

## ● Subject Index to Volume 37

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please see <http://www.umbjournal.org/content/indices>

### 3D

**Synonyms:** 3-D, three dimensional, three-dimensional,  
3-dimensional

**Scopus Search:** 3D OR 3-D OR “three dimensional” OR three-  
dimensional OR 3-dimensional PubMed Search

Mamou J, Coron A, Oelze ML, Saegusa-Beecroft E, Hata M, Lee  
P, Machi J, Yanagihara E, Laugier P, Feleppa EJ. Three-  
Dimensional High-Frequency Backscatter and Envelope  
Quantification of Cancerous Human Lymph Nodes.  
37:345-357.

Jones NW, Raine-Fenning NJ, Bradley E, Bugg G. Placental 3-D  
Power Doppler Angiography - Regional Variation and  
Reliability of Two Ultrasonic Sphere Biopsy Techniques.  
37:364-375.

Jones NW, Raine-Fenning NJ, Mousa HA, Bradley E, Bugg GJ.  
Evaluating the Intra- and Interobserver Reliability of Three-  
Dimensional Ultrasound and Power Doppler Angiography  
(3D-PDA) for Assessment of Placental Volume and  
Vascularity in the Second Trimester of Pregnancy.  
37:376-385.

Housden RJ, Chen L, Gee AH, Treece GM, Uff C, Fromageau J,  
Garcia L, Prager RW, Dorward NL, Bamber JC. A New  
Method for the Acquisition of Ultrasonic Strain Image  
Volumes. 37:434-441.

Bozsa S, Poto L, Bodis J, Halvax L, Koppan M, Arany A,  
Csermely T, Vizer MG. Assessment of Postoperative Postvoid  
Residual Bladder Volume Using Three-Dimensional  
Ultrasound Volumetry. 37:522-529.

Moon WK, Shen YW, Huang CS, Chiang LR, Chang RF.  
Computer-Aided Diagnosis for the Classification of Breast  
Masses in Automated Whole Breast Ultrasound Images.  
37:539-548.

Leung KYE, Danilouchkine MG, van Stralen M, De Jong N, van  
der Steen AFW, Bosch JG. Left Ventricular Border Tracking  
Using Cardiac Motion Models and Optical Flow. 37:605-616.

Gessner RC, Kothadia R, Feingold S, Dayton PA. 3-D  
Microvessel-Mimicking Ultrasound Phantoms Produced With  
a Scanning Motion System. 37:827-833.

Park IY, Kwon JY, Kwon JY, Hong SC, Choi HM, Kwon HS,  
Won HS, Kim JW, Jun JK. Usefulness of Cervical Volume by  
Three-Dimensional Ultrasound in Identifying the Risk for  
Preterm Birth. 37:1039-1045.

Yang X, Coleman DP, Pugh ND, Nokes LDM. A Novel 3-D  
Power Doppler Ultrasound Approach to the Quantification of  
Achilles Tendon Neovascularity. 37:1046-1055.

Rajpoot K, Grau V, Noble JA, Szmigielski C, Becher H.  
Multiview Fusion 3-d Echocardiography: Improving the  
Information and Quality of Real-Time 3-D Echocardiography.  
37:1056-1072.

Chen TK, Ellis RE, Abolmaesumi P. Improvement of Freehand  
Ultrasound Calibration Accuracy Using the Elevation  
Beamwidth Profile. 37:1314-1326.

Nillesen MM, Lopata RGP, Huisman HJ, Thijssen JM, Kapusta  
L, de Korte CL. Correlation Based 3-D Segmentation of the  
Left Ventricle in Pediatric Echocardiographic Images Using  
Radio-Frequency Data. 37:1409-1420.

Inglis S, Christie D, Plevris JN. A Novel Three-Dimensional  
Endoscopic Ultrasound Technique for the Freehand  
Examination of the Oesophagus. 37:1779-1790.

Martins WP, Welsh AW, Lima JC, Natri CO, Raine-Fenning  
NJ. The Volumetric Pulsatility Index as Evaluated by  
Spatiotemporal Imaging Correlation (STIC): A Preliminary  
Description of a Novel Technique, Its Application to the  
Endometrium and an Evaluation of Its Reproducibility.  
37:2160-2168.

Koolwal AB, Barbagli F, Carlson CR, Liang DH. A Fast Slam  
Approach to Freehand 3-D Ultrasound Reconstruction  
for Catheter Ablation Guidance in the Left Atrium.  
37:2037-2054.

Sammet S, Evans KD, Okan Irfanoglu M, Strapp A, Machiraju  
R. The Feasibility of Hybrid Automatic Segmentation of  
Axillary Lymph Nodes from a 3-D Sonogram. 37:2075-2085.

### 4D

**Synonyms:** 4-D, four dimensional, four-dimensional,  
4-dimensional

**Scopus Search:** 4D OR 4-D OR “four dimensional” OR four-  
dimensional OR 4-dimensional PubMed Search

Jones NW, Raine-Fenning NJ, Bradley E, Bugg G. Placental 3-D  
Power Doppler Angiography - Regional Variation and  
Reliability of Two Ultrasonic Sphere Biopsy Techniques.  
37:364-375.

Jones NW, Raine-Fenning NJ, Mousa HA, Bradley E, Bugg GJ.  
Evaluating the Intra- and Interobserver Reliability of Three-  
Dimensional Ultrasound and Power Doppler Angiography  
(3D-PDA) for Assessment of Placental Volume and

Vascularity in the Second Trimester of Pregnancy. 37:376-385.

Hata T, Kanenishi K, Sasaki M, Yanagihara T. Fetal Reflex Movement in Twin Pregnancies Late in the First Trimester: 4-D Sonographic Study. 37:1948-1951.

## A

### Abdominal ultrasound

**Synonyms:** Abdominal imaging, Abdomen

**Scopus Search:** "Abdominal ultrasound" OR "Abdominal imaging" OR Abdomen PubMed Search

**See also:** kidney, liver, spleen, pancreas, gall bladder

Emmons RR, Garber CE, Cirmigliaro CM, Kirshblum SC, Spungen AM, Bauman WA. Assessment of Measures for Abdominal Adiposity in Persons with Spinal Cord Injury. 37:734-741.

### Acoustic emission

**Synonyms:** AE, passive detection

**Scopus Search:** "acoustic emission" OR AE OR "passive detection" PubMed Search

**See also:** cavitation

Winkler I, Adam D. Monitoring Radio-Frequency Thermal Ablation with Ultrasound by Low Frequency Acoustic Emissions - In Vitro and In Vivo Study. 37:755-767.

Nandlall SD, Jackson E, Coussios CC. Real-Time Passive Acoustic Monitoring of HIFU-Induced Tissue Damage. 37:922-934.

### Acoustic microscopy

**Synonyms:** scanning acoustic microscopy (SAM), ultrasound/ultrasonic microscopy, biomicroscopy

**Scopus Search:** "acoustic microscop\*" OR "ultraso\* microscop\*" OR "bio\*microscop\*" OR SAM PubMed Search

**See also:** high frequency ultrasound

Preininger B, Checa S, Molnar FL, Fratzi P, Duda GN, Raun K. Spatial-Temporal Mapping of Bone Structural and Elastic Properties in a Sheep Model Following Osteotomy. 37:474-483.

Hoffman JJ, Johnson BL, Holland MR, Fedewa RJ, Nair A, Miller JG. Layer-Dependent Variation in the Anisotropy of Apparent Integrated Backscatter from Human Coronary Arteries. 37:632-641.

Wang Y, Yang Y, Xie J, Li Z, Zhang X, Li R. Noninvasive Assessment of Atherosclerosis in Apolipoprotein-E Knockout Mice by Ultrasound Biomicroscopy. 37:892-899.

Winterroth F, Hollman KW, Kuo S, Izumi K, Feinberg SE, Hollister SJ, Fowlkes JB. Comparison of Scanning Acoustic Microscopy and Histology Images in Characterizing Surface Irregularities Among Engineered Human Oral Mucosal Tissues. 37:1734-1742.

Alves KZ, Borges HL, Soletti RC, Viana AILP, Petrella LI, Soldan Mn, Chagas VL, Schanaider A, Machado JC. Features of In Vitro Ultrasound Biomicroscopic Imaging and Colonoscopy for Detection of Colon Tumor in Mice. 37:2086-2095.

### Acousto-optics

**Scopus Search:** "acoust\* AND opt\*" PubMed Search

**See also:** photoacoustic

Lai P, McLaughlan JR, Draudt AB, Murray TW, Cleveland RO, Roy RA. Real-Time Monitoring of High-Intensity Focused Ultrasound Lesion Formation Using Acousto-Optic Sensing. 37:239-252.

### Adaptive filtering

**Synonyms:** adaptive algorithm, optimising filter, noise cancellation, denoising, adaptive clutter rejection

**Scopus Search:** "adaptive filt\*" OR "optimising filt\*" OR "adaptive algorithm" OR "adaptive clutter rejection" OR "Least squares" OR "cost function" OR "finite impulse response" OR "noise cancellation" OR denoising PubMed Search

**See also:** image processing

Nillesen MM, Lopata RGP, Huisman HJ, Thijssen JM, Kapusta L, de Korte CL. Correlation Based 3-D Segmentation of the Left Ventricle in Pediatric Echocardiographic Images Using Radio-Frequency Data. 37:1409-1420.

Kie B. Speckle Reduction in Ultrasound Images Using Nonisotropic Adaptive Filtering. 37:1677-1688.

You W, Wang Y. A Single-Ensemble Clutter Rejection Method Based on the Analytic Geometry for Ultrasound Color Flow Imaging. 37:1909-1922.

### Aneurysm

**Synonyms:** aneurism

**Scopus Search:** Aneur\*sm OR AAA PubMed Search

**See also:** atherosclerosis, hypertension

### Angiogenesis

**Synonyms:** increase in vascularity, vascularisation

**Scopus Search:** Angiogenesis OR "increase in vascularity" OR "vascularity index" OR VI OR vasculari\*ation OR "capillary density" OR "microvessel density" OR neoangiogenesis OR neovasculari\*ation PubMed Search

Cheung WH, Chow SK, Sun MH, Qin L, Leung KS. Low-Intensity Pulsed Ultrasound Accelerated Callus Formation, Angiogenesis and Callus Remodeling in Osteoporotic Fracture Healing. 37:231-238.

Zhu Q, You S, Jiang Y, Zhang J, Xiao M, Dai Q, Sun Q. Detecting Angiogenesis in Breast Tumors: Comparison of Color Doppler Flow Imaging With Ultrasound-Guided Diffuse Optical Tomography. 37:862-869.

Garvin KA, Dalecki D, Hocking DC. Vascularization of Three-Dimensional Collagen Hydrogels Using Ultrasound Standing Wave Fields. 37:1853-1864.

#### Animal studies

**Synonyms:** animal model

**Scopus Search:** "animal stud\*" OR "animal model" OR mouse OR dog OR bovine OR murine OR canine OR porcine OR rabbit OR pig OR rat OR primate PubMed Search

Sboros V, Averkiou M, Lampaskis M, Thomas DH, Silva N, Strouthos C, Docherty J, McNeilly AS. Imaging of the Ovine Corpus Luteum Microcirculation with Contrast Ultrasound. 37:59-68.

Liu Cx, Gao Xs, Xiong Ll, Ge Hy, He Xy, Li T, Zhang Hj, Bai Hz, Lin Q, Zhang M, Zhao J, Xiong W, Bai Y, Asaumi J. A Preclinical In Vivo Investigation of High-Intensity Focused Ultrasound Combined with Radiotherapy. 37:69-77.

Cheung WH, Chow SK, Sun MH, Qin L, Leung KS. Low-Intensity Pulsed Ultrasound Accelerated Callus Formation, Angiogenesis and Callus Remodeling in Osteoporotic Fracture Healing. 37:231-238.

Miller DL, Dou C, Lucchesi BR. Are ECG Premature Complexes Induced by Ultrasonic Cavitation Electrophysiological Responses to Irreversible Cardiomyocyte Injury? 37:312-320.

Carson AR, McTiernan CF, Lavery L, Hodnick A, Grata M, Leng X, Wang J, Chen X, Modzelewski RA, Villanueva FS. Gene Therapy of Carcinoma Using Ultrasound-Targeted Microbubble Destruction. 37:393-402.

Preininger B, Checa S, Molnar FL, Fratzl P, Duda GN, Raun K. Spatial-Temporal Mapping of Bone Structural and Elastic Properties in a Sheep Model Following Osteotomy. 37:474-483.

Moran CM, Pye SD, Ellis W, Janeczko A, Morris KD, McNeilly AS, Fraser HM. A Comparison of the Imaging Performance of High Resolution Ultrasound Scanners for Preclinical Imaging. 37:493-501.

O'Reilly MA, Waspe AC, Ganguly M, Hynynen K. Focused-Ultrasound Disruption of the Blood-Brain Barrier Using Closely-Timed Short Pulses: Influence of Sonication Parameters and Injection Rate. 37:587-594.

Kumon RE, Deng CX, Wang X. Frequency-Domain Analysis of Photoacoustic Imaging Data From Prostate Adenocarcinoma Tumors in a Murine Model. 37:834-839.

Charrel T, Aptel F, Birer A, Chavrier F, Romano F, Chapelon JY, Denis P, Lafon C. Development of a Miniaturized HIFU Device for Glaucoma Treatment With Conformal Coagulation of the Ciliary Bodies. 37:742-754.

Winkler I, Adam D. Monitoring Radio-Frequency Thermal Ablation with Ultrasound by Low Frequency Acoustic Emissions - In Vitro and In Vivo Study. 37:755-767.

Miri H, Bathaie SZ, Mohagheghi MA, Mokhtari-Dizaji M, Shahbazfar AA. A Noninvasive Method for Early Detection of MNNG-Induced Gastric Cancer of Male Wistar rat: Ultrasonic Study. 37:780-787.

Wang Y, Yang Y, Xie J, Li Z, Zhang X, Li R. Noninvasive Assessment of Atherosclerosis in Apolipoprotein-E Knockout Mice by Ultrasound Biomicroscopy. 37:892-899.

