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“Ophthalmology Consult Order: “Rule Out Open Globe Injury”

Out of traumatic eye injuries, open globe injuries are associated with the highest patient morbidity. Computed tomography (CT) imaging of the orbits is routinely used by the emergency department physician during workup of traumatic eye injuries. Positive CT findings reliably indicate penetration of the globe with a specificity up to 98% [1]. However, studies have consistently shown that CT imaging fails to diagnose approximately 30% of open globe injuries [1,2]. Therefore, a negative CT scan does not definitively rule out an open globe. There are no defined exam parameters that have been established as reliable indicators for open globe injuries in uncertain cases. Identifying specific parameters in these cases could improve the overall diagnostic accuracy of open globes. This study was performed in order to determine the correlation of specific exam variables towards an open globe in uncertain cases. It was hypothesized that in cases of uncertain globe rupture, which require surgical exploration, there are additional exam findings that could reliably predict the presence or absence of an open globe other than CT.

1. Hoffstetter P, Schreyer AG, Schreyer CI, et al. Multidetector CT (MD-CT) in the diagnosis of uncertain open globe injuries. *Rofo*. 2010;182(2):151-154.
2. Arey ML, Mootha VV, Whittemore AR, Chason DP, Blomquist PH. Computed tomography in the diagnosis of occult open-globe injuries. *Ophthalmology*. 2007;114(8):1448-1452