Computed tomographic (CT) enterography combines the improved spatial and temporal resolution of multi–detector row CT with large volumes of ingested neutral enteric contrast material to permit visualization of the small bowel wall and lumen. Adequate luminal distention can usually be achieved with oral hyperhydration, thereby obviating nasoenteric intubation and making CT enterography a useful, well-tolerated study for the evaluation of diseases affecting the mucosa and bowel wall. Unlike routine CT, which has been used to detect the extraenteric complications of Crohn disease such as fistula and abscess, CT enterography clearly depicts the small bowel inflammation associated with Crohn disease by displaying mural hyperenhancement, stratification, and thickening; engorged vasa recta; and perienteric inflammatory changes. As a result, CT enterography is becoming the first-line modality for the evaluation of suspected inflammatory bowel disease. CT enterography has also become an important alternative to traditional fluoroscopy in the assessment of other small bowel disorders such as celiac sprue and small bowel neoplasms.

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Introduction
Increased speed and resolution of multi-detector row computed tomography (CT) have made CT a first-line modality for the examination of small bowel disease. CT enterography differs from routine abdominopelvic CT in that it makes use of thin sections and large volumes of enteric contrast material to better display the small bowel lumen and wall. The use of neutral enteric contrast agents such as water, combined with the use of intravenously administered contrast material, permits excellent assessment of hypervascular lesions and hyperenhancing segments. Compared with the traditional small bowel follow-through examination, CT enterography has several advantages: (a) it displays the entire thickness of the bowel wall, (b) it allows examination of deep ileal loops in the pelvis without superimposition, and (c) it permits evaluation of the surrounding mesentery and perienteric fat. CT enterography also allows assessment of solid organs and provides a global overview of the abdomen.

The number of CT enterography examinations performed at our institution has increased from 99 examinations in 2001 to over 900 in 2004 as referring clinicians have gained confidence in the examination.

We reviewed our experience in 756 patients who underwent CT enterography between March 2001 and March 2004. Suspected Crohn disease was the most common indication for the examination. Findings consistent with active Crohn disease were seen in 347 patients. The complete spectrum of findings is shown in Figure 1.

In this article, we describe our methods for performing CT enterography and discuss various considerations in achieving small bowel distention. We also discuss and illustrate CT enterographic findings in the most common diseases encountered in our series, including Crohn disease, ulcerative colitis, small bowel tumors, celiac disease, and incidental findings.

CT Enterographic Techniques
Patients undergoing CT enterography are requested to abstain from all food and drink for 4 hours prior to scanning. Our protocol for the use of oral contrast material has evolved as we have found agents that provide improved luminal distention. Water and water-methylcellulose solution have been replaced by polyethylene glycol (PEG) electrolyte solution or low-concentration barium (Volumen; E-Z-EM, Westbury, NY) (0.1% w/v ultra-low-dose barium with sorbitol, a nonabsorbable sugar alcohol that promotes luminal distention and limits resorption of water across the length of the small bowel) as our preferred oral contrast agent. The attenuation of low-concentration barium is only 20 HU. We have found that this attenuation level is low enough to allow adequate evaluation of both normal and increased small bowel mural enhancement. Furthermore, the low-concentration
Barium we use has been shown to distend the small bowel better than water or water-methylcellulose solution and equally as well as PEG electrolyte solution, with fewer side effects than are associated with the latter (1). Our current regimen consists of the oral administration of 1350 mL of low-concentration barium according to the following schedule: 450 mL 60 minutes before scanning, 450 mL 40 minutes before scanning, 225 mL 20 minutes before scanning, and 225 mL 10 minutes before scanning. When using PEG electrolyte solution, we typically administer 2000 mL within 60 minutes prior to scanning, with the first 1500 mL ingested over the first 15 minutes and two 250-mL aliquots consumed 25 and 15 minutes prior to scanning, respectively. We administer 150 mL of iohexol (300 mg/mL) (Omnipaque; Amersham Health, Princeton, NJ) intravenously at a rate of 4 mL/sec. Scanning is performed on 8–64-channel multi-detector row CT scanners beginning 45 seconds after the initiation of contrast material injection. Images are acquired with a section thickness of 2.0–2.5 mm and a reconstruction interval of 1.0–1.5 mm. Automatic coronal reformatted images are generated on our 64-channel CT system using similar parameters. For other scanners, coronal reformatted images are generated at the workstation from the axial images. For coronal imaging, we create 3-mm-thick sections every 2 mm, generating overlapping images from the anterior abdominal skin to the posterior gluteal skin (to ensure that any fistulous tracts are displayed).

