

Internal Medicine Residents and the Fundus: Improving Skill With Direct Ophthalmoscopes and Increasing Knowledge of Basic Ocular Pathology

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Published In/Presented At

Martinez, C., & Bloomfield, C. (2016, April 26). *Internal Medicine Residents and the Fundus: Improving Skill With Direct Ophthalmoscopes and Increasing Knowledge of Basic Ocular Pathology*. Poster presented at LVHN Department of Medicine Research Day, Lehigh Valley Health Network, Allentown, PA.

Martinez, C., & Bloomfield, C. (2016, May 4). *Internal Medicine Residents and the Fundus: Improving Skill With Direct Ophthalmoscopes and Increasing Knowledge of Basic Ocular Pathology*. Poster presented at ARVO (Association for Research in Vision and Ophthalmology) Annual Meeting, Seattle, WA.

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Internal Medicine Residents and the Fundus: Improving Skill With Direct Ophthalmoscopes and Increasing Knowledge of Basic Ocular Pathology

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Purpose:

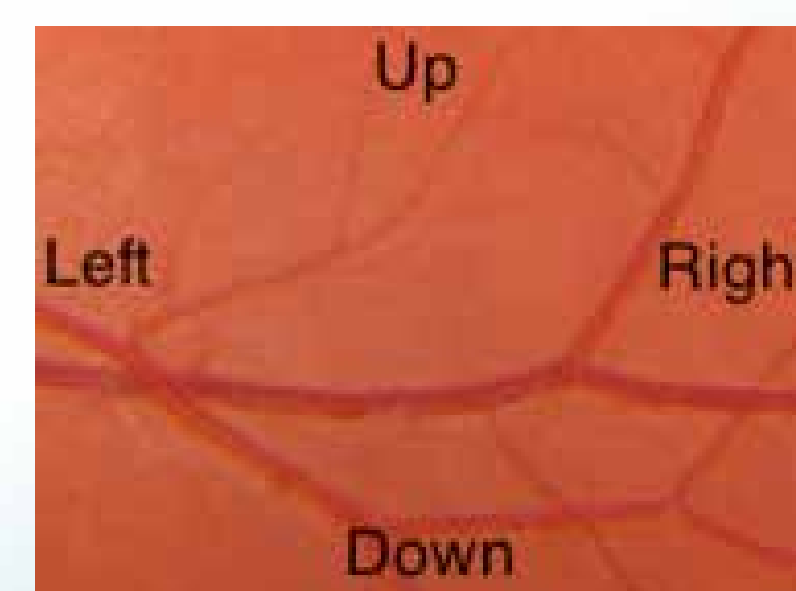
Following graduation from medical school, internal medicine residents receive very little instruction on use of the direct ophthalmoscope and basic eye pathology. However, an eye exam reveals important information about systemic disease. We surveyed categorical internal medicine residents to determine comfort level and skill with the direct ophthalmic exam, implemented a structured didactic curriculum and then re-surveyed the same residents. We hypothesize that focused instruction will result in resident-reported improvement in comfort, skill, and knowledge.

Methods:

48 internal medicine residents were administered a 10-question survey to determine comfort and skill level with the direct ophthalmoscope, frequency of attempted and successful fundus exams, and knowledge of basic ocular pathology. Five structured didactic sessions were then planned and implemented under the guidance of a program faculty member and optometrist. These sessions included a New England Journal of Medicine instructional video entitled "Examination of the Retina," a Jeopardy-style game, and hands-on practice with the direct ophthalmoscope. Residents were instructed to attempt the exam until they successfully visualized retinal blood vessels and the optic nerve in each eye. Individualized feedback was subsequently provided. Following the conclusion of the didactic sessions residents completed an additional 10-question survey to assess for improvement in comfort level, exam skills and knowledge of eye pathology.

