

*[Bluetooth setting]*

User can turn on the Bluetooth function and collect the data from specific vital sign devices.



When the Bluetooth is on, the vital sign collection icon will be shown on menu. Click it to enter the collection page.



## D. DAR 100

### Enter the Setup model

#### Using the [Setup] menu

It is recommended that all setting items are set according to user's requirements for first-time use.

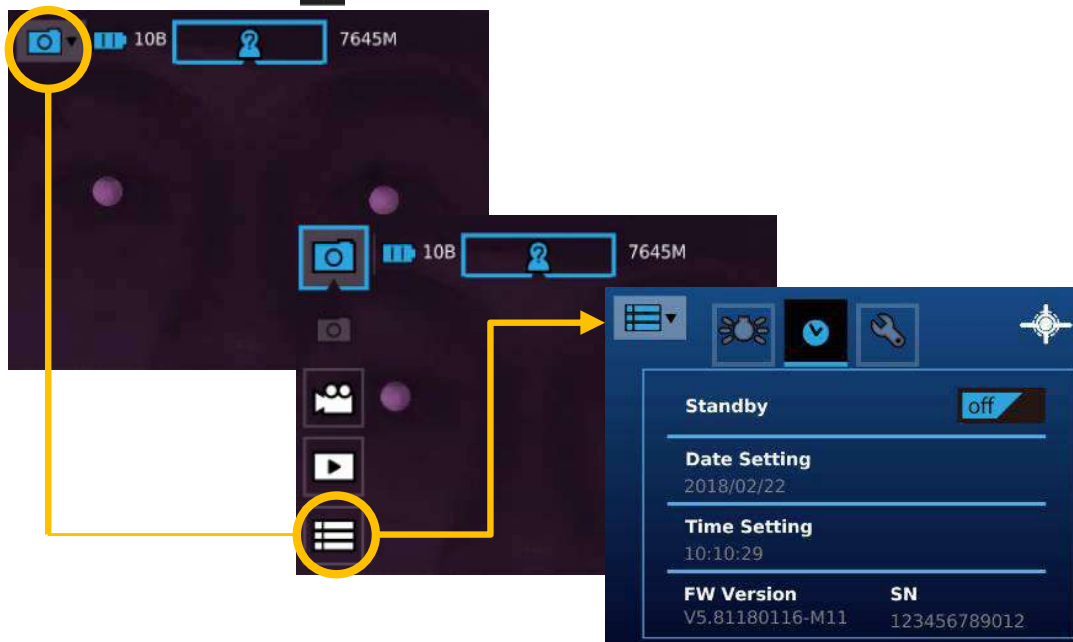
#### Bring up the [Setup] menu

Touch the photo icon and then touch the setup icon.

### Exit the [Setup] menu

Once a setting adjustment is made, the new value affects the system immediately.

Use the upper back button ◀ or the OK button to exit the screen.



### Settings

#### [Standby]

User can set standby mode to be on or off. Once the mode is on, the LCD panel will be turned off if the system is idle for three minutes. Tap on the item to toggle the setting.



### [Date Setting]

User can change the current date setting from the screen.



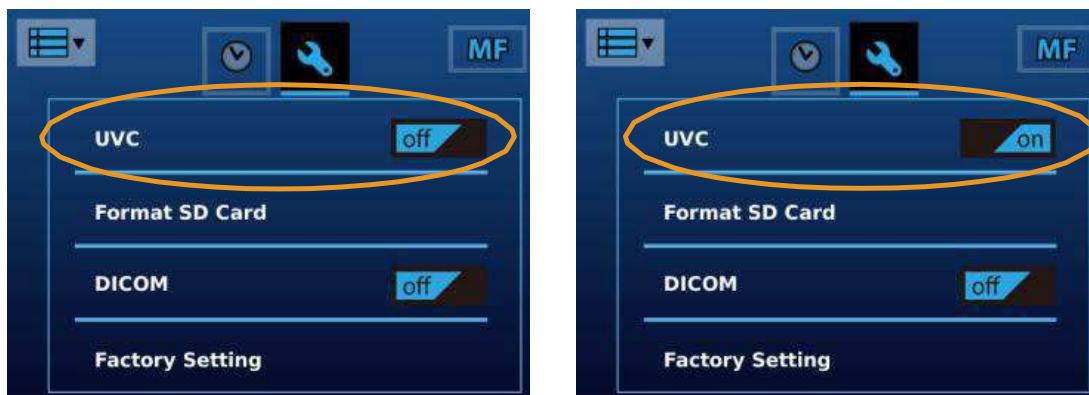
### [Time Setting]

User can change the current time setting from the screen.



### [UVC]

When you connect [DAR 100](#) to a computer via USB cable, the product works as a USB storage device. If UVC mode is on, pictures can be shown both on the LCD panel of the product and the screen of the computer. To display image on the computer, please install webcam application prior to enabling UVC mode. A freeware webcam application (e.g., Horus UVC view, Amcap) is a software that can receive UVC signal on the computer. User can search for relevant information over the Internet.



Horus UVC View

Free UVC viewer is available in any search engine.

### [Format SD Card]

User can format the SD card.

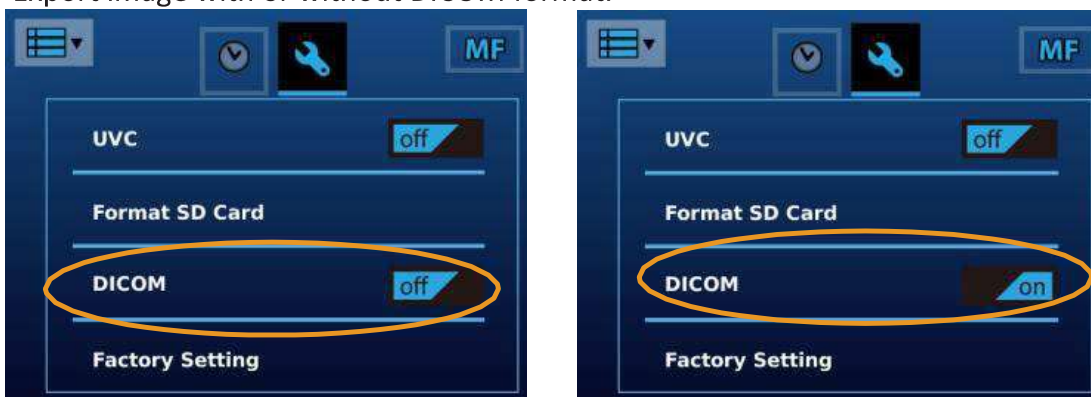


#### NOTE

All information will be deleted after SD card is formatted.