Kogan P, Johnson KA, Feingold S, Garrett N, Guracar I, Arendshorst WJ, Dayton PA. Validation of Dynamic Contrast-Enhanced Ultrasound in Rodent Kidneys as an Absolute Quantitative Method for Measuring Blood Perfusion. 37:900-908.

Watson KD, Hu X, Lai CY, Lindfors HA, Hu-Lowe DD, Tuthill TA, Shalinsky DR, Ferrara KW. Novel Ultrasound and DCE-MRI Analyses After Antiangiogenic Treatment With a Selective VEGF Receptor Inhibitor. 37:909-921.

Luo J, Konofagou EE. Imaging of Wall Motion Coupled With Blood Flow Velocity in the Heart and Vessels in Vivo: A Feasibility Study. 37:980-995.

Li Y, Garson CD, Xu Y, Helm PA, Hossack JA, French BA. Serial Ultrasound Evaluation of Intramyocardial Strain After Reperfused Myocardial Infarction Reveals That Remote Zone Dyssynchrony Develops in Concert With Left Ventricular Remodeling. 37:1073-1086.

Chung SL, Pounder NM, de Ana FJ, Qin L, Sui Leung K, Cheung WH. Fracture Healing Enhancement With Low Intensity Pulsed Ultrasound at a Critical Application Angle. 37:1120-1133.

Fernandez-Dominguez I, Echevarria-Uraga JJ, Gomez N, Luka Z, Wagner C, Lu SC, Mato JM, Martinez-Chantar ML, Rodriguez-Cuesta J. High-Frequency Ultrasound Imaging for Longitudinal Evaluation of Non-Alcoholic Fatty Liver Disease Progression in Mice. 37:1161-1169.

Du L, Jin Y, Zhou W, Zhao J. Ultrasound-Triggered Drug Release and Enhanced Anticancer Effect of Doxorubicin-Loaded Poly(D,L-Lactide-Co-Glycolide)-Methoxy-Poly(Ethylene Glycol) Nanodroplets. 37:1252-1258.

McDannold N, Zhang Y, Vykhodtseva N. Blood-Brain Barrier Disruption and Vascular Damage Induced by Ultrasound Bursts Combined with Microbubbles can be Influenced by Choice of Anesthesia Protocol. 37:1259-1270.

Niu L, Qian M, Yan L, Yu W, Jiang B, Jin Q, Wang Y, Shandas R, Liu X, Zheng H. Real-Time Texture Analysis for Identifying Optimum Microbubble Concentration in 2-D Ultrasonic Particle Image Velocimetry. 37:1280-1291.

Browning RJ, Mulvana H, Tang M, Hajnal JV, Wells DJ, Eckersley RJ. Influence of Needle Gauge On In Vivo Ultrasound and Microbubble-Mediated Gene Transfection. 37:1531-1537.

Hu XB, Zhang PF, Su HJ, Yi X, Chen L, Rong YY, Zhang K, Li X, Wang L, Sun CL, Cai XJ, Li L, Song JT, Dai XM, Sui XD, Zhang Y, Zhang M. Intravascular Ultrasound Area Strain

Imaging Used to Characterize Tissue Components and Assess Vulnerability of Atherosclerotic Plaques in a Rabbit Model. 37:1579-1587.

Carr DJ, Aitken RP, Milne JS, David AL, Wallace JM.

Ultrasonographic Assessment of Growth and Estimation of Birthweight in Late Gestation Fetal Sheep. 37:1588-1595.

Mast TD, Barthe PG, Makin IR, Slayton MH, Karunakaran CP, Burgess MT, Alqadah A, Rudich SM. Treatment of Rabbit Liver Cancer In Vivo Using Miniaturized Image-Ablate Ultrasound Arrays. 37:1609-1621.

Lai CH, Chuang CC, Kuan-Jung Li J, Chen SC, Hong-Shong Chang W. Effects of Ultrasound on Osteotomy Healing in a Rabbit Fracture Model. 37:1635-1643.

Adzerikho IE, Mrochek AG, Minchenya VT, Dmitriev VV, Kulak AI. Combined Low-Frequency Ultrasound and Streptokinase Intravascular Destruction of Arterial Thrombi In Vivo. 37:1644-1652.

Zhou Y, Zia J, Warren C, Starr FL, Brayman AA, Crum LA, Hwang JH. Targeted Long-Term Venous Occlusion Using Pulsed High-Intensity Focused Ultrasound Combined with a Pro-Inflammatory Agent. 37:1653-1658.

Herickhoff CD, Wilson CM, Grant GA, Britz GW, Light ED, Palmeri ML, Wolf PD, Smith SW. Dual-Mode IVUS Transducer for Image-Guided Brain Therapy: Preliminary Experiments. 37:1667-1676.

Kowalczyk L, Boudinet MI, El Sanharawi M, Touchard E, Naud MC, Saed A, Jeanny JC, Behar-Cohen F, Laugier P. In Vivo Gene Transfer Into the Ocular Ciliary Muscle Mediated by Ultrasound and Microbubbles. 37:1814-1827.

Ogawa T, Ishii T, Mishima H, Nishino T, Watanabe A, Ochiai N. Is Low-Intensity Pulsed Ultrasound Effective for Revitalizing a Severely Necrotic Small Bone? An Experimental Rabbit Model. 37:2028-2036.

Scola MR, Nichols TC, Zhu H, Caughey MC, Merricks EP, Raymer RA, Margaritis P, High KA, Gallippi CM. ARFI Ultrasound Monitoring of Hemorrhage and Hemostasis In Vivo in Canine von Willebrand Disease and Hemophilia. 37:2126-2132.

Alves KZ, Borges HL, Soletti RC, Viana AILP, Petrella LI, Soldan Mn, Chagas VL, Schanaider A, Machado JC. Features of In Vitro Ultrasound Biomicroscopic Imaging and Colonoscopy for Detection of Colon Tumor in Mice. 37:2086-2095.

### Arrays

**Synonyms:** phased array, beam steering, compound imaging

**Scopus Search:** array\* OR "phased array\*" OR "beam steering" OR compound\* OR "multi\* element" OR "beam forming" PubMed Search

**See also:** transducers

Mast TD, Barthe PG, Makin IR, Slayton MH, Karunakaran CP, Burgess MT, Alqadah A, Rudich SM. Treatment of Rabbit

Liver Cancer In Vivo Using Miniaturized Image-Ablate Ultrasound Arrays. 37:1609-1621.

### Artefacts

**See image artifacts**

### Atherosclerosis

**Synonyms:** vascular disease, atheromatous plaque, arterial hardening

**Scopus Search:** Atherosclerosis OR plaque OR stenosis OR "vascular disease" OR atheromatous OR "arter\* hardening" PubMed Search

**See also:** blood vessels, aneurysm

Zhang F, Lanning C, Mazzaro L, Barker AJ, Gates PE, Strain WD, Fulford J, Gosling OE, Shore AC, Bellenger NG, Rech B, Chen J, Chen J, Shandas R. In Vitro and Preliminary In Vivo Validation of Echo Particle Image Velocimetry in Carotid Vascular Imaging. 37:450-464.

Hoffman JJ, Johnson BL, Holland MR, Fedewa RJ, Nair A, Miller JG. Layer-Dependent Variation in the Anisotropy of Apparent Integrated Backscatter from Human Coronary Arteries. 37:632-641.

Wang Y, Yang Y, Xie J, Li Z, Zhang X, Li R. Noninvasive Assessment of Atherosclerosis in Apolipoprotein-E Knockout Mice by Ultrasound Biomicroscopy. 37:892-899.

Zahnd G, Boussel Lc, Marion A, Durand M, Moulin P, Serusclat A, Vray D. Measurement of Two-Dimensional Movement Parameters of the Carotid Artery Wall for Early Detection of Arteriosclerosis: A Preliminary Clinical Study. 37:1421-1429.

Gao Q, Wang F, Guo S, Li J, Zhu B, Cheng J, Jin Y, Li B, Wang H, Shi S, Gao Q, Zhang Z, Cao W, Tian Y. Sonodynamic Effect of an Anti-Inflammatory Agent - Emodin on Macrophages. 37:1478-1485.

Hu XB, Zhang PF, Su HJ, Yi X, Chen L, Rong YY, Zhang K, Li X, Wang L, Sun CL, Cai XJ, Li L, Song JT, Dai XM, Sui XD, Zhang Y, Zhang M. Intravascular Ultrasound Area Strain Imaging Used to Characterize Tissue Components and Assess Vulnerability of Atherosclerotic Plaques in a Rabbit Model. 37:1579-1587.

### Attenuation

**Synonyms:** BUA

**Scopus Search:** attenuat\* OR BUA PubMed Search

Treeby BE, Zhang EZ, Thomas AS, Cox BT. Measurement of the Ultrasound Attenuation and Dispersion in Whole Human Blood and its Components From 0-70 MHz. 37:289-300.

Nam K, Zagzebski JA, Hall TJ. Simultaneous Backscatter and Attenuation Estimation Using a Least Squares Method with Constraints. 37:2096-2104.

Cheng J, Serra-Hsu F, Tian Y, Lin W, Qin Y-X. Effects of Phase Cancellation and Receiver Aperture Size on Broadband



Ultrasonic Attenuation for Trabecular Bone In Vitro. 37:2116-2125.

## B

### Backscatter

**Synonyms:** back scatter, backscattering

**Scopus Search:** Backscatter\* OR "Back scatter\*" OR Nakagami PubMed Search

Cannon LM, Fagan AJ, Browne JE. Novel Tissue Mimicking Materials for High Frequency Breast Ultrasound Phantoms. 37:122-135.

Mamou J, Coron A, Oelze ML, Saegusa-Beecroft E, Hata M, Lee P, Machi J, Yanagihara E, Laugier P, Feleppa EJ. Three-Dimensional High-Frequency Backscatter and Envelope Quantification of Cancerous Human Lymph Nodes. 37:345-357.

Hoffman JJ, Johnson BL, Holland MR, Fedewa RJ, Nair A, Miller JG. Layer-Dependent Variation in the Anisotropy of Apparent Integrated Backscatter from Human Coronary Arteries. 37:632-641.

Anderson CC, Gibson AA, Schaffer JE, Peterson LR, Holland MR, Miller JG. Bayesian Parameter Estimation for Characterizing the Cyclic Variation of Echocardiographic Backscatter to Assess the Hearts of Asymptomatic Type 2 Diabetes Mellitus Subjects. 37:805-812.

Lloyd CW, Shmuylovich L, Holland MR, Miller JG, Kovacs SJ. The Diastolic Function to Cyclic Variation of Myocardial Ultrasonic Backscatter Relation: The Influence of Parametrized Diastolic Filling (PDF) Formalism Determined Chamber Properties. 37:1185-1195.

Nam K, Zagzebski JA, Hall TJ. Simultaneous Backscatter and Attenuation Estimation Using a Least Squares Method with Constraints. 37:2096-2104.

### Bacteria

**Synonyms:** biofilms, infection

**Scopus Search:** Bacteria\* OR biofilm OR bio-film OR infectio\* PubMed Search

Loske AM, Campos-Guillen J, Fernandez F, Castano-Tostado E. Enhanced Shock Wave-Assisted Transformation of Escherichia coli. 37:502-510.

### Beam focusing

**Synonyms:** beam forming, dynamic focusing

**Scopus Search:** Beam AND focus\*ing OR forming OR "dynamic focusing" PubMed Search

**See also:** arrays

### Biological effects

**Synonyms:** Bioeffects, Biochemical effect

**Scopus Search:** "bio\*effect\*" PubMed Search

**See also:** therapeutic effects of ultrasound, toxicity, thermal effects

ter Haar G, Shaw A, Pye S, Ward B, Bottomley F, Nolan R, Coady AM. Guidance on Reporting Ultrasound Exposure Conditions for Bio-Effects Studies. 37:177-183.

Miller DL, Dou C, Lucchesi BR. Are ECG Premature Complexes Induced by Ultrasonic Cavitation Electrophysiological Responses to Irreversible Cardiomyocyte Injury? 37:312-320.

Rezaei A, Ghanati F, Behmanesh M, Mokhtari-Dizaji M. Ultrasound-potentiated Salicylic Acid-induced Physiological Effects and Production of Taxol in Hazelnut (Corylus avellana L.) Cell Culture. 37:1938-1947.

Chen H, Brayman A, Kreider W, Bailey M, Matula TJ. Observations Of Translation And Jetting Of Ultrasound-Activated Microbubbles In Mesenteric Microvessels. 37:2139-2148.

### Biometrics

**Synonyms:** Identification

**Scopus Search:** "bio\*metric\*" PubMed Search

Emmons RR, Garber CE, Ciriogliaro CM, Kirshblum SC, Spungen AM, Bauman WA. Assessment of Measures for Abdominal Adiposity in Persons with Spinal Cord Injury. 37:734-741.

Oh J, Kim SK, Shin DK, Park KS, Park SW, Cho YW. A Simple Ultrasound Correlate of Visceral Fat. 37:1444-1451.

Carr DJ, Aitken RP, Milne JS, David AL, Wallace JM. Ultrasonographic Assessment of Growth and Estimation of Birthweight in Late Gestation Fetal Sheep. 37:1588-1595.

Brunner C, Pons-Kühnemann J, Neuhäuser-Berthold M. Impact Of Age, Anthropometric Data And Body Composition On Calcaneal Bone Characteristics, As Measured By Quantitative Ultrasound (QUS) In An Older German Population. 37:1984-1992.

### Blood perfusion

**Synonyms:** tissue perfusion, vascularity

**Scopus Search:** Blood OR tissue AND perfusion OR vascularity OR "flash replenishment" PubMed Search

Sboros V, Averkiou M, Lampaskis M, Thomas DH, Silva N, Strouthos C, Docherty J, McNeilly AS. Imaging of the Ovine Corpus Luteum Microcirculation with Contrast Ultrasound. 37:59-68.

Jones NW, Raine-Fenning NJ, Bradley E, Bugg G. Placental 3-D Power Doppler Angiography - Regional Variation and Reliability of Two Ultrasonic Sphere Biopsy Techniques. 37:364-375.

Jones NW, Raine-Fenning NJ, Mousa HA, Bradley E, Bugg GJ. Evaluating the Intra- and Interobserver Reliability of Three-Dimensional Ultrasound and Power Doppler Angiography (3D-PDA) for Assessment of Placental Volume and Vascularity in the Second Trimester of Pregnancy. 37:376-385.

