



## USE CASES

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### **quantusRT-OCT**

*Medical Imaging with Artificial Intelligence*

# quantusRT-OCT — Detection of Microcysts and Hyperreflective Spots in OCT

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## Product Description

quantusRT-OCT® is a non-invasive, rapid, reliable, and easy-to-use test for the automatic detection of pathological markers corresponding to microcysts and hyperreflective spots in diabetic retinopathy, based on optical coherence tomography (OCT) images. It has been designed as a clinical support tool that provides an automated assessment of the quantitative analysis of the various retinal cross-sections obtained via ocular tomography. Based on the set of 15 to 30 images that make up an OCT study, quantusRT-OCT indicates the number of cross-sections in which it predicts the presence of these markers, in a matter of minutes. It is presented as a web application that is easy for specialists to use, allowing them to upload images captured by the OCT scanner and receive reliable results in just a few minutes; it is compatible with the HL7 FHIR protocol through its REST services.

## Epidemiological Context

quantusRT-OCT has been designed with a clear focus on the diabetic population and is intended as a screening tool for diabetic retinopathy; it is extremely helpful in screening at-risk patients, monitoring patients, and prioritizing waiting lists. Diabetic retinopathy is the most common microvascular complication of diabetes and one of the leading causes of preventable blindness in working-age adults; in Spain, it affects approximately 40% of people with diabetes. Since this is a disease that can progress without obvious symptoms in its early stages, periodic screening using imaging tests such as OCT is key to initiating treatment before irreversible vision loss occurs, particularly given the high volume of examinations and limited availability of specialists to review them.

## Use Cases

### CU-RT-OCT-01: Prioritization of Cases for Ophthalmological Review

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|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stakeholders</b>    | Ophthalmologist, retina unit with a list of OCTs pending review                                                                                                                                                                                                                                     |
| <b>Main Workflow</b>   | When faced with a high volume of OCTs pending review, quantusRT-OCT automatically analyzes each image and provides a prediction of the presence of microcysts and hyperreflective spots, allowing the ophthalmologist to prioritize the list of cases and review those with the highest risk first. |
| <b>Key Benefit</b>     | Reduces the time to review cases showing signs of increased activity. Optimizes the specialist's time by focusing the review on the most relevant studies.                                                                                                                                          |
| <b>Success Metrics</b> | Average time to review prioritized cases, reduction in loss to follow-up, agreement between the prediction and the specialist's assessment.                                                                                                                                                         |

## CU-RT-OCT-02: Follow-up of Patients with Diabetic Retinopathy

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|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stakeholders</b>       | Ophthalmologist, patient with diabetic retinopathy undergoing periodic follow-up                                                                                                                                                                                             |
| <b>Main Workflow</b>      | In each follow-up OCT study, quantusRT-OCT analyzes retinal cross-sections and indicates the number of those showing microcysts or hyperreflective spots, allowing the results to be compared with previous studies of the same patient as part of their periodic follow-up. |
| <b>Key Benefit</b>        | Provides objective data that is comparable across successive visits. Facilitates longitudinal monitoring of patients within the diabetic retinopathy screening program.                                                                                                      |
| <b>Success Indicators</b> | Consistency of follow-up, time spent comparing studies, and agreement with the specialist's assessment over time.                                                                                                                                                            |