### [DICOM]

Export image with or without DICOM format.



### [Factory Setting]

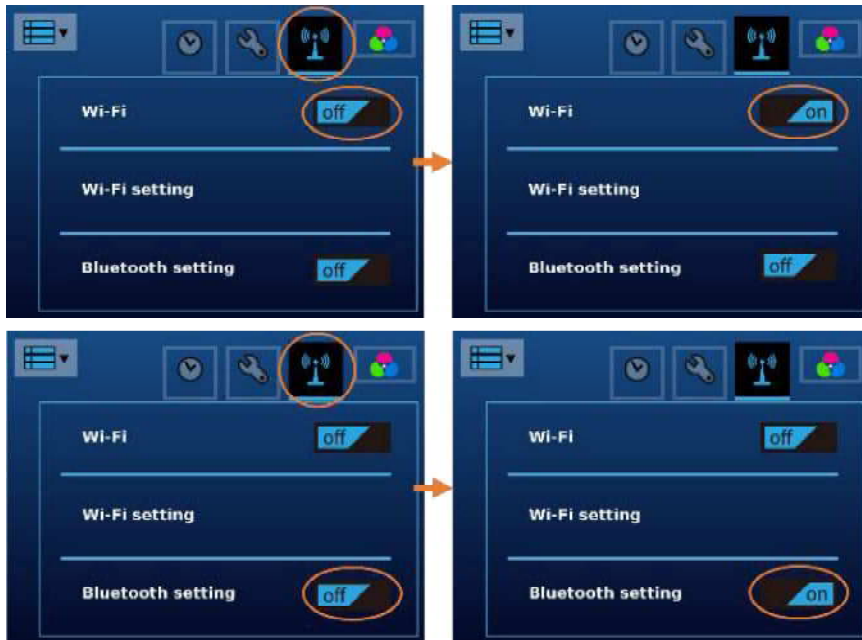
User can recover the device to its factory settings



## Wireless connection

### [Wi-Fi/Bluetooth]

User can turn on/off the Wi-Fi/Bluetooth.



### Note

Wi-Fi and Bluetooth function cannot be on at the same time.

### [Wi-Fi setting – Direct Mode]

User can select “Direct mode” to connect DSC 300 with PC directly.



### Note

Password shall be 8+ letters & numbers.

### [Wi-Fi setting – AP Mode]

User can select “AP mode” to connect to internet through an AP.



### [Bluetooth setting]

User can turn on the Bluetooth function and collect the data from specific vital sign devices.



When the Bluetooth is on, the vital sign collection icon will be shown on menu. Click it to enter the collection page.





# Entering the patient ID

Using patient ID as partial file name is supported in DSC 300.

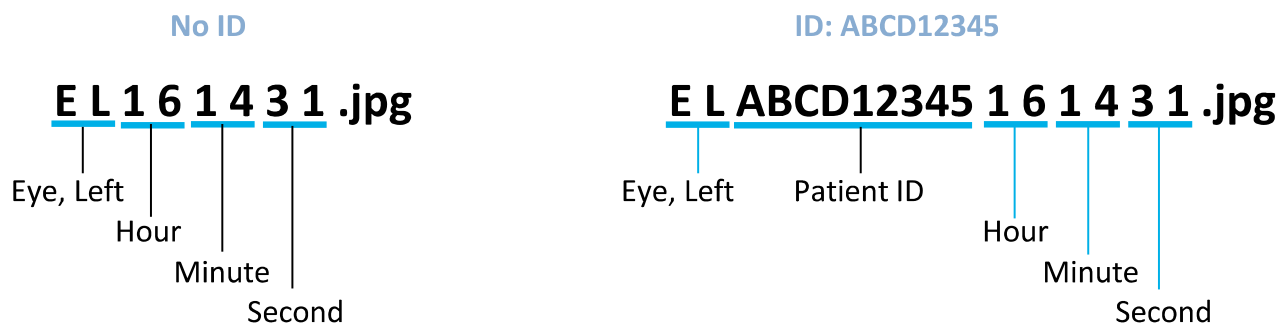
## File naming rule

Product Name	Model Name	Picture Name without ID	Picture Name with ID
Eye fundus camera	DEC 200	ELHHMMSS.jpg ERHHMMSS.jpg	ELXXXXXXXXXXHHMMSS.jpg ERXXXXXXXXXXHHMMSS.jpg
Eye anterior camera	DEA 200	ALHHMMSS.jpg ARHHMMSS.jpg	ALXXXXXXXXXXHHMMSS.jpg ARXXXXXXXXXXHHMMSS.jpg
Eye surface camera	DGC 200	GLHHMMSS.jpg GRHHMMSS.jpg	GLXXXXXXXXXXHHMMSS.jpg GRXXXXXXXXXXHHMMSS.jpg

Meaning of each symbol:

Symbol	Meaning
EL	Left eye photo taken by the eye fundus camera
ER	Right eye photo taken by the eye fundus camera
AL	Left eye photo taken by the eye anterior camera
AR	Right eye photo taken by the eye anterior camera
GL	Left eye photo taken by the eye surface camera
GR	Right eye photo taken by the eye surface camera
HH	Hour
MM	Minute
SS	Second
XXXXXXXXXX	Patient ID, up to 20 characters.

Example:



The image name is explained as follows:

EL: Left eye photo taken by the eye fundus camera; hour: 16; minute: 14; and second: 31.

