## Contents

1. Safety and security instructions ................................................................. 4
2. Introduction .................................................................................................. 4
   2.1 System introduction ............................................................................. 4
   2.2 Related documentation ..................................................................... 4
3. Intended use ................................................................................................. 5
4. Getting started .......................................................................................... 5
   4.1 Installation and system requirements ................................................. 5
   4.2 Start-up and shutdown ....................................................................... 10
   4.3 Overview of iCare CLINIC ................................................................. 12
   4.4 Using iCare CLINIC .......................................................................... 13
   4.5 Using iCare EXPORT to upload IOP measurement results from iCare tonometer to iCare CLINIC ................................................................. 31
   4.6 Using the iCare PATIENT app to upload IOP results from the iCare HOME tonometer .... 34
5. Maintenance and updates .......................................................................... 35
6. Decommissioning ....................................................................................... 35
7. iCare CLINIC on-premises in customer’s IT network ................................. 36
8. Troubleshooting ......................................................................................... 36
9. Symbols ....................................................................................................... 37
10. Appendix 1 Technical description ............................................................ 37
11. Appendix 2 System, error and fault messages .......................................... 38
   11.1 iCare CLINIC .................................................................................... 38
   11.2 iCare EXPORT .................................................................................. 40
   11.3 iCare PATIENT ................................................................................ 40
1  Safety and security instructions

**PRECAUTION!** It is important that the internal clock of the iCare HOME(2) tonometer is up to date when measuring. The time of the clock may need to be updated if tonometer has been stored without batteries, if the batteries have run out of charge, or if the user of the tonometer has travelled to a new time zone. Therefore, in these situations, it is recommended to either

- a) connect the tonometer to computer using the provided cable and start iCare EXPORT or
- b) using the provided cable, connect the tonometer to smartphone or tablet that has iCare PATIENT installed.

The internal clock gets automatically updated to the time of the connected computer, smartphone or tablet.

**PRECAUTION!** Ensure that the computer, smartphone, or tablet running the iCare EXPORT or PATIENT application is set to the correct time and date.

**PRECAUTION!** The IOP notifications received via email do not replace healthcare professionals’ established processes for IOP supervision.

**PRECAUTION!** Do not share iCare CLINIC username and password with other users of the software.

2  Introduction

2.1  System introduction

This is the healthcare professional’s instruction manual for the iCare CLINIC, PATIENT and EXPORT applications.

In this document iCare HOME(2) refers to both the first generation iCare HOME and the second generation HOME2 tonometer unless specifically stated otherwise.

For instructions on how to use the PATIENT2 app, refer to the PATIENT2 Instruction Manuals.

**iCare CLINIC** is a browser-based software service designed for managing patient information, managing patient training and certification for the use of the iCare HOME(2) tonometer, managing a clinic’s fleet of iCare tonometers and managing the IOP measurement data. Refer to chapter 4.4 for the use of the iCare CLINIC service.

**iCare EXPORT** is a desktop application for installation on a PC running an MS Windows operating system. It is designed for uploading IOP measurement results from iCare tonometers (IC200, HOME PRO) to the database of the iCare CLINIC service. iCare EXPORT can also be used for viewing the IOP measurement results stored in an iCare tonometer and storing the IOP results in a local file. Refer to chapter 4.5 for the use of the iCare EXPORT application.

**iCare PATIENT** is a smartphone / tablet app designed for uploading IOP measurement results from an iCare HOME(2) tonometer to the database of the iCare CLINIC service. Refer to chapter 4.6 for the use of the iCare PATIENT application.

This instruction manual is applicable for iCare CLINIC service version 1.7x, iCare EXPORT application version 2.2.x and iCare PATIENT app version 1.2.x where x indicates a maintenance revision. New versions of this instruction manual are created on an as needed basis.

Safety incidents: Report any serious incidents related to the software or a tonometer used with it to your competent health authority and the manufacturer or the manufacturer’s representative. For reporting faulty information in this document, contact info@icare-world.com.

