

Review Article

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**1381 Diffusion-Weighted MRI in Crohn's Disease: Current Status and Recommendations**

Anthony Dohan, Stuart Taylor, Christine Hoeffel, Maximilien Barret, Matthieu Allez, Raphael Dautry, Magaly Zappa, Céline Savoye-Collet, Xavier Dray, Mourad Boudiaf, Caroline Reinhold, and Philippe Soyer

Original Research

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## Pelvic

**1397 Optimized Approach to Cine MRI of Uterine Peristalsis**

Shanshan Liu, Qi Zhang, Chengying Yin, Song Liu, Queenie Chan, Weibo Chen, Jian He, and Bin Zhu

**1405 Patient-Specific Pharmacokinetic Parameter Estimation on Dynamic Contrast-Enhanced MRI of Prostate: Preliminary Evaluation of a Novel AIF-Free Estimation Method**

Shoshana B. Ginsburg, Pekka Taimen, Harri Merisaari, Paula Vainio, Peter J. Boström, Hannu J. Aronen, Ivan Jambor, and Anant Madabhushi

**1415 Value of Percent Change in Tumoral Volume Measured at T2-Weighted and Diffusion-Weighted MRI to Identify Responders After Neoadjuvant Chemoradiation Therapy in Patients With Locally Advanced Rectal Carcinoma**

Emilio Quaia, MD, Antonio Giulio Gennari, MD, Maria Chiara Ricciardi, MD, Veronica Ulcigrai, MD, Roberta Angileri, MD, and Maria Assunta Cova, MD

## Abdomen

**1425 Quantification of Liver Proton-Density Fat Fraction in 7.1T Preclinical MR Systems: Impact of the Fitting Technique**

Christoph Mahlke, Diego Hernando, Christina Jahn, Antonio Cigliano, Till Ittermann, Anne Mössler, Marie-Luise Kromrey, Grazyna Domaska, Scott B. Reeder, and Jens-Peter Kühn

**1432 Neuroendocrine Liver Metastases: Value of Apparent Diffusion Coefficient and Enhancement Ratios for Characterization of Histopathologic Grade**

Cecilia Besa, Stephen Ward, Yong Cui, Guido Jajamovich, Michelle Kim, and Bachir Taouli

**1442 Correlations Between the Minimum and Mean Apparent Diffusion Coefficient Values of Hepatocellular Carcinoma and Tumor Grade**

Xubin Li, Kun Zhang, Yan Shi, Fengkui Wang, and Xiangfu Meng

Technical Development

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## Abdomen

**1448 Influence of the Analysis Technique on Estimating Hepatic Iron Content Using MRI**

El-Sayed H. Ibrahim, Ayman M. Khalifa, and Ahmed K. Eldaly

Original Research

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## Physics

**1456 Positive-Contrast Cellular MRI of Embryonic Stem Cells for Tissue Regeneration Using a Highly Efficient T<sub>1</sub> MRI Contrast Agent**

Sadi Loai, Inga Haedicke, Zahra Mirzaei, Craig A. Simmons, Xiao-an Zhang, and Hai-Ling Margaret Cheng

**1464 Test–Retest Reliability of Rapid Whole Body and Compartmental Fat Volume Quantification on a Widebore 3T MR System in Normal-Weight, Overweight, and Obese Subjects**

David Newman, Christian Kelly-Morland, Olof Dahlqvist Leinhard, Bahman Kasmai, Richard Greenwood, Paul N. Malcolm, Thobias Romu, Magnus Borga, and Andoni P. Toms

Technical Development

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## Physics

**1474 Prospective Frequency Correction for Macromolecule-Suppressed GABA Editing at 3T**

Richard A.E. Edden, Georg Oeltzschner, Ashley D. Harris, Nicolaas A.J. Puts, Kimberly L. Chan, Vincent O. Boer, Michael Schär, and Peter B. Barker

## Original Research

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### Cardiac

**1483 Cine Dyscontractility Index: A Novel Marker of Mechanical Dyssynchrony That Predicts Response to Cardiac Resynchronization Therapy**