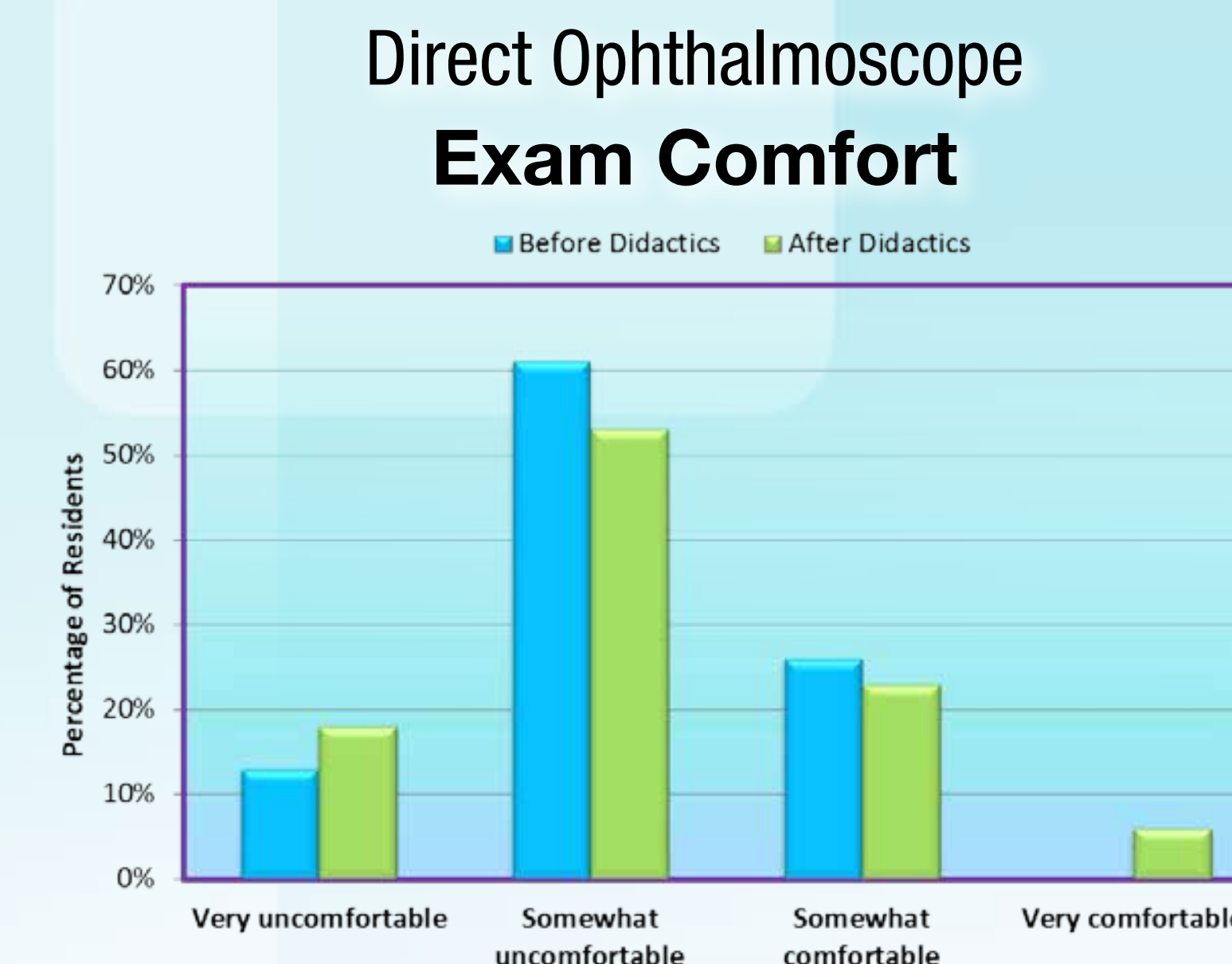
Survey Knowledge Questions

1. True or False? When performing the direct fundoscopic exam on an undilated pupil, the largest aperture of light available on the ophthalmoscope should be used.
2. On direct fundoscopic exam you identify retinal blood vessels as depicted to the right. In which direction should you follow the vessels in order to identify the optic nerve?
3. True or False? When visualizing the optic nerve on direct fundoscopic exam through an undilated pupil, a normal nerve will fill your entire view.
4. Which optic nerve depicted to the right demonstrates papilledema?

