Purpose
To investigate the effectiveness of ultra-wide field angiography in evaluating diabetic retinopathy versus traditional 7 field angiography.

Methods
CPT codes were used to generate a report of all Diabetic patients who had received a fluorescein angiogram with the Optos ultra-wide field imaging system since January 2014. A stencil was then made as a cut-out to overly the ultra-wide images and show only the areas that are included in the standard 7 field collage. A diagnosis was made using this 7 field collage stencil and then again with the stencil removed. Thus 7 field collage was directly compared to ultra-wide imaging for the same fluorescein angiogram image. Images were then classified into four categories: Level 0 images had no difference in information, diagnosis, or treatment basis between ultra-wide and 7 field. Level 1 images revealed additional information with the ultra-wide image, but no change in diagnosis or treatment. Level 2 images revealed additional information that altered the diagnosis but did not change the treatment plan. Level 3 images revealed information that changed both the diagnosis and the treatment plan.

Results
Level 0: 21/376 (5.7%)
Level 1: 294/376 (78%)
Level 2: 36/376 (9.6%)
Level 3: 25/376 (6.6%)

366 total photos. The ultra-wide field angiography provided additional information in 94.3% of the photos and changed the diagnosis and treatment in 16.2% of patients.

Conclusions
Ultra-wide field angiography has a clear benefit when monitoring diabetic retinopathy and should be the standard of care. Ultra-wide field angiography provides valuable information of the retinal periphery that is not seen in standard 7 field imaging and can change the diagnosis and treatment plans of patients.