# P-05 iExaminer system: An effective teaching method to improve fundus examination skills

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**Introduction:**

Fundus examination skill is required for primary care physicians to prevent the development of blindness. However, it is difficult to provide training in the necessary clinical skills as students and the teacher cannot share their visual fields. The iExaminer system turns the ophthalmoscope into a mobile digital imaging device allowing you to view and take pictures of the eye. We investigated whether this methodology is superior to the previous teaching methods for training in the clinical skills required for fundus examination.

**Methods:**

A controlled trial was designed to compare the effects of two practical guidance methods on student performance during fundus examinations. The study population comprised 71 medical students participating in a general medicine clinical clerkship rotation in 2017. The participants examined the fundus on an eye simulator before and after clinical skills training, and presented their findings (3 findings each before and after the training session). Participants were randomly assigned to either a practical guidance method with the iExaminer System (intervention group: n=34) or a practical guidance method without the iExaminer System (control group: n=37). The training was equally provided for 30 minutes in the intervention and control groups. Major outcome measures were diagnostic accuracy in funduscopic findings and duration of examination in both groups.

**Results:**

Diagnostic accuracy was higher using the iExaminer System (intervention group: 16.0 ± 0.37% to 40.0 ± 0.49%, control group: 21.0 ± 0.37% to 25.0 ± 0.44%, $F(1,211) = 8.07$, $p = .005$). The duration of funduscopic examination was shorter using the iExaminer System (intervention group: 82.2 ± 14.4 s to 66.8 ± 21.3 s, control group: 83.5 ± 13.0 s to 77.1 ± 18.4 s, $F(1,211) = 11.77$, $p = .002$).

**Conclusions:**

Teaching the fundus examination method based on the iExaminer system leads to improved diagnostic accuracy, while reducing total examination time.