Eye Morphology IMPC_EYE_001

Purpose

To detect abnormalities in eye morphology.

Experimental Design

- **Minimum number of animals :** 7M + 7F
- **Age at test:** Week 15
- **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

Eye IMPC_EYE_001_001 | v1.0

simpleParameter

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

Description: eye

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

---

Bulging eye IMPC_EYE_002_001 | v1.0

simpleParameter

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

Description: bulging_eye

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

---

Eye Hemorrhage or Blood Presence IMPC_EYE_003_001 | v1.0

simpleParameter

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

Description: eye_hemorrhage_or_blood_presence

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

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Eyelid morphology IMPC_EYE_004_001 | v1.0

simpleParameter

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

Description: eyelid_morphology

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

---

Eyelid closure IMPC_EYE_005_001 | v1.0

simpleParameter

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

Description: eyelid_closure

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

---

Narrow eye opening IMPC_EYE_006_001 | v1.0

simpleParameter

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

Description: narrow_eye_opening

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

---

Cornea IMPC_EYE_007_001 | v1.0

simpleParameter

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

Description: cornea

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

---

Corneal opacity IMPC_EYE_008_001 | v1.0

simpleParameter

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

Description: corneal_opacity

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

---

Corneal vascularization IMPC_EYE_009_001 | v1.0

simpleParameter

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

Description: corneal_vascularization

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

---

Iris/Pupil IMPC_EYE_010_001 | v1.0

simpleParameter

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

Description: iris_pupil

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

---

Pupil Position IMPC_EYE_011_001 | v1.0

simpleParameter

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

Description: pupil_position

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

---

Pupil Shape IMPC_EYE_012_001 | v1.0

simpleParameter

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

Description: pupil_shape

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

---

Pupil Dilation IMPC_EYE_013_001 | v1.0

simpleParameter

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

Description: pupil_dilation

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

---

Pupil Light Response IMPC_EYE_014_001 | v1.0

simpleParameter

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

Description: pupil_light_response

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

---

Iris Pigmentation IMPC_EYE_015_001 | v1.0

simpleParameter

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

Description: iris_pigmentation

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

---

Lens IMPC_EYE_016_001 | v1.0

simpleParameter

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

Description: lens

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

---

Lens Opacity IMPC_EYE_017_001 | v1.0

simpleParameter

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

Description: lens_opacity

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

---

Fusion between cornea and lens IMPC_EYE_018_001 | v1.0

simpleParameter

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

Description: fusion_between_cornea_and_lens

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

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Synechia IMPC_EYE_019_001 | v1.0

simpleParameter

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

Description: synechia

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

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Retina IMPC_EYE_020_001 | v1.1

simpleParameter

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

Description: retina

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

---

Retinal Pigmentation IMPC_EYE_021_001 | v1.1

simpleParameter

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

Description: retinal_pigmentation

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

---

Retinal Structure IMPC_EYE_022_001 | v1.1

simpleParameter

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

Description: retinal_structure

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

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Optic Disc IMPC_EYE_023_001 | v1.0

simpleParameter

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

Description: optic_disc

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

---

Retinal Blood Vessels IMPC_EYE_024_001 | v1.0

simpleParameter

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

Description: retinal_blood_vessels

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

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Retinal Blood Vessels Structure IMPC_EYE_025_001 | v1.0

simpleParameter

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

Description: retinal_blood_vessels_structure

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

---

Retinal Blood Vessels Pattern IMPC_EYE_026_001 | v1.0

simpleParameter

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

Description: retinal_blood_vessels_pattern

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

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Persistence of hyaloid vascular system IMPC_EYE_027_001 | v1.0

simpleParameter

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

Description: persistence_of_hyaloid_vascular_system

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

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Slit Lamp observation IMPC_EYE_028_001 | v1.1

