Eye Morphology HRWLLA_EYE_001

Purpose

To detect abnormalities in eye morphology.

Experimental Design

- **Minimum number of animals :** 7M + 7F
- **Age at test:** Week 58
- **Sex:** We do not expect the results of this test to show sexual dimorphism

Procedure

1. Examine the anterior of both eyes (e.g. with slit lamp) and record any abnormalities
2. Test the iris/pupil light response
3. Image abnormal eyes as a minimum or all eyes if capacity permits
4. Dilate both eyes
5. Examine the anterior and posterior of both dilated eyes (e.g. with slit lamp and ophthalmoscope) and record any abnormalities
6. Image abnormal eyes as a minimum or all eyes if capacity permits

OCT:

1. Turn on the OCT and start the database
2. Anaesthetize mouse
3. Prepare mouse eyes with drops and place contact lens (focal length 10 mm) on the right eye
4. Enter mouse data in the “Create new patient file” area and switch to the “Acquisition” window
5. Move the OCT camera to the right position and activate measurement modus
6. Place mouse collaterally to the OCT camera on the right side of a platform that is fixed in front of the OCT lens
7. Search the contact lens in the live picture of the fundus image field and place the pupil of the mouse eye in the centre of the window
8. Move the OCT camera such that OCT lens and contact lens touch each other
9. Focus the fundus picture by slightly moving up/down or forward/backward
10. Save fundus images
11. Set the "Ref.Arm“ ruler such that the section of the retina is placed in the centre of the blue rectangle
12. Set the mode of measurement on "vertical, horizontal line“
13. Move the blue horizontal line in the fundus image field to the optic nerve level
14. Save images of retinal sections
15. Move the OCT camera to the left position

16. Repeat measurement procedure for the left eye

Scheimpflug Imaging:

1. Turn on the Pentacam and start the patient data management
2. Apply one drop 0.5% Atropine to each mouse eye for pupil dilation
3. Enter mouse data in the “Patient” group box and switch to the Scan menu
4. Activate the “1 Picture” modus in the “Image Options” area
5. Move Pentacam to the right position
6. Hold the mouse on a platform such that the vertical LED 475 nm light slit is orientated in the center of the right eye ball
7. Guarantee optimal focus by using the fine adjustment software tool in the adjustment window
8. Start imaging manually by pressing the “Start Scan” button
9. Scheimpflug images are saved automatically
10. Move Pentacam to the left position
11. Repeat measurement procedure for the left eye

Notes

- As a minimum, all abnormalities should be imaged.
    - Where capacity permits, all mice can be imaged

- Majority of parameters can be analysed using the standard approach for assessing categorical data. To increase power for analysis purposes, where an abnormality is detected in the left, right or both eyes, the data may be combined to generate one "abnormal" category.

- Data for both eyes is recorded under one parameter to distinguish phenotypes of incomplete penetrance in individuals and if an observation for one or both eyes cannot be made, this is recorded as ‘no data’. The IMPC analysis pipeline does not take into account whether an abnormality is fully penetrant or not and the same weight is given for an abnormal observations in one or both eyes. In cases where it is not possible to confirm if an abnormality is present or not, the data is not included in the statistical analysis. The following logic is applied in determining whether to include the data in analysis:
    - If at least one of the eyes shows an abnormality in a particular parameter, the data for that specimen will be included in the statistical analysis even if the other eye is marked as "no data".
    - If the eyes are marked as "no data", or one eye is normal and the other eye is "no data" for a particular parameter the data for that specimen will not be included in the statistical analysis.

Data QC

Image QC is typically performed during data collection to ensure high quality images are captured whilst eyes are dilated etc.

Parameters and Metadata

Retinal Blood Vessels Pattern HRWLLA_EYE_026_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: right eye abnormal, no data right eye, left eye abnormal, normal,
no data left eye, right eye abnormal, no data left eye, no data right eye, left eye abnormal,
both eyes abnormal, no data for both eyes,

Right total retinal thickness HRWLLA_EYE_062_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Retinal Blood Vessels HRWLLA_EYE_024_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: right eye abnormal, no data left eye, right eye abnormal, no data right eye, normal,
both eyes abnormal, no data for both eyes, no data left eye,
no data right eye, left eye abnormal, left eye abnormal,

B-scan of right cornea and lens HRWLLA_EYE_076_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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Min right eye lens density HRWLLA_EYE_057_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: %

