Procedural Ultrasound
Chapter 6

ULTRASOUND GUIDANCE FOR SUBCUTANEOUS ABSCESS MANAGEMENT

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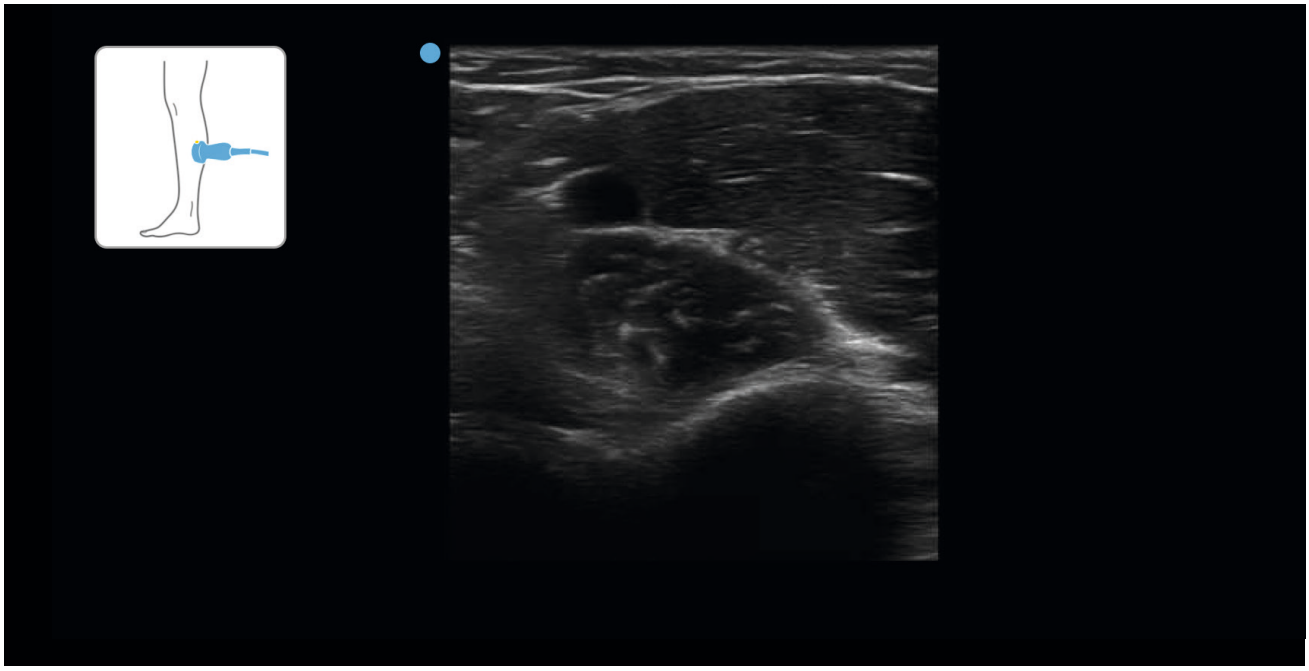
Ultrasound guidance for subcutaneous abscess management

IMAGING SOFT TISSUES

It is really useful to have a basic understanding of normal prior to viewing abnormal tissue.

Here is an image of normal tissue in the lower leg.



You can see the dermis, subcutaneous tissue, muscles, bone, and a vessel.

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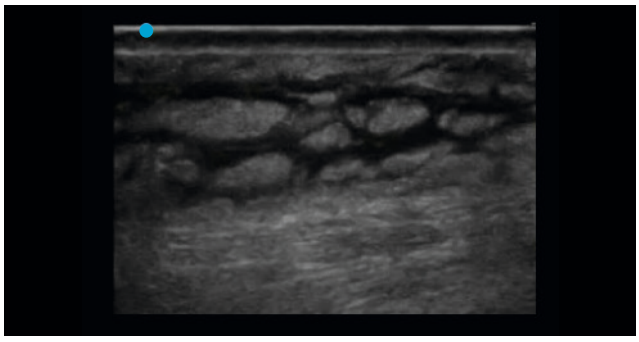
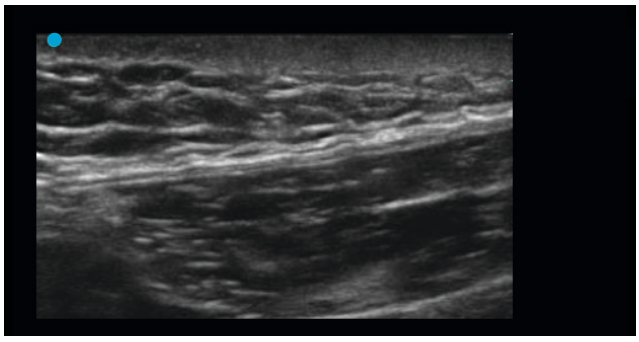
IDENTIFYING ABSCESSES

Cellulitis can appear as cobblestoning and thickening of the dermis.

