

Traditional eye exams using lighted, hand-held instruments now done infrequently; Valuable information may be missed

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For more than 150 years, physicians have examined patients' eyes with a lighted, hand-held instrument called an ophthalmoscope.

In addition to eye problems, the exam can detect indications of many other problems, including neurological conditions that can cause headaches or altered mental status. The exam is called direct funduscopy.

However, a Loyola University Medical Center study has found that direct funduscopy exams are being performed infrequently. Researchers

who examined records of 163 adult [patients](#) found that direct funduscopy was used during the initial evaluation on only 26 percent of patients with primary visual symptoms, 25 percent of patients with headaches and 5 percent of patients with altered mental status. The study is published in the journal *Frontiers in Neurology*.

"It is disturbing that the funduscopy examination has been shown to be one of the clinical skills physicians are least confident performing," senior author Jose Biller, MD, and colleagues wrote. "In not performing direct funduscopy, valuable clinical information may be missed." Dr. Biller is chair of the Department of Neurology of Loyola University Chicago Stritch School of Medicine.

In a funduscopy exam, the physician sits close to the patient and shines the ophthalmoscope into the pupil, a hole in the eye through which the fundus can be seen. (The fundus is the back portion of the interior of the eyeball.) The physician can see magnified images of the retina and other structures, including a direct view of blood vessels and the central nervous system.

A funduscopy exam can detect such problems as bleeding from [blood vessels](#) in the retina and increased pressure in the brain, which can cause headaches, double vision and other problems.

The Association of University Professors of Ophthalmology says all physicians should be able to perform direct funduscopies.

Loyola researchers reviewed records of 163 patients treated at an academic medical center for headaches, altered [mental status](#) and visual changes. Internists performed direct funduscopies on 11 percent of patients; emergency medicine physicians performed the exam on 20 percent of patients; and neurologists performed it on 43 percent of patients. Researchers suspect their findings probably are widespread.

The retrospective chart study did not determine why direct funduscopies are performed so infrequently. Researchers speculate the reasons are similar to those given in a previous study: not enough time; inadequate skills; lack of available equipment; and a belief that direct funduscopy isn't useful.

Researchers said their findings illustrate the importance of including direct funduscopy among the basic clinical competencies taught during medical school and neurology residency training.

In addition to Dr. Biller, other co-authors of the study are Esteban Golombievski, MD, (first author); Michael Doerrler, DO; Sean Ruland, DO; and Matthew McCoyd, MD.

More information: "Frequency of Direct Funduscopy Upon Initial Encounters for Patients with Headaches, Altered Mental Status and Visual Changes: A Pilot Study" *Frontiers in Neurology*, 2015.

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