simpleParameter

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

Description: slit_lamp_observation

Ophthalmoscope Observation IMPC_EYE_029_001 | v1.1

simpleParameter

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

Description: ophthalmoscope_observation

Slit Lamp Equipment ID IMPC_EYE_030_001 | v1.2

procedureMetadata

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

Description: slit_lamp_equipment_id

Slit Lamp Equipment Manufacturer IMPC_EYE_031_001 | v1.2

procedureMetadata

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

Description: slit_lamp_equipment_manufacturer

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

---

Slit Lamp Equipment Model IMPC_EYE_032_001 | v1.2

procedureMetadata

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

Description: slit_lamp_equipment_model

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

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Ophthalmoscope Equipment ID IMPC_EYE_033_001 | v1.2

procedureMetadata

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

Description: ophthalmoscope_equipment_id

Ophthalmoscope Equipment Manufacturer IMPC_EYE_034_001 | v1.2

procedureMetadata

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

Description: ophthalmoscope_equipment_manufacturer

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

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Ophthalmoscope Equipment Model IMPC_EYE_035_001 | v1.2

procedureMetadata

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

Description: ophthalmoscope_equipment_model

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

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Experimenter ID IMPC_EYE_036_001 | v1.1

procedureMetadata

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

Description: experimenter_id

Optical Coherence Tomography Equipment ID IMPC_EYE_037_001 | v1.1

procedureMetadata

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

Description: optical_coherence_tomography_equipment_id

Optical Coherence Tomography Equipment Manufacturer

IMPC_EYE_038_001 | v1.2

procedureMetadata

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

Description: optical_coherence_tomography_equipment_manufacturer

Options: Bioptigen, Heidelberg Engineering,

Optical Coherence Tomography Equipment Model IMPC_EYE_039_001 | v1.2

procedureMetadata

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

Description: optical_coherence_tomography_equipment_model

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

Scheimpflug Equipment ID IMPC_EYE_040_001 | v1.1

procedureMetadata

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

Description: scheimpflug_equipment_id

Scheimpflug Equipment Manufacturer IMPC_EYE_041_001 | v1.4

procedureMetadata

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

Description: scheimpflug_equipment_manufacturer

Options: Oculus GmbH,

Scheimpflug Equipment Model IMPC_EYE_042_001 | v1.4

procedureMetadata

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

Description: scheimpflug_equipment_model

Options: Pentacam,

Dilation Method IMPC_EYE_043_001 | v1.0

procedureMetadata

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

Description: dilation_method

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

---

Topical Anesthetic IMPC_EYE_044_001 | v1.1

procedureMetadata

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

Description: topical_anesthetic

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

---

General Anesthetic IMPC_EYE_045_001 | v1.1

procedureMetadata

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

Description: general_anesthetic

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

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Date Slit Lamp equipment last calibrated IMPC_EYE_046_001 | v1.1

procedureMetadata

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

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Date Ophthalmoscope equipment last calibrated IMPC_EYE_047_001 | v1.1

procedureMetadata

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

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Date Scheimpflug equipment last calibrated IMPC_EYE_048_001 | v1.1

procedureMetadata

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

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Date OCT equipment last calibrated IMPC_EYE_049_001 | v1.1

procedureMetadata

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

---

Images Ophthalmoscopy IMPC_EYE_050_001 | v1.1

seriesMediaParameter

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

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Images Slit Lamp IMPC_EYE_051_001 | v1.1

seriesMediaParameter

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

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Sheimpflug Lens description IMPC_EYE_052_001 | v1.1

simpleParameter

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

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Scheimpflug description IMPC_EYE_053_001 | v1.0

simpleParameter

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

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Min left eye lens density IMPC_EYE_054_001 | v1.2