Konrad Werys, Joanna Petryka-Mazurkiewicz, Łukasz Błaszczczyk, Jolanta Miśko, Mateusz Śpiewak, Łukasz A. Małek, Łukasz Mazurkiewicz, Barbara Miłosz-Wieczorek, Magdalena Marczak, Agata Kubik, Agnieszka Dąbrowska, Ewa Piątkowska-Janko, Błażej Sawionek, Rohan Wijesurendra, Stefan K. Piechnik, and Piotr Bogorodzki

**1493 Intra-Left Ventricular Flow Dynamics in Patients With Preserved and Impaired Left Ventricular Function: Analysis With 3D Cine Phase Contrast MRI (4D-Flow)**

Kenichiro Suwa, Takeji Saitoh, Yasuo Takehara, Makoto Sano, Masao Saotome, Tsuyoshi Urushida, Hideki Katoh, Hiroshi Satoh, Masataka Sugiyama, Tetsuya Wakayama, Marcus Alley, Harumi Sakahara, and Hideharu Hayashi

### Pediatric

**1504 Relationship Between Genotype and Arcuate Fasciculus Morphology in Six Young Children With Global Developmental Delay: Preliminary DTI Study**

Jeong-Won Jeong, Senthil Sundaram, Michael E. Behen, and Harry T. Chugani

### Musculoskeletal

**1513 Whole-Body MR Neurography: Prospective Feasibility Study in Polyneuropathy and Charcot-Marie-Tooth Disease**

Avneesh Chhabra, John A. Carrino, Sahar J. Farahani, Gaurav K. Thawait, Charlotte J. Sumner, Vibhor Wadhwa, Vinay Chaudhary, and Thomas E. Lloyd

**1522 Application Value of Diffusion Weighted Whole Body Imaging With Background Body Signal Suppression in Monitoring the Response to Treatment of Bone Marrow Involvement in Lymphoma**

Mengtian Sun, Jingliang Cheng, Yong Zhang, Feifei Wang, Yun Meng, and Xiaorui Fu

**1530 Safe MRI-Compatible Electrical Muscle Stimulation (EMS) System**

Alireza Akbari, Conrad P. Rockel, Dinesh A. Kumbhare, and Michael D. Noseworthy

### Technical Development

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### Musculoskeletal

**1539 Quantitative Magnetic Resonance Arthrography in Patients with Femoroacetabular Impingement**

Michael A. Samaan, Alan L. Zhang, Matthew C. Gallo, Benedikt J. Schwaiger, Thomas M. Link, Richard B. Souza, and Sharmila Majumdar

## Original Research

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### Head and Neck

**1546 Differentiation Between Malignant and Benign Thyroid Nodules and Stratification of Papillary Thyroid Cancer With Aggressive Histological Features: Whole-Lesion Diffusion-Weighted Imaging Histogram Analysis**

Yonghong Hao, Chu Pan, WeiWei Chen, Tao Li, WenZhen Zhu, and JianPin Qi

**1556 Intravoxel Incoherent Motion MRI in Differentiation Between Recurrent Carcinoma and Postchemoradiation Fibrosis of the Skull Base in Patients With Nasopharyngeal Carcinoma**

Jiaji Mao, Jun Shen, Qihua Yang, Taihui Yu, Xiaohui Duan, Jinglian Zhong, Prakash Phuyal, and Biling Liang

**1565 Application of Diffusion Kurtosis Imaging to Odontogenic Lesions: Analysis of the Cystic Component**

Junichiro Sakamoto, Ami Kuribayashi, Shinya Kotaki, Mamiko Fujikura, Shin Nakamura, and Tohru Kurabayashi

### Interventional

**1572 3D MR Thermometry of Frozen Tissue: Feasibility and Accuracy During Cryoablation at 3T**

Christiaan G. Overduin, Jurgen J. Fütterer, and Tom W.J. Scheenen

### Neuro

**1580 Normal Saline as a Natural Intravascular Contrast Agent for Dynamic Perfusion-Weighted MRI of the Brain: Proof of Concept at 1.5T**