If the given patient number is ABCD12345, the image name would be written as

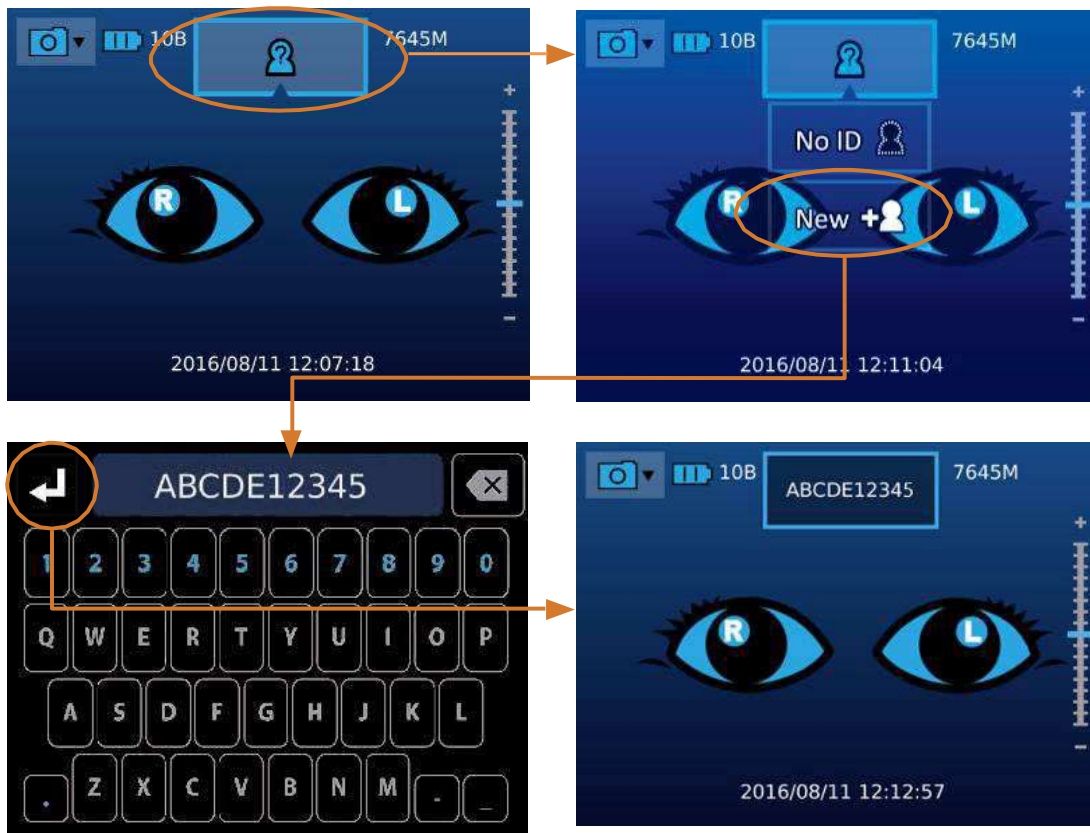
EL ABCD12345161431.jpg

## Create a new patient ID from scratch (DICOM off)

By gently pressing the OK button, the user always goes back to a shooting mode, either photo or video mode; from the top information icons, tap

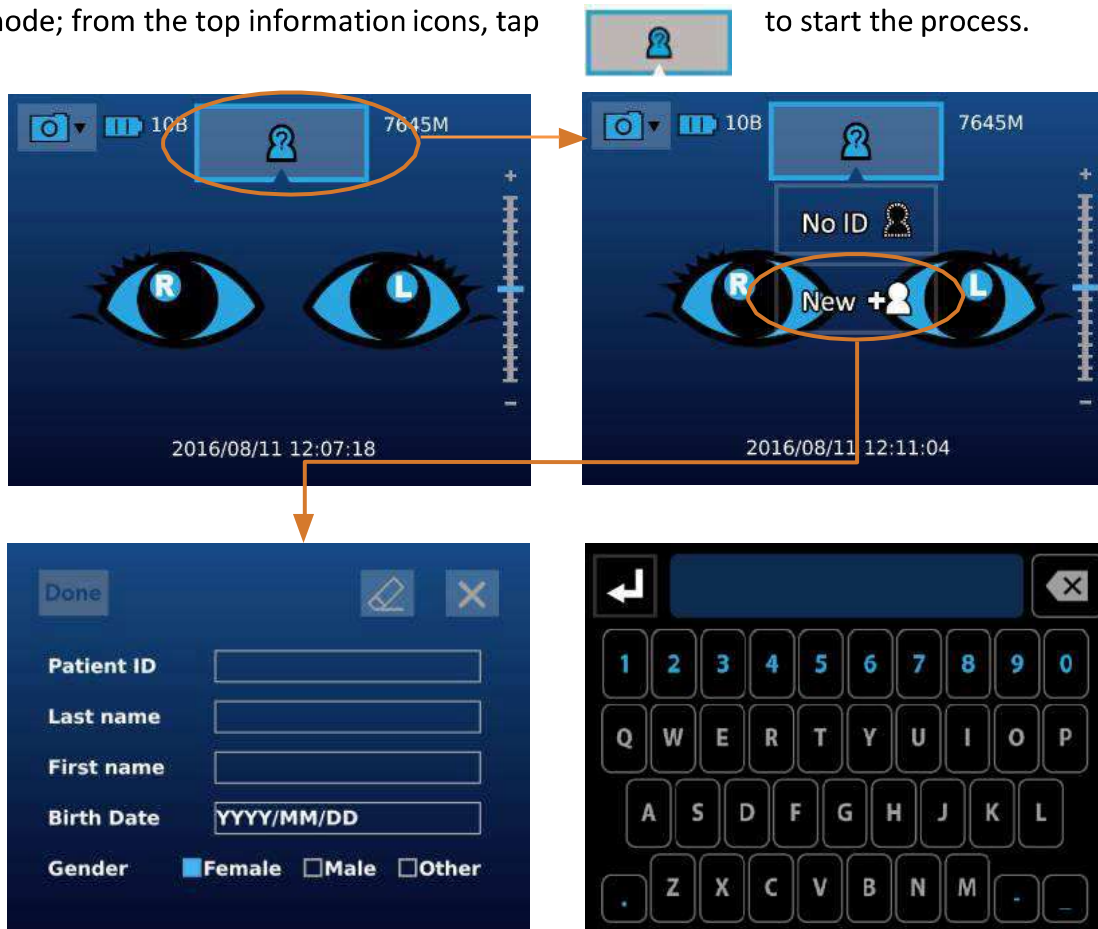


to start the process.

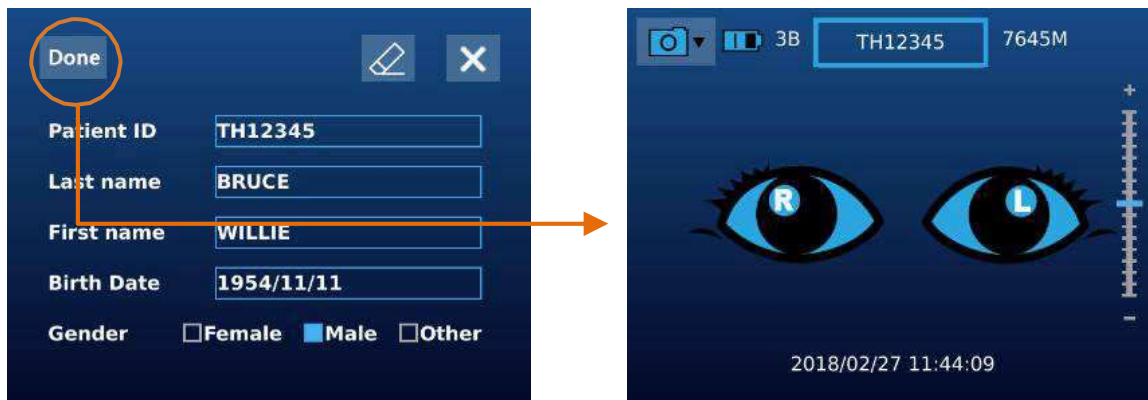


### Create a new patient ID from scratch (DICOM on)

By gently pressing the OK button, the user always goes back to a shooting mode, either photo or video mode; from the top information icons, tap to start the process.