### Considerations in Achieving Small Bowel Distention

In the past, inadequate small bowel luminal distention has necessitated nasojejunal intubation during a CT examination (2). Adequate luminal distention of the small bowel is necessary because poorly distended loops can simulate disease (3) or hide pathologic processes. Poorly distended bowel segments may mimic mucosal hyperenhancement or bowel wall thickening and falsely suggest Crohn disease (4). We and others have found that, in the setting of suspected Crohn disease, peroral hyperhydration is an effective means of achieving small bowel distention (5,6). In our study, a large amount of water (1.8 L) was administered in conjunction with a propulsive agent (metoclopramide) to patients with suspected Crohn disease. No difference in the proportion of small bowel loops distended by oral contrast material was noted between patients who underwent nasojejunal intubation and those who ingested a large volume of water (6). We reserve hyperhydration by means of nasojejunal intubation for patients with suspected partial small bowel obstruction, in whom the maximal distention and rapid delivery afforded by this technique are imperative. In this clinical setting, it is most likely that nasojejunal intubation is the superior method; the rapid infusion rate helps distinguish obstructive from nonobstructive small bowel disease (7,8).

In an attempt to improve small bowel distention during CT enterography, multiple oral contrast agents have been tested (2,5,6,9–12). These contrast agents may be subdivided into two primary classes: positive agents and neutral agents. Neutral oral contrast agents include water, PEG electrolyte solution, sugar alcohols (eg, lactulose solution, 0.1% w/v ultra-low-dose barium with sorbitol), and methylcellulose. These agents are generally well tolerated, an important consideration because patients are expected to consume a large amount of peroral agent. Furthermore, use of these agents facilitates assessment of small bowel mural enhancement, since the fluid-attenuation contrast agent is juxtaposed with the enhancing small bowel wall (13). This important property is especially valuable in the evaluation of Crohn disease (6,11), in which neutral contrast material increases the conspicuity of segmental mural hyperenhancement and mural stratification.

Positive contrast agents, such as dilute barium solutions, can also be used to distend the bowel. The use of these agents is problematic in creating three-dimensional images if CT angiography is concurrently being performed (14)—for example, in the assessment of gastrointestinal blood loss. More important, however, in Crohn disease, pathologic mural enhancement is obscured by intraluminal positive contrast agents, since enhancement of the small bowel wall with intravenous contrast material decreases the attenuation difference between the lumen and the wall of the small bowel. On the other hand, positive contrast agents may be preferred for some clinical situations (eg, in patients with known serosal disease, for the detection of some primary tumors, and in patients with an iodine allergy).
Figure 2. Fistula in a 54-year-old man with a 23-year history of Crohn disease requiring multiple surgical resections. Axial CT enterogram demonstrates a large enterocutaneous fistula (arrows) arising from matted loops of the distal ileum. Because no active small bowel inflammation was observed at CT enterography or demonstrated clinically, the patient was simply observed.

Figure 3. Fistulizing Crohn disease in a 36-year-old woman with a long-standing history of intermittent diarrhea, hematochezia, and nocturnal stools. (a) CT enterogram reveals an ileoileal fistula (arrows) arising from an ileal loop, with asymmetric bowel inflammation that manifests as medial wall thickening and mucosal enhancement (arrowheads). (b) CT enterogram shows the true physiologic lumen (arrow) connecting two adjacent ileal loops. The lumen is slightly cephalad to the fistula.

Figure 4. Enterovesical fistula in a 61-year-old man with Crohn disease, recurrent urinary tract infections, and pneumaturia. (a) CT enterogram shows a small abscess and fistula (arrows) arising between two loops of thickened, inflamed ileum (arrowhead). (b, c) Axial (b) and coronal (c) CT enterograms reveal that the irregularly shaped fistula (arrowheads) courses anterior to a bowel loop (arrows) and extends to the urinary bladder. Air is seen within the bladder, a finding that is consistent with fistula.
CT Enterographic Findings

Crohn Disease

Conventional abdominopelvic CT has traditionally been used to guide the management of extraenteric complications of Crohn disease such as abscesses, fistulas (Figs 2–5), phlegmon, obstruction, and other extraenteric sequelae (15–19) but has played a minimal role in identifying small bowel inflammatory disease per se. CT enterography exquisitely demonstrates active Crohn disease and its complications because of its higher spatial resolution and its superior capacity to display the small bowel wall (20,21).

