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| October 20, 2020 | Modulation of vascular response after injury in the rat Achilles tendon alters healing capacity | Tendons are relatively hypovascular but become hypervascular during both injury and degeneration. |
| October 16, 2020 | Clinically-applicable perfluorocarbon-loaded nanoparticles for in vivo photoacoustic, 19f magnetic resonance and fluorescent imaging | Photoacoustic imaging (PAI) is an emerging biomedical imaging technique that is now coming to the clinic. |
| September 09, 2020 | Tetrazine-Derived Near-Infrared Dye as a Facile Reagent for Developing Targeted Photoacoustic Imaging Agents | A new photoacoustic (PA) dye was developed as a simple-to-use reagent for creating targeted PA imaging agents. |
| January 01, 2018 | Ultrasound as a New Imaging Tool to Assess Pathological Change of Joints in Preclinical Mouse Models of Osteoarthritis | Murine osteoarthritis (OA) models are important for exploring OA pathology and treatment in the pre-clinical study. |
| October 19, 2021 | Regional variation of corneal stromal deformation measured by high-frequency ultrasound elastography | The cornea's mechanical response to intraocular pressure elevations may alter in ectatic diseases such as keratoconus. |
| October 19, 2021 | Intercellular arc signaling regulates vasodilation | Injury responses require communication between different cell types in the skin. |
| October 18, 2021 | Nerve Growth Factor-Targeted Molecular Theranostics Based on Molybdenum Disulfide Nanosheet-Coated Gold Nanorods (MoS₂-AuNR) for Osteoarthritis Pain | Osteoarthritis (OA) is a leading cause of chronic pain in the elderly worldwide. |
| October 18, 2021 | Limited Scar Resection for Chronic Achilles Tendon Repair: Use of a Rat Model | Background: Achilles tendon rupture diagnosis is frequently missed, leading to the development of a chronic rupture that requires surgical interventio |
| July 07, 2021 | In vivo photoacoustic imaging for monitoring treatment outcome of corneal neovascularization with metformin eye drops | Corneal neovascularization (CNV) compromises corneal avascularity and visual acuity. |
| June 25, 2021 | Real-time visualisation of peripheral nerve trauma during subepineural injection in pig brachial plexus using micro-ultrasound | Background: Nerve damage is consistently demonstrated after subepineural injection in animal studies, but not after purposeful injection in patients p |
| June 21, 2021 | Hypoxia-induced miR-210 modulates the inflammatory response and fibrosis upon acute ischemia | Hypoxia-induced miR-210 is a crucial component of the tissue response to ischemia, stimulating angiogenesis and improving tissue regeneration. |
| June 07, 2021 | Polydatin prevents calcium pyrophosphate crystal-induced arthritis in mice | Background: Polydatin is a stilbenoid with important antioxidant, anti-inflammatory, and immunomodulating properties. |
| June 07, 2021 | Ultrasonography study of the skin wound healing process in gilthead seabream (Sparus aurata) | This work aimed to carry out an in vivo study of the skin healing process in gilthead seabream (Sparus aurata) after being experimentally wounded. |
| March 25, 2021 | Crumbs proteins stabilize the cone mosaics of photoreceptors and improve vision in zebrafish | Although the unique organization of vertebrate cone mosaics was first described long ago, both their underlying molecular basis and physiological sign |
| March 12, 2021 | Suppression of hypoxia inducible factor 1α by low molecular weight heparin mitigates ventilation induced diaphragm dysfunction in a murine endotoxemia model | Mechanical ventilation (MV) is required to maintain life for patients with sepsis related acute lung injury but can cause diaphragmatic myotrauma with |
| March 08, 2021 | Hydration State and Hyaluronidase Treatment Significantly Affect Porcine Vocal Fold Biomechanics | Objectives: The understanding of vocal fold hydration state, including dehydrated, euhydrated, rehydrated tissue, and how hydration affects vocal fold |

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| March 01, 2021 | Ultrasonography validation for early alteration of diaphragm echodensity and function in the mdx mouse model of Duchenne muscular dystrophy | The mdx mouse model of Duchenne muscular dystrophy is characterized by functional and structural alterations of the diaphragm since early stages of pa |
| March 01, 2021 | Photoacoustic Imaging and Sensing: A New Way to See the Eye | Purpose: Photoacoustics (optoacoustics) is a hybrid technology utilizing light excitation of acoustic responses in targets of interest. |