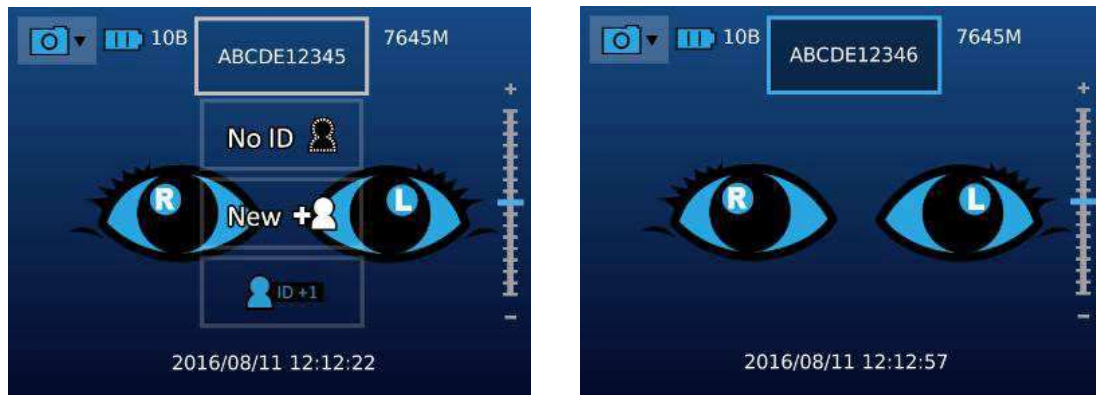


#### NOTE

All of the information are necessary to finish this step.

#### Create a new patient ID on an existing one

After a patient ID is set, the user can quickly create a new patient ID that is based on the existing ID plus 1 e.g., ABCDE12345 → ABCDE12346.



# Taking pictures

## Sequence of operations

### A. DEC 200

#### Step 1: Turn on the power

Press the power button to turn on the control unit. Approximately one to two seconds later, the boot screen will appear on the LCD panel. After about 15 seconds, the information icons will appear on the top of the LCD panel.

#### Step 2: Make sure SD card is inserted

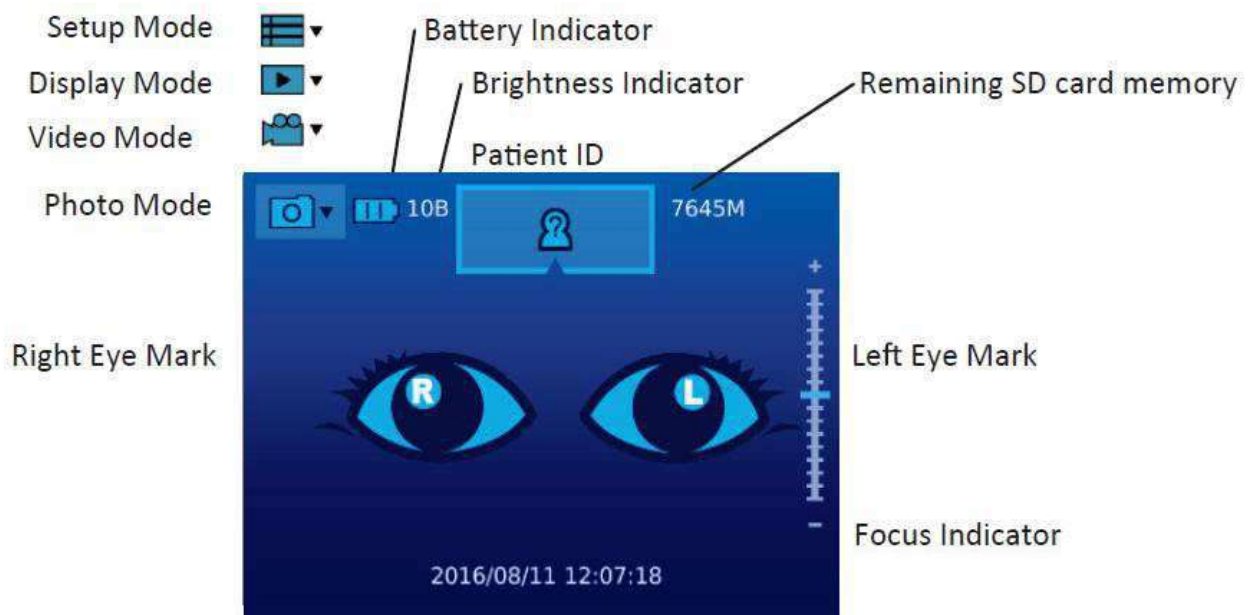
Once the SD card has been inserted, the user can start to take photographs in any shooting mode, either photo or video mode.

#### Step 3: Choose a shooting mode

Tap the photo or the video mode icon to enter a shooting mode.

#### Step 4: Mark left /right eye

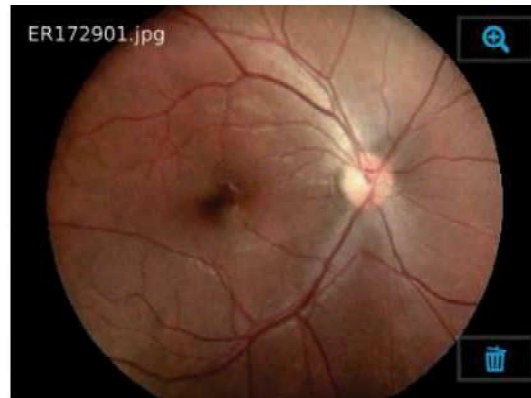
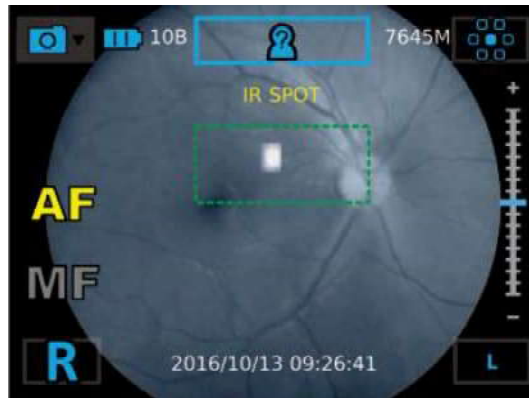
By doing so, the user can tell whether a photo/video is left eye or right eye of examinee record from its file name.