In contradistinction to CT enterography, which displays the small bowel wall, capsule endoscopy yields exquisite images of the small bowel mucosa and has been shown to be superior to radiologic examinations in the diagnosis of many small bowel diseases, such as vascular malformations and neoplasms (22). Its role in the diagnosis of Crohn disease is less clear. Preliminary evidence suggests that CT enterography may help predict active small bowel Crohn disease on a par with capsule endoscopy (23) and may help identify small bowel strictures (Fig 6), which may

Figure 5. Perianal fistula in a 39-year-old man with a 17-year history of Crohn disease. Axial CT enterograms demonstrate a persistently draining perianal fistula (arrow) inferior to the subcutaneous external anal sphincter (arrowhead in a).

Figure 6. Small bowel strictures in a 39-year-old man with Crohn disease and vomiting. Axial (a) and coronal (b) CT enterograms demonstrate markedly dilated small bowel loops (arrowheads) and multiple inflammatory strictures with mural hyperenhancement and wall thickening (arrow), findings that indicate persistent inflammatory disease. The patient was treated with laparoscopic dilation followed by medical therapy.
contraindicate capsule use. That CT enterography helps detect both active Crohn disease and small bowel strictures is particularly important now that early reports have shown that endoscopic patency capsules may themselves precipitate small bowel obstruction (24,25). Consequently, at our institution, CT enterography and ileocolonoscopy have become the first-line modalities in patients with suspected Crohn disease. Small bowel assessment with capsule endoscopy is reserved for patients with negative CT enterography examinations in whom clinical suspicion for Crohn disease remains. The accuracy and noninvasive nature of CT enterography make it a primary tool in the setting of suspected Crohn disease (6,23).

CT enterographic findings of mural hyperenhancement (Fig 7), mural stratification (Fig 8), bowel wall thickening (Fig 9), soft-tissue stranding in the perienteric mesenteric fat (Fig 9a), and engorged vasa recta (Fig 10) correlate with active mucosal and mural inflammation (15–17,26–29). Mural hyperenhancement refers to the segmental
Figure 8. Spectrum of mural stratification in Crohn disease. (a) Ileal inflammation in a 46-year-old woman with a 25-year history of Crohn disease. CT enterogram shows mural stratification with intramural fat surrounded by serosal and mucosal hyperenhancement (arrows), findings that indicate chronic active inflammation in the terminal ileum. (b) Active Crohn disease in a 42-year-old woman. CT enterogram shows ileal mural stratification (arrow) and intramural fluid attenuation (ie, edema). (c) Crohn colitis in a 43-year-old woman. CT enterogram demonstrates Crohn colitis as mural stratification with intramural edema, bowel wall thickening (arrows), and dilatation of the vasa recta (arrowheads). (d) Crohn disease of the neoterminal ileum in a 33-year-old man who had undergone ileocecal resection 19 years earlier. CT enterogram demonstrates mural stratification, which gives a bilaminar appearance to the small bowel wall, with mucosal hyperenhancement and bowel wall thickening with soft-tissue attenuation (arrows), findings that most likely represent inflammatory infiltrate. (e) Active Crohn disease in a 56-year-old woman who presented with malaise, left lower quadrant pain, diarrhea, and intermittent low-grade fever. CT enterogram shows disease in the neoterminal ileum (cf d), with bilaminar mural stratification (arrows) and intramural soft-tissue attenuation.
hyperattenuation of distended small bowel loops relative to nearby normal-appearing loops (Figs 7, 8). Segmental mural hyperenhancement correlates significantly with histologic findings of active Crohn disease (4). It should be noted that, during scanning in the late arterial or enteric phase of enhancement (30–50 seconds after contrast material injection), the jejunum enhances to a greater extent than the ileum (30), and collapsed bowel loops have higher attenuation than dis-

**Figure 9.** Mural thickening associated with active Crohn disease. **(a)** CT enterogram obtained in a 25-year-old man with a 1-year history of Crohn disease who presented with right lower quadrant pain shows thickening of the ileal wall with intermediate attenuation (arrowhead), a finding that suggests inflammatory infiltrate. Mucosal hyperenhancement (arrow) and perienteric fat stranding are also seen. **(b)** CT enterogram obtained in a 56-year-old woman shows asymmetric thickening of the medial wall of the cecum (arrows), along with the “comb sign” (arrowheads).