| March 01, 2021 | Hemodynamic Assay of Hind Limb in Multiple Animal Models | Introduction: Measuring hemodynamic characteristics of injured limbs is paramount to early identification of potentially damaging ischemic conditions, |
| February 23, 2021 | Multispecies Evaluation of a Long-Acting Tenofovir Alafenamide Subdermal Implant for HIV Prophylaxis | New HIV-1 infection rates far outpace the targets set by global health organizations, despite important progress in curbing the progression of the epi |
| February 23, 2021 | Ultrasound Monitoring of Thymus Involution in Septic Mice | Thymus involution is characterized by a progressive regression of thymus size and contributes to immunosuppression in sepsis. |
| January 18, 2021 | A novel mouse model of obstructive sleep apnea by bulking agent-induced tongue enlargement results in left ventricular contractile dysfunction | Aims Obstructive sleep apnea (OSA) is a widespread disease with high global socio-economic impact. |
| January 04, 2021 | Ultrasound-guided platelet-rich plasma injection and multimodality ultrasound examination of peripheral nerve crush injury | Ultrasound-guided platelet-rich plasma (PRP) injection is able to make up for the limitations of applying a single growth factor. |
| November 03, 2020 | Comparison of photoacoustic and fluorescence tomography for the in vivo imaging of ICG-labelled liposomes in the medullary cavity in mice | Few reports quantitatively compare the performance of photoacoustic tomography (PAT) versus fluorescence molecular tomography (FMT) in vivo. |
| November 03, 2020 | Evaluation of Hemodynamics in a Murine Hindlimb Ischemia Model Using Spatial Frequency Domain Imaging | Background and Objectives: Spatial frequency domain imaging (SFDI), an optical imaging technique capable of quantitatively measuring tissue hemodynami |
| October 19, 2020 | Deficiency of β-arrestin2 exacerbates inflammatory arthritis by facilitating plasma cell formation | β -arrestin2 (β -arr2) is, a key protein that mediates desensitization and internalization of G protein-coupled receptors and participates in inflammato |
| October 19, 2020 | IOP-induced regional displacements in the optic nerve head and correlation with peripapillary sclera thickness | Mechanical insult induced by intraocular pressure (IOP) is likely a driving force in the disease process of glaucoma. |
| October 16, 2020 | Dual-modal magnetic resonance and photoacoustic tracking and outcome of transplanted tendon stem cells in the rat rotator cuff injury model | Stem cells have been used to promote the repair of rotator cuff injury, but their fate after transplantation is not clear. |
| October 16, 2020 | Long-Term Monitoring of Donor Xenogeneic Testis Tissue Grafts and Cell Implants in Recipient Mice Using Ultrasound Biomicroscopy | Testis tissue xenografting and testis cell aggregate implantation from various donor species into recipient mice are novel models for the study and ma |
| October 16, 2020 | Ergogenic Effect of BCAAs and L-Alanine Supplementation: Proof-of-Concept Study in a Murine Model of Physiological Exercise | Background: Branched-chain amino acids (BCAAs: leucine, isoleucine, valine) account for 35% of skeletal muscle essential amino acids (AAs). |
| September 09, 2020 | EphA7+ perivascular cells as myogenic and angiogenic precursors improving skeletal muscle regeneration in a muscular dystrophic mouse model | Skeletal muscle has a capacity for muscular regeneration mediated by satellite cells (SCs) and non-SCs. |

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| March 30, 2020 | Cutaneous optical coherence tomography for longitudinal volumetric assessment of intradermal volumes in a mouse model | Clinical evaluation of skin lesions requires precise and reproducible technologies for their qualitative and quantitative assessment. |
| January 01, 2020 | 3D High-Frequency Ultrasound Imaging of Cartilage-Bone Interface Compared with Micro-CT | Cartilage-bone interface (CBI) is a complex structure which bears important information in pathophysiology of osteoarthritis (OA). |
| July 01, 2019 | Accuracy of Ultrasound-Guided versus Landmark-Guided Intra-articular Injection for Rat Knee Joints | Abstract—Our aim was to test the effectiveness of ultrasound-guided intra-articular (IA) injection into the knee joint of rodents by an inexperienced |