Notarnicola A, Moretti L, Tafuri S, Forcignanò M, Pesce V, Moretti B. Reduced Local Perfusion After Shock Wave Treatment of Rotator Cuff Tendinopathy. 37:417-425.

Kogan P, Johnson KA, Feingold S, Garrett N, Guracar I, Arendshorst WJ, Dayton PA. Validation of Dynamic Contrast-Enhanced Ultrasound in Rodent Kidneys as an Absolute Quantitative Method for Measuring Blood Perfusion. 37:900-908.

Watson KD, Hu X, Lai CY, Lindfors HA, Hu-Lowe DD, Tuthill TA, Shalinsky DR, Ferrara KW. Novel Ultrasound and DCE-MRI Analyses After Antiangiogenic Treatment With a Selective VEGF Receptor Inhibitor. 37:909-921.

Yang X, Coleman DP, Pugh ND, Nokes LDM. A Novel 3-D Power Doppler Ultrasound Approach to the Quantification of Achilles Tendon Neovascularity. 37:1046-1055.

Hudson JM, Williams R, Lloyd B, Atri M, Kim TK, Bjarnason G, Burns PN. Improved Flow Measurement Using Microbubble Contrast Agents and Disruption-Replenishment: Clinical Application to Tumour Monitoring. 37:1210-1221.

Hudson JM, Leung K, Burns PN. The Lognormal Perfusion Model for Disruption Replenishment Measurements of Blood Flow: In Vivo Validation. 37:1571-1578.

#### **Blood flow**

**Synonyms:** haemodynamics, venous reflux

**Scopus Search:** “Blood flow” OR “h\*emodynamic\*(s)” OR “venous reflux” OR “flow index” PubMed Search

**See also:** Doppler

Chou CH, Fuh JL, Wang SJ, Hu HH, Wu JC, Cheng YT. Queckenstedt’s Test Headache Response is Associated with Increased Jugular Venous Flow Volume During Migraine Attack. 37:23-28.

Zhang F, Lanning C, Mazzaro L, Barker AJ, Gates PE, Strain WD, Fulford J, Gosling OE, Shore AC, Bellenger NG, Rech B, Chen J, Chen J, Shandas R. In Vitro and Preliminary In Vivo Validation of Echo Particle Image Velocimetry in Carotid Vascular Imaging. 37:450-464.

Katsogridakis E, Dineen NE, Brodie FG, Robinson TG, Panerai RB. Signal-to-Noise Ratio of Bilateral Nonimaging Transcranial Doppler Recordings of the Middle Cerebral Artery is not Affected by Age and Sex. 37:530-538.

Barton M, Turner AT, Newens KJ, Williams CM, Thompson AK. Minimum Recovery Time Between Reactive Hyperemia Stimulus in the Repeated Measurement of Brachial Flow-Mediated Dilatation. 37:879-883.

Luo J, Konofagou EE. Imaging of Wall Motion Coupled With Blood Flow Velocity in the Heart and Vessels in Vivo: A Feasibility Study. 37:980-995.

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#### **Blood pressure**

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**See also:** hypertension

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**Synonyms:** artery, vein, capillary, vascular

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**Synonyms:** BBB

**Scopus Search:** “blood-brain barrier” OR BBB OR “tight junctions” OR fenestrations PubMed Search

**See also:** thrombolysis, transcranial ultrasound

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**Synonyms:** osteo-

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### Calibration

**Synonyms:** standards, metrology, quality assurance

**Scopus Search:** calibration OR standard\* OR metrology OR quality assurance PubMed Search

**See also:** dosimetry, exposimetry, safety, instrumentation

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**Synonyms:** tumor

**Scopus Search:** cancer\* PubMed Search

**See also:** tumor

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**Scopus Search:** cavitation OR inertial OR transient OR “bubble collapse” PubMed Search

**See also: contrast agents**

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**Synonyms:** Broadband Noise, ACD, PCD

**Scopus Search:** “Cavitation detect\*” OR “Passive Cavitation Detect\*” OR “Active cavitation detect\*” OR “Broadband Noise” OR PCD OR ACD PubMed Search

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#### **Chemotherapy**

**Synonyms:** drug delivery, cancer therapy

**Scopus Search:** Chemotherapy OR “drug delivery” OR paclitaxel OR doxorubicin OR “cancer therapy” PubMed Search

**See also: drug delivery**

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**Synonyms:** liver disease

**Scopus Search:** cirrho\* OR “liver disease” PubMed Search

**See also: liver**

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**Synonyms:** Clinical study, clinical trial

**Scopus Search:** Clinical AND study OR trial PubMed Search

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**Synonyms:** pulse compression, coded excitation, chirped excitation, pulse coding, phase codes, compression codes, Barker codes, Golay codes, complementary sequences, m-sequences  
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- Color flow techniques**  
**Synonyms:** color velocity imaging, color Doppler  
**Scopus Search:** color OR colour AND velocity OR flow PubMed Search  
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**Synonyms:** adherence, observance  
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**Synonyms:** ultrasonic tomography, CT  
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**Synonyms:** CAD, automated analysis, automatic classification, automatic thresholding, artificial intelligence

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#### Contrast agents

**Synonyms:** Contrast media, microbubbles

**Scopus Search:** Contrast AND agent\* OR medi\* OR microbubble\* OR “micro-bubble\*” OR Optison OR Sonovue OR Levovist OR Quantison OR Definity PubMed Search

**See also: cavitation, contrast enhanced ultrasound**

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- Contrast enhanced ultrasound**  
**Synonyms:** contrast echocardiography, contrast ultrasound, contrast sonography, contrast-enhanced, CEUS  
**Scopus Search:** “contrast enhanc\*” PubMed Search  
**See also:** Doppler, contrast agents, harmonic imaging
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- Coupling agents**  
**Synonyms:** ultrasound gel, acoustic gel, transonic gel  
**Scopus Search:** “Coupling agent\*” OR “Coupling Gel” PubMed Search
- Critical angle reflectometry**  
**Synonyms:** UCR  
**Scopus Search:** “critical angle” OR UCR PubMed Search
- D**
- Dental**  
**Synonyms:** teeth  
**Scopus Search:** Dent\* OR t\*th OR enamel PubMed Search
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#### Derated values

**Synonyms:** derating

**Scopus Search:** [derat\\* PubMed Search](#)

**See also:** thermal effects

#### Diffusion

**Synonyms:** Acoustically driven diffusion

**Scopus Search:** [Diffusion PubMed Search](#)

#### Dispersion

**Synonyms:** speed of sound dispersion

**Scopus Search:** [dispersion PubMed Search](#)

**See also:** velocity

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**Synonyms:** ultrasound flow measurement

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**See also:** Flow visualisation

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#### Dosimetry

**Synonyms:** dose response, dosology

**Scopus Search:** [Dos\\* PubMed Search](#)

**See also:** **exposimetry, safety**

#### Drug delivery

**Synonyms:** controlled release, targeted delivery, site-specific delivery, sonodynamic

**Scopus Search:** ["controlled release" OR "drug delivery" OR "targeted delivery" OR "Site Specific delivery" PubMed Search](#)

**See also:** **sonoporation, chemotherapy**

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## E

### Echocardiography

**Synonyms:** cardiac imaging, sonocardiography

**Scopus Search:** echocard\* OR "card\* imaging" OR "card\* ultraso\*" OR sonocard\* PubMed Search

**See also:** cardiology, contrast enhanced ultrasound

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### Editorial

### Elastography

**Synonyms:** elasticity imaging, strain imaging, sonoelastography, vibro-acoustography

**Scopus Search:** \*elastography OR "elastic\* imaging" OR "strain imaging" OR "vibro\*acoustography" OR "Modulus Contrast" PubMed Search

**See also:** Tissue elasticity

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Meng W, Zhang G, Wu C, Wu G, Song Y, Lu Z. Preliminary Results of Acoustic Radiation Force Impulse (ARFI) Ultrasound Imaging of Breast Lesions. 37:1436-1443.

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Draudt AB, Cleveland RO. Impact of Nonlinear Distortion on Acoustic Radiation Force Elastography. 37:1874-1883.

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#### **Emboli detection**

**Synonyms:** embolic signal, microembolic signal, embolus, embolism

**Scopus Search:** embol\* OR occlusion OR clot PubMed Search

**See also:** thrombolysis

Girault JM, Kouamé D, Ménigot S, Souchon G, Tranquart F. Analysis of Index Modulation in Microembolic Doppler Signals Part I: Radiation Force as a New Hypothesis—Simulations. 37:87-101.

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Jaipersad TS, Saedon M, Tiivas C, Marshall C, Higman DJ, Imray CHE. Perioperative Transorbital Doppler Flow Imaging Offers an Alternative to Transcranial Doppler Monitoring in Those Patients Without a Temporal Bone Acoustic Window. 37:719-722.

#### **Endometriosis**

**Synonyms:** adenomyosis

**Scopus Search:** endometr\* PubMed Search

#### **Endorectal ultrasonography**

**Synonyms:** transrectal

**Scopus Search:** \*rectal PubMed Search

#### **Endoscopic ultrasonography**

**Synonyms:** EUS

**Scopus Search:** “Endoscopic” OR “EUS” PubMed Search

Inglis S, Christie D, Plevris JN. A Novel Three-Dimensional Endoscopic Ultrasound Technique for the Freehand Examination of the Oesophagus. 37:1779-1790.

#### **Entropy-Based Imaging**

**Scopus Search:** Entrop\* PubMed Search

**See also:** image registration

#### **Errata**

Erratum. 37:1743.

#### **Exposimetry**

**Scopus Search:** expos\* PubMed Search

**See also:** dosimetry, mechanical index, safety, thermal effects, calibration

ter Haar G, Shaw A, Pye S, Ward B, Bottomley F, Nolan R, Coady AM. Guidance on Reporting Ultrasound Exposure Conditions for Bio-Effects Studies. 37:177-183.

#### **Eyes**

**Synonyms:** ocular, retinal, cornea

**Scopus Search:** eye\* OR ocular OR retina\* OR cornea\* PubMed Search

**See also:** ophthalmology

Charrel T, Aptel F, Birer A, Chavrier F, Romano F, Chapelon JY, Denis P, Lafon C. Development of a Miniaturized HIFU Device for Glaucoma Treatment With Conformal Coagulation of the Ciliary Bodies. 37:742-754.

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Kowalczyk L, Boudinet MI, El Sanharawi M, Touchard E, Naud MC, Saied A, Jeanny JC, Behar-Cohen F, Laugier P. In Vivo Gene Transfer Into the Ocular Ciliary Muscle Mediated by Ultrasound and Microbubbles. 37:1814-1827.

#### **F**

##### **Feature detection**

**Synonyms:** Feature selection, Feature tracking, Feature Extraction, Feature selection, Edge detection, Contour detection, Boundary Delineation, Pattern recognition, Pattern classification, Automated tracking, virtual histology

**Scopus Search:** “Feature detection” OR “Feature selection” OR “Feature tracking” OR “Feature Extraction” OR “Feature selection” OR “Edge detection” OR “Contour detection” OR “Boundary Delineation” OR “Pattern recognition” OR “Pattern classification” OR “automated tracking” OR “virtual histology” PubMed Search

**See also:** Computer aided diagnosis (CAD) system, image processing, principle components analysis

Leung KYE, Danilouchkine MG, van Stralen M, De Jong N, van der Steen AFW, Bosch JG. Left Ventricular Border Tracking Using Cardiac Motion Models and Optical Flow. 37:605-616.

Snare SR, Mjølstad OC, Orderud F, Haugen BrO, Torp H. Fast Automatic Measurement of Mitral Annulus Excursion Using a Pocket-Sized Ultrasound System. 37:617-631.

Niu L, Qian M, Yan L, Yu W, Jiang B, Jin Q, Wang Y, Shandas R, Liu X, Zheng H. Real-Time Texture Analysis for Identifying Optimum Microbubble Concentration in 2-D Ultrasonic Particle Image Velocimetry. 37:1280-1291.

#### Finite amplitude effects

**Scopus Search:** “finite amplitude” PubMed Search

**See also:** nonlinear effects, shock waves

#### Flow visualisation

**Synonyms:** flowmetry, particle image velocimetry, PIV

**Scopus Search:** “flow visualisation” OR “flowmetry” OR “particle image velocimetry” OR PIV PubMed Search

**See also:** Doppler

Zhang F, Lanning C, Mazzaro L, Barker AJ, Gates PE, Strain WD, Fulford J, Gosling OE, Shore AC, Bellenger NG, Rech B, Chen J, Chen J, Shandas R. In Vitro and Preliminary In Vivo Validation of Echo Particle Image Velocimetry in Carotid Vascular Imaging. 37:450-464.

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#### Fracture healing

**Synonyms:** regeneration

**Scopus Search:** Fracture AND healing OR regen\* PubMed Search

**See also:** bone, healing

Cheung WH, Chow SK, Sun MH, Qin L, Leung KS. Low-Intensity Pulsed Ultrasound Accelerated Callus Formation, Angiogenesis and Callus Remodeling in Osteoporotic Fracture Healing. 37:231-238.

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Lai CH, Chuang CC, Kuan-Jung Li J, Chen SC, Hong-Shong Chang W. Effects of Ultrasound on Osteotomy Healing in a Rabbit Fracture Model. 37:1635-1643.

## G

#### Gall bladder

**Synonyms:** gallbladder, hepatobilliary, cholecyst

**Scopus Search:** “Gall\*bladder” OR hepatobilliary OR cholecyst PubMed Search

#### Gastroenterology

**Synonyms:** Gastrointestinal Tract, gastric, digestive system, oesophageal

**Scopus Search:** Gastr\* AND digestive OR oesophag\* OR esophag\* PubMed Search

**See also:** liver, pancreas

Inglis S, Christie D, Plevris JN. A Novel Three-Dimensional Endoscopic Ultrasound Technique for the Freehand Examination of the Oesophagus. 37:1779-1790.

