



Department of the Army
North Atlantic Regional Medical Command/Walter Reed Army Medical Center
Telemedicine Directorate
6900 Georgia Avenue, NW, Washington, DC 20307-5001

**Telemedicine
Directorate**

<http://telemedicine.wramc.amedd.army.mil/>

TMED Imaging Center
(202) 782-4028

Email

NARMCTelemedicine@amedd.army.mil

Other Websites

www.narmc.amedd.army.mil

www.wramc.amedd.army.mil

Web Based Ocular Trauma Resource

Current technology may allow remote diagnosis of ocular trauma on the battlefield. In this environment, diagnostic capability must be balanced by practical considerations such as portability, durability, and ease of use by inexperienced personnel. Ocular injuries comprise approximately 10% of all injuries in military conflicts. A medic may be the first health care provider to see patients with combat-related ocular injuries.

This study is a direct comparison of four commercially available imaging systems to each other and to in-person examination of the following eye injuries: partial- and full-thickness eyelid lacerations, superficial corneal foreign body, anterior chamber intraocular foreign body, subconjunctival hemorrhage, hyphema, simple corneal laceration, and corneoscleral laceration with uveal prolapse. An experienced ophthalmic photographer and an inexperienced medic took images.

Approximately 200 images were stored over a two-day period. In Phase I, a subjective evaluation compared the ease of use as well as quality of images for each camera. In Phase II, military ophthalmologists masked as to the injury, camera, and photographer will review images. The sensitivity and specificity of each device will be calculated and data segmented by affected structure and photographic skill level to determine the influence of these variables.

The Ocular Trauma project is the joint effort of the Ophthalmology Clinic at Walter Reed Army Medical Center (WRAMC), the Telemedicine Directorate at WRAMC and Telemedicine and Advanced Technology Research Center at Fort Detrick.

Points of Contact:

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