#### Step 5: Trigger Auto Shooting


There is a green frame on screen which acts as "IR spot indicator".

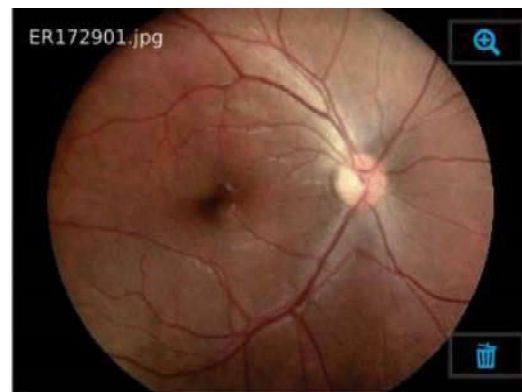
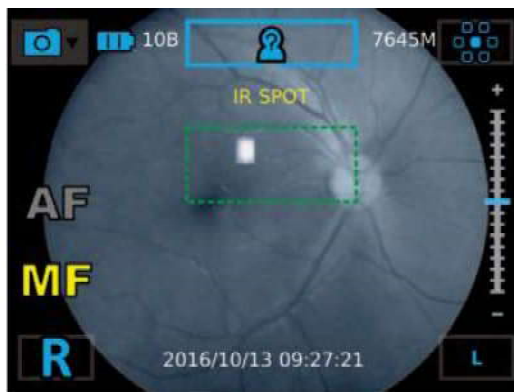
When user moves IR spot into this frame, auto-shooting will be trigger and a picture will be captured automatically.



### Notes

If it's difficult to activate auto-shooting, there are 2 options:

1. Completely press OK button to take a photo.
2. By using focus-adjustment buttons of the control unit,  it is switched to manual focus mode. After optimizing an image via focus-adjustment buttons, completely press OK button to take a photo.



## B. DEA 200

### Step 1: Turn on the power

Press the power button to turn on the control unit. Approximately one to two seconds later, the boot screen will appear on the LCD panel. After about 15 seconds, the information icons will appear on the top of the LCD panel.

### Step 2: Make sure SD card is inserted

Once the SD card has been inserted, the user can start to take photographs in any shooting mode, either photo or video mode.

### Step 3: Choose a shooting mode

Tap the photo or the video mode icon to enter a shooting mode.

### Step 4: Mark left/right eye

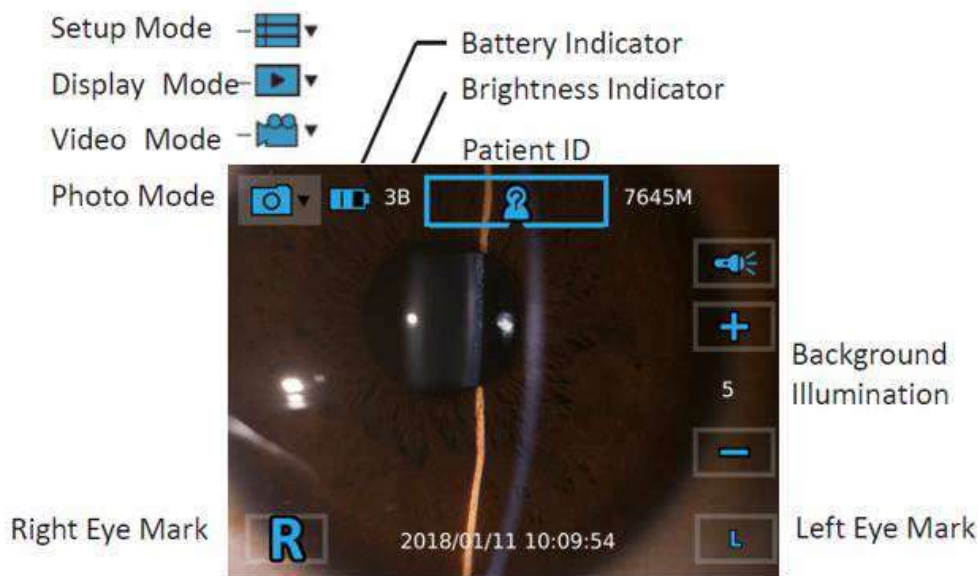
By doing so, the user can tell whether a photo/video is left eye or right eye of examinee record from its file name.

### Step 5: Select slit shape and color filters

Select slit shape and color filters by rotating wheels on slit module.

### Step 5: Aim and preview

Position the camera correctly and adjust to appropriate settings to get a clear preview. The image brightness can only be changed in photo mode.



### Step 6: Press the OK button to shoot

## C. DGC 200

### Step 1: Turn on the power

Press the power button to turn on the control unit. Approximately one to two seconds later, the boot screen will appear on the LCD panel. After about 15 seconds, the information icons will appear on the top of the LCD panel.

### Step 2: Make sure SD card is inserted

Once the SD card has been inserted, the user can start to take photographs in any shooting mode, either photo or video mode.

### Step 3: Choose a shooting mode

Tap the photo or the video mode icon to enter a shooting mode.