**Figure 10.** Active Crohn disease in a 14-year-old patient. The patient had been treated medically since undergoing ileal resection 1 year earlier. Follow-up CT enterogram shows engorged vasa recta producing the comb sign (arrows) involving two ileal loops with asymmetric enhancement and wall thickening.

**Figure 11.** Crohn disease in an 86-year-old woman who presented with abdominal pain. CT enterogram shows diffuse fibro-fatty proliferation surrounding the rectum and displacing the uterus anteriorly.
tended ones. Consequently, it is important to compare small bowel loops with increased attenuation with normal-appearing distended loops in the same bowel segment. In nondistended bowel loops, secondary signs of small bowel inflammation such as mural stratification, engorged vasa recta, or stranding in the perienteric fat must be used to diagnose active inflammation. In such cases, rescanning through the section of interest is often helpful in distinguishing small bowel collapse from stricture.

Mural stratification (Fig 8) refers to visualization of layers of the bowel wall at contrast material–enhanced CT. In mural stratification, the mucosa and serosa enhance avidly, but the intervening bowel wall can have any of various degrees of attenuation, depending on what pathologic process is present. The presence of intramural fat indicates past or chronic inflammation (Fig 8a). The presence of intramural edema (or water attenuation) indicates active inflammation (Fig 8b). We have also observed intramural soft-tissue attenuation, which may represent an inflammatory infiltrate and results in a bilaminar appearance of the small bowel wall (Fig 8c–8e).

Small bowel mural thickness greater than 3 mm is considered abnormal (31). Crohn disease notably affects the small bowel wall asymmetrically (Fig 9), predominantly the mesenteric border (Fig 9b). Inflammation along the mesenteric border will often result in pseudosacculations or redundancy along the antimesenteric border and can be thought of as the CT equivalent of the mesenteric border linear ulcer seen at small bowel follow-through examination.

The comb sign is created by engorged vasa recta, vessels that penetrate the bowel wall perpendicularly to the bowel lumen (Fig 10). Engorged vasa recta indicate active inflammation and have been associated with elevated C-reactive protein levels and longer hospital stays in patients with severe Crohn disease (32).

Fibrofatty proliferation can occur along the mesenteric border of bowel segments affected by Crohn disease (Fig 11) and is considered to be surgically pathognomonic for the disease. Interestingly, some investigators have demonstrated that the perienteric fat in patients with Crohn disease is not simply a result of inflammation, but is actually hormonally active, and may in fact help drive the inflammatory process (33). Although fibrofatty proliferation is a sign of Crohn disease, it remains present in clinically quiescent disease.

As mentioned earlier, extraenteric complications of Crohn disease are readily identified with CT enterography. Fistulas generally appear as hyperenhancing tracts, usually originating from bowel loops that exhibit signs of active inflammation (Fig 2). One exception is perianal fistula, which is often isooattenuating relative to the ano-rectum, potentially because of its chronicity (Fig 5). Abscesses are usually either within the leaves of the mesentery or in a retroperitoneal location, often being connected to inflamed bowel by a sinus tract (Fig 12). Other extraenteric complications of Crohn disease include sacroilitis, renal stones, cholelithiasis, primary sclerosing cholangitis, and lymphoma.

Figure 12. Mesenteric abscess. (a) Axial CT enterogram demonstrates mural stratification and thickening in a jejunal loop (arrow), with surrounding fat stranding and a hyperenhancing mesenteric sinus tract (arrowhead). (b) Contiguous axial CT enterogram reveals that the tract ends in a small mesenteric abscess (arrowhead).
Ulcerative Colitis

Because CT enterography is less sensitive than endoscopy and principally allows evaluation of the small bowel, it is not used for the diagnosis or staging of ulcerative colitis (34). Even when radiologic findings are present, they are often nonspecific. Mural stratification, dilatation of the vasa recta, colonic wall thickening, and inflammatory pseudopolyps are seen in both ulcerative colitis (Fig 13) and Crohn colitis (Fig 8c) (35). When these findings occur in the right colon and terminal ileum, Crohn disease is more likely (36). In addition, extraenteric complications such as fistulas, abscesses, or discontinuous colonic or small bowel inflammation support the diagnosis of Crohn disease. Because of the sensitivity of CT enterography for Crohn disease, the principal role of this modality in patients with suspected ulcerative colitis is to help exclude findings of Crohn disease such as small bowel inflammation.

