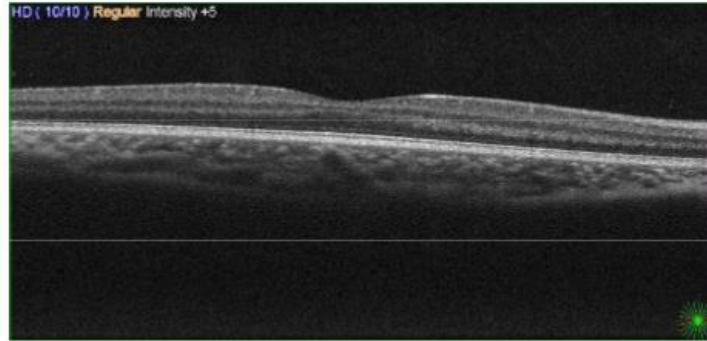




OCT Image Screening Software

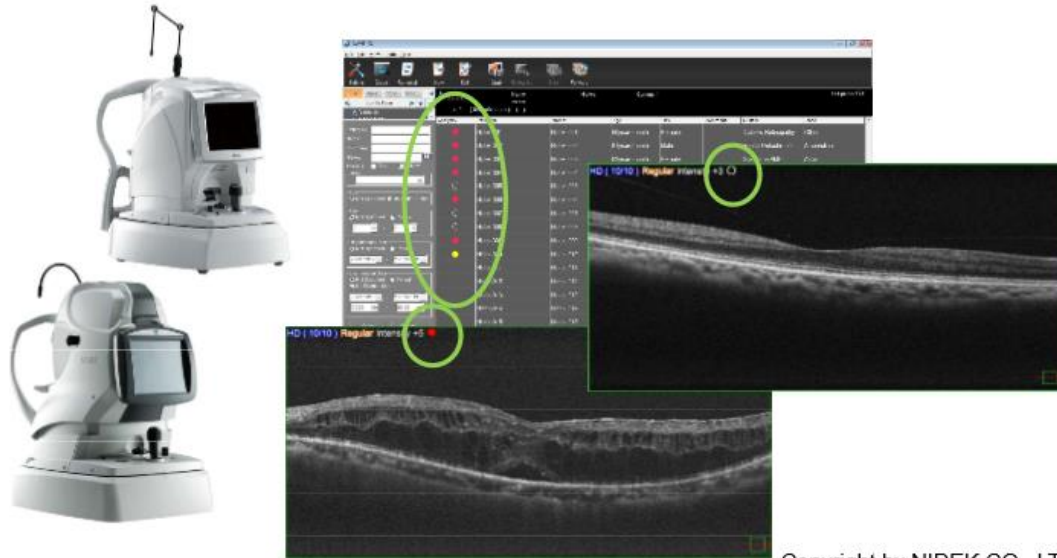
In your daily practice...



“Can you say this patient has abnormality?”

OCT Image Screening Software

This is an optional OCT Image Screening Software for NIDEK RS-series which helps your diagnosis.



Copyright by NIDEK CO., LTD.

OCT Image Screening Software

**OCT images + Diagnosis by Doctors
=> Deep Learning**

CRESCO Ltd.

Nagoya City
University

They have already published thier research.

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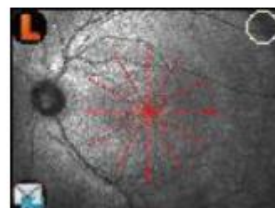
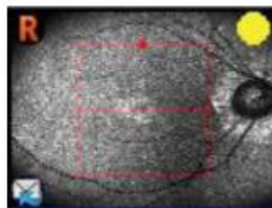
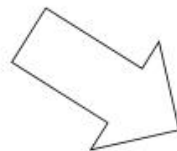
33 pathologies + normal eye