simpleParameter

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

Unit Measured: %

Max left eye lens density IMPC_EYE_055_001 | v1.1

simpleParameter

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

Unit Measured: %

Mean left eye lens density IMPC_EYE_056_001 | v1.1

simpleParameter

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

Unit Measured: %

Min right eye lens density IMPC_EYE_057_001 | v1.1

simpleParameter

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

Unit Measured: %

Max right eye lens density IMPC_EYE_058_001 | v1.1

simpleParameter

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

Unit Measured: %

Mean right eye lens density IMPC_EYE_059_001 | v1.1

simpleParameter

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

Unit Measured: %

Right corneal thickness IMPC_EYE_060_001 | v1.2

simpleParameter

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

Unit Measured: um

Right anterior chamber depth IMPC_EYE_061_001 | v1.2

simpleParameter

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

Unit Measured: um

Right total retinal thickness IMPC_EYE_062_001 | v1.2

simpleParameter

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

Unit Measured: um

Right inner nuclear layer IMPC_EYE_063_001 | v1.2

simpleParameter

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

Unit Measured: um

Right outer nuclear layer IMPC_EYE_064_001 | v1.2

simpleParameter

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

Unit Measured: um

Right posterior chamber depth IMPC_EYE_065_001 | v1.2

simpleParameter

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

Unit Measured: um

Left corneal thickness IMPC_EYE_066_001 | v1.2

simpleParameter

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

Unit Measured: um

Left anterior chamber depth IMPC_EYE_067_001 | v1.2

simpleParameter

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

Unit Measured: um

Left total retinal thickness IMPC_EYE_068_001 | v1.2

simpleParameter

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

Unit Measured: um

Left inner nuclear layer IMPC_EYE_069_001 | v1.2

simpleParameter

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

Unit Measured: um

Left outer nuclear layer IMPC_EYE_070_001 | v1.2

simpleParameter

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

Unit Measured: um

Left posterior chamber depth IMPC_EYE_071_001 | v1.2

simpleParameter

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

Unit Measured: um

B-scan of right retina IMPC_EYE_072_001 | v1.1

seriesMediaParameter

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

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B-scan of left retina IMPC_EYE_073_001 | v1.1

seriesMediaParameter

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

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VIP of right fundus IMPC_EYE_074_001 | v1.1

seriesMediaParameter

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

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VIP of left fundus IMPC_EYE_075_001 | v1.1

seriesMediaParameter

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

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B-scan of right cornea and lens IMPC_EYE_076_001 | v1.1

seriesMediaParameter

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

---

B-scan of left cornea and lens IMPC_EYE_077_001 | v1.1

seriesMediaParameter

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

---

VIP of right eye IMPC_EYE_078_001 | v1.1

seriesMediaParameter

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

---

VIP of left eye IMPC_EYE_079_001 | v1.1

seriesMediaParameter

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

Corneal Sclerization IMPC_EYE_080_001 | v1.1

simpleParameter

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

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

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Corneal deposits IMPC_EYE_081_001 | v1.1

simpleParameter

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

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

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Iris transilumination IMPC_EYE_082_001 | v1.1

simpleParameter

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

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

Vitreous IMPC_EYE_083_001 | v1.1

simpleParameter

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

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

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Corneal mineralization IMPC_EYE_084_001 | v1.0

simpleParameter

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

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

---

Corneal ulcer IMPC_EYE_085_001 | v1.0

simpleParameter

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

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

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Lacrimation IMPC_EYE_086_001 | v1.0

simpleParameter

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

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

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Right vitreous humor thickness IMPC_EYE_087_001 | v1.0

simpleParameter

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

Unit Measured: um

Left vitreous humour thickness IMPC_EYE_088_001 | v1.0

simpleParameter

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

Unit Measured: um

Ophthalmoscope Lens Model IMPC_EYE_089_001 | v1.1

procedureMetadata

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

---

Right eye diameter IMPC_EYE_090_001 | v1.0

simpleParameter

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

Unit Measured: mm

Left eye diameter IMPC_EYE_091_001 | v1.0

simpleParameter

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

Unit Measured: mm

Retina (combined) IMPC_EYE_092_001 | v1.0

simpleParameter

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

Derivation:
retinaCombined('IMPC_EYE_020_001', 'IMPC_EYE_021_001', 'IMPC_EYE_022_001')