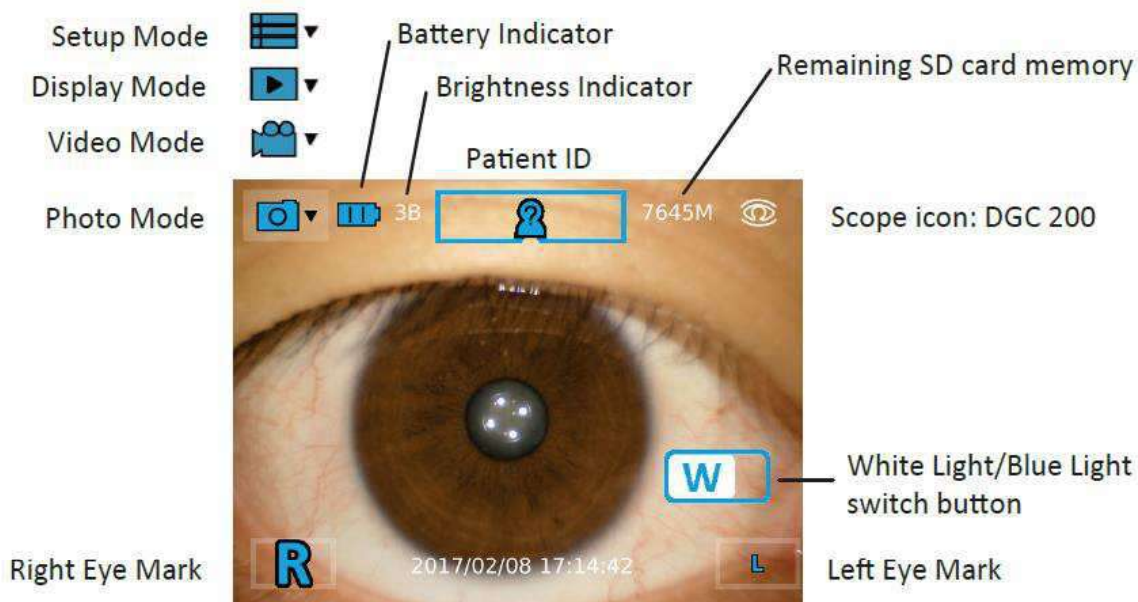
### Step 4: Mark left/right eye

By doing so, the user can tell whether a photo/video is left eye or right eye of examinee record from its file name.

### Step 5: Aim and preview

User can select white light or blue light to take image by tapping the white light/blue light switch icon on screen. The default setting is white light.

Position the camera correctly and adjust to appropriate settings to get a clear preview. The image brightness can only be changed in photo mode. The user can rely on the auto focus of DSC 300 to improve clarity or adjust focus manually.



### Step 6: Press the OK button to shoot



## D. DAR 100

### Step 1: Turn on the power

Press the power button to turn on the control unit. Approximately one to two seconds later, the boot screen will appear on the LCD panel. After about 15 seconds, the information icons will appear on the top of the LCD panel.

### Step 2: Make sure SD card is inserted

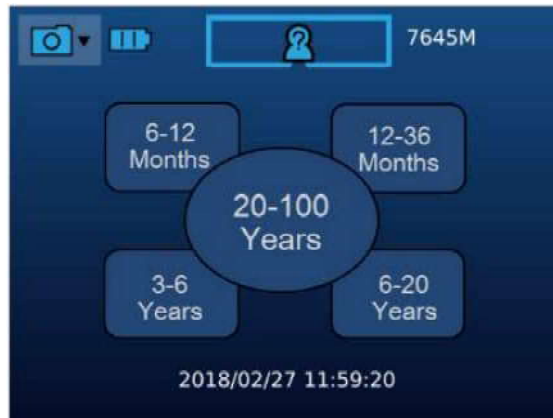
Once the SD card has been inserted, the user can start to take photographs in any shooting mode or photo mode.

### Step 3: Choose a shooting mode

Tap the photo mode icon to enter a shooting mode.

### Step 4: Choose age range

According to the subject's age, choose the corresponding age range



### Step 5: Detect the working distance and pupil position

The optimal working distance of DAR100 is one meter far from the subject, the user should adjust the distance with the subject and let the subject's pupil be located into the indicated white square.



### Step 6: Auto-shooting, then show the calculation and pre-view result

When the pupil square fit into the indicated white square, DAR 100 will auto shoot and calculate the subject's refraction results. Press "OK" to return to start page

Filename: AD#####.txt

S.E. : Spherical Equivalent

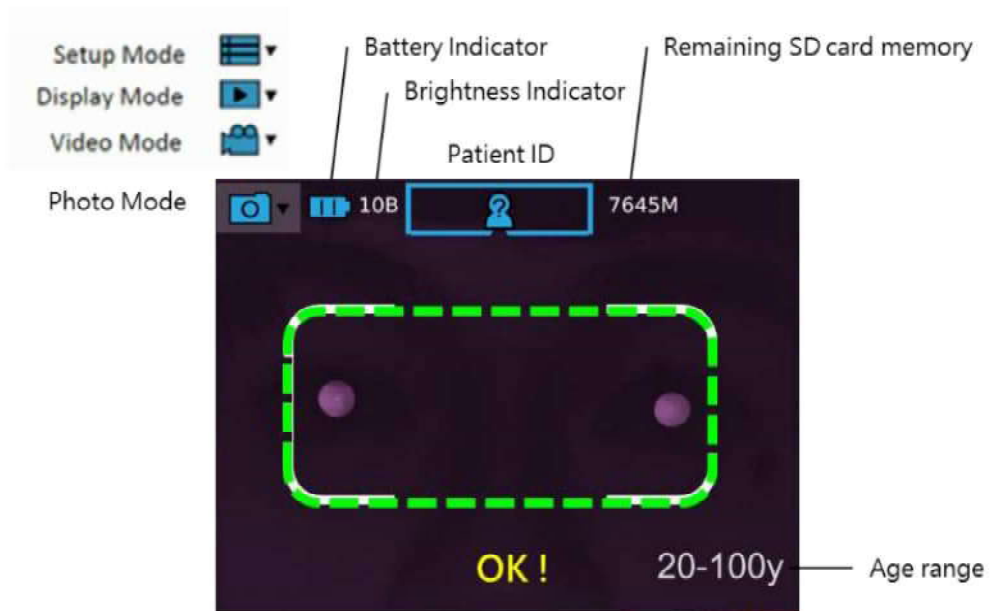
SPH (Spherical) : Sphere power ; Myopia(-) 、 Hyperopia(+)

CYL (Cylindrical) : Cylinder power

Axis :  $0^{\circ}$ - $180^{\circ}$

Pupil size (mm)


PD : Pupillary Distance (mm)

