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MR imaging has been increasingly used in the diagnostic work-up of benign and malignant conditions of the gastroesophageal tract. The use of an adequate MR imaging protocol is crucial, although standardization of imaging studies is still far from being implemented. Research on MR imaging-based biomarkers show promising results in assessing tumor aggressiveness and prognosis, and in the evaluation of response to treatment, both in esophageal and gastric cancers.	
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Darren Boone and Stuart A. Taylor	
Small bowel magnetic resonance (MR) imaging has been clinically implemented for many years, albeit with variation in study technique. Considerable research has been performed during this time regarding optimum patient preparation, choice of enteric contrast medium, and MR imaging sequence protocol but findings have not been universally implemented. However, evidence-based consensus statements have recently been published from the United States and Europe. This article summarizes key findings from this guidance and presents practice examples from the authors' own institution.	
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Magnetic resonance enterography (MRE) is an established test in patients with Crohn because of its ability to display transmural enteric inflammation and treatment response throughout the gastrointestinal tract without the very low potential risk of ionizing radiation. This article discusses how and when to diagnose Crohn disease with MRE (including discussion of the main differential diagnosis), how to describe the burden of enteric inflammation and its complications, and how to accurately classify disease based on interdisciplinary consensus. In addition, brief overviews of expected future MRE developments and alternative imaging modalities are also discussed.	
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Jordi Rimola and Nunzia Capozzi	
The management of Crohn disease (CD) has entered a new era in which it is imperative to incorporate objective data and symptoms to plan the best therapeutic	

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approach for each patient. Magnetic resonance (MR) imaging provides powerful objective insights into the disease process, and its high sensitivity and specificity for detecting inflammation make it essential for diagnosis and management. Growing evidence indicates that MR provides reliable and accurate information that enables detection of changes after treatment with biological drugs. This article provides an overview of currently established and emerging MR biomarkers for assessing response to treatment in patients with CD.

Malabsorption Syndromes, Vasculitis, and Other Uncommon Diseases

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Daniel A. Adamo, Shannon P. Sheedy, Christine O. Menias, Michael L. Wells, and Jeff L. Fidler

MR enterography is frequently ordered for patients with suspected small bowel disorders. In this article, disease-causing malabsorption, vasculitides, and some of the less common small bowel diseases are reviewed. The clinical presentations, diagnostic criteria, and imaging findings of these diseases are discussed. Because the imaging findings in several small bowel diseases are nonspecific and/or overlap, radiologists must correlate clinical data with imaging to develop a narrower differential diagnosis. The unique or characteristic findings in certain diseases are also emphasized.

Magnetic Resonance of Small Bowel Tumors

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Gabriele Masselli, Marianna Guida, Francesca Laghi, Elisabetta Polettini, and Gianfranco Gualdi

Tumors of the small intestine represent less than 5% of all gastrointestinal tract neoplasms. Magnetic resonance (MR) imaging is rapidly increasing clinical acceptance to evaluate the small bowel and can be the initial imaging method to investigate small bowel diseases. MR examinations may provide the first opportunity to detect and characterize tumors of the small bowel. Intraluminal and extraluminal MR findings, combined with contrast enhancement and functional information, allow accurate diagnoses and consequently characterization of small bowel neoplasms. This article describes the MR findings of primary small bowel neoplasms and the MR findings for the differential diagnosis are discussed.

Magnetic Resonance Enema in Rectosigmoid Endometriosis

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Ennio Biscaldi, Fabio Barra, and Simone Ferrero

Intestinal endometriosis occurs in 4% to 37% of women with deep endometriosis (DE). Noninvasive diagnosis of presence and characteristics of rectosigmoid endometriosis permits the best counseling of patients and ensures best therapeutic planning. Magnetic resonance enema (MR-e) is accurate in diagnosing DE. After colon cleansing, rectal distention and opacification improves the performance of MR-e in diagnosing rectosigmoid endometriosis. MR imaging cannot optimally assess the depth of penetration of endometriosis in the intestinal wall. There is a need for multicentric studies with a larger sample size to evaluate reproducibility of MR-e in diagnosis of rectosigmoid endometriosis for less experienced radiologists.

Rectal Cancer: Staging

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Luís Curvo-Semedo

The imaging of rectal cancer has evolved noticeably over the past 2 decades, paralleling the advances in therapy. The methods for imaging rectal cancer are increasingly used in clinical practice with the purpose of helping to detect, characterize and

stage rectal cancer. In this setting, MR imaging emerged as the most useful imaging method for primary staging of rectal cancer; the present review focuses on the role of MR imaging in this regard.

Rectal Cancer: Assessing Response to Neoadjuvant Therapy

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Monique Maas, Rebecca A.P. Dijkhoff, and Regina Beets-Tan

MR imaging plays a crucial role in the post-CRT assessment of rectal cancer; results are used for treatment planning. Radiologists should assess response or progression, possibility of a complete response, risk factors for incomplete resection, and nodal stage. T2-weighted MR imaging with diffusion-weighted imaging yields the best results to identify a complete response, but endoscopy is also very important. Overstaging of transmural and MRF invasion after CRT occur regularly, owing to residual stranding regarded as tumor to err on the safe side. Nodal restaging is a challenge. A structured report format or checklist is recommended.

Staging of Anal Cancer: Role of MR Imaging

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Monique Maas, Jeroen A.W. Tielbeek, and Jaap Stoker

Anal cancer is a relatively rare malignancy. Treatment consists of chemoradiation and most patients achieve a complete response. Local evaluation of the T and N stage is performed by MR imaging. Whole-body staging with ¹⁸F-fluorodesoxyglucose positron emission tomography computed tomography scans or computed tomography scans is used to detect metastases. T stage is based on tumor size or invasion of organs. N stage is based on nodal location. After chemoradiation, clinical evaluation and MR imaging is used to assess tumor and nodal response. Maximal response is achieved 6 months after chemoradiation. Beware of development of anal cancer in perianal fistulas.

Magnetic Resonance Imaging of Fistula-In-Ano

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Steve Halligan

This article explains the pathogenesis of fistula-in-ano and details the different classifications of fistula encountered, describe their features on MR imaging, and explains how imaging influences subsequent surgical treatment and ultimate clinical outcome. Precise preoperative characterization of the anatomic course of the fistula and all associated infection via MR imaging is critical for surgery to be most effective. MR imaging is the preeminent imaging modality used to answer pertinent surgical questions.