#### Gene therapy

**Synonyms:** gene delivery, Gene transfection, Gene transfer

**Scopus Search:** gene AND therapy OR transfection OR transfer PubMed Search

Carson AR, McTiernan CF, Lavery L, Hodnick A, Grata M, Leng X, Wang J, Chen X, Modzelewski RA, Villanueva FS. Gene Therapy of Carcinoma Using Ultrasound-Targeted Microbubble Destruction. 37:393-402.

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Kowalczyk L, Boudinet MI, El Sanharawi M, Touchard E, Naud MC, Saied A, Jeanny JC, Behar-Cohen F, Laugier P. In Vivo Gene Transfer Into the Ocular Ciliary Muscle Mediated by Ultrasound and Microbubbles. 37:1814-1827.

#### Genitourinary

**Synonyms:** urinary tract, bladder, urodynamics, reproductive system, pelvis

**Scopus Search:** Genitourinary OR urin\* OR urodynamic\* OR bladder OR reprod\* OR pelvi\* PubMed Search

**See also:** prostate, testis, uterus

Bozsa S, Poto L, Bodis J, Halvax L, Koppan M, Arany A, Csermely T, Vizer MG. Assessment of Postoperative Postvoid Residual Bladder Volume Using Three-Dimensional Ultrasound Volumetry. 37:522-529.

#### Geriatric

**Synonyms:** aged, elderly, aging population, old

**Scopus Search:** Geriatric\* OR age\* OR elder\* OR old PubMed Search

**H****Harmonic Imaging**

**Synonyms:** Tissue harmonic imaging (TIH), phase inversion harmonic imaging (PIHI), second harmonic imaging, subharmonic imaging, pulse inversion, nonlinear imaging

**Scopus Search:** “second Harmonic” OR “2nd Harmonic” OR “TIH” OR “PIHI” OR “phase inversion” OR “pulse inversion” OR “Harmonic Imaging” OR “Nonlinear imaging” OR “sub\*harmonic” PubMed Search

**See also:** contrast enhanced imaging

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Faez T, Emmer M, Docter M, Sijl J, Versluis M, De Jong N. Characterizing the Subharmonic Response of Phospholipid-Coated Microbubbles for Carotid Imaging. 37:958-970.

Hou GY, Luo J, Marquet F, Maleke C, Vappou J, Konofagou E. Performance Assessment Of HIFU Lesion Detection By Harmonic Motion Imaging For Focused Ultrasound (HMIFU): A 3D Finite-Element-Based Framework With Experimental Validation. 37:2013-2027.

**Healing**

**Synonyms:** regeneration, regenerative

**Scopus Search:** healing OR regener\* PubMed Search

**See also:** fracture healing, therapeutic applications of ultrasound

Notarnicola A, Tamma R, Moretti L, Panella A, Dell’Endice S, Zallone A, Moretti B. Effect of Shock Wave Treatment on Platelet-Rich Plasma Added to Osteoblast Cultures. 37:160-168.

Hsu SK, Huang WT, Liu BS, Li SM, Chen HT, Chang CJ. Effects of Near-Field Ultrasound Stimulation on New Bone Formation and Osseointegration of Dental Titanium Implants In Vitro and In Vivo. 37:403-416.

Wolff KS, Wibmer A, Pusch M, Prusa AM, Pretterklieber M, Teufelsbauer H, Schaden W. The Influence of Comorbidities and Etiologies on the Success of Extracorporeal Shock Wave Therapy for Chronic Soft Tissue Wounds: Midterm Results. 37:1111-1119.

Ogawa T, Ishii T, Mishima H, Nishino T, Watanabe A, Ochiai N. Is Low-Intensity Pulsed Ultrasound Effective for Revitalizing a Severely Necrotic Small Bone? An Experimental Rabbit Model. 37:2028-2036.

**Hemorrhage**

**Synonyms:** bleeding, trauma

**Scopus Search:** H\*emorrhage OR Bleed\* OR trauma PubMed Search

**Hemostasis**

**Synonyms:** stenosis, coagulation, clotting

**Scopus Search:** H\*emostasis OR h\*emostatic OR Occlusion OR stenosis OR coagulation OR clot\* PubMed Search

Comess KA, Choi JH, Xie Z, Achenbach S, Daniel W, Beach KW, Kim Y. Transthoracic Coronary Doppler Vibrometry in the Evaluation of Normal Volunteers and Patients With Coronary Artery Stenosis. 37:679-687.

Zhou Y, Zia J, Warren C, Starr FL, Brayman AA, Crum LA, Hwang JH. Targeted Long-Term Venous Occlusion Using Pulsed High-Intensity Focused Ultrasound Combined with a Pro-Inflammatory Agent. 37:1653-1658.

Scola MR, Nichols TC, Zhu H, Caughey MC, Merricks EP, Raymer RA, Margaritis P, High KA, Gallippi CM. ARFI Ultrasound Monitoring of Hemorrhage and Hemostasis In Vivo in Canine von Willebrand Disease and Hemophilia. 37:2126-2132.

**High frequency ultrasound**

**Synonyms:** high resolution

**Scopus Search:** “high frequency” OR “high resolution” PubMed Search

**See also:** acoustic microscopy

Cannon LM, Fagan AJ, Browne JE. Novel Tissue Mimicking Materials for High Frequency Breast Ultrasound Phantoms. 37:122-135.

Faez T, Goertz D, De Jong N. Characterization of Definity(TM) Ultrasound Contrast Agent at Frequency Range of 5-15 MHz. 37:338-342.

Moran CM, Pye SD, Ellis W, Janeczko A, Morris KD, McNeilly AS, Fraser HM. A Comparison of the Imaging Performance of High Resolution Ultrasound Scanners for Preclinical Imaging. 37:493-501.

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Madsen EL, Deaner ME, Mehi J. Properties of Phantom Tissue-like Polymethylpentene in the Frequency Range 20-70 MHz. 37:1327-1339.

**High intensity focused ultrasound**

**Synonyms:** Focused ultrasound surgery, HIFU, FUS, thermal ablation

**Scopus Search:** “high intensity focused ultrasound” OR “Focused ultrasound surgery” OR HIFU OR FUS OR ablat\* PubMed Search

**See also:** therapeutic applications of ultrasound, hyperthermia, thermal effects

Liu Cx, Gao Xs, Xiong Ll, Ge Hy, He Xy, Li T, Zhang Hj, Bai Hz, Lin Q, Zhang M, Zhao J, Xiong W, Bai Y, Asaumi J. A



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- Wu F, Shao ZY, Zhai BJ, Zhao CL, Shen DM. Ultrasound Reverses Multidrug Resistance in Human Cancer Cells by Altering Gene Expression of ABC Transporter Proteins and Bax Protein. 37:151-159.
- Ho VHB, Smith MJ, Slater NKH. Effect of Magnetite Nanoparticle Agglomerates on the Destruction of Tumor Spheroids Using High Intensity Focused Ultrasound. 37:169-175.
- Lai P, McLaughlan JR, Draudt AB, Murray TW, Cleveland RO, Roy RA. Real-Time Monitoring of High-Intensity Focused Ultrasound Lesion Formation Using Acousto-Optic Sensing. 37:239-252.
- Mamou J, Coron A, Oelze ML, Saegusa-Beecroft E, Hata M, Lee P, Machi J, Yanagihara E, Laugier P, Feleppa EJ. Three-Dimensional High-Frequency Backscatter and Envelope Quantification of Cancerous Human Lymph Nodes. 37:345-357.
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- Kyriakou Z, Corral-Baques MI, Amat A, Coussios CC. HIFU-Induced Cavitation and Heating in Ex Vivo Porcine Subcutaneous Fat. 37:568-579.
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- Nandlall SD, Jackson E, Coussios CC. Real-Time Passive Acoustic Monitoring of HIFU-Induced Tissue Damage. 37:922-934.
- Cao H, Xu Z, Long H, Zhang Li, Zhang J, Peng Zp, Li Sl. Transcatheter Arterial Chemoembolization in Combination With High-Intensity Focused Ultrasound for Unresectable Hepatocellular Carcinoma: A Systematic Review and Meta-Analysis of the Chinese Literature. 37:1009-1016.
- Hersch A, Adam D. Premature Cardiac Contractions Produced Efficiently By External High-Intensity Focused Ultrasound. 37:1101-1110.
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- Curiel L, Hynynen K. Localized Harmonic Motion Imaging for Focused Ultrasound Surgery Targeting. 37:1230-1239.
- Zhou Y, Kargl SG, Hwang JH. The Effect of the Scanning Pathway in High-Intensity Focused Ultrasound Therapy on Lesion Production. 37:1457-1468.
- Mast TD, Barthe PG, Makin IR, Slayton MH, Karunakaran CP, Burgess MT, Alqadah A, Rudich SM. Treatment of Rabbit Liver Cancer In Vivo Using Miniaturized Image-Ablate Ultrasound Arrays. 37:1609-1621.
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- Choi MJG, Reddy S, Lee JM, Paeng DG, Lee KI, Coleman A. Changes in Ultrasonic Properties of Liver Tissue in Vitro During Heating-Cooling Cycle Concomitant with Thermal Coagulation. 37:2000-2012.

## Historical review

### Histotripsy

**Synonyms:** pulsed ultrasound cavitation therapy  
**Scopus Search:** Histotripsy OR “cav\* therapy” PubMed Search

**See also:** Cavitation

Winterroth F, Xu Z, Wang TY, Wilkinson JE, Fowlkes JB, Roberts WW, Cain CA. Examining and Analyzing Subcellular Morphology of Renal Tissue Treated by Histotripsy. 37:78-86.

Xu J, Bigelow TA. Experimental Investigation of the Effect of Stiffness, Exposure Time and Scan Direction on the Dimension of Ultrasound Histotripsy Lesions. 37:1865-1873.

### Hyperthermia

**Synonyms:** thermotherapy  
**Scopus Search:** Hyperthermia OR thermotherapy PubMed Search

**See also:** High intensity Focused Ultrasound, thermal effects, therapeutic applications of ultrasound

## I

### Image artifacts

**Synonyms:** artefacts, shadowing, imaging errors, defocusing, aliasing, distortion, afterglow, duplication

**Scopus Search:** art\*facts OR shadow\* PubMed Search

**See also:** speckle, image processing

Tsao TF, Wu YL, Yu JM, Kang RJ, Tseng YH, Huang HH, Hung SW, Gueng MK, Lin YC, Tyan YS, Su CH. Color Doppler Twinkling Artifact of Calcified Cardiac Valves In Vitro: A Not Well Known Phenomenon in Echocardiography. 37:386-392.

Soldati G, Giunta V, Sher S, Melosi F, Dini C. Synthetic Comets: A New Look At Lung Sonography. 37:1762-1770.

### Image processing

**Synonyms:** filtering, averaging, denoising, decluttering, image enhancement, attenuation correction

**Scopus Search:** "image processing" OR Filter\* OR averag\* OR denois\* OR \*clutter OR "image enhance\*" OR "attenuation correction" PubMed Search

**See also:** adaptive filtering, feature detection, principle components analysis, speckle, computer aided diagnosis

Zhou Y, Zheng YP. Longitudinal Enhancement of the Hyperechoic Regions in Ultrasonography of Muscles Using a Gabor Filter Bank Approach: A Preparation for Semi-Automatic Muscle Fiber Orientation Estimation. 37:665-673.

Rajpoot K, Grau V, Noble JA, Szmigielski C, Becher H. Multiview Fusion 3-d Echocardiography: Improving the Information and Quality of Real-Time 3-D Echocardiography. 37:1056-1072.

Zhao X, Zhong H, Wan M, Shen L. Ultrasound Contrast Imaging Based on a Novel Algorithm Combined Pulse Inversion with Wavelet Transform. 37:1292-1305.

Kie B. Speckle Reduction in Ultrasound Images Using Nonisotropic Adaptive Filtering. 37:1677-1688.

### Image reconstruction

**Synonyms:** compound imaging, compounding, spatial compound sonography (SONOCT), mapping, surface reconstruction, volume reconstruction

**Scopus Search:** reconstruction OR compound\* OR SONOCT OR map\* PubMed Search

Herd M-T, Hall TJ, Jiang J, Zagzebski JA. Improving the Statistics of Quantitative Ultrasound Techniques with Deformation Compounding: An Experimental Study. 37:2066-2074.

### Image segmentation

**Synonyms:** Partitioning Clustering

**Scopus Search:** segmentation OR Partitioning OR Clustering PubMed Search

**See also:** computer aided diagnosis, image processing

Nillesen MM, Lopata RGP, Huisman HJ, Thijssen JM, Kapusta L, de Korte CL. Correlation Based 3-D Segmentation of the Left Ventricle in Pediatric Echocardiographic Images Using Radio-Frequency Data. 37:1409-1420.

Moraes MC, Furuie SS. Automatic Coronary Wall Segmentation in Intravascular Ultrasound Images Using Binary Morphological Reconstruction. 37:1486-1499.

Hacihaliloglu I, Abugharbieh R, Hodgson AJ, Rohling RN. Automatic Adaptive Parameterization in Local Phase Feature-Based Bone Segmentation in Ultrasound. 37:1689-1703.

Sammert S, Evans KD, Okan Irfanoglu M, Strapp A, Machiraju R. The Feasibility of Hybrid Automatic Segmentation of Axillary Lymph Nodes from a 3-D Sonogram. 37:2075-2085.

Marsousi M, Ahmadian A, Kocharian A, Alirezaie J. Active Ellipse Model and Automatic Chamber Detection in Apical Views of Echocardiography Images. 37:2055-2065.

### Image registration

**Synonyms:** correlation, recorelation, fusion, image coregistration, image alignment

**Scopus Search:** registration OR \*correlation OR fusion PubMed Search

**See also:** image processing

Rajpoot K, Grau V, Noble JA, Szmigielski C, Becher H. Multiview Fusion 3-d Echocardiography: Improving the Information and Quality of Real-Time 3-D Echocardiography. 37:1056-1072.

### Immunotherapy

**Synonyms:** immune response

**Scopus Search:** immun\* PubMed Search

**See also:** biological effects

*in memoriam*

Wu J, Mondou E. In Memoriam. 37:1961-1962.

### Instrumentation

**Synonyms:** scanning systems, imaging hardware

**Scopus Search:** instrument\* OR scann\* OR hardware PubMed Search

**See also:** arrays, transducers

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Moran CM, Pye SD, Ellis W, Janeczko A, Morris KD, McNeilly AS, Fraser HM. A Comparison of the Imaging Performance of High Resolution Ultrasound Scanners for Preclinical Imaging. 37:493-501.

