

---

**CME Article**

---

**CME 1049 Therapy Monitoring of Skeletal Metastases With Whole-Body Diffusion MRI**

Anwar R. Padhani, Andreas Makris, Peter Gall, David J. Collins, Nina Tunariu, and Johann S. de Bono

---

**Review Article**

---

**1079 Gadoteric Acid Disodium (Gd-EOB-DTPA)-Enhanced Magnetic Resonance Imaging for the Detection of Hepatocellular Carcinoma: A Meta-Analysis**

Lei Junqiang, Wang Yinzong, Zhang Li, Guo Shunlin, Wang Xiaohui, Zhai Yanan, and Yang Kehu

---

**Original Research**

---

**Neuro****1088 New Head Gradient Coil Design and Construction Techniques**

William B. Handler, Chad T. Harris, Timothy J. Scholl, Dennis L. Parker, K. Craig Goodrich, Brian Dalrymple, Frank Van Sass, and Blaine A. Chronik

**1096 Infiltrative Patterns of Glioblastoma: Identification of Tumor Progress Using Apparent Diffusion Coefficient Histograms**

Kira Lutz, Benedikt Wiestler, Markus Graf, Philipp Bäumer, Ralf Floca, Heinz-Peter Schlemmer, Sabine Heiland, Wolfgang Wick, Martin Bendszus, and Alexander Radbruch

**1104 Optimized Simultaneous ASL and BOLD Functional Imaging of the Whole Brain**

Vincent J. Schmithorst, Luis Hernandez-Garcia, Jennifer Vannest, Akila Rajagopal, Greg Lee, and Scott K. Holland

**1118 Fractal Analysis of Spontaneous Fluctuations of the BOLD Signal in the Human Brain Networks**

Yi-Chia Li and Yun-An Huang

**1126 Visualization of Acute Focal Lesions in Rats With Experimental Autoimmune Encephalomyelitis by Magnetic Nanoparticles, Comparing Different MRI Sequences Including Phase Imaging**

Marcel Hunger, Eike Budinger, Kai Zhong, and Frank Angenstein

**Physics****1136 Impact of Precontrast T<sub>10</sub> Relaxation Times on Dynamic Contrast-Enhanced MRI Pharmacokinetic Parameters: T<sub>10</sub> Mapping Versus a Fixed T<sub>10</sub> Reference Value**

Tobias Heye, Daniel T. Boll, Caecilia S. Reiner, Mustafa R. Bashir, Brian M. Dale, and Elmar M. Merkle

**Cardiac****1146 Comparison of Treadmill Exercise Stress Cardiac MRI to Stress Echocardiography in Healthy Volunteers for Adequacy of Left Ventricular Endocardial Wall Visualization: A Pilot Study**

Paaladinesh Thavendiranathan, Jennifer A. Dickerson, Debbie Scandling, Vijay Balasubramanian, Michael L. Pennell, Alice Hinton, Subha V. Raman, and Orlando P. Simonetti

**1153 Assessment of Nonischemic Fibrosis in Hypertrophic Cardiomyopathy: Comparison of Gadopentetate Dimeglumine and Gadobenate Dimeglumine for Enhanced Cardiovascular Magnetic Resonance Imaging**

Andre Rudolph, Florian von Knobelsdorff-Brenkenhoff, Ralf Wassmuth, Marcel Prothmann, Wolfgang Utz, and Jeanette Schulz-Menger

**Vascular****1161 Vascular Masking for Improved Unfolding in 2D SENSE-Accelerated 3D Contrast-Enhanced MR Angiography**

Eric G. Stinson, Eric A. Borisch, Casey P. Johnson, Joshua D. Trzasko, Phillip M. Young, and Stephen J. Riederer

## Musculoskeletal

**1171 Correlation Between Manual 0.2T MRI Assessment of Synovitis and EULAR-OMERACT Scores of the Wrist in Patients With Rheumatoid Arthritis**

*Wadim Wojciechowski, Kamila Czaplicka, Justyna Włodarczyk, and Zbislaw Tabor*

**1178 Quantitative Assessment of Fat Infiltration in the Rotator Cuff Muscles Using Water-Fat MRI**

*Lorenzo Nardo, Dimitrios C. Karampinos, Drew A. Lansdown, Julio Carballido-Gamio, Sonia Lee, Roberto Maroldi, C. Benjamin Ma, Thomas M. Link, and Roland Krug*

