

AMSER Case of the Month

August 2026

94-year-old female presenting to the ED with acute-onset right groin pain and a new groin bulge

Tolulope Ilori, Cooper Medical School of Rowan University

D'Shaun Adams MD, Cooper University Hospital

Genelle Gittens-Backus MD, Cooper University Hospital

Patient Presentation

- **HPI:** 94-year-old female with PMHx of urinary retention, pA-fib, prior MI (s/p PCI), CKD III, HTN, GERD, and breast cancer (s/p resection/radiation). Presented to ED with sudden-onset right groin pain (10/10) and a newly noticed groin bulge. Associated nausea and one week of urinary incontinence. Denied fevers, dysuria, and vomiting.
- **Physical Exam:** Tender, erythematous right groin bulge with minimal abdominal tenderness. No peritoneal signs.
- **Vitals on Admission:** BP [203/114], HR [58], RR [17], SpO2 [95% on room air]
- **ED Course:** POC bladder ultrasound demonstrated urinary retention. Foley catheter placement led to symptomatic relief and reduction of the groin bulge.

Pertinent Labs

- CBC:** Within normal limits
- BMP:** Unremarkable
- Liver profile & lipase:** Within normal limits
- Urinalysis:** Trace leukocyte esterase, WBC: 7, RBC: 4: low suspicion for significant UTI

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

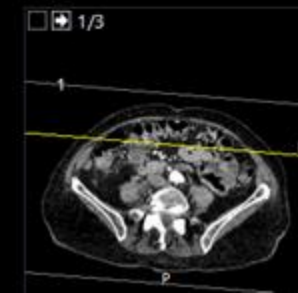
Variants				Documents	
1. Suspected abdominal wall hernia such as umbilical, ventral, incisional, lumbar, or spigelian. Initial imaging. 2. Suspected groin hernia such as inguinal or femoral. Initial imaging. 3. Suspected deep pelvic hernia including obturator, sciatic, or perineal. Initial imaging. 4. Suspected diaphragmatic hernia including traumatic, Bochdalek, or Morgagni. Initial imaging.				Documents <a>Narrative <a>Evidence Table <a>Lit Search <a>Appendix	
Scenario	Scenario ID	Procedure	Adult RRL	Peds RRL	Appropriateness Category
Groin hernia suspected, femoral, initial imaging	3195283	● US pelvis	0 mSv O	0 mSv [ped] O	Usually appropriate
		● MRI pelvis without and with IV contrast	0 mSv O	0 mSv [ped] O	Usually appropriate
		● CT abdomen and pelvis with IV contrast	1-10 mSv *****	3-10 mSv [ped] *****	Usually appropriate
		● CT abdomen and pelvis without IV contrast	1-10 mSv *****	3-10 mSv [ped] *****	Usually appropriate
		● CT pelvis with IV contrast	1-10 mSv *****	3-10 mSv [ped] *****	Usually appropriate
		● CT pelvis without IV contrast	1-10 mSv *****	3-10 mSv [ped] *****	Usually appropriate
		● MRI pelvis without IV contrast	0 mSv O	0 mSv [ped] O	May be appropriate
		● Fluoroscopy small bowel follow-through	1-10 mSv *****	3-10 mSv [ped] *****	Usually not appropriate
		● Radiography abdomen and pelvis	1-10 mSv *****	0.3-3 mSv [ped] *****	Usually not appropriate
		● CT abdomen and pelvis without and with IV contrast	10-30 mSv *****	10-30 mSv [ped] *****	Usually not appropriate
		● CT pelvis without and with IV contrast	10-30 mSv *****	3-10 mSv [ped] *****	Usually not appropriate