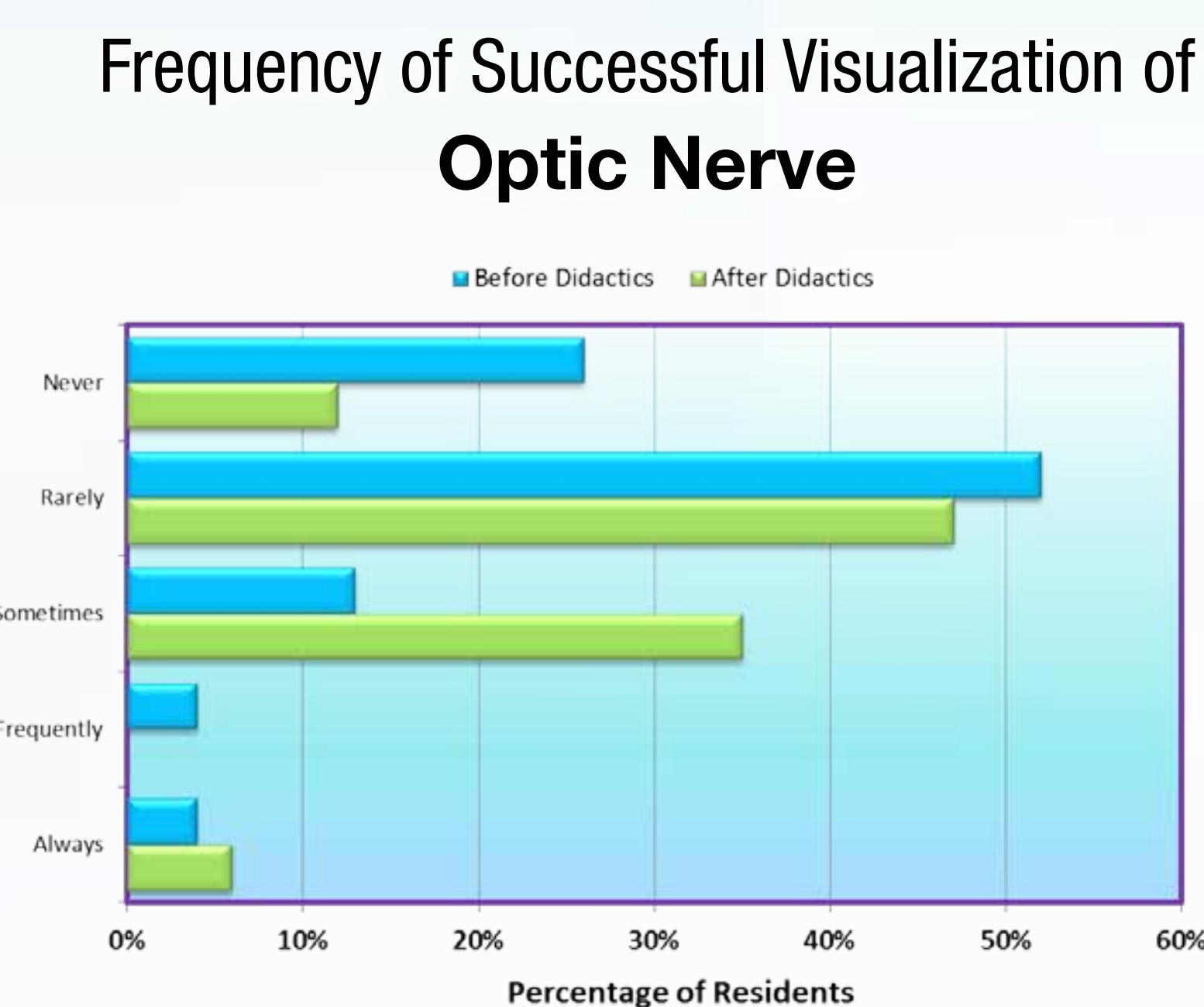