**1186 Selective Visualization of Rabbit Knee Cartilage Using MR Imaging With a Double-Contrast Agent**

*Masamitsu Kido, Kazuya Ikoma, Yusuke Hara, Ken-ichi Matsuda, Mitsuhiro Kawata, Masahiro Umeda, and Toshikazu Kubo*

**1191 Rapid Multicomponent T2 Analysis of the Articular Cartilage of the Human Knee Joint at 3.0T**

*Fang Liu, Rajeev Chaudhary, Samuel A. Hurley, Alejandro Munoz del Rio, Andrew L. Alexander, Alexey Samsonov, Walter F. Block, and Richard Kijowski*

**1198 Value of MRI of the Hand and the Wrist in Evaluation of Bone Age: Preliminary Results**

*Ernesto Tomei, Alessandro Sartori, Daniel Nissman, Najwa Al Ansari, Sofia Battisti, Antonello Rubini, Andrea Stagnitti, Milvia Martino, Mario Marini, Ersilia Barbato, and Richard C. Semelka*

## Pelvic

**1206 Multiparametric MRI for Prostate Cancer Detection: Performance in Patients With Prostate-Specific Antigen Values Between 2.5 and 10 ng/mL**

*Antonella Petrillo, Roberta Fusco, Sergio V. Setola, Francesco M. Ronza, Vincenza Granata, Mario Petrillo, Guglielmo Carone, Mario Sansone, Renato Franco, Franco Fulcinitti, and Sisto Perdonà*

**1213 Optimization of b-Value Distribution for Biexponential Diffusion-Weighted MR Imaging of Normal Prostate**

*Ivan Jambor, Harri Merisaari, Hannu J. Aronen, Jukka Järvinen, Jani Saunavaara, Tommi Kauko, Ronald Borra, and Marko Pesola*

**1223 Semiautomatic Registration of Digital Histopathology Images to In Vivo MR Images in Molded and Unmolded Prostates**

*Olga Starobinets, Richard Guo, Jeffry P. Simko, Kyle Kuchinsky, John Kurhanewicz, Peter R. Carroll, Kirsten L. Greene, and Susan M. Noworolski*

## Chest

**1230 Hyperpolarized Helium-3 MRI of Exercise-Induced Bronchoconstriction During Challenge and Therapy**

*Stanley J. Kruger, David J. Niles, Bernard Dardzinski, Amy Harman, Nizar N. Jarjour, Marcella Ruddy, Scott K. Nagle, Christopher J. Francois, Ronald L. Sorkness, Ryan M. Burton, Alejandro Munoz del Rio, and Sean B. Fain*

## Abdominal

**1238 Infiltrative Hepatocellular Carcinoma on Gadoteric Acid-Enhanced and Diffusion-Weighted MRI at 3.0T**

*SangHyeok Lim, Young Kon Kim, Hyun Jeong Park, Won Jae Lee, Dongil Choi, and Min Jung Park*

**1246 Quantitative Functional MRI Biomarkers Improved Early Detection of Colorectal Liver Metastases**

*Yifat Edrei, Moti Freiman, Miri Sklair-Levy, Galia Tsarfaty, Eitan Gross, Leo Joskowicz, and Rinat Abramovitch*

**1254 Functional Magnetic Resonance Cholangiography Enhanced With Gd-EOB-DTPA: Effect of Liver Function on Biliary System Visualization**

*Shi-Ting Feng, Ling Wu, Tao Chan, Huasong Cai, Yanji Luo, Keguo Zheng, Di Tang, and Zi-Ping Li*

**1259 MRI Features of Inflammatory Hepatocellular Adenomas on Hepatocyte Phase Imaging With Liver-Specific Contrast Agents**

*Maarten G. Thomeer, Francois E. Willemsen, Katharina K. Biermann, Haroun El Addouli, Rob A. de Man, Jan N. Ijzermans, and Roy S. Dwarkasing*