This imaging modality was ordered by the ER physician

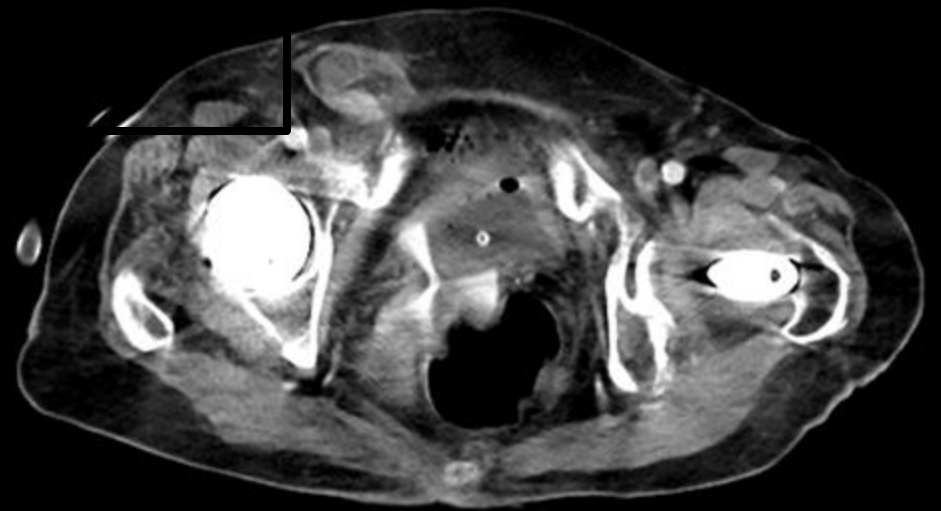
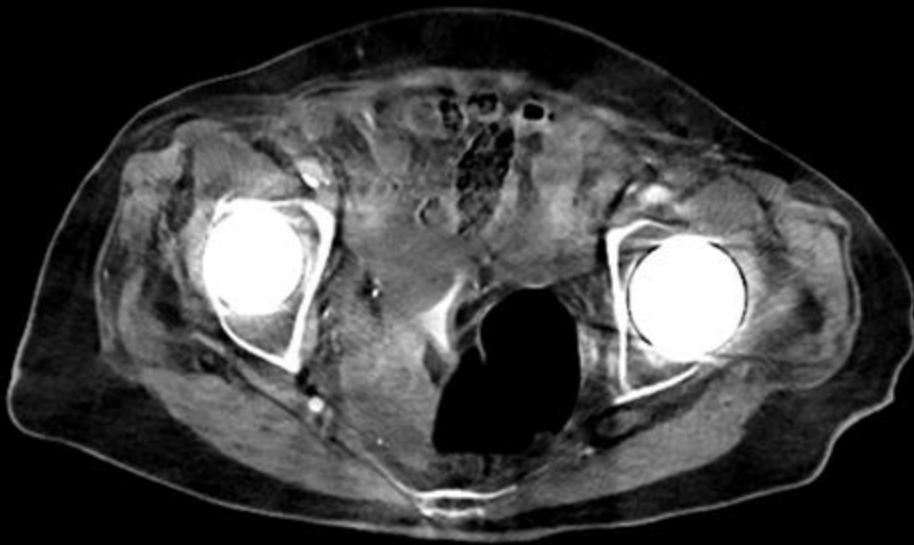
Findings (unlabeled)



Findings (unlabeled)



Findings (unlabeled)



Findings (labeled)