VIP of left fundus HRWLLA_EYE_075_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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Retina (combined) HRWLLA_EYE_092_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Derivation:
retinaCombined('HRWLLA_EYE_020_001', 'HRWLLA_EYE_021_001', 'HRWLLA_EYE_022_001')

Pupil Light Response HRWLLA_EYE_014_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, no data for both eyes, normal, no data right eye, left eye abnormal, left eye abnormal, no data left eye, right eye abnormal, both eyes abnormal, right eye abnormal, no data left eye,

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Slit Lamp Equipment ID HRWLLA_EYE_030_001 | v1.2

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Corneal opacity HRWLLA_EYE_008_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: no data left eye, no data right eye, present left eye, absent, present both eyes, present left eye, no data left eye, present right eye, no data right eye, no data for both eyes, present right eye,

---

Lens HRWLLA_EYE_016_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: no data right eye, left eye abnormal, no data right eye, normal, no data for both eyes, right eye abnormal, both eyes abnormal, left eye abnormal, no data left eye, no data left eye, right eye abnormal,

---

Narrow eye opening HRWLLA_EYE_006_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: right eye abnormal, no data left eye, left eye abnormal, no data for both eyes, normal, no data right eye, left eye abnormal, no data right eye, both eyes abnormal, no data left eye, right eye abnormal,

---

Right vitreous humor thickness HRWLLA_EYE_087_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Corneal mineralization HRWLLA_EYE_084_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: absent, no data right eye, no data right eye, present left eye, no data for both eyes, no data left eye, present right eye, no data left eye, present right eye, present left eye, present both eyes,

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Images Ophthalmoscopy HRWLLA_EYE_050_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Left inner nuclear layer HRWLLA_EYE_069_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Slit Lamp observation HRWLLA_EYE_028_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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Iris transilumination HRWLLA_EYE_082_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: both eyes abnormal, no data left eye, right eye abnormal, no data for both eyes, normal, left eye abnormal, no data right eye, left eye abnormal, right eye abnormal, no data right eye, no data left eye,

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Sheimpflug Lens description HRWLLA_EYE_052_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Iris/Pupil HRWLLA_EYE_010_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data left eye, right eye abnormal, right eye abnormal, left eye abnormal, both eyes abnormal, no data for both eyes, no data right eye, left eye abnormal, normal, no data left eye, no data right eye,

---

Dilation Method HRWLLA_EYE_043_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Options: Cyclopentolate hydrochloride, Tropicamide, Atropine sulphate, Tropicamide+Phenylephrin, Atropine, Phenylephrine hydrochloride, Cyclopentolate hydrochloride+Phenylephrine hydrochloride, None,

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Left corneal thickness HRWLLA_EYE_066_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Right inner nuclear layer HRWLLA_EYE_063_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Left posterior chamber depth HRWLLA_EYE_071_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Right eye diameter HRWLLA_EYE_090_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: mm

Corneal deposits HRWLLA_EYE_081_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, no data right eye, present left eye, present both eyes, present right eye, no data for both eyes, no data left eye, present left eye, absent, no data left eye, present right eye,

---

Ophthalmoscope Equipment Model HRWLLA_EYE_035_001 | v1.2

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: Omega 180 / 60D, Omega 500 Unplugged, Genesis-D, Genesis, Sigma 150K, Micron III, SL4 4AA, Genesis-DF, OMEGA 180 / Superfield NC,
Xenon Nova 175W light source + HOPKINS optic 1218AA /Nikon D5100 + 85 mm f/1.8 lens,

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Retinal Structure HRWLLA_EYE_022_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Options: no data right eye, left eye abnormal, normal, no data left eye, right eye abnormal, left eye abnormal, no data right eye, no data for both eyes, right eye abnormal, both eyes abnormal, no data left eye,

---

B-scan of left cornea and lens HRWLLA_EYE_077_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Ophthalmoscope Equipment Manufacturer HRWLLA_EYE_034_001 | v1.2

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: Heine, Kowa, Keeler LTD, Phoenix Research Labs, Phoenix, Haag-Streit, Heine / Volk, Karl Storz / Nikon,

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Date Scheimpflug equipment last calibrated HRWLLA_EYE_048_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Eyelid morphology HRWLLA_EYE_004_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: both eyes abnormal, no data left eye, right eye abnormal, normal, no data right eye, no data right eye, left eye abnormal, right eye abnormal, no data for both eyes, left eye abnormal, no data left eye,