	<p><b>1265 Inter-examination Precision of Magnitude-Based MRI for Estimation of Segmental Hepatic Proton Density Fat Fraction in Obese Subjects</b>  <i>Lindsey M. Negrete, Michael S. Middleton, Lisa Clark, Tanya Wolfson, Anthony C. Gamst, Jessica Lam, Chris Changchien, Ivan M. Deyoung-Dominguez, Gavin Hamilton, Rohit Loomba, Jeffrey Schwimmer, and Claude B. Sirlin</i></p>
<b>Breast</b>	<p><b>1272 Comparison of Gadobenate Dimeglumine-Enhanced Breast MRI and Gadopentetate Dimeglumine-Enhanced Breast MRI With Mammography and Ultrasound for the Detection of Breast Cancer</b>  <i>Fiona J. Gilbert, Harrie C.M. van den Bosch, Antonella Petrillo, Katja Siegmann, Johannes T. Heverhagen, Pietro Panizza, Hans-Björn Gehl, Federica Pediconi, Felix Diekmann, Wei-Jun Peng, Lin Ma, Francesco Sardanelli, Paolo Belli, Stefano Corcione, Christian M. Zechmann, Matthieu Faivre-Pierret, and Laura Martincich</i></p>
<b>Technical Notes</b>	
<b>Musculoskeletal</b>	<p><b>1287 Simultaneous Acquisition of <math>T_{1\rho}</math> and <math>T_2</math> Quantification in Knee Cartilage: Repeatability and Diurnal Variation</b>  <i>Xiaojuan Li, Cory Wyatt, Julien Rivoire, Eric Han, Weitian Chen, Joseph Schooler, Fei Liang, Keerthi Shet, Richard Souza, and Sharmila Majumdar</i></p>
<b>Neuro</b>	<p><b>1294 MR-Acoustic Radiation Force Imaging (MR-ARFI) and Susceptibility Weighted Imaging (SWI) to Visualize Calcifications in Ex Vivo Swine Brain</b>  <i>Rachel R. Bitton and Kim R. Butts Pauly</i></p>
<b>Abdominal</b>	<p><b>1301 Liver Stiffness Assessment With Tagged MRI of Cardiac-Induced Liver Motion in Cirrhosis Patients</b>  <i>Sohae Chung, Kyoung-Eun Kim, Mi-Suk Park, Sharath Bhagavatula, James Babb, and Leon Axel</i></p>
<b>Breast</b>	<p><b>1308 High Resolution In Vivo Characterization of Apparent Diffusion Coefficient at the Tumor-Stromal Boundary of Breast Carcinomas: A Pilot Study to Assess Treatment Response Using Proximity-Dependent Diffusion-Weighted Imaging</b>  <i>Rebekah L. McLaughlin, David C. Newitt, Lisa J. Wilmes, Ella F. Jones, Dorota J. Wisner, John Kornak, Evelyn Proctor, Bonnie N. Joe, and Nola M. Hylton</i></p>
<b>Physics</b>	<p><b>1314 <math>T_2^*</math>-Correction in Dynamic Contrast-Enhanced MRI From Double-Echo Acquisitions</b>  <i>Magne Kleppesø, Christopher Larsson, Inge Groote, Raimo Salo, Jonas Vardal, Frédéric Courivaud, and Alte Bjørnerud</i></p> <p><b>1320 Noncontrast Dynamic 3D Intracranial MR Angiography Using Pseudo-Continuous Arterial Spin Labeling (PCASL) and Accelerated 3D Radial Acquisition</b>  <i>Huimin Wu, Walter F. Block, Patrick A. Turski, Charles A. Mistretta, David J. Rusinak, Yijing Wu, and Kevin M. Johnson</i></p> <p><b>1327 Automatic Detection of Arterial Input Function in Dynamic Contrast Enhanced MRI Based on Affinity Propagation Clustering</b>  <i>Lin Shi, Defeng Wang, Wen Liu, Kui Fang, Yi-Xiang J. Wang, Wenhua Huang, Ann D. King, Pheng Ann Heng, and Anil T. Ahuja</i></p>
<b>Letter to the Editor</b>	
	<p><b>1338 Standardized Predictive Values</b>  <i>Thomas F. Heston</i></p> <p><b>1339 How Much Net Gain Does a Diagnostic Imaging Test Provide?</b>  <i>Gilat Grunau, Peter Grunau, Shai Linn, and Jonathon Leipsic</i></p>
<b>Erratum</b>	
	<p><b>1341 Harald H. Quick, Integrated PET/MR J Magn Reson Imaging 2014;39:243 - 258</b></p>