| January 01, 2019 | Fibro-Adipogenic Remodeling of the Diaphragm in Obesity-Associated Respiratory Dysfunction | Respiratory dysfunction is a common complication of obesity, conferring cardiovascular morbidity, increased mortality and often necessitating mechanic |
| January 01, 2019 | Assessment of Age-related Oxygenation Changes in Calf Skeletal Muscle by Photoacoustic Imaging: A Potential Tool for Peripheral Arterial Disease | Peripheral artery disease is often asymptomatic, and various imaging and nonimaging techniques have been used for assessment and monitoring treatments |
| January 01, 2019 | Non Invasive Ultrasound Quantification of Scar Tissue Volume Identifies Early Functional Changes During Tendon Healing | Tendon injuries are very common and disrupt the transmission of forces from muscle to bone, leading to impaired function and quality of life. |
| December 16, 2018 | Improving Stem Cell Delivery to the Trabecular Meshwork Using Magnetic Nanoparticles | Glaucoma is a major cause of blindness and is frequently associated with elevated intraocular pressure. |
| December 12, 2018 | Biceps Detachment Preserves Joint Function in a Chronic Massive Rotator Cuff Tear Rat Model | Background: Lesions of the long head of the biceps tendon are often associated with massive rotator cuff tears (MRCTs), and biceps tenotomy is frequen |
| December 01, 2018 | Photoacoustic imaging for monitoring periodontal health: A first human study | The gold-standard periodontal probe is an aging tool that can detect periodontitis and monitor gingival health but is highly error-prone, does not ful |
| November 24, 2018 | Indocyanine Green labeling for optical and photoacoustic imaging of Mesenchymal Stem Cells after in vivo transplantation | The transplantation of Mesenchymal Stem Cells (MSCs) holds great promise for the treatment of a plethora of human diseases, but new non-invasive proce |
| November 15, 2018 | Lycium Barbarum Polysaccharides Improve Retinopathy in Diabetic Sprague-Dawley Rats | Diabetic retinopathy (DR) has become the most frequent cause of impaired visual acuity and blindness in working-age population in developed countries. |
| August 22, 2018 | Hydrogen peroxide induced tendinopathic changes in a rat model of patellar tendon injury | Tendinopathy includes cases with chronic tendon pain and spontaneous tendon ruptures, which is putatively resulted from failed tendon healing. |
| July 25, 2018 | Regional Deformation of the Optic Nerve Head and Peripapillary Sclera During IOP Elevation | PURPOSE: To measure the deformation of the porcine optic nerve head (ONH) and peripapillary sclera (PPS) in response to intraocular pressure (IOP) ele |
| July 05, 2018 | Titin-based mechanosensing modulates muscle hypertrophy | Background Titin is an elastic sarcomeric filament that has been proposed to play a key role in mechanosensing and trophicity of muscle. |
| June 01, 2018 | Non-uniformity in pre-insertional Achilles tendon is not influenced by changing knee angle during isometric contractions | Achilles tendinopathy remains a prevalent condition among recreational and high-level athletes. |

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| March 26, 2018 | Positive End-expiratory Pressure Ventilation Induces Longitudinal Atrophy in Diaphragm Fibers | RATIONALE: Diaphragm weakness in critically ill patients prolongs ventilator dependency and duration of hospital stay, and increases mortality and hea |
| March 01, 2018 | Strain imaging of the lateral collateral ligament using high frequency and conventional ultrasound imaging: An ex-vivo comparison | Recent first attempts of in situ ultrasound strain imaging in collateral ligaments encountered a number of challenges and illustrated a clear need for |
| January 01, 2018 | High-Frequency Ultrasound Imaging of Tidemark In Vitro in Advanced Knee Osteoarthritis | High-frequency ultrasound imaging has been widely adopted for assessment of the degenerative changes of articular cartilage in osteoarthritis (OA). |
| January 01, 2018 | Photoacoustic imaging of synovial tissue hypoxia in experimental post-traumatic osteoarthritis. | OBJECTIVES: This pilot study aimed to investigate the feasibility of non-invasively assessing synovial tissue hypoxia in vivo using photoacoustic (PA) |
| January 01, 2018 | Nicotine impairs intra-substance tendon healing after full thickness injury in a rat model | Nicotine is harmful to many bodily systems; however, the effects of nicotine on intra-substance tendon healing remain largely unexplored. |
