

3. Journal name: [Retina, 2003; 23: 215-223](#)

Use of Joslin Vision Network digital-video nonmydriatic retinal imaging to assess diabetic retinopathy in a clinical program.

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PURPOSE: To incorporate a nonmydriatic, digital-video retinal imaging system into a Diabetes Outpatient Intensive Treatment Program and to evaluate the system's ability to assess diabetic retinopathy (DR), determine follow-up, and appropriately refer to retinal specialist ophthalmologists. **METHODS:** Fundus images were obtained according to Joslin Vision Network (JVN) protocol and evaluated by certified JVN readers. Patients with significant retinal disease underwent evaluation by retinal specialists. **RESULTS:** A total of 268 (51.0%) of 525 imaged patients had comprehensive eye examination by a retinal specialist owing to referable JVN-assessed clinical level of DR, nondiabetic ocular disease, ungradeable images, last eye examination ≥ 12 months prior, or patient request for examination. JVN diagnosis of a clinical level of DR agreed exactly with clinical findings in 388 eyes (72.5%) or within one level in 478 eyes (89.3%). JVN referral based on most severe diagnosis in either eye matched retinal specialist-recommended follow-up in 248/268 of patients (92.5%). A total of 136/525 (25.9%) of JVN patients had nondiabetic ocular abnormalities requiring referral. **CONCLUSIONS:** Recommended follow-up from JVN imaging compared favorably to clinical examination by a retinal specialist. Nondiabetic ocular pathology was identified. JVN assessment of DR level compares favorably to clinical practice, potentially improving access to eye care and enhancing diabetes management.

PMID: 12707602 [PubMed - indexed for MEDLINE]