMC10895139

Original paper

Carotid

SMI



Clinical study of carotid superb microvascular imaging in evaluating the activity of Takayasu's arteritis

Liu FJ, Ci WP, Cheng Y

Front Cardiovasc Med. 2023;10:1051862

DOI: 10.3389/fcvm.2023.1051862 | **PMID:** 36950292 | **PMCID:** PMC10025289

Original paper

Carotid

SMI



Assessment of Carotid Body Tumors by Superb Microvascular Imaging of Feeding Arteries During Preoperative Evaluation

Gao L, Zhang X, Jiang Y, Wang H, Zheng Y, Li W, Li J, Zhang B

Front Surg. 2022;9:816768

DOI: 10.3389/fsurg.2022.816768 | **PMID:** 35558392 | **PMCID:** PMC9090302

Original paper

Carotid

SMI



Carotid Ultrasound Using Superb Microvascular Imaging to Identify Patients Developing In-Stent Restenosis After CAS

Hagiwara Y, Takao N, Usuki N, Yoshie T, Takaishi S, Shimizu T, Ueda T, Hasegawa Y, Yamano Y

J Stroke Cerebrovasc Dis. 2022;31(8):106627

DOI: 10.1016/j.jstrokecerebrovasdis.2022.106627 | **PMID:** 35797762

Original paper

Carotid

SMI



Assessment of neovascularization of carotid artery atherosclerotic plaques using superb microvascular imaging: a comparison with contrast-enhanced ultrasound imaging and histology

Meng Q, Xie X, Li L, Jiang C, Zhao K, Bai Z, Zheng Z, Yang Y, Yu Y, Zhang H, Zhao X

Quant Imaging Med Surg. 2021;11(5):1958-1969

DOI: 10.21037/qims-20-933 | **PMID:** 33936978 | **PMCID:** PMC8047364

Original paper

Carotid

SMI



Superb Microvascular Imaging Ultrasound for Cervical Carotid Artery Stenosis for Prediction of the Development of Microembolic Signals on Transcranial Doppler during Carotid Exposure in Endarterectomy

Chiba T, Fujiwara S, Oura K, Oikawa K, Chida K, Kobayashi M, Yoshida K, Kubo Y, Maeda T, Itabashi R, Ogasawara K

Cerebrovasc Dis Extra. 2021; 11(2): 61-68

DOI: 10.1159/000516426 | **PMID:** 34034253 | **PMCID:** PMC8215948

Meta-analysis

Carotid

SMI



Detection of Carotid Atherosclerotic Intraplaque Neovascularization Using Superb Microvascular Imaging: A Meta-Analysis

Song Y, Xing H, Zhang Z, Felix LO

J Ultrasound Med. 2021;40(12):2629-2638

DOI: 10.1002/jum.15652 | **PMID:** 33587302

Review article

Carotid

SMI



Progress of Ultrasound Techniques in the Evaluation of Carotid Vulnerable Plaque Neovascularization

Zeng P, Zhang Q, Liang X, Zhang M, Luo D, Chen Z

Cerebrovasc Dis. 2023;1-9

DOI: 10.1159/000534372 | **PMID:** 37812915

Review article

Carotid

SMI



Effect of pharmacologic anti-atherosclerotic therapy on carotid intraplaque neovascularization: A systematic review

Cui E, Kersche G, Grubic N, Hétu MF, Pang SC, Sillesen H, Johri AM

J Clin Lipidol. 2023;17(3):315-326

DOI: 10.1016/j.jacl.2023.04.009 | **PMID:** 37173161

Original paper **Carotid** IMT



Differential value of intima thickness in ischaemic stroke due to large-artery atherosclerosis and small-vessel occlusion

Jin S, Zhang C, Zhang Y, Jia G, Zhang M, Xu M
J Cell Mol Med. 2021;25(19):9427-9433

DOI: 10.1111/jcmm.16884 | PMID: 34459107 | PMCID: PMC8500956

Original paper **Carotid** IMT



The Diagnostic Value of Radial and Carotid Intima Thickness Measured by High-Resolution Ultrasound for Ischemic Stroke

Xu M, Jin S, Li F, Jia G, Zhang C, Zhang M, Zhang Y
J Am Soc Echocardiogr. 2021;34(1):72-82

DOI: 10.1016/j.echo.2020.09.006 | PMID: 33121857

Original paper **Neurovascular** SMI



Ultrasonography monitoring with Superb Microvascular Imaging during cerebrovascular surgery

Ishikawa M, Uchiyama T, Okawa A, Soma N, Ikota M, Aoki K, Naritaka H, Kusaka G
Clin Neurol Neurosurg. 2024;238:108175

DOI: 10.1016/j.clineuro.2024.108175 | PMID: 38428059

Original paper **Miscellaneous** SMI



Ultrasound monitoring of microcirculation: An original study from the laboratory bench to the clinic