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Hangiandreou NJ, Stekel SF, Tradup DJ, Gorny KR, King DM. Four-Year Experience with a Clinical Ultrasound Quality Control Program. 37:1350-1357.

### Intravascular ultrasound

**Synonyms:** IVUS

**Scopus Search:** intravascular OR IVUS PubMed Search

**See also:** blood vessels

Hoffman JJ, Johnson BL, Holland MR, Fedewa RJ, Nair A, Miller JG. Layer-Dependent Variation in the Anisotropy of Apparent Integrated Backscatter from Human Coronary Arteries. 37:632-641.

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Hu XB, Zhang PF, Su HJ, Yi X, Chen L, Rong YY, Zhang K, Li X, Wang L, Sun CL, Cai XJ, Li L, Song JT, Dai XM, Sui XD, Zhang Y, Zhang M. Intravascular Ultrasound Area Strain Imaging Used to Characterize Tissue Components and Assess Vulnerability of Atherosclerotic Plaques in a Rabbit Model. 37:1579-1587.

Herickhoff CD, Wilson CM, Grant GA, Britz GW, Light ED, Palmeri ML, Wolf PD, Smith SW. Dual-Mode IVUS Transducer for Image-Guided Brain Therapy: Preliminary Experiments. 37:1667-1676.

### Ischemia

**Synonyms:** ischaemia

**Scopus Search:** isch\*emia OR isch\*emic PubMed Search

**See also:** thrombolysis, atherosclerosis, blood perfusion

Barton M, Turner AT, Newens KJ, Williams CM, Thompson AK. Minimum Recovery Time Between Reactive Hyperemia Stimulus in the Repeated Measurement of Brachial Flow-Mediated Dilatation. 37:879-883.

## K

### Kidney

**Synonyms:** nephrology, renal

**Scopus Search:** kidney OR neph\* OR renal PubMed Search

Zhou X, Yan F, Luo Y, Peng YL, Parajuly SS, Wen XR, Cai DM, Li YZ. Characterization and Diagnostic Confidence of a Contrast-Enhanced Ultrasound for Solid Renal Tumors. 37:845-853.

## L

### Letters to the editor

Nillesen MM, Lopata RG, Thijssen JM, Kapusta L, de Korte CL. A Response to: A Critical Review and Uniformized Representation of Statistical Distributions Modeling the Ultrasound Echo Envelope. 37:674-674.

Cloutier G, Destrempes F. Response to the Letter to the Editor-in-Chief on Manuscript Entitled: "A Critical Review and

Uniformized Representation of Statistical Distributions Modeling the Ultrasound Echo Envelope". 37:675-676.

Ahmadzadehfah H, Biermann K, Sabet A, Biersack HJ. A Letter Regarding Diagnostic Accuracy of Ultrasound and 18-F-FDG PET or PET/CT for Patients With a Suspected Recurrent Papillary Thyroid Carcinoma. 37:840-840.

Choi JW, Lee JH. Response to a Letter Regarding Diagnostic Accuracy of Ultrasound and 18-F-FDG PET or PET/CT for Patients With Suspected Recurrent Papillary Thyroid Carcinoma. 37:841-841.

### Ligament

**Synonyms:** Connective tissue, Collagen

**Scopus Search:** Ligament OR Collagen OR "Connective tissue" PubMed Search

**See also:** tendon

### Liposomes

**Synonyms:** vesicle, reverse micelle

**Scopus Search:** Liposome\* OR vesicle\* OR micelle PubMed Search

**See also:** contrast agents, drug delivery

### Lithotripsy

**Synonyms:** Extracorporeal lithotripsy, shock-wave lithotripsy (SWL), gall stones, kidney stones, calcification, choleliths, calculus/i

**Scopus Search:** Lithotrip\* OR ESWL OR SWL OR "gall stones" OR "kidney stones" OR calcification OR choleliths OR calcul\* PubMed Search

**See also:** cavitation, shock waves, therapeutic applications of ultrasound

### Liver

**Synonyms:** hepatic

**Scopus Search:** Liver OR hepat\* PubMed Search

Orlacchio A, Bolacchi F, Petrella MC, Pastorelli D, Bazzocchi G, Angelico M, Simonetti G. Liver Contrast Enhanced Ultrasound Perfusion Imaging in the Evaluation of Chronic Hepatitis C Fibrosis: Preliminary Results. 37:1-6.

Santambrogio R, Costa M, Strada D, Bertolini E, Zuin M, Barabino M, Opocher E. Intraoperative Ultrasound Score to Predict Recurrent Hepatocellular Carcinoma After Radical Treatments. 37:7-15.

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With High-Intensity Focused Ultrasound for Unresectable Hepatocellular Carcinoma: A Systematic Review and Meta-Analysis of the Chinese Literature. 37:1009-1016.

Tao S, Qin Z, Hao W, Yongquan L, Lanhui Y, Lei Y. Usefulness of Gray-Scale Contrast-Enhanced Ultrasonography (SonoVue®) in Diagnosing Hepatic Alveolar Echinococcosis. 37:1024-1028.

Fernandez-Dominguez I, Echevarria-Uraga JJ, Gomez N, Luka Z, Wagner C, Lu SC, Mato JM, Martínez-Chantar ML, Rodríguez-Cuesta J. High-Frequency Ultrasound Imaging for Longitudinal Evaluation of Non-Alcoholic Fatty Liver Disease Progression in Mice. 37:1161-1169.

Bavu E, Gennisson JL, Couade M, Bercoff J, Mallet V, Fink M, Badel A, Vallet-Pichard As, Nalpas B, Tanter M, Pol S. Noninvasive In Vivo Liver Fibrosis Evaluation Using Supersonic Shear Imaging: A Clinical Study on 113 Hepatitis C Virus Patients. 37:1361-1373.

Wang S, Raju BI, Leyvi E, Weinstein DA, Seip R. Acoustic Accessibility Investigation for Ultrasound Mediated Treatment of Glycogen Storage Disease Type Ia Patients. 37:1469-1477.

Tang A, Kim TK, Heathcote J, Guindi M, Jang H-J, Karshafian R, Burns PN, Wilson SR. Does Hepatic Vein Transit Time Performed with Contrast-Enhanced Ultrasound Predict the Severity of Hepatic Fibrosis? 37:1963-1969.

#### Low frequency ultrasound

**Synonyms:** LFUS

**Scopus Search:** “Low frequency ultrasound” OR LFUS  
PubMed Search

**See also:** physiotherapy

O’Daly BJ, Morris E, Gavin GP, O’Keane C, O’Byrne JM, McGuinness GB. High Power, Low Frequency Ultrasound: Meniscal Tissue Interaction and Ablation Characteristics. 37:556-567.

Adzerikho IE, Mrochek AG, Minchenya VT, Dmitriev VV, Kulak AI. Combined Low-Frequency Ultrasound and Streptokinase Intravascular Destruction of Arterial Thrombi In Vivo. 37:1644-1652.

Ren ST, Zhang H, Wang YW, Jing BB, Li YX, Liao YR, Kang XN, Zang WJ, Wang B. The Preparation of a New Self-Made Microbubble-Loading Urokinase and its Thrombolysis Combined with Low-Frequency Ultrasound in vitro. 37: 1828-1837.

#### Low intensity ultrasound

**Synonyms:** Low intensity pulsed ultrasound, LIPUS, LIFU

**Scopus Search:** “low\*intensity ultrasound” OR LIPUS OR LIFU PubMed Search

Hsu SK, Huang WT, Liu BS, Li SM, Chen HT, Chang CJ. Effects of Near-Field Ultrasound Stimulation on New Bone Formation and Osseointegration of Dental Titanium Implants In Vitro and In Vivo. 37:403-416.

Cheung WH, Chow SK, Sun MH, Qin L, Leung KS. Low-Intensity Pulsed Ultrasound Accelerated Callus Formation, Angiogenesis and Callus Remodeling in Osteoporotic Fracture Healing. 37:231-238.

Chung SL, Pounder NM, de Ana FJ, Qin L, Sui Leung K, Cheung WH. Fracture Healing Enhancement With Low Intensity Pulsed Ultrasound at a Critical Application Angle. 37:1120-1133.

Ogawa T, Ishii T, Mishima H, Nishino T, Watanabe A, Ochiai N. Is Low-Intensity Pulsed Ultrasound Effective for Revitalizing a Severely Necrotic Small Bone? An Experimental Rabbit Model. 37:2028-2036.

#### Lung

**Synonyms:** pulmonary, pneumonic, respiratory system, alveolar, bronchular, thoracic, pleural

**Scopus Search:** Lung OR Pulmo\* OR Pneum\* OR bronch\* OR Alveol\* OR Thora\* OR “respiratory system” OR pleural  
PubMed Search

Kuo C-H, Lin S-M, Chung F-T, Lee K-Y, Ni Y-L, Lo Y-L, Chen H-C, Kuo H-P. Echoic Features as Predictors of Diagnostic Yield of Endobronchial Ultrasound-Guided Transbronchial Lung Biopsy in Peripheral Pulmonary Lesions. 37:1755-1761.

Soldati G, Giunta V, Sher S, Melosi F, Dini C. Synthetic Comets: A New Look At Lung Sonography. 37:1762-1770.

#### Lymphatic system

**Synonyms:** lymph nodes

**Scopus Search:** lymph\* PubMed Search

Sammet S, Evans KD, Okan Irfanoglu M, Strapp A, Machiraju R. The Feasibility of Hybrid Automatic Segmentation of Axillary Lymph Nodes from a 3-D Sonogram. 37:2075-2085.

#### M

##### Magnetic Resonance Imaging

**Synonyms:** MRI, nuclear imaging, MR imaging

**Scopus Search:** “Magnetic Resonance Imaging” OR MR\* OR “nuclear imaging” PubMed Search

##### Mammography

**Synonyms:** breast imaging, breast screening, mammogram

**Scopus Search:** Mammogra\* OR “breast imaging” OR “breast screening” PubMed Search

**See also:** breast

##### Mechanical effects

**Scopus Search:** “mechanical effects” PubMed Search

**See also:** cavitation, radiation force, safety

ter Haar G, Shaw A, Pye S, Ward B, Bottomley F, Nolan R, Coady AM. Guidance on Reporting Ultrasound Exposure Conditions for Bio-Effects Studies. 37:177-183.



O'Daly BJ, Morris E, Gavin GP, O'Keane C, O'Byrne JM, McGuinness GB. High Power, Low Frequency Ultrasound: Meniscal Tissue Interaction and Ablation Characteristics. 37:556-567.

Romeo P, d'Agostino MC, Lazzarini A, Sansone VC. Extracorporeal Shock Wave Therapy in Pillar Pain After Carpal Tunnel Release: A Preliminary Study. 37:1603-1608.

Arvanitis CD, Bazan-Peregrino M, Rifai B, Seymour LW, Coussios CC. Cavitation-Enhanced Extravasation for Drug Delivery. 37:1838-1852.

### Mechanical index

**Synonyms:** MI, cavitation threshold

**Scopus Search:** "mechanical index" OR MI\* OR "cavitation threshold" PubMed Search

**See also:** cavitation, exposimetry, safety

### MEMS

**Synonyms:** Micro-electromechanical systems, microsystems technology

**Scopus Search:** MEMS OR "Micro\*electromechanical systems" OR "micro\*systems technology" PubMed Search

**See also:** instrumentation, transducers

### Modelling

**Synonyms:** simulations, theory, mathematical, in silico

**Scopus Search:** Modelling OR simulation\* OR theor\* OR mathemat\* OR "in silico" PubMed Search

Girault JM, Kouamé D, Ménigot S, Souchon G, Tranquart F. Analysis of Index Modulation in Microembolic Doppler Signals Part I: Radiation Force as a New Hypothesis—Simulations. 37:87-101.

Miri AK, Mitri FG. Acoustic Radiation Force on a Spherical Contrast Agent Shell Near a Vessel Porous Wall-Theory. 37:301-311.

Vos HJ, Dollet B, Versluis M, De Jong N. Nonspherical Shape Oscillations of Coated Microbubbles in Contact With a Wall. 37:935-948.

Caputo M, Carcione JM, Cavallini F. Wave Simulation in Biologic Media Based on the Kelvin-Voigt Fractional-Derivative Stress-Strain Relation. 37:996-1004.

Leckey CAC, Hinders MK. Newtonian Viscous Effects in Ultrasonic Emboli Removal from Blood. 37:1340-1349.

Song X, Ta D, Wang W. Analysis of Superimposed Ultrasonic Guided Waves in Long Bones by the Joint Approximate Diagonalization of Eigen-matrices Algorithm. 37:1704-1713.

### Molecular imaging

**Synonyms:** molecular tagging, targeted imaging, biomarkers

**Scopus Search:** "molecular imaging" OR "molecular tagging" OR "targeted imaging" OR bio\*markers PubMed Search

Myrset AH, Fjerdingsstad HB, Bendiksen R, Arbo BE, Bjerke RM, Johansen JH, Kulseth MA, Skurtveit R. Design and Characterization of Targeted Ultrasound Microbubbles for Diagnostic Use. 37:136-150.

Overvelde M, Garbin V, Dollet B, De Jong N, Lohse D, Versluis M. Dynamics of Coated Microbubbles Adherent to a Wall. 37:1500-1508.

### Motion analysis

**Synonyms:** motion tracking, motion compensation, M mode, phased tracking method

**Scopus Search:** Motion OR "phased tracking" OR M\*mode PubMed Search

Testa A, Soldati G, Giannuzzi R, Berardi S, Portale G, Gentiloni Silveri N. Ultrasound M-Mode Assessment of Diaphragmatic Kinetics by Anterior Transverse Scanning in Healthy Subjects. 37:44-52.

Chao PK, Chan HL, Wang CL, Wu LS. Patterns of Left Ventricular Contraction in Strain Vector Space Related to Bundle Branch Block with Heart Failure by Speckle-Tracking Echocardiography. 37:595-604.

Luo J, Konofagou EE. Imaging of Wall Motion Coupled With Blood Flow Velocity in the Heart and Vessels in Vivo: A Feasibility Study. 37:980-995.