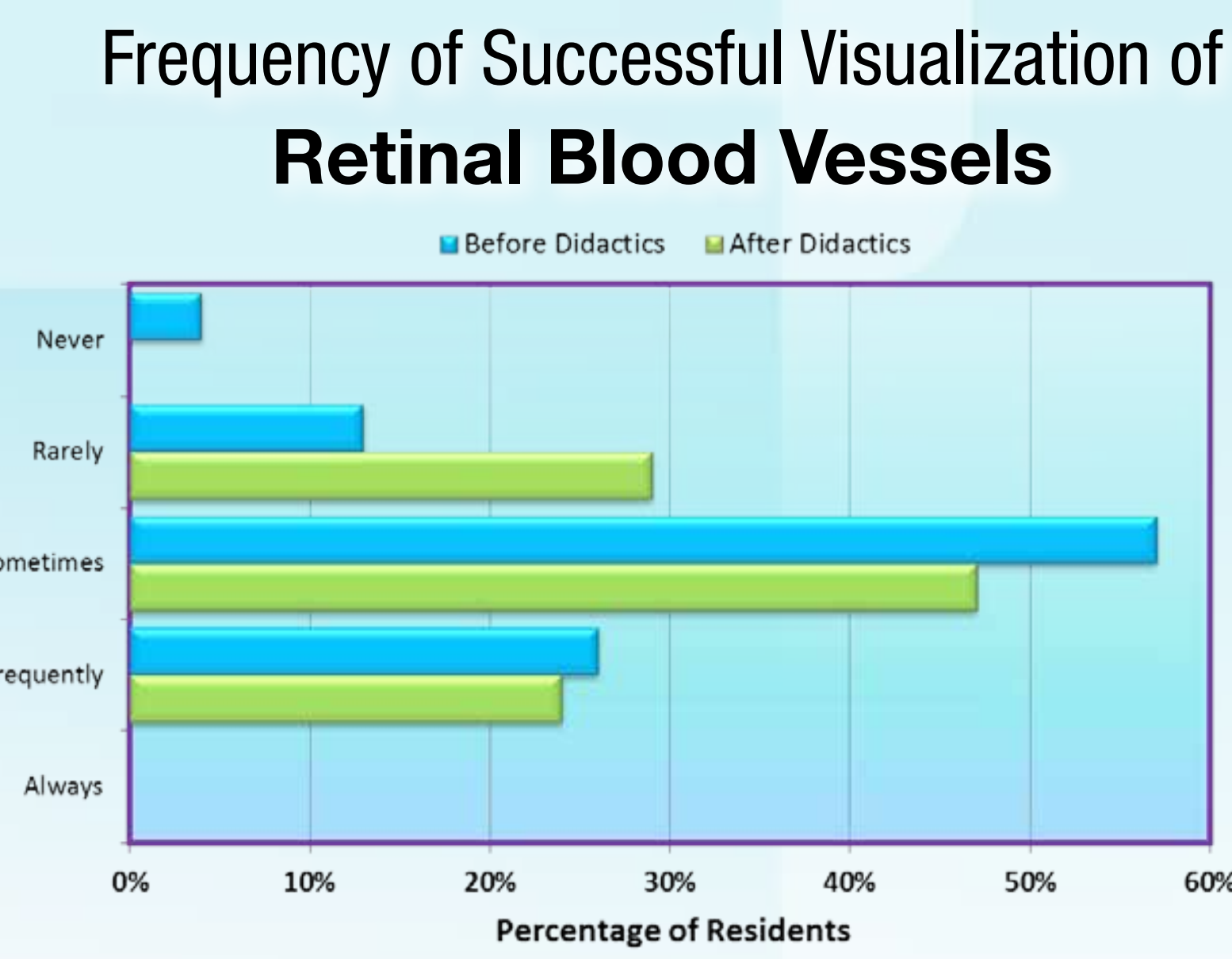
