

Diagnostic Imaging Pathways - Foreign Body (Suspected)

Population Covered By The Guidance

This pathway provides guidance on the imaging of adult patients with a suspected soft-tissue foreign body.

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Quick User Guide

Move the mouse cursor over the **PINK** text boxes inside the flow chart to bring up a pop up box with salient points.

Clicking on the **PINK** text box will bring up the full text.

The relative radiation level (RRL) of each imaging investigation is displayed in the pop up box.

SYMBOL	RRL	EFFECTIVE DOSE RANGE
	None	0
	Minimal	< 1 millisieverts
	Low	1-5 mSv
	Medium	5-10 mSv
	High	>10 mSv

Pathway Diagram

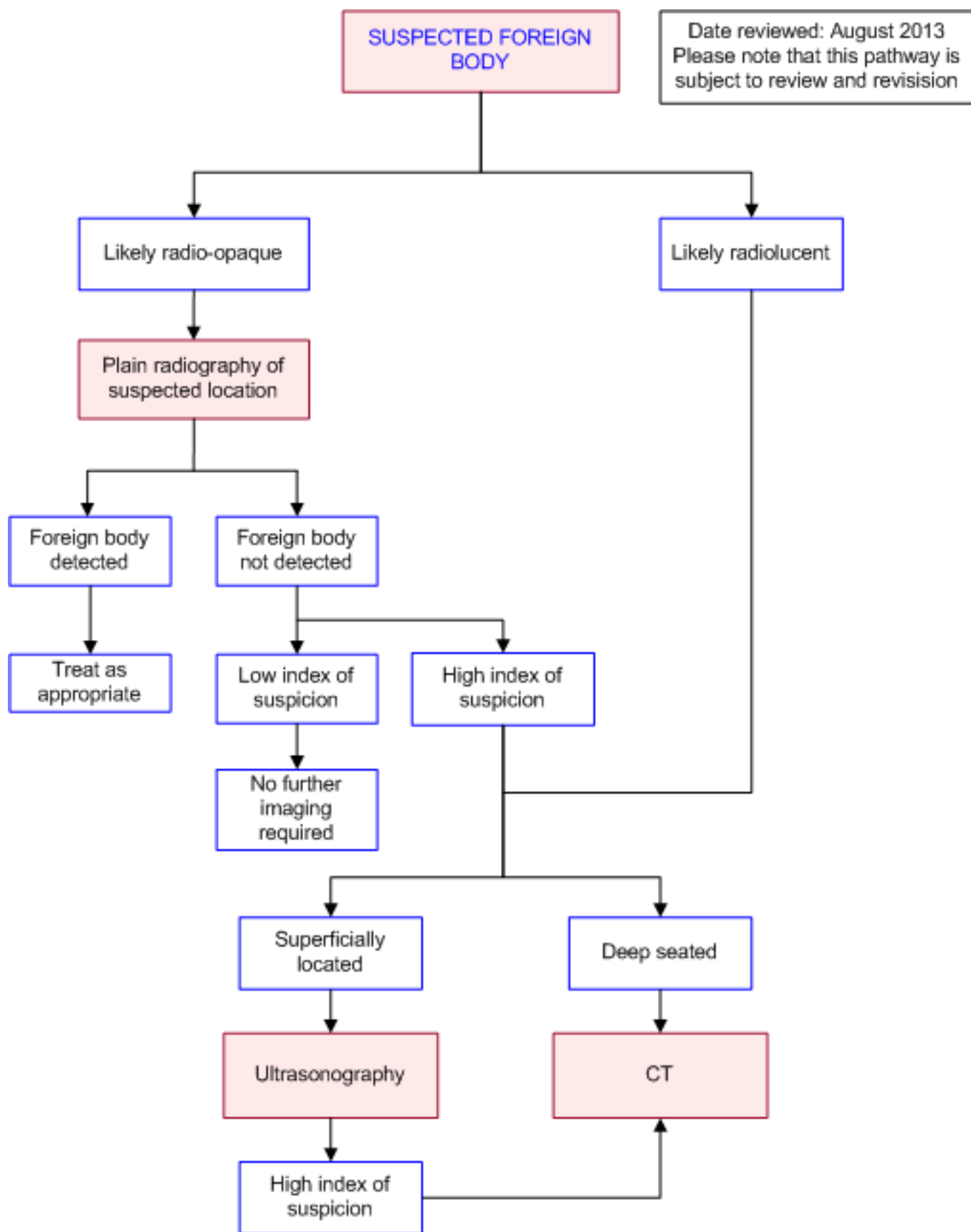


Image Gallery

Note: Images coming soon

Teaching Points

- Plain radiographs should be the initial screening modality for a suspected radio-opaque foreign body. As a general rule further investigation should be in the form of Ultrasonography for superficial and CT scan for deep seated suspected foreign body

Investigation of Suspected Foreign Body

- Plain radiographs should be the initial screening modality for a suspected radio-opaque foreign body [1](#)
- When a suspected foreign body is not delineated on radiographs, ultrasonography should be the next modality of choice for superficial foreign bodies [1,2](#)
- CT should be reserved for deep seated foreign bodies or those that are not detected on radiographs or ultrasonography but are suspected [1](#)
- Whereas most metal and glass foreign bodies are detectable on radiographs, many foreign bodies, including wood, are not [1,2](#)
- In one study, ultrasonography proved most useful for the evaluation of retained wooden foreign bodies [3](#)
- Surgical instruments such as sponges and gauze are infused with a radiopaque strip to facilitate their detection on radiographs. [4](#) Radiographs are the most commonly used method to detect retained sponges. [5](#) If negative, imaging may proceed to Ultrasound and /or CT scan if suspicion is high [6](#)

Appearance of Foreign Bodies on Radiographs [7](#)