| January 01, 2018 | High-frequency spectral ultrasound imaging (SUSI) visualizes early post-traumatic heterotopic ossification (HO) in a mouse model. | PURPOSE Early treatment of heterotopic ossification (HO) is currently limited by delayed diagnosis due to limited visualization at early time points. |
| January 01, 2018 | Optimal range of injection rates for a lymphatic drug delivery system | The lymphatic drug delivery system (LDDS) is a new technique that permits the injection of drugs into a sentinel lymph node (SLN) at an early stage of |
| January 01, 2018 | Prevascularization of dermal substitutes with adipose tissue-derived microvascular fragments enhances early skin grafting | Split-thickness skin grafts (STSG) are still the gold standard for the treatment of most skin defects. |
| January 01, 2018 | Development and evaluation of a CEACAM6-targeting theranostic nanomedicine for photoacoustic-based diagnosis and chemotherapy of metastatic cancer | Metastasis is the leading cause of cancer-related deaths. |
| January 01, 2018 | Validation of ultrasound as a diagnostic tool to assess vocal cord motion in an animal feasibility study | Background: Post-thyroidectomy dysphonia can result from recurrent laryngeal nerve (RLN) injury. |
| September 01, 2017 | Cystic fibrosis transmembrane conductance regulator mediates tenogenic differentiation of tendon-derived stem cells and tendon repair: accelerating tendon injury healing by intervening in its downstream signaling | Tendons are a mechanosensitive tissue, which enables them to transmit to bone forces that are derived from muscle. |
| June 01, 2017 | Growth hormone secretagogues prevent dysregulation of skeletal muscle calcium homeostasis in a rat model of cisplatin-induced cachexia | BACKGROUND Cachexia is a wasting condition associated with cancer types and, at the same time, is a serious and dose-limiting side effect of cancer ch |
| January 10, 2017 | Biodegradable Magnesium Screws Accelerate Fibrous Tissue Mineralization at the Tendon-Bone Insertion in Anterior Cruciate Ligament Reconstruction Model of Rabbit | The incorporation of tendon graft into bone tunnel is one of the most challenging clinical issues in anterior cruciate ligament (ACL) reconstruction. |
| January 01, 2016 | Ultrahigh Frequency Ultrasound Imaging of the Hand : A New Diagnostic Tool for Hand Surgery | Background: Ultrasonography is a cost-effective, noninvasive, and expedient imaging modality with numerous clinical applications. |
| January 01, 2016 | Stretching reduces skin thickness and improves subcutaneous tissue mobility in a murine model of systemic sclerosis | OBJECTIVE Although physical therapy can help preserve mobility in patients with systemic sclerosis (SSc), stretching has not been used systematically |

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| January 01, 2016 | Aging leads to inferior Achilles tendon mechanics and altered ankle function in rodents | Spontaneous rupture of the Achilles tendon is increasingly common in the middle aged population. |
| January 01, 2016 | Dynamic weight bearing analysis is effective for evaluation of tendinopathy using a customized corridor with multi-directional force sensors in a rat model | Few studies discuss kinetic changes in tendinopathy models. |
| November 11, 2016 | Photoacoustic Imaging for the Detection of Hypoxia in the Rat Femoral Artery and Skeletal Muscle Microcirculation | Photoacoustic (PA) imaging is an emerging technology that combines structural and functional imaging of tissues using laser and ultrasound energy. |
| November 01, 2016 | Local administration of Trolox, a vitamin E analog, reduced tendon adhesion in a chicken model of flexor digitorum profundus tendon injury | Background Hand flexor tendon injuries are compromised with tendon adhesion. |
| November 01, 2016 | Postinjury biomechanics of Achilles tendon vary by sex and hormone status | Achilles tendon ruptures are common injuries. |
| October 01, 2016 | Small Fractions of Muscular Dystrophy Embryonic Stem Cells Yield Severe Cardiac and Skeletal Muscle Defects in Adult Mouse Chimeras | Duchenne muscular dystrophy (DMD) is characterized by the loss of the protein dystrophin, leading to muscle fragility, progressive weakening, and susc |
| September 01, 2016 | Visualization of haemophilic arthropathy in F8 -/- rats by ultrasonography and micro-computed tomography | A major complication of haemophilia is haemophilic arthropathy (HA), a debilitating disorder with an incompletely defined pathobiology. |