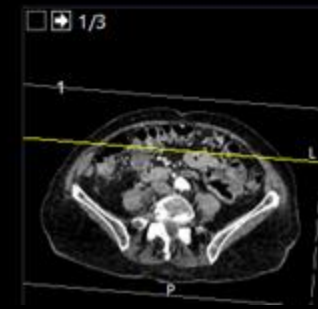
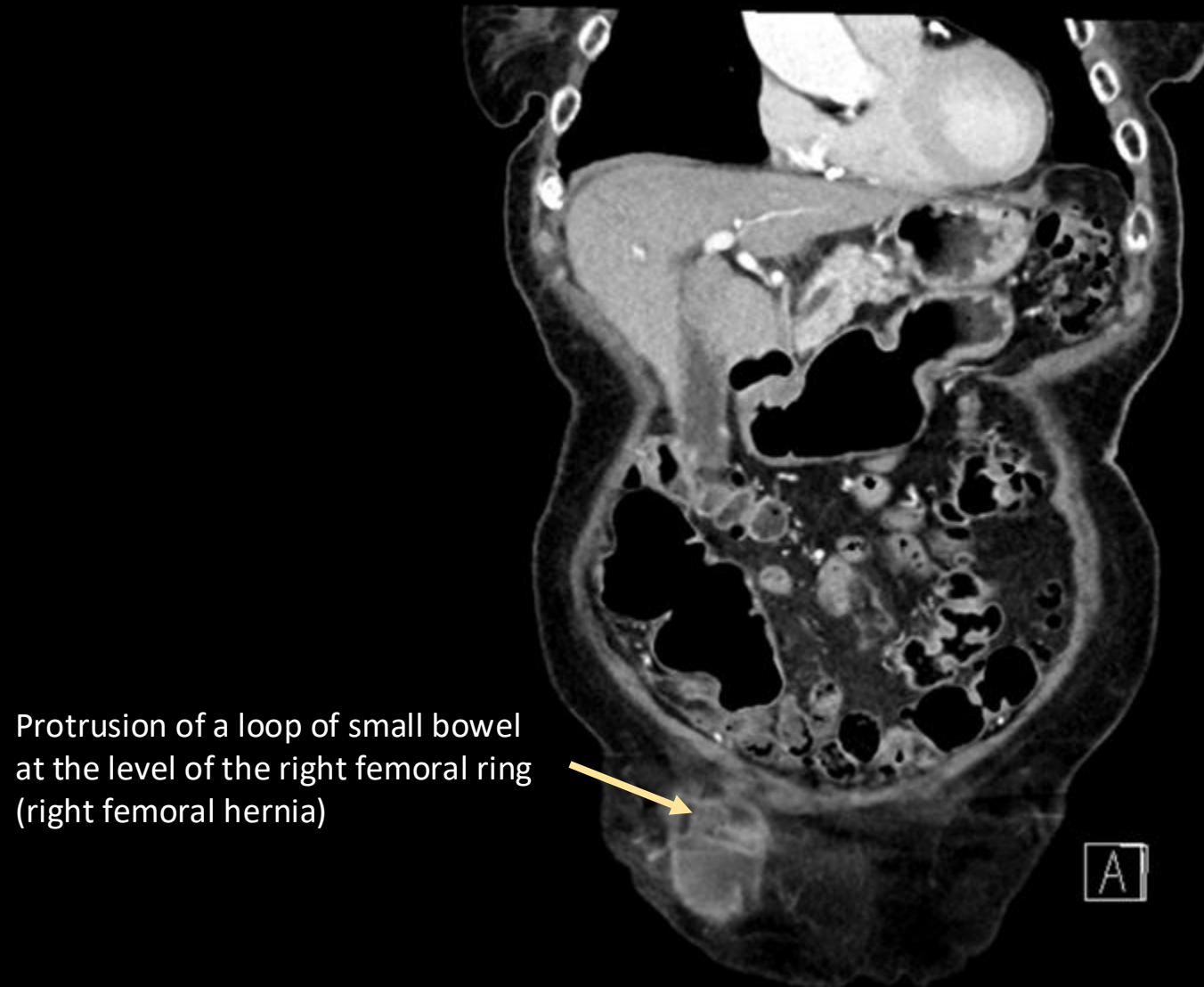


Inguinal
ligament



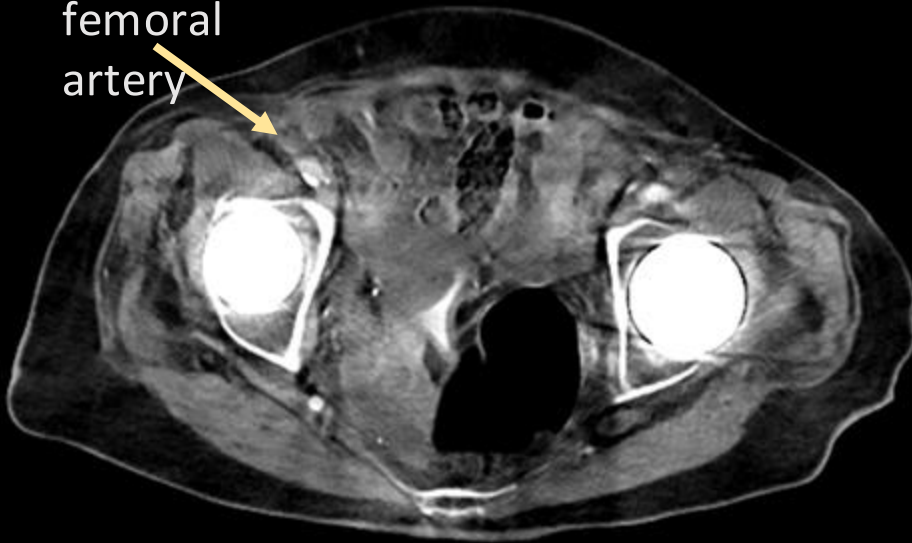
Defect in the right
inguinal ligament

Findings (labeled)