Max right eye lens density HRWLLA_EYE_058_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: %

Topical Anesthetic HRWLLA_EYE_044_001 | v1.1

procedureMetadata

Req. Analysis: true **Req. Upload:** true **Is Annotated:** false

Options: Mydriacyl, Hydrochloride, Atropine, Oxybuprocain, Phenylephrine hydrochloride, Atropine sulphate, No anesthesia,

---

Synechia HRWLLA_EYE_019_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: present right eye, present both eyes, no data for both eyes,
no data left eye, present right eye, no data left eye, present left eye, no data right eye, absent, no data right eye, present left eye,

Right anterior chamber depth HRWLLA_EYE_061_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Scheimpflug Equipment ID HRWLLA_EYE_040_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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Retina HRWLLA_EYE_020_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Options: no data right eye, left eye abnormal, left eye abnormal, no data left eye, normal, both eyes abnormal, no data for both eyes, no data left eye, right eye abnormal, right eye abnormal, no data right eye,

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Ophthalmoscope Observation HRWLLA_EYE_029_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Scheimpflug Equipment Model HRWLLA_EYE_042_001 | v1.4

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: Pentacam,

Left anterior chamber depth HRWLLA_EYE_067_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Left vitreous humour thickness HRWLLA_EYE_088_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Corneal ulcer HRWLLA_EYE_085_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data left eye, present left eye, no data left eye, present right eye, no data right eye, absent, present right eye, present both eyes, no data right eye, present left eye, no data for both eyes,

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Slit Lamp Equipment Manufacturer HRWLLA_EYE_031_001 | v1.2

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: MuLe, Zeiss, Phoenix Research Labs, Kowa, Haag-Streit, Topcon, CSO,

---

Min left eye lens density HRWLLA_EYE_054_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: %

Experimenter ID HRWLLA_EYE_036_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

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Ophthalmoscope Equipment ID HRWLLA_EYE_033_001 | v1.2

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Fusion between cornea and lens HRWLLA_EYE_018_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data left eye, present right eye, present right eye, no data right eye, absent, present both eyes, present left eye, no data right eye, present left eye, no data left eye, no data for both eyes,

---

VIP of left eye HRWLLA_EYE_079_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Eyelid closure HRWLLA_EYE_005_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, no data right eye, left eye closed, no data left eye, no data for both eyes, no data left eye, right eye closed, both eyes closed, right eye closed, normal, left eye closed,

---

Mean right eye lens density HRWLLA_EYE_059_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: %

Persistence of hyaloid vascular system HRWLLA_EYE_027_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data for both eyes, no data left eye, present right eye, present right eye, absent, no data right eye, present both eyes, no data left eye, no data right eye, present left eye, present left eye,

---

B-scan of left retina HRWLLA_EYE_073_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Optical Coherence Tomography Equipment Model HRWLLA_EYE_039_001 | v1.2

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: EnvisuTM R-Series SDOIS, Spectralis, Envisu R2200,

Date Slit Lamp equipment last calibrated HRWLLA_EYE_046_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Optical Coherence Tomography Equipment Manufacturer HRWLLA_EYE_038_001 | v1.2

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: Heidelberg Engineering, Bioptigen,

General Anesthetic HRWLLA_EYE_045_001 | v1.1

procedureMetadata

Req. Analysis: true **Req. Upload:** true **Is Annotated:** false

Options: Isoflurane, Ketamine+Xylazine, Euthatal, Ketamine+Medetomidine, Avertin, No anesthesia,

---

Retinal Pigmentation HRWLLA_EYE_021_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

Options: right eye abnormal, no data left eye, no data left eye, right eye abnormal, no data right eye, left eye abnormal, normal, both eyes abnormal, left eye abnormal, no data for both eyes, no data right eye,

---

Date Ophthalmoscope equipment last calibrated HRWLLA_EYE_047_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Left total retinal thickness HRWLLA_EYE_068_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Right corneal thickness HRWLLA_EYE_060_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Corneal Sclerization HRWLLA_EYE_080_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: present both eyes, no data right eye, present left eye, present right eye, no data left eye, present right eye, present left eye, absent, no data left eye, no data right eye, no data for both eyes,