Snare SR, Mjølstad OC, Orderud F, Haugen BrO, Torp H. Fast Automatic Measurement of Mitral Annulus Excursion Using a Pocket-Sized Ultrasound System. 37:617-631.

Li Y, Garson CD, Xu Y, Helm PA, Hossack JA, French BA. Serial Ultrasound Evaluation of Intramyocardial Strain After Reperfused Myocardial Infarction Reveals That Remote Zone Dyssynchrony Develops in Concert With Left Ventricular Remodeling. 37:1073-1086.

Lopata RGP, Nillesen MM, Thijssen JM, Kapusta L, de Korte CL. Three-Dimensional Cardiac Strain Imaging in Healthy Children Using RF-Data. 37:1399-1408.

Zahnd G, Bousset Lc, Marion A, Durand M, Moulin P, Serusclat A, Vray D. Measurement of Two-Dimensional Movement Parameters of the Carotid Artery Wall for Early Detection of Arteriosclerosis: A Preliminary Clinical Study. 37:1421-1429.

### Musculoskeletal

**Synonyms:** Sonomyography

**Scopus Search:** Musc\* OR Sonomyography PubMed Search

Zhou Y, Zheng YP. Longitudinal Enhancement of the Hyperechoic Regions in Ultrasonography of Muscles Using a Gabor Filter Bank Approach: A Preparation for Semi-Automatic Muscle Fiber Orientation Estimation. 37:665-673.

Guo JY, Zheng YP, Kenney LPJ, Bowen A, Howard D, Canderle JJ. A Comparative Evaluation of Sonomyography, Electromyography, Force, and Wrist Angle in a Discrete Tracking Task. 37:884-891.

Lindberg F, Öhberg F, Granåsen G, Brodin LÅ, Grönlund C. Pennation Angle Dependency in Skeletal Muscle Tissue Doppler Strain in Dynamic Contractions. 37:1151-1160.

Chen HS, Lin SH, Hsu YH, Chen SC, Kang JH. A Comparison of Physical Examinations with Musculoskeletal Ultrasound in the Diagnosis of Biceps Long Head Tendinitis. 37:1392-1398.

## N

### Nervous system

**Synonyms:** neurology

**Scopus Search:** Neuro\* OR nerv\* PubMed Search

Chen DZ, Cong R, Zheng MJ, Zhu T, Coles G, Feng H, Zhou XD, Zhu YS. Differential Diagnosis between Pre- and Postganglionic Adult Traumatic Brachial Plexus Lesions by Ultrasonography. 37:1196-1203.

Park HJ, Kim SS, Rho MH, Hong HP, Lee SY. Sonographic Appearances of Morton's neuroma: Differences From Other Interdigital Soft Tissue Masses. 37:1204-1209.

Roll SC, Case-Smith J, Evans KD. Diagnostic Accuracy of Ultrasonography VS. Electromyography in Carpal Tunnel Syndrome: A Systematic Review of Literature. 37:1539-1553.

Romeo P, d'Agostino MC, Lazzarini A, Sansone VC. Extracorporeal Shock Wave Therapy in Pillar Pain After Carpal Tunnel Release: A Preliminary Study. 37:1603-1608.

### Neurosonology

**Synonyms:** brain imaging, transcranial

**Scopus Search:** Neurosonology OR "brain imaging" OR transcranial PubMed Search

**See also:** brain, transcranial Doppler

### Nonlinear effects

**Synonyms:** nonlinear propagation, acoustic nonlinearity, harmonic distortion

**Scopus Search:** nonlinear\* OR non-linear\* OR "non linear\*" OR harmonic PubMed Search

**See also:** finite amplitude effects, harmonic imaging, shock waves

## O

### Obstetrics

**Synonyms:** prenatal, fetal, gynaecology, foetal, FBM, FHR

**Scopus Search:** obstetric\* OR gynaecolog\* OR gynecolog\* OR pre\*natal PubMed Search

**See also:** uterus

Baggio MR, Martins WP, Calderon AC, Berezowski AT, Marcolin AC, Duarte G, Cavalli RC. Changes in Fetal and Maternal Doppler Parameters Observed During Acute Severe Hypertension Treatment with Hydralazine or Labetalol: A Randomized Controlled Trial. 37:53-58.

Fujita Y, Athayde N, Tokunaga S, Trudinger B. Measurement of Cardiac Contractility Using Fetal Isovolumetric Contraction Time in Fetal Tachyarrhythmia. 37:184-188.

Jones NW, Raine-Fenning NJ, Bradley E, Bugg G. Placental 3-D Power Doppler Angiography - Regional Variation and Reliability of Two Ultrasonic Sphere Biopsy Techniques. 37:364-375.

Jones NW, Raine-Fenning NJ, Mousa HA, Bradley E, Bugg GJ. Evaluating the Intra- and Interobserver Reliability of Three-Dimensional Ultrasound and Power Doppler Angiography (3D-PDA) for Assessment of Placental Volume and Vascularity in the Second Trimester of Pregnancy. 37:376-385.

Park IY, Kwon JY, Kwon JY, Hong SC, Choi HM, Kwon HS, Won HS, Kim JW, Jun JK. Usefulness of Cervical Volume by Three-Dimensional Ultrasound in Identifying the Risk for Preterm Birth. 37:1039-1045.

Carr DJ, Aitken RP, Milne JS, David AL, Wallace JM. Ultrasonographic Assessment of Growth and Estimation of Birthweight in Late Gestation Fetal Sheep. 37:1588-1595.

Hata T, Kanenishi K, Sasaki M, Yanagihara T. Fetal Reflex Movement in Twin Pregnancies Late in the First Trimester: 4-D Sonographic Study. 37:1948-1951.

Martins WP, Welsh AW, Lima JC, Natri CO, Raine-Fenning NJ. The Volumetric Pulsatility Index as Evaluated by Spatiotemporal Imaging Correlation (STIC): A Preliminary Description of a Novel Technique, Its Application to the Endometrium and an Evaluation of Its Reproducibility. 37:2160-2168.

### Ophthalmology

**Scopus Search:** Ophthalmolog\* PubMed Search

**See also:** eyes

### Optoacoustic

**See Photoacoustic**

### Orthopedic

**See Musculoskeletal, Bone**

### Osteoarthritis

**Synonyms:** arthritis

**Scopus Search:** \*arthritis PubMed Search

**See also:** bone, bone density measurement

Saarakkala S, Wang SZ, Huang YP, Jurvelin JS, Zheng YP. Characterization of Center Frequency and Bandwidth of Broadband Ultrasound Reflected by the Articular Cartilage to Subchondral Bone Interface. 37:112-121.

Zheng YP, Wang Q, Butt YKC. Real-Time Electro-Mechano-Acoustic Imaging for Monitoring Interactions Between

Trypsin and Different Inhibitors in Articular Cartilage. 37:465-473.

### Osteoporosis

**Synonyms:** loss of bone density, bone fragility

**Scopus Search:** Osteoporosis OR “bone mineral density” PubMed Search

**See also:** bone, bone density measurement

Edelmann-Schafer B, Berthold LD, Stracke H, Luhrmann PM, Neuhauser-Berthold M. Identifying Elderly Women with Osteoporosis by Spinal Dual X-ray Absorptiometry, Calcaneal Quantitative Ultrasound and Spinal Quantitative Computed Tomography: A Comparative Study. 37:29-36.

Cheung WH, Chow SK, Sun MH, Qin L, Leung KS. Low-Intensity Pulsed Ultrasound Accelerated Callus Formation, Angiogenesis and Callus Remodeling in Osteoporotic Fracture Healing. 37:231-238.

### Ovary

**Synonyms:** reproductive system, ovarian

**Scopus Search:** Ovar\* OR “reproductive system” PubMed Search

**See also:** genitourinary

Wang LL, Dong XQ, Shao XH, Wang SM. Ultrasound-Guided Interventional Therapy for Recurrent Ovarian Chocolate Cysts. 37:1596-1602.

## P

### Pain relief

**Synonyms:** pain management

**Scopus Search:** pain\* PubMed Search

**See also:** Healing, Therapeutic applications of ultrasound

Romeo P, d’Agostino MC, Lazzerini A, Sansone VC. Extracorporeal Shock Wave Therapy in Pillar Pain After Carpal Tunnel Release: A Preliminary Study. 37:1603-1608.

### Pancreas

**Synonyms:** pancreatic, gastrointestinal

**Scopus Search:** pancrea\* OR gastrointestinal PubMed Search

**See also:** Gastroenterology

Li W, An L, Liu R, Yao K, Hu M, Zhao G, Tang J, Lv F. Laparoscopic Ultrasound Enhances Diagnosis and Localization of Insulinoma in Pancreatic Head and Neck for Laparoscopic Surgery With Satisfactory Postsurgical Outcomes. 37:1017-1023.

### Pediatrics

**Synonyms:** children, infants, neonates

**Scopus Search:** Pediatrics OR child\* or infant\* OR neonat\* OR neo-nat\* PubMed Search

Lopata RGP, Nillesen MM, Thijssen JM, Kapusta L, de Korte CL. Three-Dimensional Cardiac Strain Imaging in Healthy Children Using RF-Data. 37:1399-1408.

Nillesen MM, Lopata RGP, Huisman HJ, Thijssen JM, Kapusta L, de Korte CL. Correlation Based 3-D Segmentation of the Left Ventricle in Pediatric Echocardiographic Images Using Radio-Frequency Data. 37:1409-1420.

Adamczyk P, Pluskiewicz W, Halaba Z, Nowakowski M, Madaj A, Drozdowska B. Assessment of Skeletal Status by Quantitative Ultrasound at the Hand Phalanges in Children with Bronchial Asthma—A Pilot Study. 37:1802-1807.

### Phantoms

**Synonyms:** mimics, tissue-mimicking, gel phantom, gelatine, agarose, tofu, polyacrylamide, urethane foam, flow model, flow cell

**Scopus Search:** phantom\* OR mimic\* OR tissue-mimic\* OR Gel\* OR agar\* OR polyacrylamide OR urethane OR “flow cell\*” OR “flow model\*” PubMed Search

Cannon LM, Fagan AJ, Browne JE. Novel Tissue Mimicking Materials for High Frequency Breast Ultrasound Phantoms. 37:122-135.

King DM, Moran CM, McNamara JD, Fagan AJ, Browne JE. Development of a Vessel-Mimicking Material for use in Anatomically Realistic Doppler Flow Phantoms. 37:813-826.

Gessner RC, Kothadia R, Feingold S, Dayton PA. 3-D Microvessel-Mimicking Ultrasound Phantoms Produced With a Scanning Motion System. 37:827-833.

Madsen EL, Deaner ME, Mehi J. Properties of Phantom Tissue-like Polymethylpentene in the Frequency Range 20-70 MHZ. 37:1327-1339.

### Photoacoustic

**Synonyms:** optoacoustic, ultrasound light modulation, laser ultrasonic

**Scopus Search:** Optoacoustic OR photoacoustic OR “ultrasound light modulation” OR “laser ultraso\*” PubMed Search

Wang X, Fowlkes JB, Cannata JM, Hu C, Carson PL. Photoacoustic Imaging With a Commercial Ultrasound System and a Custom Probe. 37:484-492.

Kumon RE, Deng CX, Wang X. Frequency-Domain Analysis of Photoacoustic Imaging Data From Prostate Adenocarcinoma Tumors in a Murine Model. 37:834-839.

### Physiotherapy

**Synonyms:** Physical therapy

**Scopus Search:** Physiotherapy OR “Physical therapy” PubMed Search

**See also:** healing, hyperthermia, therapeutic applications of ultrasound

### Principal components analysis

**Synonyms:** PCA, Decomposition, Dimensionality reduction, Karhunen-Loève transform, Hotelling transform, proper orthogonal decomposition (POD)

**Scopus Search:** “principal components analysis” OR PCA OR Decomposition OR “Karhunen-Loève transform” OR “Hotelling transform” OR “proper orthogonal decomposition” OR POD OR “Dimensionality reduction” PubMed Search

**See also:** feature detection, image processing

Leung KYE, Danilouchkine MG, van Stralen M, De Jong N, van der Steen AFW, Bosch JG. Left Ventricular Border Tracking Using Cardiac Motion Models and Optical Flow. 37:605-616.

#### Prostate

**Synonyms:** prostate gland

**Scopus Search:** prostate OR transrectal OR endorectal OR TRUS PubMed Search

**See also:** genitourinary

Yang CH, Wang SJ, Lin AT-L, Jen YM, Lin CA. Evaluation of Prostate Volume by Transabdominal Ultrasonography With Modified Ellipsoid Formula at Different Stages of Benign Prostatic Hyperplasia. 37:331-337.

Kapoor A, Kapoor A, Mahajan G, Sidhu BS. Real-Time Elastography in the Detection of Prostate Cancer in Patients with Raised PSA Level. 37:1374-1381.

#### Pulsatility index

**Synonyms:** tissue pulsatility imaging

**Scopus Search:** Pulsatil\* PubMed Search

#### Pulse wave velocity

**Synonyms:** pulsed-wave Doppler, Pulse-Wave Imaging (PWI), Pulse-Wave Velocity (PWV)

**Scopus Search:** “Pulse\* wave” OR PWI OR PWV PubMed Search

Beulen BWAM, Bijmens N, Koutsouridis GG, Brands PJ, Rutten MCM, van de Vosse FN. Toward Noninvasive Blood Pressure Assessment in Arteries by Using Ultrasound. 37:788-797.

Giannattasio C, Cesana F, Maestroni S, Salvioni A, Maloberti A, Nava S, Cairo M, Madotto F, Zerboni F, Sironi S, Grassi G, Mancia G. Comparison of Echotracking and Magnetic Resonance Assessment of Abdominal Aorta Distensibility and Relationships with Pulse Wave Velocity. 37:1970-1976.

#### Q

##### Quantitative ultrasound

**Synonyms:** QUS, quantification, quantitation

**Scopus Search:** Quantit\* OR QUS PubMed Search

Sboros V, Averkiou M, Lampaskis M, Thomas DH, Silva N, Strouthos C, Docherty J, McNeilly AS. Imaging of the Ovine Corpus Luteum Microcirculation with Contrast Ultrasound. 37:59-68.

