

Addressing Primary Care Quality Gaps through Tele-Ophthalmology in the Lower Naugatuck Valley

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Background

Retinopathy screening is a key performance measure and one of the cornerstones of quality diabetic care. Although retinal imaging has classically been used in the detection of diabetic retinopathy, it can also be used in the detection of other eye diseases including:

- Macular degeneration
- Hypertensive retinopathy
- Cardiovascular disease
- Glaucoma

In order to increase retinal screening rates and close quality gaps for our patients, we have developed a tele-ophthalmology screening program in Griffin Hospital's resident ambulatory care clinic. This new clinic will recruit patients from Griffin Hospital and its associated primary care offices, Griffin Faculty Physicians (GFP).

Goals/Objectives

- On-site retinal screening in a primary care setting and telemedicine-based retinal evaluation will increase the rate of retinal screening.
- Diagnosis and treatment of eye disease will increase.
- Patients and staff will be satisfied with the screening procedure.



Image Observations

Right Eye: intraretinal hemorrhages and microaneurysms No evidence of cotton wool, definite venous beading, intraretinal microvascular abnormalities, neovascularization, preretinal or vitreous hemorrhage, previous panretinal laser treatment, previous focal laser treatment, hard exudates within 3mm of fovea

Left Eye: intraretinal hemorrhages and microaneurysms No evidence of cotton wool, definite venous beading, intraretinal microvascular abnormalities, neovascularization, preretinal or vitreous hemorrhage, previous panretinal laser treatment, previous focal laser treatment, hard exudates within 3mm of fovea

Image Observation Comments:

Assessment and Recommendations:

Return for retinal imaging within 6 months

Diagnosis:

Moderate Nonproliferative Diabetic Retinopathy

Referral Status:

Return for Retinal Exam Sooner Than One Year

Methods/Approach

Patients at risk of retinal eye disease have images taken



eyepACS
Picture Archive Communication System

An ophthalmologist reviews images. Was there evidence of eye disease?

Yes

No

Patient is referred for further follow-up to a retinal specialist

Review of images are reported back to Primary Care Physician (PCP)



Information gathered through this screening process is also stored in Athena for easy and efficient PCP access

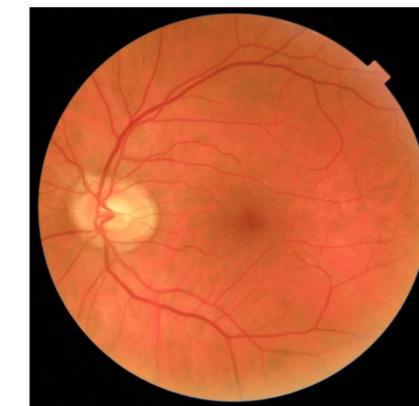


IMAGE OBSERVATIONS:

Right Eye:
o apparent diabetic retinopathy
Left Eye:
no apparent diabetic retinopathy
Other Referrable Conditions:
Detected presence or suspicion of referrable:non-diabetic maculopathy

ASSESSMENT AND RECOMMENDATIONS:

Encourage regular eye care
Return for retinal imaging within 1 year
Refer to eye specialist within 1 month

Diagnoses:

Other Condition Requiring Referral (ICD-10: H35.9)
Maculopathy (ICD-10: H35.31)
No Apparent Diabetic Retinopathy (ICD-10: E11.9)

Preliminary Results

- As of October, 37 diabetic patients have been screened for eye disease.
- 19 patients have had their images reviewed by a retinal specialist.
- 1 patient had evidence of mild non-proliferative diabetic retinopathy.
- 1 patient had evidence of moderate non-proliferative diabetic retinopathy.
- 1 patient had evidence of age-related macular degeneration.
- 1 patient had evidence of non-diabetic maculopathy.

Future Directions

- Expand tele-retinal screening to other primary care sites and outreach/health fairs.
- Develop a protocol to audit retinal images for quality and diagnostic accuracy.
- Develop a protocol to track patients to ensure that follow-up appointments were made.

References

Crook ED, Peters M. Health disparities in chronic diseases: where the money is. *Am J Med Sci.* Apr 2008;335(4):266-270.
Beckles GL, Chou CF. Diabetes - United States, 2006 and 2010. *MMWR Surveill Summ.* Nov 22 2013;62 Suppl 3:99-104.