

Evidence Discussion (HD 20.2)

- CT, although involves radiation, is more readily available and provides superior information regarding bony erosion and/or demineralization in the patient with suspected osteomyelitis.¹
- MRI can assist with early detection of bone changes in as early as 3-5 days from onset of osteomyelitis.¹ In cases of diabetic osteomyelitis MRI provides a sensitivity of 90% and a specificity of 79%. MRI provides superior soft tissue detail and intracranial involvement secondary to its superior resolution when compared to CT for evaluation of skull based osteomyelitis.^{1,2,3}
- Both nuclear imaging by means of Technetium 99m (^{99m}Tc) and Gallium 67 (⁶⁷Ga) scan can assist in localizing infection. The Gallium scan is often used to determine the resolution of the infection and thus the end of antibiotic therapy.^{2,3} The Technetium 99m scan can be useful for detecting the infection however often times remains positive prolonged period of time, and thus should not be used to determine resolution of infection.³

References:

1. Treviño González JL, Reyes Suárez LL, Hernández de León JE. Malignant otitis externa: An updated review. *Am J Otolaryngol*. 2021 Mar-Apr;42(2):102894. doi: 10.1016/j.amjoto.2020.102894. Epub 2021 Jan 5. PMID: 33429178.
2. Álvarez Jáñez F, Barriga LQ, Iñigo TR, Roldán Lora F. Diagnosis of Skull Base Osteomyelitis. *Radiographics*. 2021 Jan-Feb;41(1):156-174. doi: 10.1148/rg.2021200046. PMID: 33411616.
3. Khan H. Necrotising Otitis Externa: An Overview Of Imaging Modalities. *J Ayub Med Coll Abbottabad*. 2022 Oct-Dec;34(4):858-861. doi: 10.55519/JAMC-04-8899. PMID: 36566413.