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RUST RING REMOVAL

Thank you for the excellent recent article on rust ring removal.¹ As a rural ophthalmologist, I would like to add a few points.

Iron is toxic to intraocular tissue. Rust ring injuries often induce “iron iritis” with photophobia adding to the foreign-body discomfort. This usually does not require steroids for treatment. A cycloplegic, such as tropicamide, will provide symptomatic relief. Removal of the rust ring is the definitive treatment, but it often takes a few days for the iritis symptoms to settle. Warn the patient that the drops will induce temporary presbyopia.

Traditional teaching suggests using a hypodermic needle for foreign-body removal. This is the wrong tool for the job! It is like trying to eat Jell-O with a knife. A “golf club spud” is much safer and easier to use. The Alger Brush is an excellent instrument and very safe. Because it “stalls out” if too much pressure is applied, it will not drill through the intact corneal stroma. Really.

The rust-stained cornea will soften over about 3 days. If the rust ring does not come off easily on the first try, use a topical antibiotic as for a corneal abrasion and let the epithelium heal over. Have the patient return 3 days later for definitive rust removal, which will be much easier and more complete than if it had been attempted at the initial presentation. Warn the patient that he or she has a new abrasion and will need to restart the topical antibiotic.

Rust ring injuries will likely produce a small, permanent corneal scar. If the injury site is outside the pupillary aperture, it will have no visual consequences. If it is within the pupillary aperture, it may produce glare or a slight decrease in vision. For these injuries, it is wise to refer the patient to an ophthalmologist, especially if the injury occurred in the workplace.

Intraocular metallic foreign bodies are easily missed if not considered at presentation. Some metals are toxic to the

retina and can cause blindness months after the injury. Metallic foreign bodies are usually caused by metal impacting on metal. Anyone presenting with a foreign-body injury should be asked, “What were you doing at the time you first felt something in your eye?” If the patient was close to an impact tool and not wearing eye protection, assume an intraocular metallic foreign body until ruled out with plain radiography. Because radiographic artifacts can be mistaken for metallic foreign bodies, confirmation should be obtained with multiple views. An intraocular location can be diagnosed by movement of the foreign body with radiography views in different gaze directions.

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REFERENCE

1. Brock G, Gurekas V. The occasional corneal rust ring removal. *Can J Rural Med* 2013; 18:140-2.