Optic Disc HRWLLA_EYE_023_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: no data left eye, both eyes abnormal, left eye abnormal, right eye abnormal, no data left eye, right eye abnormal, no data for both eyes, normal, no data right eye, left eye abnormal, no data right eye,

---

Lens Opacity HRWLLA_EYE_017_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: absent, present both eyes, no data left eye, present right eye, no data for both eyes, present left eye, no data right eye, no data left eye, no data right eye, present left eye, present right eye,

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Right outer nuclear layer HRWLLA_EYE_064_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Pupil Position HRWLLA_EYE_011_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, left eye abnormal, no data right eye, left eye abnormal, no data for both eyes, right eye abnormal, no data left eye, right eye abnormal, no data left eye, normal, both eyes abnormal,

---

Slit Lamp Equipment Model HRWLLA_EYE_032_001 | v1.2

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: Micron III slit lamp extension, SL130, BQ 900 LED/IM-900, S350, 30 SL-M, SL30, SL-15, SL 990, SL-7E, SL 139,

---

Left eye diameter HRWLLA_EYE_091_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: mm

Date OCT equipment last calibrated HRWLLA_EYE_049_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Eye HRWLLA_EYE_001_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: absent left eye, absent both eyes, absent right eye, present,

---

VIP of right eye HRWLLA_EYE_078_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Pupil Dilation HRWLLA_EYE_013_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: normal, both eyes dilated, no data right eye, left eye dilated, no data for both eyes, right eye dilated, no data right eye, no data left eye, no data left eye, right eye dilated, left eye dilated,

Right posterior chamber depth HRWLLA_EYE_065_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

B-scan of right retina HRWLLA_EYE_072_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

Eye Hemorrhage or Blood Presence HRWLLA_EYE_003_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: present both eyes, present right eye, no data right eye, present left eye, absent, present left eye, no data for both eyes, no data left eye, no data right eye, no data left eye, present right eye,

Lacrimation HRWLLA_EYE_086_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, present right eye, present both eyes, no data for both eyes, no data left eye, no data left eye, present right eye, no data right eye, present left eye, absent, present left eye,

---

Scheimpflug Equipment Manufacturer HRWLLA_EYE_041_001 | v1.4

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Options: Oculus GmbH,

Mean left eye lens density HRWLLA_EYE_056_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: %

Left outer nuclear layer HRWLLA_EYE_070_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: um

Max left eye lens density HRWLLA_EYE_055_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: %

Optical Coherence Tomography Equipment ID HRWLLA_EYE_037_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Vitreous HRWLLA_EYE_083_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: normal, both eyes abnormal, no data left eye, right eye abnormal, left eye abnormal, no data right eye, left eye abnormal, no data for both eyes, right eye abnormal, no data left eye, no data right eye,

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VIP of right fundus HRWLLA_EYE_074_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Scheimpflug description HRWLLA_EYE_053_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Corneal vascularization HRWLLA_EYE_009_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, no data right eye, present left eye, present right eye, absent, no data left eye, present left eye, no data left eye, present right eye, no data for both eyes, present both eyes,

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Ophthalmoscope Lens Model HRWLLA_EYE_089_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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Images Slit Lamp HRWLLA_EYE_051_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Bulging eye HRWLLA_EYE_002_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: present right eye, no data left eye, present both eyes, no data right eye, present left eye, no data for both eyes, absent, no data left eye, present right eye, no data right eye, present left eye,

---

Pupil Shape HRWLLA_EYE_012_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, left eye abnormal, left eye abnormal, both eyes abnormal, no data right eye, normal, right eye abnormal, no data left eye, right eye abnormal, no data for both eyes, no data left eye,

---

Iris Pigmentation HRWLLA_EYE_015_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: no data right eye, left eye abnormal, no data right eye, left eye abnormal, both eyes abnormal, no data left eye, right eye abnormal, normal, no data left eye, right eye abnormal, no data for both eyes,

---

Retinal Blood Vessels Structure HRWLLA_EYE_025_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: right eye abnormal, no data right eye, no data left eye, both eyes abnormal, no data for both eyes, normal, no data left eye, right eye abnormal, no data right eye, left eye abnormal, left eye abnormal,

---

Cornea HRWLLA_EYE_007_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: no data right eye, right eye abnormal, both eyes abnormal, left eye abnormal, normal, no data right eye, left eye abnormal, no data left eye,
no data left eye, right eye abnormal, no data for both eyes,