| February 01, 2016 | In vivo longitudinal study of rodent skeletal muscle atrophy using ultrasonography | Muscle atrophy is a widespread ill condition occurring in many diseases, which can reduce quality of life and increase morbidity and mortality. |
| January 01, 2015 | Photoacoustic imaging of real-time oxygen changes in chronic leg ulcers after topical application of a haemoglobin spray: a pilot study | Objective: To use a non-invasive measurement of oxygen saturation in chronic leg ulcers after the application of a topical haemoglobin spray to invest |
| January 01, 2015 | Intratendinous Injection of Hyaluronate Induces Acute Inflammation: A Possible Detrimental Effect | Abstract Hyaluronate (HA) is therapeutic for tendinopathy, but an intratendinous HA injection is usu- ally painful; thus, it is not suggested for clin |
| January 01, 2015 | LOW-MAGNITUDE HIGH-FREQUENCY VIBRATION ENHANCED MESENCHYMAL STEM CELL RECRUITMENT IN OSTEOPOROTIC FRACTURE HEALING THROUGH THE SDF-1 / CXCR4 PATHWAY | Low-magnitude high-frequency vibration (LMHFV) has been proven to promote osteoporotic fracture healing. |
| January 01, 2015 | Validation of ultrasonography for non-invasive assessment of diaphragm function in muscular dystrophy | Abstract Duchennemuscular dystrophy (DMD) is a severe, degenerativemuscle disease caused by dystrophin mutations. |
| January 01, 2015 | Systemic Administration of Allogeneic Mesenchymal Stem Cells Does Not Halt Osteoporotic Bone Loss in Ovariectomized Rats. | Mesenchymal stem cells (MSCs) have innate ability to self-renew and immunosuppressive functions, and differentiate into various cell types. |
| January 01, 2015 | High-resolution 3D volumetry versus conventional measuring techniques for the assessment of experimental lymphedema in the mouse hindlimb | Secondary lymphedema is a common complication of cancer treatment characterized by chronic limb swelling with interstitial inflammation. |
| January 14, 2015 | Accuracy of ultrasound-guided intra-articular injections in guinea pig knees | OBJECTIVE: Dunkin Hartley guinea pigs, a commonly used animal model of osteoarthritis, were used to determine if high frequency ultrasound can ensure |

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| October 23, 2014 | Measurement of Endothelium-Dependent Vasodilation in Mice. | OBJECTIVE: Endothelium-dependent, flow-mediated vasodilation after an increase in shear stress at the endothelial lining of conduit arteries during re |
| April 15, 2014 | Exercise performance and peripheral vascular insufficiency improve with AMPK activation in high-fat diet-fed mice | Intermittent claudication is a form of exercise intolerance characterized by muscle pain during walking in patients with peripheral artery disease (PA |
| July 15, 2013 | Glucose-stimulated insulin secretion causes an insulin-dependent nitric oxide-mediated vasodilation in the blood supply of the rat sciatic nerve | This study tested the hypothesis that acute hyperglycemia reduces sciatic nerve blood flow in Sprague-Dawley rats. |
| January 01, 2013 | Injection of Vessel-Derived Stem Cells Prevents Dilated Cardiomyopathy and Promotes Angiogenesis and Endogenous Cardiac Stem Cell Proliferation in mdx/utrn^{-/-} but Not Aged mdx Mouse Models for Duchenne Muscular Dystrophy | Duchenne muscular dystrophy (DMD) is the most common form of muscular dystrophy. |
| September 01, 2012 | Y1R control of sciatic nerve blood flow in the Wistar Kyoto rat. | We hypothesized that neuropeptide Y (NPY) exerts vasoconstrictor properties in sciatic nerve blood supply by a Y1 receptor (Y1R) mechanism. |
| November 15, 2011 | Ultrasound biomicroscopy for biomechanical characterization of healthy and injured triceps surae of rats. | This work describes the use of ultrasound biomicroscopy (UBM) to follow up the degeneration-regeneration process after a laceration injury induced in |
| January 15, 2011 | Ultrasound-guided needle positioning near the sciatic nerve to elicit compound muscle action potentials from the gastrocnemius muscle of the rat. | The use of ultrasound-guided electrode positioning in near-nerve myography was investigated. |
| June 01, 2008 | Muscle ultrasound in neuromuscular disorders. | Muscle ultrasound is a useful tool in the diagnosis of neuromuscular disorders, as these disorders result in muscle atrophy and intramuscular fibrosis |
| May 01, 2008 | Limb Stress-Rest Perfusion Imaging With Contrast Ultrasound for the Assessment of Peripheral Arterial Disease Severity | OBJECTIVES: We hypothesized that stress-rest perfusion imaging of skeletal muscle in the lower extremity with contrast-enhanced ultrasound (CEU) could |