

Iritis Detection without an Eyedoc

“Amateur Iritis Detection”

Grading Iritis by JRA families

Rule Out Iritis by Emergency Doctors

Slit lamp education for Family Practice Residents

By the Alaska Blind Child Discovery

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Background:

The Alaska Blind Child Discovery (ABCD) is cooperative, charitable research project to screen for vision disorders in children in Alaska. It received ongoing approval from the Providence Hospital Institutional Review Committee in 1995. Children can develop blindness from conditions like amblyopia and uncontrolled iritis, both of which can be screened for, detected early and effectively treated.

Iritis is a form of uveitis involving the iris and ciliary body. Uveitis is an inflammation of the vascular coat of the eye.

Iritis can be detected by using a carefully directed bright light source and a very-high microscopic view of the aqueous humor with a slit-lamp. It is possible to see suspended white blood cells in the aqueous humor called “cells” and dissolved proteins called “flare.”

In most cases, iritis causes intense, deep eye pain, sensitivity to light (“photophobia”) and eventual redness of the conjunctiva called “ciliary flush.” Conversely, children with Juvenile Rheumatoid Arthritis (JRA) also known as Juvenile Idiopathic Iritis often do not have redness, pain or sensitivity to light.

Persistent iritis can cause adhesions and scarring of the iris to the lens or to the anterior chamber angle, cataracts and / or glaucoma. Long term iritis can cause scarring and calcium deposits in the cornea.

Iritis is treated with medications to reduce inflammation and to keep the iris /pupil from scarring. The main eye drop, a topical cortico-steroid drop, can gradually reduce and/or

eliminate iritis, but it has long term side-effects of cataract formation, glaucoma and susceptibility to infections.

Patients with certain infectious diseases, or autoimmune diseases like Juvenile Rheumatoid Arthritis (JRA) are at risk for iritis. Committees of expert pediatricians have weighed the benefits of early treatment of iritis with the costs of eye exams to derive a recommended schedule of exams for patients with different types of JRA at different ages. This is usually every 3-4 months for several years. However active iritis might be undetected for months without a slit lamp exam in children.

In the past, diabetes was a disease for which home monitoring was NOT available. Patients had lab tested blood glucose levels a few times per month or season to adjust insulin dose levels. However, frequent home finger-stick glucose monitoring combined with insulin dose adjustment has resulted in far less diabetic complications such as blindness.

Is it possible that iritis complications of conditions like JRA could be reduced by more frequent monitoring? This ABCD study starts to address this question.

Description of Study:

Iritis Model:

A set of fluid-containing, transparent objects or tubes will be developed with suspended tiny particles to resemble iritis. The models will be designed to represent clinically recognized concentrations or grades of iritis from clear (grade zero) to stage 1 (minimal suspended white blood cells) to a maximum of grade 4 (high concentration suspended white blood cells). The standardized grades of iritis will be labeled clearly. The technique by which a tube / container can be shaken to uniformly suspend the particulates will be reviewed. These models will fit in a typical slit-lamp so that different example grades can be viewed with the luminance and optics adjusted properly.

Slit Lamp:

Emergency physicians and primary care doctors will use the slit lamp at their work place. A special slit lamp has been purchased by ABCD for the express purpose of providing community, outpatient free and frequent family observation of levels of iritis in family members who are at risk for iritis.

Education:

In addition to this written description, a video of actual cases of iritis will be presented in DVD form, showing slit lamp microscope set up, different grades of iritis cells, cataract and iris scarring from iritis and the appearance of the Iritis Model.

Iritis Observers may also receive proctoring from eye doctors, or trained iritis observers.

Data Collection:

Iritis Model Unknown Grading:

The Name, birthdate and reason for interest in iritis grading (i.e. parent of JRA patient, Emergency Doctor) will be noted for each prospective Iritis Observer. The Iritis Observer will then be given a complete Iritis Model and a slit lamp with adequate time for familiarization.

The Iritis Observer will then be given five (5) predetermined unknown tubes / containers to be viewed in the slit lamp. The Iritis Observer will then grade each unknown on a five-point scale. The Iritis Observer can compare with the standardized Iritis Model.

The relative contributions to iritis grading accuracy and precision of either the teaching video and/or the Iritis Model will be assessed.

Iritis Patient Grading:

Actual patients with or without iritis as determined by an experienced ophthalmologist, will be then examined by the Iritis Observer who will make a grade of the iritis on a five point scale. The Iritis Observer can compare the actual patients with a standardized Iritis Model. The grade of iritis by the Observer will be compared to the grade determined by the ophthalmologist.