2.2  Related documentation

Other documents related to the system are:

- iCare PATIENT2 Instruction Manual for Android
- iCare PATIENT2 Instruction Manual for iOS
- iCare PATIENT2 and EXPORT Quick Guide
- iCare HOME Instruction Manual
- iCare HOME Patient Guide
- iCare HOME2 Instruction Manual
3  Intended use

The intended use of the family of software consisting of iCare CLINIC, iCare EXPORT and iCare PATIENT is, per software:

• iCare CLINIC is a software intended for storing and viewing of ophthalmic measurement data and for transferring it to external systems, supporting clinical decision making.
• iCare EXPORT is a software application intended for transferring ophthalmic measurement data to iCare CLINIC or to an external system. It also has the capability of displaying ophthalmic measurement data.
• iCare PATIENT is a mobile app intended for transferring ophthalmic measurement data to iCare CLINIC or to an external system.

iCare CLINIC, iCare EXPORT and iCare PATIENT are all indicated for use by healthcare professionals and lay persons.

4  Getting started

iCare CLINIC is used over an internet connection. A user’s organization needs to subscribe to iCare CLINIC in order to use it. See www.icaremhome.com for information about subscribing to iCare CLINIC. Once an organization has subscribed to iCare CLINIC, the organization’s administrator, as defined when subscribing to iCare CLINIC, is sent access instructions. The administrator then adds more users, with each then receiving personal access instructions via their email.

Users need either iCare EXPORT or iCare PATIENT to upload IOP data to the iCare CLINIC database. iCare EXPORT installer file can be downloaded from the Help menu of iCare CLINIC.

iCare PATIENT is available free-of-charge from the Google Play application store. See 4.1 for information about installing and starting iCare CLINIC, iCare EXPORT and iCare PATIENT. See 4.3.2 for description about typical process of using the service and applications.

4.1  Installation and system requirements

iCare CLINIC is installed by Icare Finland Oy on a server located on the internet. Refer to “Appendix 1 Technical description” for further information. iCare EXPORT is to be installed by a person with administrator’s privileges on the Windows based PC used. iCare PATIENT is installed by the user on a compatible smartphone or tablet.

4.1.1  System requirements for using iCare CLINIC

• Internet connection
• Supported browsers are: Edge (90 and later), Chrome (v 58 and later), Firefox (v 53 and later) and Safari (5.1.7 and later)

4.1.2  System requirements and installation of iCare EXPORT

Minimum PC requirements for iCare EXPORT:

• x86 or x64 1 GHz Pentium processor or equivalent
• 512 MB RAM
• 512 MB of hard disk space (in addition, 4.5 GB if .NET not already installed, see step 1)
• USB 2.0 connection
• 800 x 600 resolution display with 256 colors
• DirectX 9 compatible Graphics Card
• .NET Framework 4.6.1 or greater
• Operating System: Windows 7, Windows 8 or Windows 10
• Internet connection

In addition to the requirements above, the PC requirements for using iCare EXPORT with the IC200 tonometer are
• Operating system: Windows 10 version 1703 or newer
• Bluetooth Low Energy (BLE)

To install iCare EXPORT, follow the instructions in the following steps:
1. Double-click the iCare EXPORT Setup.exe file. A setup wizard window appears. The PC will notify if Microsoft’s .NET framework has not been installed. (Follow the instructions displayed by the PC to install the .NET framework). Click Next.
2. A window requesting agreement with the licensing terms appears. Confirm the terms by ticking **I agree** and click **Next**.

3. A window for selecting the installation folder appears. Select a folder to install the application. Select **Everyone** to allow iCare EXPORT to be visible to all users of the computer; select **Just me** to restrict use of the application to the user installing the application. Click **Next**.

4. Choose to install iCare EXPORT in cloud mode or local mode. In cloud mode iCare EXPORT sends the measurement results from the device to iCare CLINIC service. Local mode should be selected.
if the user’s purpose is to manage the IOP measurement results locally in the computer. The mode setting can be changed after installing iCare EXPORT.

5. A window to confirm installation of iCare EXPORT appears. Click **Next** to start installation.
6. A window indicating completed installation appears. Click **Close** to finish installation process.

![Installation Complete](image)

You are now ready to start using the iCare EXPORT application. Start the application by clicking the iCare EXPORT icon on the desktop of the PC.