Hernán Jara, Asim Mian, Osamu Sakai, Stephan W. Anderson, Mitchel J. Horn, Alexander M. Norbash, and Jorge A. Soto

**1592 Evaluation of Basilar Artery Atherosclerotic Plaque Distribution by 3D MR Vessel Wall Imaging**

Zhensen Chen, Ao-Fei Liu, Huijun Chen, Chun Yuan, Le He, Yandong Zhu, Maobin Guan, Wei-Jian Jiang, and Xihai Zhao

- 1600 Multimodal Quantitative MRI Assessment of Cortical Damage in Relapsing-Remitting Multiple Sclerosis**  
*René-Maxime Gracien, Alina Jurcoane, Marlies Wagner, Sarah C. Reitz, Christoph Mayer, Steffen Volz, Stephanie-Michelle Hof, Vinzenz Fleischer, Amgad Droby, Helmuth Steinmetz, Sergiu Groppa, Elke Hattingen, Ralf Deichmann, and Johannes C. Klein*
- 1608 Quantifying the Impact of Underlying Measurement Error on Cervical Spinal Cord Diffusion Tensor Imaging at 3T**  
*Samantha By, Alex K. Smith, Lindsey M. Dethrage, Bailey D. Lyttle, Bennett A. Landman, Jeffrey L. Creasy, Siddharama Pawate, and Seth A. Smith*
- 1619 GABA Quantitation using MEGA-PRESS: Regional and Hemispheric Differences**  
*Monika Grewal, Aroma Dabas, Sumiti Saharan, Peter B. Barker, Richard A.E. Edden, and Pravat K. Mandal*
- Breast**
- 1624 Can Diffusion Tensor Anisotropy Indices Assist in Breast Cancer Detection?**  
*Edna Furman-Haran, Dov Grobgeld, Noam Nissan, Myra Shapiro-Feinberg, and Hadassa Degani*
- 1633 Quantitative Differentiation of Breast Lesions at 3T Diffusion-Weighted Imaging (DWI) using the Ratio of Distributed Diffusion Coefficient (DDC)**  
*Gokhan Ertas, Can Onaygil, Yasin Akin, Handan Kaya, and Erkin Aribal*
- 1642 Quantitative DWI Implemented After DCE-MRI Yields Increased Specificity for BI-RADS 3 and 4 Breast Lesions**  
*Hildebrand Dijkstra, Monique D. Dorrius, Mirjam Wielema, Ruud M. Pijnappel, Matthijs Oudkerk, and Paul E. Sijens*
- Thoracic**
- 1650 Fetal Lung Apparent Diffusion Coefficient Measurement Using Diffusion-Weighted MRI at 3 Tesla: Correlation with Gestational Age**  
*Onur Afacan, Ali Gholipour, Robert V. Mulkern, Carol E. Barnewolt, Judy A. Estroff, Susan A. Connolly, Richard B. Parad, Sigrid Bairdain, and Simon K. Warfield*
- 1656 Morphological and Quantitative Evaluation of Emphysema in Chronic Obstructive Pulmonary Disease Patients: A Comparative Study of MRI With CT**  
*David J. Roach, Yannick Crémillieux, Suraj D. Serai, Robert P. Thomen, Hui Wang, Yuanshu Zou, Rhonda D. Szczesniak, Sadia Benzaquen, and Jason C. Woods*
- Vascular**
- 1664 Evaluation of a Tailored Injection Profile (TIP) Algorithm for Uniform Contrast-Enhanced Signal Intensity Profiles in MR Angiography**  
*Gregory J. Wilson and Jeffrey H. Maki*
- 1673 Efficient Method for Volumetric Assessment of Peak Blood Flow Velocity Using 4D Flow MRI**  
*Michael J. Rose, Kelly Jarvis, Varun Chowdhary, Alex J. Barker, Bradley D. Allen, Joshua D. Robinson, Michael Markl, Cynthia K. Rigsby, and Susanne Schnell*