Ongoing, Outpatient Iritis confirmation:

Relatives of patients with iritis, or primary care / ER physicians caring for patients with iritis will use a slit lamp and an Iritis Model outside the ophthalmologist's office. Several cases with suspected, graded iritis will be promptly referred to the ophthalmologist for comparison grading in the ophthalmologist's office. Some patients with observer-determined clear eyes as outpatients will be similarly rapidly referred for confirmation with the ophthalmologist.

Impact of Frequent Community Amateur Iritis Detection:

This effort leads to the potential to test whether home / community frequent iritis grading can improve the cost and or benefit of eye care for patients at risk for iritis.

People Involved in Study:

Iritis Observers:

These may be physicians, training doctors or health care providers, parents and family members of patients at risk for iritis, charitable volunteers, or older iritis patients interested in providing care and support to younger iritis patients.

Iritis Patients:

These are children and/or adults with conditions, such as Juvenile Rheumatoid Arthritis, which place them at high risk for iritis.

Slit Lamp and Iritis Model Stewards:

Individuals who house, protect, and provide the slit lamps and Iritis Models used in this study.

Ophthalmologist(s):

The primary investigator and his close ophthalmologist colleagues, who may be called upon to confirm, contrast or rule-out the presence of iritis.

Confidentiality:

It is UNETHICAL to openly, willingly and wantonly divulge the identity of individuals with certain medical conditions. It is also against the law.

This study, as a part of the Alaska Blind Child Discovery Project, is charitable and cooperative. There will be interaction between Iritis Observers, Iritis patients and Slit Lamp and Iritis Model Stewards, and some study ophthalmologists.

We will ONLY INVITE persons willing to participate in this study honoring the confidentiality of patients, physicians, stewards and observers.

The Alaska Blind Child discovery pledged to hold the records of this study, should it be presented at medical education, in a matter that protects the confidentiality of study participants, unless images and/or specific data have appropriate photographic release.

Benefits of Study:

Medical care for multiple eye exams can become expensive. Determining if outpatient slit lamp exams are accurate may reduce the frequency of scheduled eye exams for patients at risk for iritis.

ABCD and some charitable organizations interested in reducing blinding diseases like iritis are providing the slit lamp, the Iritis models and the educational materials for this study. A charitable organization will make the slit lamp available to relatives of patients at risk for iritis.

If iritis is suspected during an outpatient unscheduled community slit lamp exam, then the study ophthalmologist will offer the confirmatory iritis grading at no charge to the patient. This will also be true for a limited number of slit lamp exams for which the Iritis Observe suspected grade zero iritis.

There may be short and long term benefits to better understanding the character of iritis, and the examination process. Younger children initially afraid of a slit lamp examination may be encouraged by the association of other young children undergoing the same type of examination.

Patients at risk for iritis, or with ongoing iritis, will NOT have their regular scheduled ophthalmologist exam frequency reduced as a part of this study. There will be no direct money payment to participants.

Potential risks of this study:

There is no known harm to the eye or face from the slit lamp or its bright light. On the other hand, slit lamps are heavy and might be pulled off their table mounts by force; hands or body parts might be caught under a tipped slit lamp.

The Iritis Model can be held on the slit lamp with a clamp that might spring off. The containers in the iritis model are glass and could break. The dissolved material and the liquid in the Iritis Model containers are not highly toxic, but are also not sterile.

Patients with undetected iritis, or ongoing high levels of topical steroid medication may have risk of cataract, scarring, glaucoma or infection; if this study prompted parents to NOT bring their child in for scheduled examinations because they thought they were doing a good enough job as an outpatient iritis Observer, then potential harm might be inferred.

Consent:

I would like to participate in this study “**Amateur Iritis Detection**” because I am interested in improving the care of iritis. I want to know if non-eye doctors can be trained to accurately and precisely detect levels of iritis.

First Name: _____ Last Name: _____

Birth date: m _____ /d _____ /y _____

Minor Child Participating in Study:

First Name: _____ Last Name: _____

Birth date: m _____ /d _____ / _____

Reason(s) for participating in Study:

- Parent of patient at risk for iritis
- Guardian of patient at risk for iritis
- Relative of patient at risk for iritis
- Patient at risk for iritis
- Charitable Volunteer
- Physician Specialty: _____
- Health Care Provider: Training _____
- Other: _____

Signature: _____

Date: m _____ /d _____ /y _____

ASSENT:

Participating Minors able to understand:

Signature: _____

Date: m _____ /d _____ /y _____