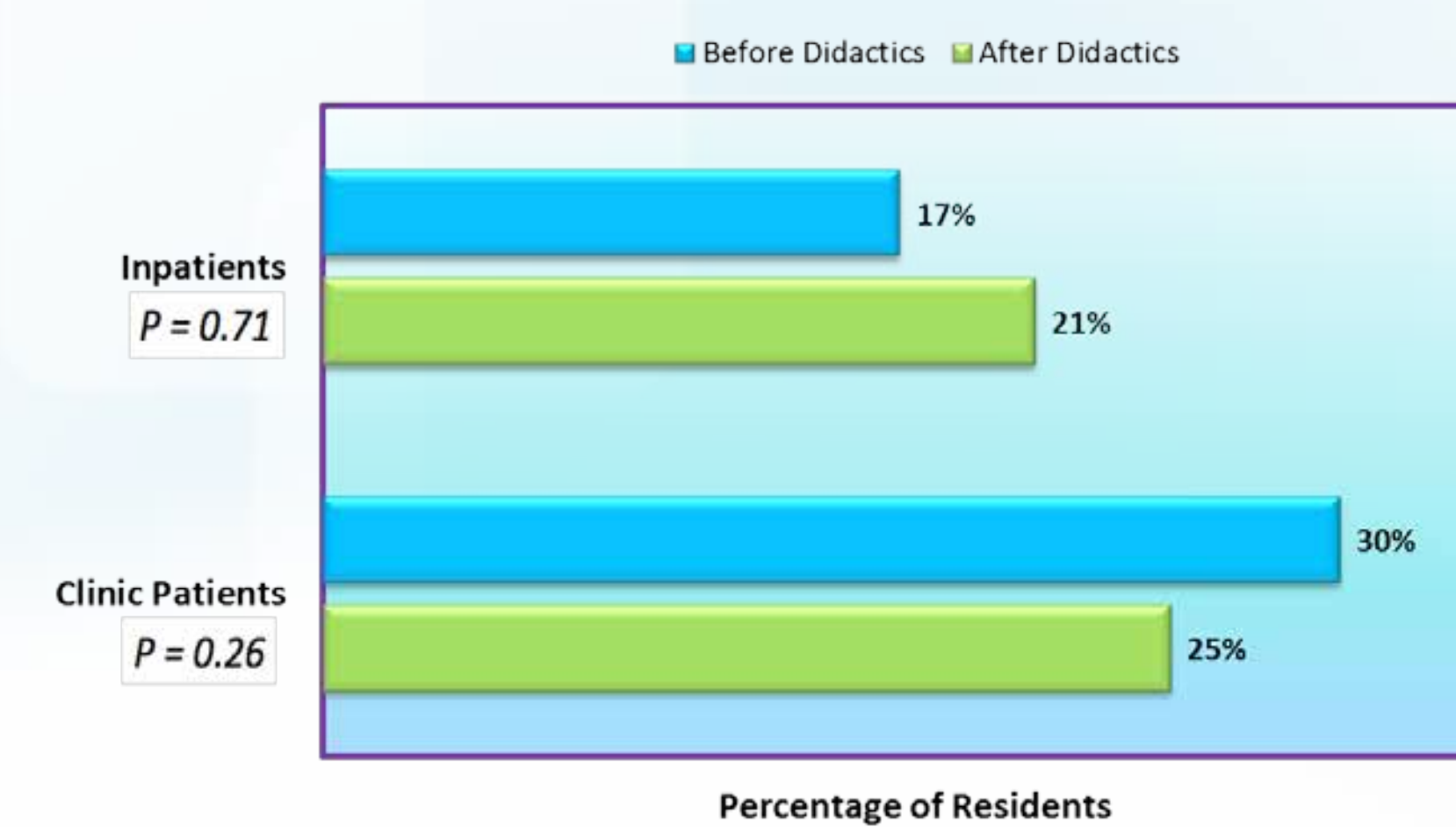