- *Opaque materials*: glass of all types; most metallic objects (except aluminum); most animal bones and some fish bones; some foods; some soil fragments, sand, gravel, and mineral fragments; some medications and poisons (CHIPES: chloral hydrate, heavy metals, iodides, phenothiazines, enteric coated pills, solvents)
- *Non-opaque materials*: most foods and medicines; most fish bones; most wood, splinters, thorns of all types; most plastics; most aluminum objects

References

References are graded from Level I to V according to the Oxford Centre for Evidence-Based Medicine, Levels of Evidence. [Download the document](#)

- [1.](#) Flom LL, Ellis GL. **Radiologic evaluation of foreign bodies.** Emerg Med Clin North Am. 1992;10(1):163-77. (Review article)
- [2.](#) Oikarinen KS NT, Makarainen H, Pyhtinen J. **Visibility of foreign bodies in soft tissue in plain radiographs, computed tomography, magnetic resonance imaging, and ultrasound. An in vitro study.** Int J Oral Maxillofac Surg. (Level III evidence)
- [3.](#) Peterson JJ, Bancroft LW, Kransdorf MJ. **Wooden foreign bodies: Imaging appearance.** AJR A J Roentgenol. 2002;178(3):557-62. (Level III evidence)
- [4.](#) Hunter TB, Taljanovic MS. **Medical devices of the abdomen and pelvis.** Radiographics. 2005;25(2):503-523. (Review article)



5. O'Connor A, Coakley F, Meng M, Eberhardt S **Imaging of retained surgical sponges in the abdomen and pelvis.** AJR Am J Roentgenol. 2003;180:481-9. (Review article)
6. Manzella A, Filho PB, Albuquerque E, Farias F, Kaercher J. **Imaging of gossypibomas: pictorial review.** Am J Roentgenol. 2009;193(6 Suppl):94-10. (Review article)
7. Hunter TB, Taljanovic MS. **Foreign bodies.** Radiographics. 2003;23(3):731-57. (Review article)

Information for Consumers

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<p>Consent to Procedure or Treatment</p> <p>Radiation Risks of X-rays and Scans</p> <p>Computed Tomography (CT)</p> <p>Chest Radiograph (X-ray)</p> <p>Plain Radiography (X-ray)</p>	<p>Computed Tomography (CT)</p> <p>Plain Radiography/X-rays</p> <p>Radiation Risk of Medical Imaging During Pregnancy</p> <p>Radiation Risk of Medical Imaging for Adults and Children</p> <p>Ultrasound</p>

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