

An ophthalmologist with personal experience has explored the impact of AI-driven solutions

Dr. Alberto Piatti, the chief ophthalmologist of the diabetic center at the A.S.L T05 health district in Turin, Italy has been actively engaged in diabetic retinopathy (DR) screenings for decades. In 2019, the health center implemented an integrated DR care pathway between diabetologists and ophthalmologists. The aim was to introduce advancements such as telemedicine and utilizing artificial intelligence. According to Dr. Piatti, technological improvements and especially AI have radically transformed DR screening.

“iCare’s screening solution with integrated AI has played a significant part in this. At our center, we have switched from other fundus cameras to the iCare DRSplus, which can acquire retinal images without pupil dilation and with a minimum pupil size of 2.5 mm. This is a fantastic outcome for us.”

iCare screening solution allows fast and effortless screening for diabetic retinopathy

iCare screening solution is a unique combination of specialized screening software with RetCAD AI by Thirona Retina, DRSplus TrueColor Confocal fundus imaging system and the iCare ILLUME cloud application receiving images from DRSplus, sending them to RetCAD and displaying AI report. Its high accuracy and convenience make the iCare screening solution particularly useful, as all AI solutions cannot help detecting every stage of diabetic retinopathy.

Dr. Piatti also appreciates how the AI report streamlines the referral process by providing accurate retinopathy grading. The report uses the international severity classification (ICDR).

“Some algorithms can indicate only the presence or absence of retinopathy. The AI report can provide a score allowing the severity grading of DR. The sensitivity of the solution in detecting early signs and mild retinopathy is very high and the AI report is very accurate.”

Shaping the future landscape of DR screenings

Dr. Piatti states that iCare ILLUME makes the workflow of screening and the pathway of patients very easy and affordable. The fully automatic and easy-to-use DRSplus means nurses and other healthcare professionals can use it autonomously. Reports are instantly generated and available on computers and even smartphones.

“AI-based screening solutions such as these allow



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the screening of a vast population. We can screen 15 patients in an hour and 60-70 patients a day. This enhances efficiency and effectiveness, and truly reduces the work burden of ophthalmologists” Dr. Piatti observes.

The AI report and the images easily integrate into the electronic medical record system, which is accessible across the healthcare network. Dr. Piatti hopes that future research and discussions on the efficacy and reliability of AI will have a further impact it on the future of DR screenings.

“Another area of exploration is using AI solutions to manage other ophthalmic diseases — for instance, age-related macular degeneration (AMD) detected in diabetic patients undergoing screening for retinopathy”, he concludes.