

Inflammatory

Disease / Medical Condition	Biomarker	Imaging technique	Investigators	Comments	Disease Category
Abscess	Leukocyte accumulation	SPECT	Fischman AJ	Tc-99m HMPAO improvement over Tl-201 and Ga-67	Neurological Inflammatory Musculoskeletal Genitourinary Infectious disease Gastrointestinal
Abscess	Restricted diffusion	Diffusion weighted imaging (DWI)	Grant E Gonzalez RG Schaefer P		Neurological Inflammatory Infectious disease
Allergic drug reaction	Increased pulmonary interstitial markings	CT	McLoud TC Shepard J		Endocrine Metabolic Inflammatory
Amyloid arthropathy / crystalline disease	Periarticular erosion	Plain radiographs MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory Metabolic
Arthritis	Joint space narrowing	Plain radiographs	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Arthritis / inflammatory	Articular cartilage thickness	Plain radiographs MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Arthritis / inflammatory	Increased synovial glucose metabolism	PET	Fischman AJ Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Arthritis / inflammatory	Periarticular erosion	Plain radiographs MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Arthritis / inflammatory	Synovial thickening	MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Arthritis / rheumatoid	Articular cartilage thickness	Plain radiographs MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Arthritis / septic	Cyst composition / tissue characterization	PET	Palmer W Rosenthal DI		Infectious disease Musculoskeletal Inflammatory
Arthritis / septic	Increased synovial glucose metabolism	MRI	Palmer W Rosenthal DI		Infectious disease Musculoskeletal Inflammatory
Arthritis / septic	Periarticular erosion	Plain radiographs MRI	Palmer W Rosenthal DI		Infectious disease Musculoskeletal Inflammatory
Arthritis / septic	Synovial thickening	Plain radiographs MRI	Palmer W Rosenthal DI		Infectious disease Musculoskeletal Inflammatory
Cholangitis	Biliary ductal dilatation	MRI	Prasad S Sahani D	MR cholangio-pancreatography	Gastrointestinal Infectious disease Inflammatory
Cholecystitis	Gallstones Gallbladder wall thickening	US CT MRI	Hahn P Mueller P		Endocrine Inflammatory Infectious disease Gastrointestinal
Choledo-cholithiasis	Biliary ductal dilatation	US CT MRI	Hahn P Mueller P		Endocrine Inflammatory Gastrointestinal Metabolic
Cholelithiasis	Gallstones	US CT MRI	Hahn P Mueller P O'Neill MJ		Endocrine Inflammatory Gastrointestinal Metabolic
Cirrhosis	Caudate lobe enlargement Right Posterior Hepatic notch	MRI CT	Hahn PF Sahani D	Discrimination of alcohol from virus-induced cirrhosis	Gastrointestinal Infectious disease Inflammatory
Connective tissue disorders	Increased pulmonary interstitial markings	CT	McLoud TC Shepard J		Inflammatory
Crohn's disease	Bowel wall differentiation Inflammation	MR enteroclysis	Hahn P	Use of experimental oral contrast Kaolin, locus bean gum, methylcellulose + Barium	Gastrointestinal Inflammatory