Findings (labeled)

Right
common
femoral
artery



Small bowel contained in
the right femoral hernia



Differential Diagnosis

Hernia

- **Femoral Hernia**
 - Located below/medial to inguinal ligament through femoral canal
 - 3x higher incarceration risk than inguinal hernia
 - More common in women
- **Inguinal Hernia**
 - Located above inguinal ligament
 - Passes through inguinal canal
 - More common in males
 - CT readily distinguishes from femoral hernia
- **Obturator Hernia**
 - Elderly thin females
 - Passes through obturator foramen; may not produce external bulge; Howship-Romberg sign (medial thigh pain)

Differential Diagnosis cont.

Vascular

- **Femoral Artery Aneurysm/Pseudoaneurysm**
 - Pulsatile mass
 - Associated with atherosclerosis or prior intervention
 - Confirmed with Doppler US or CTA
- **Saphenous Varix**
 - Compressible
 - Empties with leg elevation

Lymphatic / Infectious / Soft Tissue

- **Inguinal Lymphadenopathy**
- **Lipoma**
- **Adductor Muscle Strain**

Final Dx:

Small Bowel Containing Right femoral hernia

Treatment

Surgical repair of the right femoral hernia was performed immediately. The patient did well and was discharged home shortly.

Case Discussion: Clinical Context

Presentation and Incarceration Risk:

- Acute groin pain with a non-reducible bulge raised concern for incarceration.
- Absence of leukocytosis and peritoneal signs lowered suspicion for strangulation.

Clinical Pearl:

Symptom resolution after Foley catheter placement suggests that elevated intra-abdominal pressure from urinary retention contributed to hernia incarceration.

This is a less commonly cited precipitant compared to chronic cough, constipation, and heavy lifting.¹

Case Discussion: Imaging and Management

- **Imaging Role:** Femoral hernias are clinically subtle due to their location inferior to the inguinal ligament, making CT essential for diagnosis and complication assessment.² CT confirmed a right femoral hernia without strangulation, and the patient underwent laparoscopic repair.
- **Management:** Despite spontaneous reduction after Foley placement, recurrence risk remains high. Current guidelines recommend definitive repair of all femoral hernias.³ Laparoscopic repair offers lower pain, shorter hospitalization, and faster recovery, especially in older adults.⁴
- **Key Takeaway:** Prompt recognition, appropriate cross-sectional imaging, and timely surgical management are critical to prevent progression to strangulation and bowel ischemia. This case highlights the underappreciated role of urinary retention as a precipitant of femoral hernia incarceration.

References:

1. Ruhl CE, Everhart JE. Risk factors for inguinal hernia among adults in the US population. *Am J Epidemiol*. 2007 May 15;165(10):1154-61. doi: 10.1093/aje/kwm011. PMID: 17374852.
2. Kalayci T, Ilklerden UH, Kotan MC. Factors Affecting Morbidity, Mortality, and Recurrence in Incarcerated Femoral Hernia. *J Coll Physicians Surg Pak*. 2022 Feb;32(2):213-219. doi: 10.29271/jcpsp.2022.02.213. PMID: 35108794.
3. Brooks DC. Overview of treatment for inguinal and femoral hernia in adults. In: UpToDate, Rosen M (Ed), Wolters Kluwer. (Accessed March 29, 2026.)
4. Kim I, Barmparas G, Towfigh S. Development of an Acute Femoral Hernia Treatment Algorithm: Insights From the ACHQC National Database. *The American Surgeon*. 2025;91(10):1735-1741. doi:[10.1177/00031348251353074](https://doi.org/10.1177/00031348251353074)