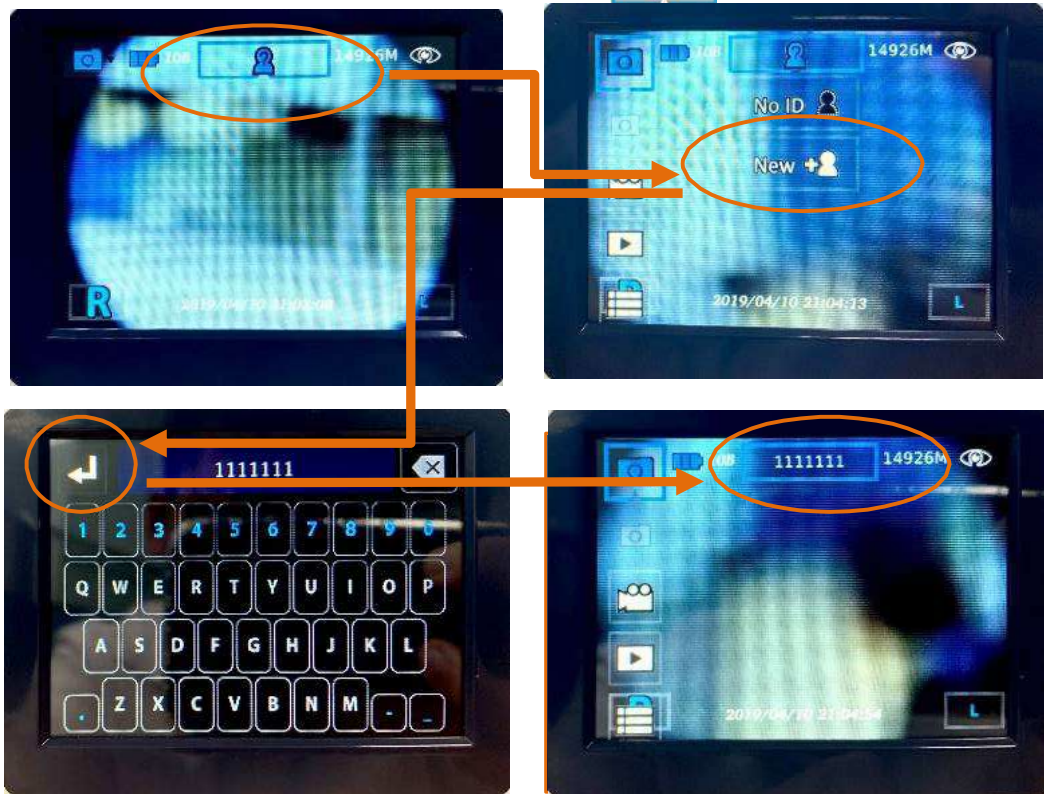


# Entering the patient ID


Using patient ID as partial file name is supported in DSC 300P.

## Create a new patient ID from scratch (DICOM off)

By gently pressing the OK button, the user always goes back to a shooting mode, either photo or video mode; from the top information icons, tap  to start the process.

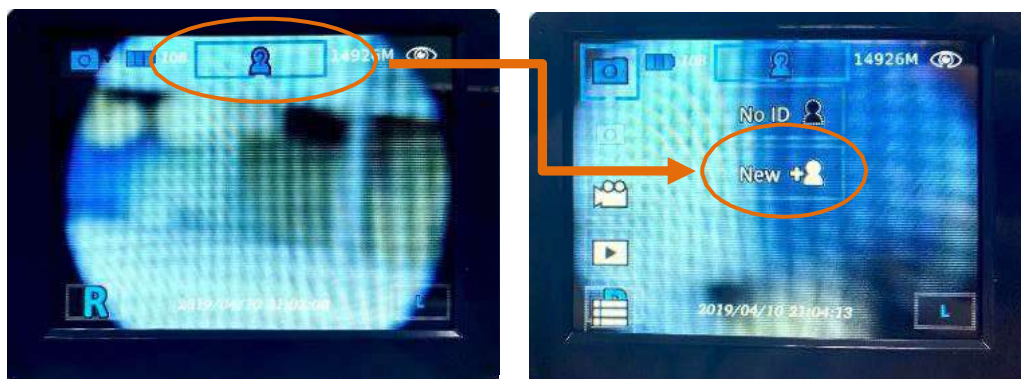


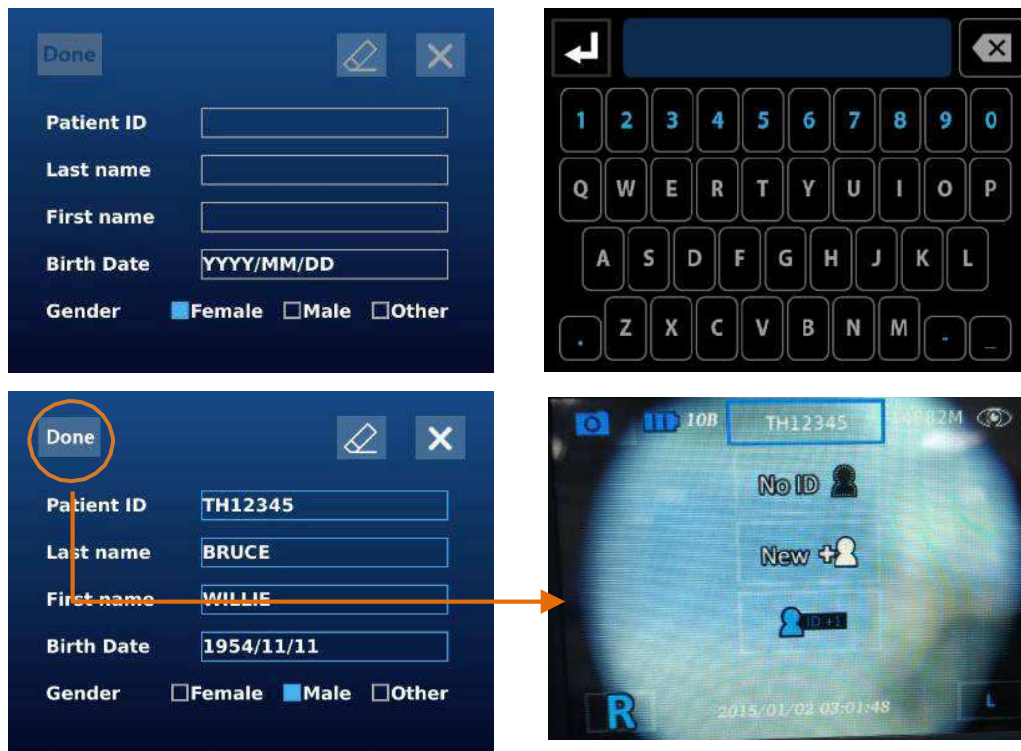
## Create a new patient ID from scratch (DICOM on)

By gently pressing the OK button, the user always goes back to a shooting mode, either photo or video mode; from the top information icons, tap  to start the process.