Results:

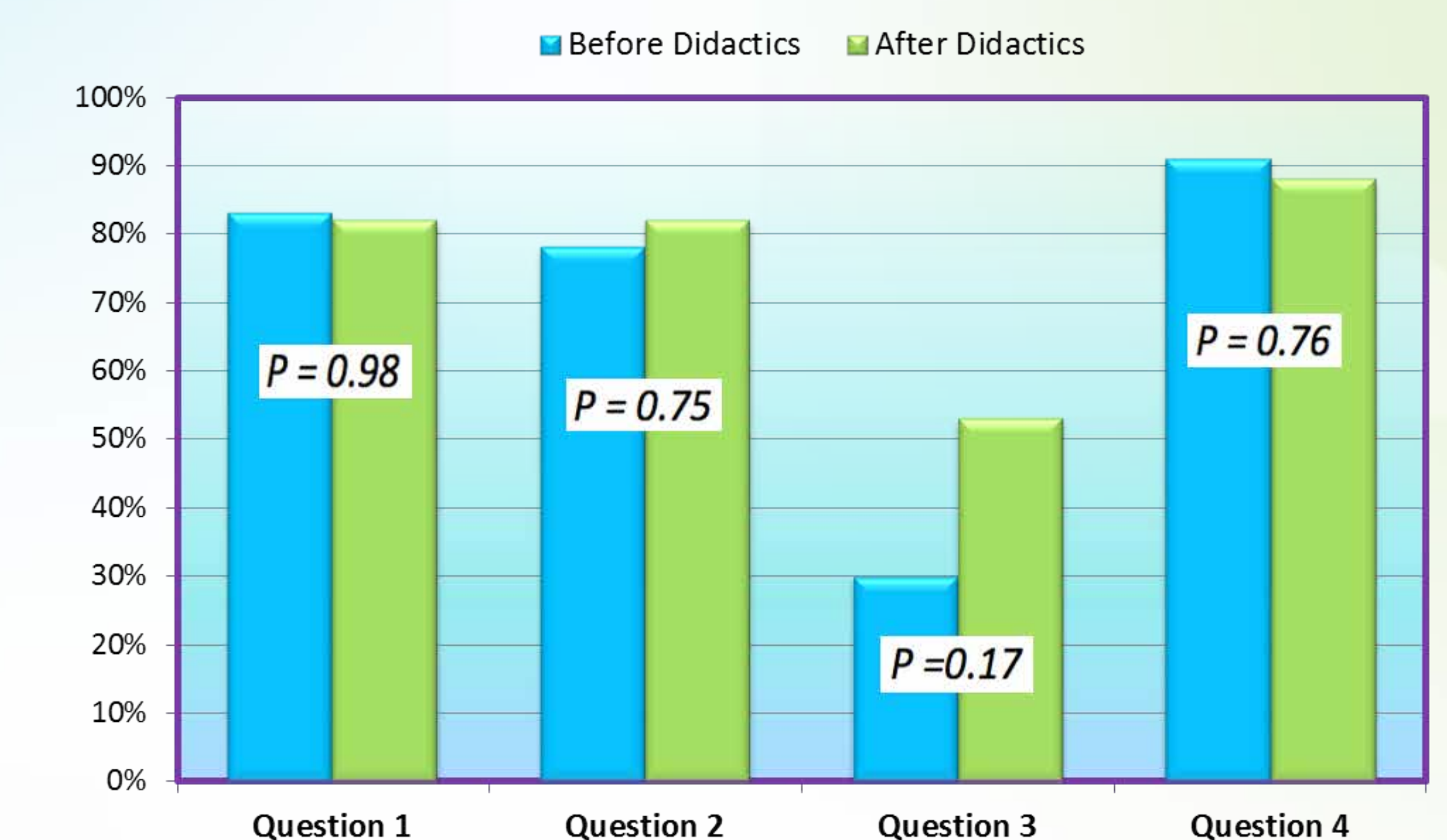
The response rate for the initial survey was 48% (23/48). Of the 23 residents who responded to the initial survey, 18 of them were present for the didactic sessions and responded to the repeat survey. None of the results obtained were statistically significant.



Attempted Exams on Inpatients vs Clinic Patients
In Whom a Fundoscopic Exam is Clinically Indicated



Percentage of Residents Who Correctly Answered Knowledge Questions



Conclusions:

Our study demonstrates that this cohort of internal medicine residents report significant discomfort and difficulty with the direct ophthalmoscope exam. It also reveals that they examine the fundus of less than one-third of inpatients and clinic patients in whom a fundoscopic exam is clinically indicated. This may be related to technical difficulty or discomfort with the exam, disregard for the importance of an eye exam, heavy patient volume that discourages lengthy clinical encounters, or the knowledge that a given patient will have a more thorough exam performed by an Ophthalmologist or Optometrist. Our didactic sessions did not improve resident-reported exam comfort, skill or knowledge in any statistically significant manner. However, this should not underscore the importance of ongoing efforts to improve the knowledge, skill, and attitude about direct ophthalmoscopy of all internal medicine residents. Perhaps a more robust, longitudinal, hands-on approach would demonstrate a greater impact on the comfort level and competency reported by physicians-in-training.

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