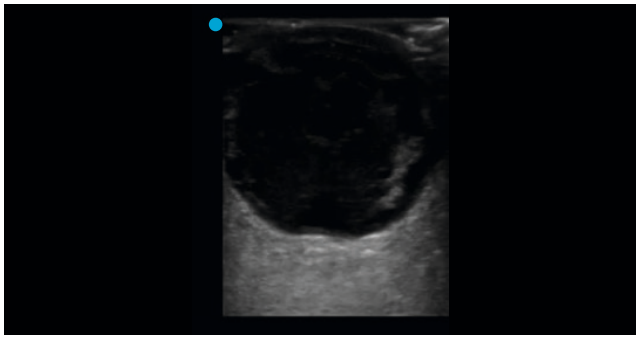


Cobblestoning

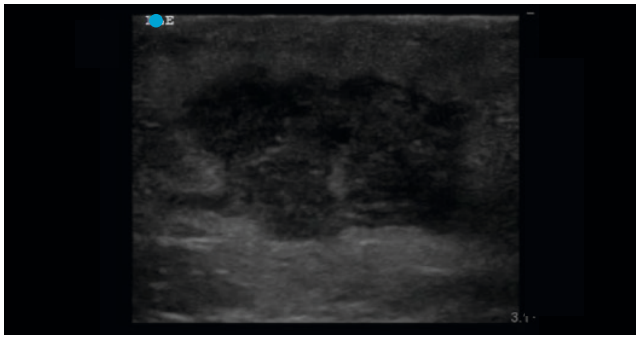


Thickened dermis

An abscess can appear anechoic or hypoechoic.

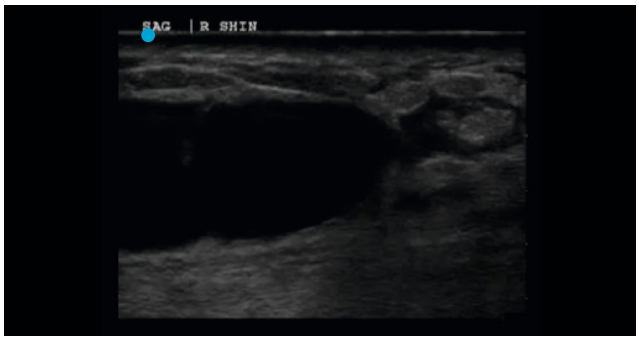


Anechoic abscess



Hypoechoic abscess

Sometimes there is cobblestoning AND an abscess.



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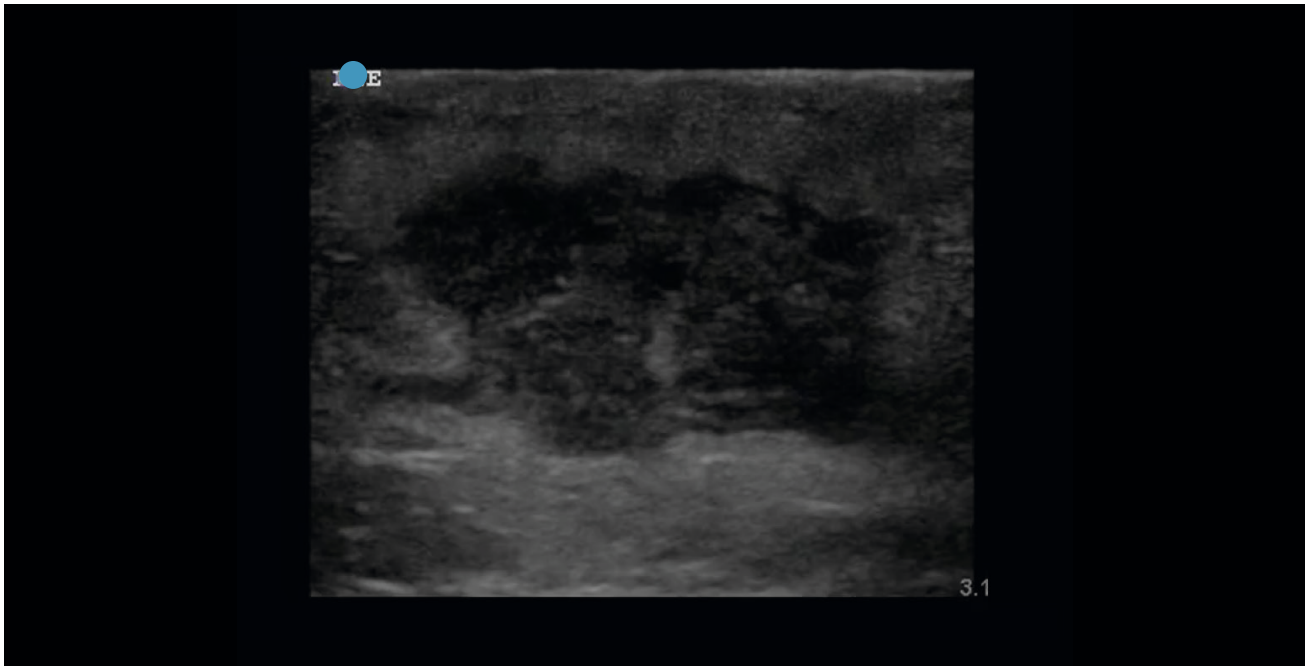
GUIDING INCISION AND DRAINAGE WITH ULTRASOUND