### **NOTE**

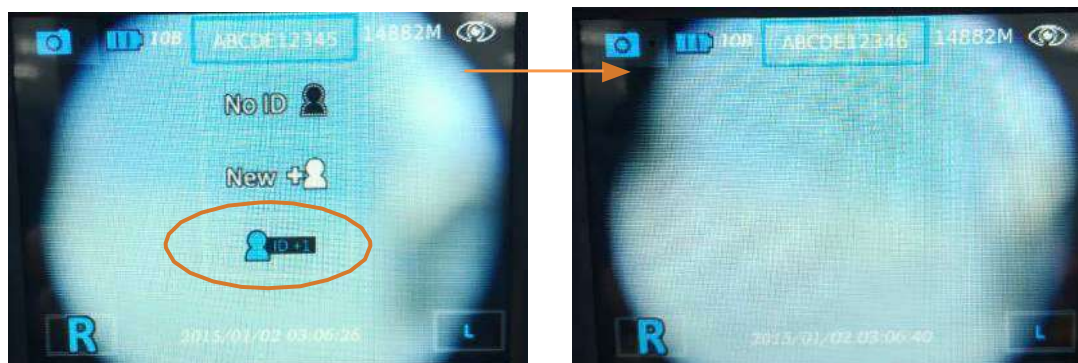
- 1. All of the information are necessary to finish this step.**
- 2. Please note that the device could only record with 1 patient information.**





### Create a new patient ID on an existing one

After a patient ID is set, the user can quickly create a new patient ID that is based on the existing ID plus 1 e.g., ABCDE12345 → ABCDE12346.



# Photo mode

The device’s default setting is “photo mode.” User can take a picture or video in “photo mode” or “video mode,” respectively.

Photo mode:  
For DEC 200, the default setting of “Aiming Light/Capture Light” is “IR/White LED”. Therefore, the image before pressing the OK button is monochrome color. When a picture is just taken, the screen shows the result image in full color in auto review mode. To leave auto review, gently press the OK button.

For DEA 200, Press down the OK button halfway to do auto-focus or press focus button to do manual focus; press it all the way to take a still picture. The screen will show the image you just take, user can zoom in/out for detail check and also delete it, until press OK button to go back live view mode.

To adjust the brightness of the image, user can press the brightness adjustment keys of the control unit. The higher value you set, the brighter image you get. Image brightness adjustment range:

Reference brightness of capture light for DSC 300 series:

	Model Name	Default Value	Min. Value	Max. Value
Eye fundus camera	DEC 200	10	0	15
Eye anterior camera	DEA 200	5	0	5
Eye surface camera	DGC 200	3	0	5
Eye auto-refractometer	DAR 100	3	0	5

Reference brightness table for DEC 200:

Classification	Aiming light (IR)	Capturing light	Note
Light Skin Blond	1B	3-5B	
Light Skin Brunette	3B	8-10B	10B is default
Dark Skin	5B	12-14B	

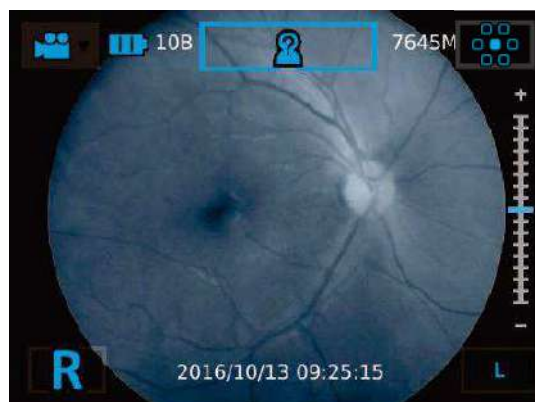
**NOTE**

When taking pictures, please do not remove or insert the SD card and delete pictures, otherwise the system will be abnormal.



## Video mode

Video mode: Completely press the OK button to start recording. Press again to end recording. For DEC 200, the default setting of “Aiming Light/Capture Light” is “IR/White LED.” During the video shooting, user can press “the brightness adjustment key +” to enhance the white LED for two seconds. It helps capture brighter motion pictures within a video.



### NOTE

When recording videos, please do not remove or insert the SD card and delete pictures, otherwise the system will be abnormal.

# Fixation setting and holding position of DEC 200

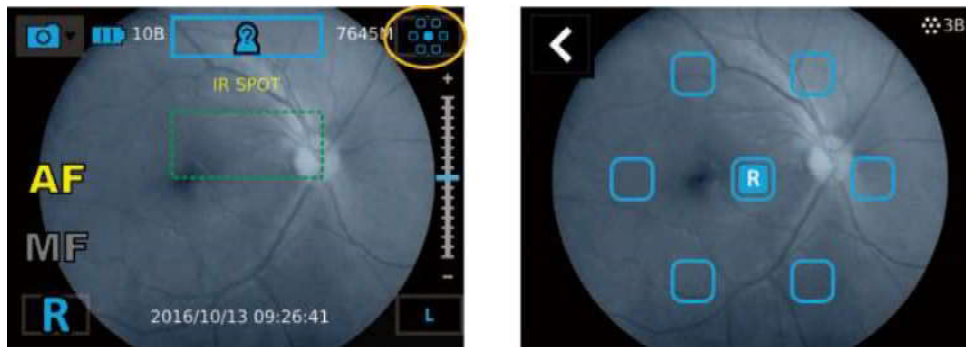
## Examination conditions

After the optical lens is attached to the control unit and setup is complete, the user can start taking images. Approaches for taking the image of human eye fundus are as follows:

- Have the examinee stay in <5 lux dark room; in such an environment, a newspaper is nearly impossible to see. Remove the patient's glasses or contact lenses. Make sure that the eye's pupil has a diameter larger than 4 mm, or be sure to sufficiently dilate in advance.
- Auto focus to infinity by pressing the OK button halfway down. Once the preview image is clear, then the focus is right for eye screening.

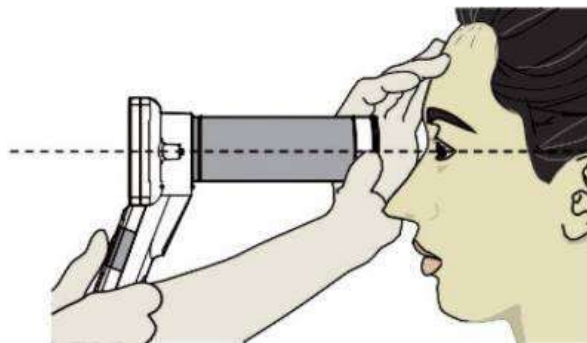
## Fixation lamp

Choose fixation LED position and ask the examinee to look at the fixation LED. Adjust the brightness of fixation LEDs by using the brightness adjustment keys of the control unit. 5B is the maximum brightness level in fixation setting.



## Holding position

Hold the control unit with one hand and use the other hand to hold the front side of the lens. Maintain the lens at the same height of the eye being examined. To stabilize the lens, rest the lens on the part of the hand between the thumb and index finger and put your middle and index fingers on the examinee's forehead, as showed in the following image.



View the examined eye keeping the lens horizontal to the examined eye. Then move forward slowly until you can see the optic disk in the controller screen. (For sanitary reasons, make sure the controller lens does not touch the patient's eyes or nose.)