Small Bowel Tumors

Although small bowel tumors are rare, they are commonly included in the differential diagnosis of small bowel disease because of their nonspecific presenting symptoms. Patients may present with pain, obstruction, bleeding, anorexia, weight loss, perforation, or jaundice. The nonspecific nature of these symptoms and the lack of reliable clinical findings virtually assure significant delay in diagnosis (37,38). Although many studies have been proposed for the investigation of small bowel tumors, CT has been shown to demonstrate abnormalities associated with small bowel tumors in 90% of patients (39,40). The most common small bowel tumors (in decreasing order of frequency of occurrence) are adenocarcinoma (Fig 14), carcinoid tumor (Fig 15), lymphoma, and gastrointestinal stromal tumor (Fig 16).
Figure 15. Varied appearances of small bowel carcinoid tumors. (a) CT enterogram demonstrates a submucosal carcinoid tumor (arrows) within a Meckel diverticulum. (b) CT enterogram obtained in a different patient demonstrates a carcinoid tumor (arrow) within the wall of the ileum. (c) CT enterogram obtained in a third patient shows mesenteric metastases from an ileal carcinoid tumor. Note the enhancing, star-shaped mesenteric nodule (arrowhead), with stranding of the mesentery and thickening of the adjacent small bowel wall (arrows). The segmental wall thickening may indicate either a carcinoid carpet lesion or segmental edema. (d) Coronal reformatted CT enterographic image obtained in a fourth patient demonstrates a mesenteric carcinoid tumor (arrows) with hypervascular liver metastases (arrowheads).

Figure 16. Gastrointestinal stromal tumor. CT enterogram shows an exoenteric gastrointestinal stromal tumor (arrows) of the duodenum.
Nonmalignant small bowel tumors include hamartomatous polyps from Peutz-Jeghers syndrome (Fig 17) and hyperplastic polyps. Although any of these tumors may appear at CT enterography as focal intraluminal masses, focal areas of bowel wall thickening, or areas of increased mural enhancement, certain appearances suggest particular tumors. A pedunculated or predominantly exoenteric mass suggests a gastrointestinal stromal tumor (Fig 16). An exoenteric mass combined with adjacent lymphadenopathy or aneurysmal ulceration suggests lymphoma as the primary consideration. Carcinoid tumors arise from neuroendocrine precursors in the mucosa or small bowel wall and may manifest as avidly enhancing polyps (often in the ileum [Fig 15a, 15b]) or as enhancing carpet lesions (Fig 15c), mimicking the wall thickening of Crohn disease. Mesenteric carcinoid metastases demonstrate a desmoplastic reaction, may contain eccentric calcification, or may be clustered near the mesenteric root, whereas hepatic carcinoid metastases are hypervascular and necrotic (Fig 15d). Adenocarcinomas assume a variety of shapes but are generally located in the proximal small bowel (Fig 14).

Celiac Disease
Presenting symptoms in patients with celiac disease are frequently nonspecific (41). Similarly, conventional barium studies are frequently nondiagnostic. Studies have shown that CT may demonstrate characteristic findings of celiac disease (Fig 18), including small bowel dilatation (42), fold separation (42), nonobstructing small bowel intussusception (43), and extraintestinal diseases such as adenopathy and celiac-associated T-cell lymphoma (44). Reversal of the jejunoileal fold pattern (Fig 18a) with villous atrophy in the proximal small bowel (Fig 18c) can be visualized at CT enterography. Jejunization of the ileum may be particularly noticeable on coronal reformatted images (Fig 18a) (45).

Incidental Findings
In our series, the rate of potentially significant incidental findings not involving the small bowel was 3.5%. Incidental findings (Fig 19) ranged from pancreatic and hepatic masses to endometrial cancer and extraenteric complications of inflammatory bowel disease such as primary sclerosing cholangitis.
Figure 18. Celiac disease. (a) Coronal reformatted CT enterographic image demonstrates celiac disease with fold reversal. Note the prominent mucosal pattern in the ileal loops within the pelvis (arrows). (b) Coronal reformatted CT enterographic image obtained in a patient with celiac disease and ulcerative jejunitis shows thickened bowel wall with mucosal hyperenhancement (arrows) in the jejunum. (c) CT enterogram obtained in a third patient with celiac disease shows dilatation of multiple loops of jejunum with absence of valvulae conniventes (arrows), findings that indicate villous atrophy.