Aghabaglou F, Ainechi A, Abramson H, Curry E, Kaovasia TP, Kamal S, Acord M, Mahapatra S, Pustavoitau A, Smith B, Azadi J, Son JK, Suk I, Theodore N, Tyler BM, Manbachi A
Microcirculation. 2022;29(6-7):e12770

DOI: 10.1111/micc.12770 | PMID: 35611457 | PMCID: PMC9786257

Original paper

Aorta

SMI, CEUS



EVAR Follow-Up with Ultrasound Superb Microvascular Imaging (SMI) Compared to CEUS and CT Angiography for Detection of Type II Endoleak

Curti M, Piacentino F, Fontana F, Ossola C, Coppola A, Marra P, Basile A, Ierardi AM, Carrafiello G, Carcano G, Tozzi M, Piffaretti G, Venturini M
Diagnostics. 2022;12(2):526

DOI: 10.3390/diagnostics12020526 | **PMID:** 35204615 | **PMCID:** PMC8871225

Review article

Aorta

CEUS



Ultrasound Imaging of the Abdominal Aorta: A Comprehensive Review

Fadel BM, Mohty D, Kazzi BE, Alamro B, Arshi F, Mustafa M, Echahidi N, Aboyans V
J Am Soc Echocardiogr. 2021;34(11):1119-1136

DOI: 10.1016/j.echo.2021.06.012 | **PMID:** 34224827

Original paper

Vascular (animal model)

SWE



Classification of deep vein thrombosis stages using convolutional neural network of electromyogram with vibrotactile stimulation toward developing an early diagnostic tool: A preliminary study on a pig model

Kang JW, Kim KT, Park JW, Lee SJ
PLoS One. 2023;18(2):e0281219

DOI: 10.1371/journal.pone.0281219 | **PMID:** 36730258 | **PMCID:** PMC9894458

Original paper

Peripheral vascular

SMI



Utility of Superb Microvascular Imaging in the Assessment of Foot Perfusion in Patients with Critical Limb Ischemia

Suto Y, Sato W, Yamanaka T, Unuma M, Kobayashi Y, Aokawa M, Watanabe H
Diagnostics. 2022;12(11):2577

DOI: 10.3390/diagnostics12112577 | **PMID:** 36359422 | **PMCID:** PMC9689443



Diagnostic utility of superb microvascular imaging in depiction of corkscrew collaterals in Buerger's disease

Nas OF, Kandemirli SG, Erdemli Gursel B, Bilgin C, Korkmaz B, Yolgosteren A, Inecikli MF

J Clin Ultrasound. 2021; 49:129–134

DOI: 10.1002/jcu.22880 | **PMID:** 32557645



An advanced ultrasound application used to assess peripheral vascular diseases: superb microvascular imaging

Sato W, Suto Y, Yamanaka T, Watanabe H

J Echocardiogr. 2021; 19:150–157

DOI: 10.1007/s12574-021-00527-8 | **PMID:** 33856650



Veterinary studies

Case report

Pancreas

SMI



Ectopic insulinoma in a dog with insulin-induced hypoglycemia: a case report

Kim J, Hwang I, Kwon D, Park K, Yoon H
J Vet Sci. **2023;24(3):e39**

DOI: 10.4142/jvs.22328 | **PMID:** 37271507 | **PMCID:** PMC10244139

Case report

Heart

Doppler



Case report: Imaging features of aorta-right atrial tunnel in a dog using two-dimensional echocardiography and computed tomography

Kim G, Ji Y, Jeong HG, Lee T, Lee K, Yoon H
Front Vet Sci. **2023;10:1160390**

DOI: 10.3389/fvets.2023.1160390 | **PMID:** 37465274 | **PMCID:** PMC10352079

Original paper

Heart/Renal

CEUS



Sodium Glucose Co-Transporter 2 Inhibitors Improve Renal Congestion and Left Ventricular Fibrosis in Rats With Hypertensive Heart Failure

Nakatsukasa T, Ishizu T, Ouchi M, Murakoshi N, Sato K, Yamamoto M, Kawanishi K, Seo Y, Ieda M
Heart Failure. Circ J. **2022;86(12):2029-2039**

DOI: 10.1253/circj.cj-22-0105 | **PMID:** 35944977

Original paper

Liver

ATI



Feasibility of ultrasonographic hepatic parenchymal attenuation imaging in healthy Beagles

Lee Y, Kim M, Ko J, Kim J, Kim J, Eom K
Am J Vet Res. **2022;83(8):ajvr.21.11.0194**

DOI: 10.2460/ajvr.21.11.0194 | **PMID:** 35895791

Original paper

Liver

SWE



Effects of Confounding Factors on Liver Stiffness in
Two-Dimensional Shear Wave Elastography in Beagle Dogs

Cha J, Kim J, Ko J, Kim J, Eom K
Front Vet Sci. 2022;9:827599

DOI: 10.3389/fvets.2022.827599 | PMID: 35155659 | PMCID: PMC8830801



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