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Encephalitis / west nile virus	Thalamus and substantia nigra hyperintensity	MRI	Gonzalez RG Sorensen AG	Disease confirmation and progression monitoring	Neurological Infectious disease Inflammatory
Ganglion cyst	Cyst composition / tissue characterization	US CT MRI	Rosenthal DI		Musculoskeletal Inflammatory
Inflammatory abdominal aortic aneurysm (IAAA)	Perianeurysmal fibrosis Aneurysmal wall thickness	CT	Brady T Saini S Waltman A		Inflammatory Cardiology / Vascular
Inflammatory bowel disease (IBD)	Bowel wall thickening Peri-intestinal inflammation	MRI	Hahn P	Tissue FISP pulse sequence	Gastrointestinal Inflammatory
Interstitial pulmonary edema	Increased pulmonary interstitial markings	CT	McLoud TC Shepard J		Inflammatory Cardiology / Vascular Infectious disease
Lymphangio-carcinomatosis	Increased pulmonary interstitial markings	CT	McLoud TC Shepard J		Inflammatory Oncology / Neoplasm
Lymphatic extension of pelvic malignancy (gynecological oncology)	Abnormal lymphatic uptake of tracer	MRI	Hahn PF Harisinghani M Mueller PR Saini S Weissleder R	MR Lymphangiography using ultrasmall superparamagnetic iron oxide	Oncology / Neoplasm Inflammatory
Multiple sclerosis	Choline / Sodium (NA) ratio Creatine / Sodium (NA) ratio	MRS	Jenkins B Gonzalez RG		Neurological Inflammatory
Multiple sclerosis	Comparative brainstem analysis MS plaque demyelination	MRI	Jenkins B Rosen BR Stufflebeam SM		Neurological Inflammatory
Multiple sclerosis	Decreased N-acetylaspartate (NAA)	MRS	Jenkins B Gonzalez RG		Neurological Inflammatory
Multiple sclerosis	Thalamic neuronal loss	MRI fMRI MRS	Gonzalez RG Fischl B Kuperberg G		Neurological Inflammatory
Multiple sclerosis	Tissue characterization Cortical thickness	fMRI MRI morphometry	Fischl B Kuperberg G		Neurological Inflammatory
Myocarditis	Myocardial function contractility Perfusion / diffusion	MRI	Brady T		Cardiology / Vascular Inflammatory Infectious disease Endocrine Metabolic
Myocarditis	Myocardial function contractility Perfusion / diffusion	Nuclear medicine	Fischman A		Cardiology / Vascular Inflammatory Infectious disease Endocrine Metabolic
Myopathy	Soft tissue inflammation	MRI	Palmer W Rosenthal DI		Endocrine Inflammatory Infectious disease Cardiology / Vascular
Osteoarthritis	Articular cartilage thickness	Plain radiographs MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Osteoarthritis	Cartilage thickness Fibrillations Fibrosis	Intra-articular Optical coherence topography	Palmer WE		Musculoskeletal Inflammatory
Osteoarthritis	Osteoblastic activity	Nuclear medicine	Fischman AJ		Musculoskeletal Inflammatory
Pancreatitis	Chemotactic peptide uptake	SPECT	Fischman AJ	Via 99mTc labeled peptide analog	Gastrointestinal Inflammatory Infectious disease Endocrine Metabolic
Pancreatitis	Ductal irregularity or obstruction	MRI	Prasad S Sahani D Saini S	Visualized by MR Cholanio-pancreatography	Gastrointestinal Inflammatory Infectious disease Endocrine Metabolic

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Pigmented villonodular synovitis	Increased synovial glucose metabolism	PET	Fischman AJ Palmer W Rosenthal DI		Inflammatory Musculoskeletal
Pigmented villonodular synovitis	Periarticular erosion	Plain radiographs MRI	Palmer W Rosenthal DI		Inflammatory Musculoskeletal
Pigmented villonodular synovitis	Synovial thickening	MRI	Palmer W Rosenthal DI		Inflammatory Musculoskeletal
Pneumonitis	Pulmonary consolidation	CT MRI	McLoud TC Shepard J		Infectious disease Inflammatory
Soft tissue infection	Leukocyte accumulation	Nuclear medicine	Fischman AJ		Musculoskeletal Inflammatory Infectious disease
Soft tissue infection	Osteoblastic activity	Nuclear medicine	Fischman AJ		Infectious disease Musculoskeletal Inflammatory
Soft tissue infection	Soft tissue inflammation	MRI	Rosenthal D Palmer W		Infectious disease Musculoskeletal Inflammatory
Trauma	Edema / change in signal intensity and apparent diffusion constant	MRI Diffusion weighted imaging	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Trauma	Soft tissue inflammation	MRI	Palmer W Rosenthal DI		Musculoskeletal Inflammatory
Trauma	Soft tissue inflammation	Nuclear medicine	Fischman AJ		Musculoskeletal Inflammatory
Trauma	Soft tissue uptake of radiotracers	Nuclear medicine	Fischman AJ		Musculoskeletal Inflammatory
Vulnerable plaque	Atherosclerotic plaque temperature	Thermography	Brady T Lev M Waltman A		Neurological Cardiology / Vascular Inflammatory
Vulnerable plaque	Macrophage content Fibrous cap thickness Plaque Type	Optical coherence tomography (OCT)	Weissleder R		Neurological Cardiology / Vascular Inflammatory
Vulnerable plaque	Subendothelial lipid pool	Optical coherence tomography (OCT) Near infrared spectroscopy (NIRS)	Brady T Muller J Weissleder R		Neurological Cardiology / Vascular Inflammatory
Vulnerable plaque	Targeted microbubble contrast agents	Contrast enhanced US	O'Neill MJ Waltman A		Neurological Cardiology / Vascular Inflammatory
Vulnerable plaque	Thickness and composition of plaque	Intravascular US IVUS	Brady T Lev M O'Neill MJ Waltman A		Neurological Cardiology / Vascular Inflammatory