Drozdowska B, Münzer U, Adamczyk P, Pluskiewicz W. Skeletal Status Assessed by Quantitative Ultrasound at the Hand Phalanges in Karate Training Males. 37:214-219.

Mathieu V, Anagnostou F, Soffer E, Haïat G. Ultrasonic Evaluation of Dental Implant Biomechanical Stability: An In Vitro Study. 37:262-270.

Mamou J, Coron A, Oelze ML, Saegusa-Beecroft E, Hata M, Lee P, Machi J, Yanagihara E, Laugier P, Feleppa EJ. Three-Dimensional High-Frequency Backscatter and Envelope Quantification of Cancerous Human Lymph Nodes. 37:345-357.

Chen KY, Chen CN, Wu MH, Ho MC, Tai HC, Huang WC, Chung YC, Chen A, Chang KJ. Computerized Detection and Quantification of Microcalcifications in Thyroid Nodules. 37:870-878.

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Herd M-T, Hall TJ, Jiang J, Zagzebski JA. Improving the Statistics of Quantitative Ultrasound Techniques with Deformation Compounding: An Experimental Study. 37:2066-2074.

Nam K, Zagzebski JA, Hall TJ. Simultaneous Backscatter and Attenuation Estimation Using a Least Squares Method with Constraints. 37:2096-2104.

#### R

##### Radiation force

**Synonyms:** Bjercknes force, Acoustic Radiation Force Impulse Ultrasound (ARFI), acoustic tweezers, ultrasound tweezers, acoustic remote palpation, acoustic trapping

**Scopus Search:** “radiation force” OR ARFI OR Bjercknes OR “acoustic tweezers” OR “ultraso\* tweezers” OR ARP OR trap\* PubMed Search

**See also:** elastography, shear waves

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Miri AK, Mitri FG. Acoustic Radiation Force on a Spherical Contrast Agent Shell Near a Vessel Porous Wall - Theory. 37:301-311.

Bouchard RR, Hsu SJ, Palmeri ML, Rouze NC, Nightingale KR, Trahey GE. Acoustic Radiation Force-Driven Assessment of Myocardial Elasticity Using the Displacement Ratio Rate (DRR) Method. 37:1087-1100.



Leckey CAC, Hinders MK. Newtonian Viscous Effects in Ultrasonic Emboli Removal from Blood. 37:1340-1349.

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### Radio-frequency

**Synonyms:** RF

**Scopus Search:** “radio\*frequency” OR RF PubMed Search

### Respiratory system

**Synonyms:** diaphragm, thoracic

**Scopus Search:** respirator\* OR thora\* OR diaphragm\* PubMed Search

**See also:** lung

Testa A, Soldati G, Giannuzzi R, Berardi S, Portale G, Gentiloni Silveri N. Ultrasound M-Mode Assessment of Diaphragmatic Kinetics by Anterior Transverse Scanning in Healthy Subjects. 37:44-52.

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ter Haar G, Shaw A, Pye S, Ward B, Bottomley F, Nolan R, Coady AM. Guidance on Reporting Ultrasound Exposure Conditions for Bio-Effects Studies. 37:177-183.

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Roll SC, Case-Smith J, Evans KD. Diagnostic Accuracy of Ultrasonography VS. Electromyography in Carpal Tunnel Syndrome: A Systematic Review of Literature. 37:1539-1553.

### Rheumatoid arthritis

**Synonyms:** rheumatism

**Scopus Search:** rheumat\* PubMed Search

Wells AF, Haddad RH. Emerging Role of Ultrasonography in Rheumatoid Arthritis: Optimizing Diagnosis, Measuring Disease Activity and Identifying Prognostic Factors. 37: 1173-1184.

### Robotics-assisted surgery

**Synonyms:** robotic surgery, remote surgery, unmanned surgery

**Scopus Search:** “robot\* surgery” OR “remote surgery” OR “unmanned surgery” PubMed Search

## S

### Safety

**Scopus Search:** safety PubMed Search

**See also:** dosimetry, exposimetry, mechanical index, sonochemistry, thermal effects

### Shear waves

**Synonyms:** transverse waves

**Scopus Search:** “Shear Wave\*” PubMed Search

**See also:** elastography, radiation force

Zhao H, Song P, Urban MW, Kinnick RR, Yin M, Greenleaf JF, Chen S. Bias Observed in Time-of-Flight Shear Wave Speed Measurements Using Radiation Force of a Focused Ultrasound Beam. 37:1884-1892.

### Shock waves

**Synonyms:** shock-wave, shockwave, extracorporeal shock-wave (ESW) therapy, shock-wave lithotripsy

**Scopus Search:** shock\*wave OR ESW PubMed Search

**See also:** finite amplitude effects, lithotripsy, nonlinear effects

Notarnicola A, Tamma R, Moretti L, Panella A, Dell’Endice S, Zallone A, Moretti B. Effect of Shock Wave Treatment on Platelet-Rich Plasma Added to Osteoblast Cultures. 37: 160-168.

Notarnicola A, Moretti L, Tafuri S, Forcignanò M, Pesce V, Moretti B. Reduced Local Perfusion After Shock Wave Treatment of Rotator Cuff Tendinopathy. 37:417-425.

Loske AM, Campos-Guillen J, Fernandez F, Castado-Tostado E. Enhanced Shock Wave-Assisted Transformation of Escherichia coli. 37:502-510.

Wolff KS, Wibmer A, Pusch M, Prusa AM, Pretterklieber M, Teufelsbauer H, Schaden W. The Influence of Comorbidities and Etiologies on the Success of Extracorporeal Shock Wave Therapy for Chronic Soft Tissue Wounds: Midterm Results. 37:1111-1119.

Notarnicola A, Tamma R, Moretti L, Panella A, Dell’Endice S, Zallone A, Moretti B. Effect of Shock Wave Treatment on Platelet-Rich Plasma Added to Osteoblast Cultures. 37: 160-168.

Romeo P, d’Agostino MC, Lazzerini A, Sansone VC. Extracorporeal Shock Wave Therapy in Pillar Pain After Carpal Tunnel Release: A Preliminary Study. 37:1603-1608.

### Signal processing

**Synonyms:** waveform analysis

**Scopus Search:** “signal processing” OR “waveform analysis” PubMed Search

**See also: image processing**

Anderson CC, Gibson AA, Schaffer JE, Peterson LR, Holland MR, Miller JG. Bayesian Parameter Estimation for Characterizing the Cyclic Variation of Echocardiographic Backscatter to Assess the Hearts of Asymptomatic Type 2 Diabetes Mellitus Subjects. *37:805-812.*

Song X, Ta D, Wang W. Analysis of Superimposed Ultrasonic Guided Waves in Long Bones by the Joint Approximate Diagonalization of Eigen-matrices Algorithm. *37:1704-1713.*

Nam K, Zagzebski JA, Hall TJ. Simultaneous Backscatter and Attenuation Estimation Using a Least Squares Method with Constraints. *37:2096-2104.*

**Skin**

**Synonyms:** dermal, transdermal, cutaneous, transcutaneous, subcutaneous

**Scopus Search:** skin OR dermal OR transdermal OR cutaneous OR transcutaneous OR subcutaneous PubMed Search

Chao CYL, Zheng YP, Cheing GLY. Epidermal Thickness and Biomechanical Properties of Plantar Tissues in Diabetic Foot. *37:1029-1038.*

**Sonochemistry**

**Synonyms:** sonochemical

**Scopus Search:** sonochemi\* PubMed Search

**Sonoporation**

**Synonyms:** sonophoresis, phonophoresis, cell membrane permeabilisation, permeability enhancement, molecular delivery, poration, enhanced uptake

**Scopus Search:** Sonoporation OR Sonophoresis OR Phonophoresis OR permeabilisation OR “enhance\* permeability” OR “molecular delivery” OR poration OR “enhance\* uptake” PubMed Search

**See also: cavitation, drug delivery, gene therapy, streaming**

Carson AR, McTiernan CF, Lavery L, Hodnick A, Grata M, Leng X, Wang J, Chen X, Modzelewski RA, Villanueva FS. Gene Therapy of Carcinoma Using Ultrasound-Targeted Microbubble Destruction. *37:393-402.*

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Kowalczyk L, Boudinet MI, El Sanharawi M, Touchard E, Naud MC, Saied A, Jeanny JC, Behar-Cohen F, Laugier P. In Vivo Gene Transfer Into the Ocular Ciliary Muscle Mediated by Ultrasound and Microbubbles. *37:1814-1827.*

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Hensel K, Martin M, Schmitz G. Analysis Of Ultrasound Fields In Cell Culture Wells For In Vitro Ultrasound Therapy Experiments. *37:2105-2115.*

**Speckle**

**Synonyms:** interference pattern, noise

**Scopus Search:** speckle OR noise OR interference PubMed Search

**See also: adaptive filtering, image artifacts, image processing, textural analysis, motion tracking**

Chao PK, Chan HL, Wang CL, Wu LS. Patterns of Left Ventricular Contraction in Strain Vector Space Related to Bundle Branch Block with Heart Failure by Speckle-Tracking Echocardiography. *37:595-604.*

Snare SR, Mjølstad OC, Orderud F, Haugen BrO, Torp H. Fast Automatic Measurement of Mitral Annulus Excursion Using a Pocket-Sized Ultrasound System. *37:617-631.*

Li Y, Garson CD, Xu Y, Helm PA, Hossack JA, French BA. Serial Ultrasound Evaluation of Intramyocardial Strain After Reperfused Myocardial Infarction Reveals That Remote Zone Dyssynchrony Develops in Concert With Left Ventricular Remodeling. *37:1073-1086.*

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Moraes MC, Furuie SS. Automatic Coronary Wall Segmentation in Intravascular Ultrasound Images Using Binary Morphological Reconstruction. *37:1486-1499.*

Kie B. Speckle Reduction in Ultrasound Images Using Nonisotropic Adaptive Filtering. *37:1677-1688.*

**Spectral analysis**

**Synonyms:** spectrum analysis, Fourier analysis, Fourier transform, wavelet transform

**Scopus Search:** “Spectr\* analysis” OR Fourier OR wavelet PubMed Search

Kumon RE, Deng CX, Wang X. Frequency-Domain Analysis of Photoacoustic Imaging Data From Prostate Adenocarcinoma Tumors in a Murine Model. *37:834-839.*

Moraes MC, Furuie SS. Automatic Coronary Wall Segmentation in Intravascular Ultrasound Images Using Binary Morphological Reconstruction. *37:1486-1499.*

**Standing wave**

**Synonyms:** stationary wave, acoustic trapping, ultrasound trapping, acoustic tweezers

**Scopus Search:** “Standing wave” OR “stationary wave” OR trap\* OR USWT PubMed Search

**See also: radiation force**

Bazou D, Kearney R, Mansergh F, Bourdon C, Farrar J, Wride M. Gene Expression Analysis of Mouse Embryonic Stem Cells Following Levitation in an Ultrasound Standing Wave Trap. 37:321-330.

Garvin KA, Dalecki D, Hocking DC. Vascularization of Three-Dimensional Collagen Hydrogels Using Ultrasound Standing Wave Fields. 37:1853-1864.

**Streaming**

**Synonyms:** Acoustic streaming, microstreaming

**Scopus Search:** \*streaming PubMed Search

**See also: radiation force, sonoporation**

**Stroke**

**Synonyms:** cerebrovascular accident (CVA), thrombus, thrombosis, clot

**Scopus Search:** Stroke OR “cerebrovascular accident” OR CVA OR thromb\* PubMed Search

**See also: atherosclerosis, emboli detection, ischemia, thrombolysis**

**T****Technical note**

Ho VHB, Smith MJ, Slater NKH. Effect of Magnetite Nanoparticle Agglomerates on the Destruction of Tumor Spheroids Using High Intensity Focused Ultrasound. 37:169-175.

Faez T, Goertz D, De Jong N. Characterization of Definity(TM) Ultrasound Contrast Agent at Frequency Range of 5-15 MHz. 37:338-342.

Gessner RC, Kothadia R, Feingold S, Dayton PA. 3-D Microvessel-Mimicking Ultrasound Phantoms Produced With a Scanning Motion System. 37:827-833.

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Hangiandreou NJ, Stekel SF, Tradup DJ, Gorny KR, King DM. Four-Year Experience with a Clinical Ultrasound Quality Control Program. 37:1350-1357.

Martz TD, Sheeran PS, Bardin D, Lee AP, Dayton PA. Precision Manufacture of Phase-Change Perfluorocarbon Droplets Using Microfluidics. 37:1952-1957.

**Temperature Imaging**

**Synonyms:** Temperature mapping, Temperature monitoring, Ultrasonic thermometry, Temperature estimation

**Scopus Search:** Temperature OR thermometry PubMed Search

**See also: high intensity focused ultrasound, hyperthermia, thermoacoustic imaging**

**Tendon**

**Synonyms:** Collagen, Connective tissue

**Scopus Search:** tendon OR “connective tissue” OR collagen PubMed Search

Notarnicola A, Moretti L, Tafuri S, Forcignanò M, Pesce V, Moretti B. Reduced Local Perfusion After Shock Wave Treatment of Rotator Cuff Tendinopathy. 37:417-425.

Gruber H, Peer S, Loizides A. The “Dark Tendon Sign” (DTS): A Sonographic Indicator for Idiopathic Trigger Finger. 37:688-692.

Yang X, Coleman DP, Pugh ND, Nokes LDM. A Novel 3-D Power Doppler Ultrasound Approach to the Quantification of Achilles Tendon Neovascularity. 37:1046-1055.

Chen HS, Lin SH, Hsu YH, Chen SC, Kang JH. A Comparison of Physical Examinations with Musculoskeletal Ultrasound in the Diagnosis of Biceps Long Head Tendinitis. 37:1392-1398.

**Testis**

**Synonyms:** Testicular, Paratesticular, Testes, Scrotum

**Scopus Search:** Test\* OR Scrot\* PubMed Search

**Textural analysis**

**Scopus Search:** Textur\* PubMed Search

**See also: Image analysis, speckle**

Moon WK, Shen YW, Huang CS, Chiang LR, Chang RF. Computer-Aided Diagnosis for the Classification of Breast Masses in Automated Whole Breast Ultrasound Images. 37:539-548.

