

SPECIAL SONO-CASE

Perianal Fistula: Targeted Ultrasound Mapping

Identifying a tract, internal opening, and occult abscess while recognizing the role of MRI

CLINICAL CHALLENGE A 36-year-old patient with Crohn disease presents with perianal pain, drainage, and a recurrent external opening at the 7-o'clock position.

Clinical context

Key element	Finding
Clinical detail 1	Crohn disease for 8 years
Clinical detail 2	Prior perianal abscess drainage
Clinical detail 3	Recurrent purulent drainage and pain
Clinical detail 4	No hemodynamic instability

Learning objectives

- Perform a safe, focused examination adapted to the altered anatomy or clinical context.
- Recognize the principal diagnostic pattern and its most important mimics.
- Document limitations and communicate a clinically actionable impression.

Scanning protocol

- Explain the sensitive examination and obtain consent; use appropriate chaperone and infection-control practice.
- Use high-frequency transperineal ultrasound; consider endoanal ultrasound only where trained, indicated, and tolerated.
- Scan radial and longitudinal planes, mapping the external opening, tract, sphincters, and collections.
- Use color Doppler for inflammatory hyperemia; document clock-face location consistently.
- MRI pelvis remains the preferred comprehensive map for complex or recurrent disease in many patients.

Sonographic findings

- A hypoechoic hyperemic tract extends from the right posterolateral perianal skin toward the intersphincteric plane.
- A 1.4-cm complex fluid collection with peripheral hyperemia is present along the tract.
- The presumed internal opening is near 6–7 o'clock; supralelevator extension is not demonstrated sonographically.

Diagnostic reasoning

Findings support an active perianal fistula with a small associated abscess. Ultrasound can rapidly characterize superficial disease, but MRI is important when the full course or secondary extensions are uncertain.

Suggested report

IMPRESSION Hyperemic right posterolateral perianal fistulous tract with a 1.4-cm associated complex collection, concerning for active fistula and small abscess. The full deep extent is not completely assessed by ultrasound; MRI pelvis may be considered for definitive mapping if clinically indicated.

Pitfalls and quality checks

- Overstating the internal opening when not directly visualized.
- Failing to document sphincter relationship.
- Using excessive pressure that empties or collapses a small collection.

ARDMS-style review questions

Which modality most comprehensively maps complex perianal fistula?

- A. MRI pelvis
- B. Radiograph
- C. Noncontrast head CT
- D. HIDA scan

Answer: A

Peripheral hyperemia around a complex collection suggests:

- A. Active inflammation/abscess
- B. Simple scar only
- C. Normal sphincter
- D. Air artifact only

Answer: A

Teaching takeaway

KEY POINT Findings support an active perianal fistula with a small associated abscess. Ultrasound can rapidly characterize superficial disease, but MRI is important when the full course or secondary extensions are uncertain.

References and guidance

- American College of Radiology. ACR Appropriateness Criteria: Anorectal Disease.
- ACR–SAR–SPR Practice Parameter for Imaging of Anal and Perianal Fistula.

This fictional, de-identified composite case is intended for professional education. It does not replace local protocols, qualified interpretation, specialist consultation, or patient-specific medical care. Rare procedures and research settings require institution-specific guidance.