# Eye Morphology IMPC\_EYE\_003

# 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,


#### 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,

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#### Narrow eye opening IMPC\_EYE\_006\_001 | v1.0

simpleParameter

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

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#### 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
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**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
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**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,



#### 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,

## 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

**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

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**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,


#### 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,

#### 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

Description: ophthalmoscope\_observation

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## Slit Lamp Equipment ID IMPC\_EYE\_030\_001 | v1.2

procedureMetadata

Reg. Analysis: false Reg. 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

**Reg. Analysis:** true **Reg. 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,

## **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
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**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

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,

#### Experimenter ID IMPC\_EYE\_036\_001 | v1.1

procedureMetadata

Req. Analysis: false	Req. Upload: true	Is Annotated: false
Description: experimenter_id		

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# Optical Coherence Tomography Equipment ID IMPC\_EYE\_037\_

001 | v1.1

procedureMetadata

Description: optical\_coherence\_tomography\_equipment\_id

# **Optical Coherence Tomography Equipment Manufacturer**

IMPC\_EYE\_038\_001 | v1.2

Req. Analysi	s: true Req	. Upload: false	Is Annotated: false
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**Description:** optical\_coherence\_tomography\_equipment\_manufacturer

Options: Bioptigen, Heidelberg Engineering,

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# **Optical Coherence Tomography Equipment Model** IMPC\_EYE \_039\_001 | v1.2

procedureMetadata

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

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## Scheimpflug Equipment Manufacturer IMPC\_EYE\_041\_001 | v1.4

Req. Analysis: true	Req. Upload: false	Is Annotated: false		
Description: scheimpflug_equ	uipment_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, Zoletil,

# Date Slit Lamp equipment last calibrated IMPC\_EYE\_046\_001 | v1

.1

procedureMetadata

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

# Date Ophthalmoscope equipment last calibrated IMPC\_EYE\_0

47\_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

## Date OCT equipment last calibrated IMPC\_EYE\_049\_001 | v1.1

procedureMetadata

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

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## Images Ophthalmoscopy IMPC\_EYE\_050\_001 | v1.1

seriesMediaParameter

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

#### Images Slit Lamp IMPC\_EYE\_051\_001 | v1.1

seriesMediaParameter

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

## 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

## Min left eye lens density IMPC\_EYE\_054\_001 | v1.2

simpleParameter

Req. Analysis: false	Req. Upload: false	Is Annotated: true
Unit Measured: %		

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## 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
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: %

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## Mean right eye lens density IMPC\_EYE\_059\_001 | v1.1

simpleParameter

Req. Analysis: false	Req. Upload: false	Is Annotated: true
Unit Measured: %		

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# 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	<b>layer</b> IMPC_EYE_063_00	)1   v1.2
Req. Analysis: false	Req. Upload: false	Is Annotated: true
Unit Measured: um		

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#### Right outer nuclear layer IMPC\_EYE\_064\_001 | v1.2

simpleParameter

Req. Analysis: false	Req. Upload: false	Is Annotated: true
Unit Measured: um		

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# 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 thickn	<b>ESS</b> IMPC_EYE_066_001	v1.2
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

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## 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: falseReq. Upload: falseIs 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
B-scan of left retina	<b>a</b> IMPC_EYE_073_001   v1.*	1
Req. Analysis: false	Req. Upload: false	Is Annotated: false
VIP of right fundus seriesMediaParameter	IMPC_EYE_074_001   v1.1	
Req. Analysis: false	Req. Upload: false	Is Annotated: false
VIP of left fundus IMPC_EYE_075_001   v1.1 seriesMediaParameter		
Req. Analysis: false	Req. Upload: false	Is Annotated: false

# B-scan of right cornea and lens IMPC\_EYE\_076\_001 | v1.1

seriesMediaParameter



#### 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,


#### Corneal deposits IMPC\_EYE\_081\_001 | v1.1

simpleParameter

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

#### 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,

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Vitreous IMPC\_EYE\_083\_001 | v1.1

simpleParameter

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,

#### Corneal mineralization IMPC\_EYE\_084\_001 | v1.0

simpleParameter

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

## Lacrimation IMPC\_EYE\_086\_001 | v1.0

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,

## Right vitreous humor thickness IMPC\_EYE\_087\_001 | v1.0

simpleParameter

Req. Analysis: false	Req. Upload: false	Is Annotated: true
Unit Measured: um		

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#### Left vitreous humour thickness IMPC\_EYE\_088\_001 | v1.0

simpleParameter

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

Unit Measured: um

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## Ophthalmoscope Lens Model IMPC\_EYE\_089\_001 | v1.1

procedureMetadata

#### 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 IN simpleParameter	MPC_EYE_091_001  v1.0	
Req. Analysis: false	Req. Upload: false	Is Annotated: true
Unit Measured: mm		
Retina (combined) IMPC_EYE_092_002   v2.0 simpleParameter		

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

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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