Figure 19. Splenic artery pseudoaneurysm. CT enterogram obtained in a patient who presented with abdominal pain shows a thrombosed splenic artery pseudoaneurysm (arrows), an incidental finding that was confirmed at surgery. Note the heavily calcified splenic artery.
Evaluation of CT Enterography

Performance
Early studies in which findings at fluoroscopic enteroclysis and barium small bowel follow-through examination were used as reference standards have estimated the sensitivity of CT enterography for active inflammatory Crohn disease to be over 85% (5,46). Using endoscopic or surgical findings as a reference standard, we and others have estimated the sensitivity of CT enterography and magnetic resonance enterography for active inflammation to be 77%–92%; these studies primarily made use of mural hyperenhancement and wall thickening in identifying active inflammation (6,47–49). To our knowledge, there have been no studies that have examined CT enterography specifically in the evaluation of ulcerative colitis, celiac disease, or small bowel tumors.

Pitfalls
Radiologists should be aware that segmental mural hyperenhancement can be present in diseases other than active Crohn disease; portal or mesenteric vein clot, luminal collapse, backwash ileitis, and short gut syndrome can all cause segmental hyperenhancement of the small bowel. Careful visual inspection of CT enterographic data sets is required to ensure that non-Crohn-related causes of segmental mural hyperenhancement are not present. Mural wall thickening is also a nonspecific finding when seen in isolation and should be seen in conjunction with segmental mural hyperenhancement before the diagnosis of Crohn disease is made. Spasm or collapse of small bowel loops can be especially problematic because spasm is an early finding in Crohn disease and collapse is associated with thickening and increased attenuation of the small bowel wall. In this setting, repeat scanning through the region of interest and reliance on extraenteric findings of inflammation such as dilated vasa recta, fistulas, and perienteric inflammatory changes can be helpful.

Future Directions
An increasing number of our examinations are now performed on 64-channel CT systems, which offer isotropic spatial resolution. This increased spatial resolution permits image reforma-

tion in any plane with a resolution equivalent to that of the original axial images (Fig 20). We and others (50) have been interested in using coronal reformatted images as an adjunct to axial images. Coronal images may increase diagnostic confidence with relatively few additional storage requirements (51), often improving visualization of obliquely oriented disease or permitting better comparison of the enhancement of bowel loops in the upper and lower abdomen.
The role of CT enterography continues to evolve within the milieu of traditional examinations and competing technologies. The traditional small bowel follow-through examination is performed by most radiology groups and remains the primary diagnostic technique in the investigation of small bowel disease (52). CT enterography has begun to replace the small bowel follow-through examination at our institution in the investigation of Crohn disease because of its superior performance in detecting active Crohn disease (49). Furthermore, because of the good tolerability and high sensitivity of CT enterography and clinicians’ preference for this cross-sectional examination, we foresee it becoming the modality of choice in patients with a presumed diagnosis of irritable bowel syndrome in whom it is important to rule out Crohn disease.

As mentioned earlier, capsule endoscopy has emerged as a promising tool for the examination of the small bowel mucosa. In our study comparing the use of capsule endoscopy with CT enterography in patients with suspected Crohn disease, CT enterography had an equivalent sensitivity and superior specificity in detecting small bowel inflammation (49). Given the capacity of CT enterography to help exclude small bowel strictures that may cause retention of endoscopic capsules (49,53), the emerging practice at our institution is to perform CT enterography and ileocolonoscopy for suspected Crohn disease. Capsule endoscopic assessment is reserved for patients with negative CT examinations in whom clinical suspicion remains. CT enterography is also used as an adjunct to capsule endoscopy to exclude strictures, clarify ambiguous capsule endoscopic findings, or search for intramural or exenteric small bowel neoplasms. Capsule endoscopy is considered the preeminent imaging modality for patients with suspected small bowel blood loss, but the improved temporal resolution of late-generation multi–detector row CT scanners and improved bolus tracking techniques will certainly enhance the radiologic conspicuity of vascular small bowel lesions.

Conclusions
CT enterography is a powerful tool in the evaluation of small bowel disease. Adequate luminal distention can usually be achieved with oral ingestion of a large volume of neutral enteric contrast material in the evaluation of diseases affecting the mucosa and bowel wall, thereby obviating nasogastric intubation and making CT enterography a useful, well-tolerated study in this setting. The capacity to help accurately determine the severity and extent of Crohn disease has made CT enterography the first-line modality at our institution in patients with suspected inflammatory bowel disease.

References


CT Enterography as a Diagnostic Tool in Evaluating Small Bowel Disorders: Review of Clinical Experience with over 700 Cases

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