1	Normal	13	MH	25	Early AMD
2	BRVO	14	MPH	26	Impending MH
3	CME	15	MacTel Type1	27	mCNV
4	CRA	16	PCV	28	Post ope ERM
5	CRVO	17	Posterior Staphyloma	29	sRD DSM
6	CSC	18	RA	30	sRD tilted disc
7	DR	19	RAP	31	Schisis
8	DSM	20	RD	32	Unknown
9	ERM	21	RP	33	Veiled
10	Inferior Staphyloma	22	VKH	34	Wet AMD
11	LMH	23	VMTS		
12	ME	24	Dry AMD		

Deep Learning



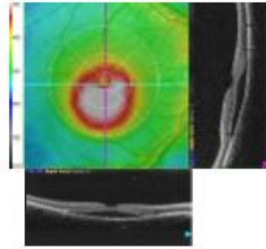
Categorizes into three thresholds!



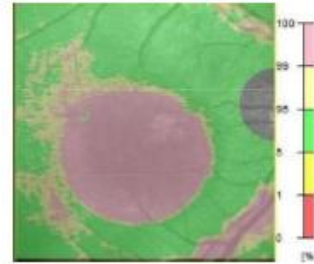
Reference Tool

NDB => retinal thickness analysis

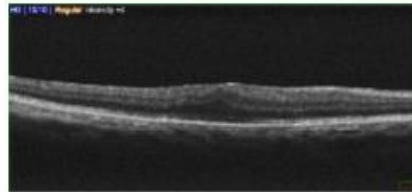
ThicknessMap(ILM-RPE/BM)



Normative Database



OCT Image Screening => B-scan image analysis



OCT Image Screening Software

Patient list display in NAVIS-EX

Analysis	Patient ID	Name	Age	Sex	Comment	History	Race
●	Nidek-001	Nidek_001	60year/6month	Female		Diabetic Retinopathy	Other
●	Nidek-002	Nidek_002	80year/6month	Male		Retinal Detachment	American
●	Nidek-003	Nidek_003	52year/6month	Female		Glaucoma/AMD	Asian
●	Nidek-004	Nidek_004	60year/6month	Male		Cataract/AMD	African origin
○	Nidek-005	Nidek_005	84year/6month	Female		Cataract	Pan. Islander
●	Nidek-006	Nidek_006	86year/6month	Male		Diabetic Retinopathy	Caucasian
○	Nidek-007	Nidek_007	60year/6month	Female		Glaucoma	Hispanic/Latin
○	Nidek-008	Nidek_008	67year/6month	Male		Cataract	Other
●	Nidek-009	Nidek_009	68year/6month	Female		AMD	American
●	Nidek-010	Nidek_010	69year/6month	Male		Diabetic Retinopathy	Asian

- Screening Result ● The deviation from normal eyes is large
● The deviation from normal eyes is moderate
○ The deviation from normal eyes is small

When analysis result is blank, screening has not been executed or images are not appropriate for the screening.

OCT Image Screening Software

This software will help...

1. **Optometrists**

- Providing reference to find abnormality
- Preventing missing abnormality

2. **Doctors**

- Preventing missing abnormality
- Economizing time and stress to see a lot of images

OCT Image Screening Software

Screening Condition

- 1. Scan pattern:**
Macula cross, Macula map(Map + cross),
Macula multi cross, Macula radial 6/12
- 2. Scan length:**
6.0 mm
- 3. Scan position:**
0 or 90 degree
- 4. Image position:**
Fovea centered



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OCT Image Screening Software

Internal trial result

Sensitivity
(the value which screening software categorized abnormal eyes as ● or ●)

Data type	Number of abnormal eyes	Screening result is ● or ●	Sensitivity
Institutions in Japan	128	122	0.953125
Institutions in other countries	82	79	0.963415

Specificity
(the value which screening software categorized normal eyes as ○)

Data type	Number of normal eye	Screening result is ○	Specificity
Institutions in Japan	74	67	0.9054
Institutions in other countries	44	44	1

**More than 90% detectability
for retinal abnormalities!!!**