Niu L, Qian M, Yan L, Yu W, Jiang B, Jin Q, Wang Y, Shandas R, Liu X, Zheng H. Real-Time Texture Analysis for Identifying Optimum Microbubble Concentration in 2-D Ultrasonic Particle Image Velocimetry. 37:1280-1291.

**Therapeutic Applications of Ultrasound**

**Synonyms:** ultrasound therapy, sonotherapy

**Scopus Search:** Therap\* OR Sonotherap\* PubMed Search

**See also: healing, high intensity focused ultrasound, hyperthermia, physiotherapy**

Wu F, Shao ZY, Zhai BJ, Zhao CL, Shen DM. Ultrasound Reverses Multidrug Resistance in Human Cancer Cells by Altering Gene Expression of ABC Transporter Proteins and Bax Protein. 37:151-159.

Hsu SK, Huang WT, Liu BS, Li SM, Chen HT, Chang CJ. Effects of Near-Field Ultrasound Stimulation on New Bone Formation and Osseointegration of Dental Titanium Implants In Vitro and In Vivo. 37:403-416.

Notarnicola A, Moretti L, Tafuri S, Forcignanò M, Pesce V, Moretti B. Reduced Local Perfusion After Shock Wave Treatment of Rotator Cuff Tendinopathy. 37:417-425.

Housden RJ, Chen L, Gee AH, Treece GM, Uff C, Fromageau J, Garcia L, Prager RW, Dorward NL, Bamber JC. A New

Method for the Acquisition of Ultrasonic Strain Image Volumes. 37:434-441.

O'Daly BJ, Morris E, Gavin GP, O'Keane C, O'Byrne JM, McGuinness GB. High Power, Low Frequency Ultrasound: Meniscal Tissue Interaction and Ablation Characteristics. 37:556-567.

#### Thermal effects

**Synonyms:** ultrasound heating, tissue heating

**Scopus Search:** "Thermal effects" OR heating PubMed Search

**See also:** high intensity focused ultrasound, hyperthermia, therapeutic effects

Labuda CP, Church CC. Augmentation of HIFU-Induced Heating With Fibers Embedded in a Phantom. 37:442-449.

Harris GR, Herman BA, Myers MR. A Comparison of the Thermal-Dose Equation and the Intensity-Time Product, Itm, for Predicting Tissue Damage Thresholds. 37:580-586.

#### Thermoacoustic imaging

**Synonyms:** Acousto-thermal imaging

**Scopus Search:** thermo\*acoustic OR Acousto\*thermal PubMed Search

**See also:** temperature imaging

#### Thrombolysis

**Synonyms:** sonothrombolysis, recanalisation, clot busting

**Scopus Search:** Thromb\* OR sonothrombolysis OR stroke OR clot OR recanalisation PubMed Search

**See also:** ischemia

Xie F, Everbach EC, Gao S, Drvol LK, Shi WT, Vignon F, Powers JE, Lof J, Porter TR. Effects of Attenuation and Thrombus Age on the Success of Ultrasound and Microbubble-Mediated Thrombus Dissolution. 37:280-288.

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Adzerikho IE, Mrochek AG, Minchenya VT, Dmitriev VV, Kulak AI. Combined Low-Frequency Ultrasound and Streptokinase Intravascular Destruction of Arterial Thrombi In Vivo. 37:1644-1652.

Ren ST, Zhang H, Wang YW, Jing BB, Li YX, Liao YR, Kang XN, Zang WJ, Wang B. The Preparation of a New Self-Made Microbubble-Loading Urokinase and its Thrombolysis Combined with Low-Frequency Ultrasound in vitro. 37:1828-1837.

#### Thyroid

**Synonyms:** Thyroid gland

**Scopus Search:** Thyroid\* OR goitre PubMed Search

Moon HJ, Kwak JY, Kim EK, Kim MJ. Ultrasonographic Characteristics Predictive of Nondiagnostic Results for Fine-Needle Aspiration Biopsies of Thyroid Nodules. 37:549-555.

Chen KY, Chen CN, Wu MH, Ho MC, Tai HC, Huang WC, Chung YC, Chen A, Chang KJ. Computerized Detection and Quantification of Microcalcifications in Thyroid Nodules. 37:870-878.

Wilhelm T, Kr<sup>3</sup>ger J. Ultrasound Studies on the Shift of Cervical Tissues in Different Head and Neck Positions—Impact on Transoral Endoscopic, Minimally Invasive and Conventional Thyroid Surgery. 37:1430-1435.

#### Time-of-flight

**Synonyms:** TOF, transmit time

**Scopus Search:** "Time of flight" OR TOF OR "transmi\* time" PubMed Search

**See also:** velocity

Zhao H, Song P, Urban MW, Kinnick RR, Yin M, Greenleaf JF, Chen S. Bias Observed in Time-of-Flight Shear Wave Speed Measurements Using Radiation Force of a Focused Ultrasound Beam. 37:1884-1892.

#### Time-reversal Acoustics

**Synonyms:** Time-reversal, Time-reversed acoustics, phase conjugation, adaptive focusing

**Scopus Search:** "Time-revers\*" OR "Time revers\*" OR "phase conjugation" OR "adaptive focus\*ing" PubMed Search

#### Tissue characterization

**Synonyms:** tissue identification, tissue differentiation, histoscanning

**Scopus Search:** tissue AND characteri\*ation OR identification OR differentiation OR histoscanning PubMed Search

**See also:** speckle

Bavu E, Gennisson JL, Couade M, Bercoff J, Mallet V, Fink M, Badel A, Vallet-Pichard As, Nalpas B, Tanter M, Pol S. Noninvasive In Vivo Liver Fibrosis Evaluation Using Supersonic Shear Imaging: A Clinical Study on 113 Hepatitis C Virus Patients. 37:1361-1373.

Oh J, Kim SK, Shin DK, Park KS, Park SW, Cho YW. A Simple Ultrasound Correlate of Visceral Fat. 37:1444-1451.

Hu XB, Zhang PF, Su HJ, Yi X, Chen L, Rong YY, Zhang K, Li X, Wang L, Sun CL, Cai XJ, Li L, Song JT, Dai XM, Sui XD, Zhang Y, Zhang M. Intravascular Ultrasound Area Strain Imaging Used to Characterize Tissue Components and Assess Vulnerability of Atherosclerotic Plaques in a Rabbit Model. 37:1579-1587.

Song X, Ta D, Wang W. Analysis of Superimposed Ultrasonic Guided Waves in Long Bones by the Joint Approximate Diagonalization of Eigen-matrices Algorithm. 37:1704-1713.

Choi MJG, Reddy S, Lee JM, Paeng DG, Lee KI, Coleman A. Changes in Ultrasonic Properties of Liver Tissue in Vitro During Heating-Cooling Cycle Concomitant with Thermal Coagulation. 37:2000-2012.



**Tissue Elasticity**

**Synonyms:** Young's modulus, elastic modulus, stiffness

**Scopus Search:** Tissue AND Elasticity OR "Young's modulus" OR "elastic modulus" OR elasticity OR compliance OR stiffness PubMed Search

**See also:** **tissue characterization, elastography**

Lloyd CW, Shmuylovich L, Holland MR, Miller JG, Kovács SJ. The Diastolic Function to Cyclic Variation of Myocardial Ultrasonic Backscatter Relation: The Influence of Parametrized Diastolic Filling (PDF) Formalism Determined Chamber Properties. 37:1185-1195.

Huang CC, Shih CC, Liu TY, Lee PY. Assessing the Viscoelastic Properties of Thrombus Using a Solid-Sphere-Based Instantaneous Force Approach. 37:1722-1733.

**Tissue Engineering**

**Synonyms:** tissue synthesis, remodelling, prostheses

**Scopus Search:** Tissue AND Engineer\* PubMed Search

Winterroth F, Hollman KW, Kuo S, Izumi K, Feinberg SE, Hollister SJ, Fowlkes JB. Comparison of Scanning Acoustic Microscopy and Histology Images in Characterizing Surface Irregularities Among Engineered Human Oral Mucosal Tissues. 37:1734-1742.

Garvin KA, Dalecki D, Hocking DC. Vascularization of Three-Dimensional Collagen Hydrogels Using Ultrasound Standing Wave Fields. 37:1853-1864.

**Toxicity**

**Scopus Search:** Toxicity AND ultraso\* PubMed Search

**See also:** **safety, sonochemistry, ultrasound bioeffects**

**Transcranial ultrasound**

**Synonyms:** TCS, TCD

**Scopus Search:** Transcranial OR TCD OR skull PubMed Search

**See also:** **Doppler**

Katsogridakis E, Dineen NE, Brodie FG, Robinson TG, Panerai RB. Signal-to-Noise Ratio of Bilateral Nonimaging Transcranial Doppler Recordings of the Middle Cerebral Artery is not Affected by Age and Sex. 37:530-538.

Jaipersad TS, Saedon M, Tiivas C, Marshall C, Higman DJ, Imray CHE. Perioperative Transorbital Doppler Flow Imaging Offers an Alternative to Transcranial Doppler Monitoring in Those Patients Without a Temporal Bone Acoustic Window. 37:719-722.

Walter U, Kirsch M, Wittstock M, Müller JU, Benecke R, Wolters A. Transcranial Sonographic Localization of Deep Brain Stimulation Electrodes Is Safe, Reliable and Predicts Clinical Outcome. 37:1382-1391.

Lin YJ, Po HL, Hsu HY, Chung CP, Sheng WY, Hu HH. Transcranial Doppler Studies on Cerebral Autoregulation

Suggest Prolonged Cerebral Vasoconstriction in a Subgroup of Patients with Orthostatic Intolerance. 37:1554-1560.

O'Reilly MA, Muller A, Hynynen K. Ultrasound Insertion Loss of Rat Parietal Bone Appears to be Proportional to Animal Mass at Submegahertz Frequencies. 37:1930-1937.

**Transducers**

**Synonyms:** probe, scanning head

**Scopus Search:** Transducer\* OR probe\* OR "scan\* head" OR "piezoelectric effect" OR \*MUT OR PZT OR "PMN-PT" OR "polyvinylidene fluoride" PubMed Search

**See also:** **arrays, instrumentation**

**Trauma**

**Synonyms:** injury, wound

**Scopus Search:** trauma OR wound PubMed Search

**See also:** **hemorrhage**

**Tumor**

**Synonyms:** tumor, mass, carcinoma, metastasis, melanoma, neoplasm, sarcoma, lymphoma

**Scopus Search:** Tumour OR Tumor OR Mass OR Carcinoma OR Metastasis OR Melanoma OR Neoplasm OR Sarcoma OR Lymphoma PubMed Search

**See also:** **cancer**

Ho VHB, Smith MJ, Slater NKH. Effect of Magnetite Nanoparticle Agglomerates on the Destruction of Tumor Spheroids Using High Intensity Focused Ultrasound. 37:169-175.

Li W, An L, Liu R, Yao K, Hu M, Zhao G, Tang J, Lv F. Laparoscopic Ultrasound Enhances Diagnosis and Localization of Insulinoma in Pancreatic Head and Neck for Laparoscopic Surgery With Satisfactory Postsurgical Outcomes. 37:1017-1023.

Park HJ, Kim SS, Rho MH, Hong HP, Lee SY. Sonographic Appearances of Morton's neuroma: Differences From Other Interdigital Soft Tissue Masses. 37:1204-1209.

**U****Ultrasonic vibration cutting**

**Synonyms:** Ultrasonic scalpel

**Scopus Search:** "ultrasonic vibration cutting" OR "ultrasonic scalpel" PubMed Search

**Ultrasound guided surgery**

**Synonyms:** intraoperative imaging, ultrasonic guidance, image guided surgery

**Scopus Search:** "Ultraso\* guid\* surgery" OR "ultraso\* treatment monitoring" OR "intraoperative imaging" OR "image\*guid\*" OR "intraoperative guid\*" PubMed Search

Santambrogio R, Costa M, Strada D, Bertolini E, Zuin M, Barabino M, Opocher E. Intraoperative Ultrasound Score to

- Predict Recurrent Hepatocellular Carcinoma After Radical Treatments. 37:7-15.
- Thittai AK, Galaz B, Ophir J. Visualization of HIFU-Induced Lesion Boundaries by Axial-Shear Strain Elastography: A Feasibility Study. 37:426-433.
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- Aly AH, Ginsberg HJ, Cobbold RSC. On Ultrasound Imaging for Guided Screw Insertion in Spinal Fusion Surgery. 37:651-664.
- Lorentzen T, Nolsøe C, Skjoldbye Br. Ultrasound-Guided Drainage of Deep Pelvic Abscesses: Experience With 33 Cases. 37:723-728.
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- Winkler I, Adam D. Monitoring Radio-Frequency Thermal Ablation with Ultrasound by Low Frequency Acoustic Emissions - In Vitro and In Vivo Study. 37:755-767.
- Nandlall SD, Jackson E, Coussios CC. Real-Time Passive Acoustic Monitoring of HIFU-Induced Tissue Damage. 37:922-934.
- Fukuda H, Ito R, Ohto M, Sakamoto A, Karasawa E, Yamaguchi T, Shinozuka N, Zhu H, Wanga ZB. Treatment of Small Hepatocellular Carcinomas with US-Guided High-Intensity Focused Ultrasound. 37:1222-1229.
- Curiel L, Hynynen K. Localized Harmonic Motion Imaging for Focused Ultrasound Surgery Targeting. 37:1230-1239.
- Wilhelm T, Kr<sup>3</sup>ger J. Ultrasound Studies on the Shift of Cervical Tissues in Different Head and Neck Positions—Impact on Transoral Endoscopic, Minimally Invasive and Conventional Thyroid Surgery. 37:1430-1435.
- Wang LL, Dong XQ, Shao XH, Wang SM. Ultrasound-Guided Interventional Therapy for Recurrent Ovarian Chocolate Cysts. 37:1596-1602.
- Mast TD, Barthe PG, Makin IR, Slayton MH, Karunakaran CP, Burgess MT, Alqadah A, Rudich SM. Treatment of Rabbit Liver Cancer In Vivo Using Miniaturized Image-Ablate Ultrasound Arrays. 37:1609-1621.
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