When using ultrasound to guide incision and drainage, it's best to get a sense of how deep to the skin the abscess is, as well as how large the abscess is. This can help you decide upon your approach. Also, you can check for loculations that you may need to break up during drainage.



Remember to put a cover on the probe and clean it thoroughly afterwards!

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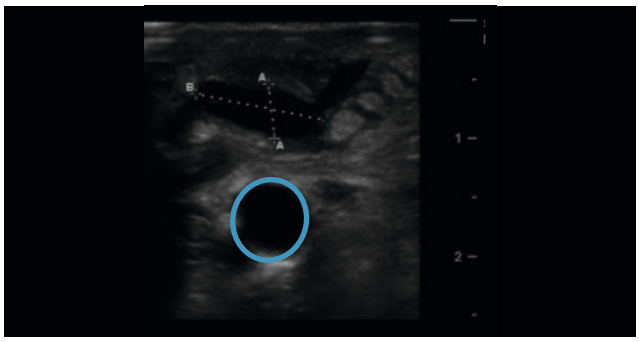
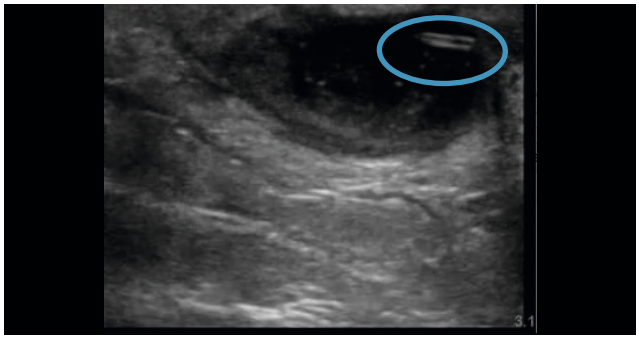
AVOIDING COMPLICATIONS

When preparing to perform an incision and drainage, keep an eye out for things that can complicate the procedure, like vessels or foreign bodies.



Here is a vessel deep within a small superficial abscess.



Here is a foreign body within an abscess. Foreign bodies have a varied appearance on ultrasound, depending on what they are made of. Wood and metal appear hyperechoic with an acoustic shadow.

FURTHER READING

Gaspari, RJ, Resop, D, Mendoza, M, et al. 2011. A randomized controlled trial of incision and drainage versus ultrasonographically guided needle aspiration for skin abscesses and the effect of methicillin-resistant staphylococcus aureus. *Ann Emerg Med.* **57:** 483-491.

Loyer, EM, DuBrow, RA, David, CL, et al. 1996. Imaging of superficial soft-tissue infections: sonographic findings in cases of cellulitis and abscess. *AJR.* **166:** 149-152.

Noble, VE, Nelson, BP. 2011. *Manual of Emergency and Point of Care Ultrasound*. Cambridge: Cambridge University Press.

Tayal ,VS, Hasan, N, Norton, HJ, et al. 2006. The effect of soft-tissue ultrasound on the management of cellulitis in the emergency department. *Acad Emerg Med.* **13:** 384–388.