### 4.1.3 System requirements and installation of the iCare PATIENT app

**Minimum system requirements for the iCare PATIENT app:**

Android smartphone or tablet with

- Operating system v 5 or later with USB OTG support
- Compatible USB OTG cable
  - iCare HOME tonometer: USB OTG micro B male – micro B male cable with USB C adapter is available from your iCare HOME distributor.
  - iCare HOME2 tonometer: USB OTG C male to USB C male with a USB C to micro B male adapter is delivered with the tonometer

**NOTE:** Connect the plug marked **Host** to your smartphone or tablet. Depending on your smartphone or tablet, you may have to plug in an additional USB micro B to C (the small part in the picture), or other adapter to the **Host** plug of the cable. The cable delivered with HOME2 tonometer can be connected both ways to the smartphone or tablet.
• Internet connection
To verify the required USB OTG support in the smartphone or tablet, you may use OTG?-application (available from Google Play) or another application providing equivalent functionality.

To install the iCare PATIENT app on your smartphone or tablet, search for the iCare PATIENT app in the Google Play application store and then follow the installation instructions displayed on the smartphone or tablet screen.

4.2 Start-up and shutdown
To start iCare CLINIC, open a web browser on the login page and login with your email address and password. You will have earlier received an email providing the link to the login page and asking you to set a password after your organization’s administrator added you as a user to iCare CLINIC. Alternatively, it is possible to configure iCare CLINIC to use a username and password provided by your organization to login to iCare CLINIC. In that case, click Other login options and choose your organization from the list opened. Contact icare-mhome-support@icare-world.com for information how to set this configuration for your organization.
To stop using iCare CLINIC and exit, select the logout function from the drop-down menu, accessed from the top right-hand corner of the user interface.

To start iCare EXPORT, click the icon on the PC desktop or connect an iCare tonometer to the computer using the USB cable provided. The icon is created during the installation of iCare EXPORT.

To shut-down iCare EXPORT, click the close symbol (x) in the upper right-hand corner of the application window.

To start the iCare PATIENT app, connect an iCare HOME(2) tonometer to your smartphone or tablet using the USB OTG cable. To shut down the iCare PATIENT app, use the application management functionality of your smartphone or tablet.
4.3 Overview of iCare CLINIC

4.3.1 User rights by user role

<table>
<thead>
<tr>
<th>User role</th>
<th>Patient</th>
<th>Physician and trainer</th>
<th>Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create new users</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View user list</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View and edit user information</td>
<td>x</td>
<td>x</td>
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<tr>
<td>View and edit organization</td>
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<tr>
<td>Download organization data</td>
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<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Manage organization’s devices</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Add patients to iCare CLINIC</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View patient list</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View and edit patient information</td>
<td>x</td>
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<td>x</td>
</tr>
<tr>
<td>Activate and deactivate patients</td>
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<td>x</td>
</tr>
<tr>
<td>Certify patients</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Define HOME use periods</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View measurement results and reports</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Upload results from IC200 tonometer using iCare EXPORT</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Hide measurement results for HOME2 users</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Upload results from HOME tonometer using iCare PATIENT</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Upload results from HOME(2) tonometer using iCare EXPORT</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>View own profile*</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View own HOME use periods*</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>View own measurement results and reports*</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

* A physician or trainer is required to enable a patient to view their own measurement results.

Table 1 Features enabled for the various user roles

4.3.2 Typical use of the iCare CLINIC service with the iCare HOME(2) tonometer

In clinics, the iCare CLINIC service is typically used as described below.

1. A physician or trainer adds a new patient to the database when needed. See 4.4.5.
2. A physician or trainer trains and certifies the new patient. See 4.4.5.
3. A physician or trainer defines a new HOME(2) use period for a patient. See 4.4.6. The patient can loan a HOME(2) tonometer from the clinic or use their own tonometer during the period.
4. The patient self-measures their own IOP using an iCare HOME(2) tonometer during the defined HOME use period.

**PRECAUTION!** It is important that the internal clock of the iCare HOME(2) tonometer is up to date when measuring. The time of the clock may need to be updated if the tonometer has been stored without batteries, if the batteries have run out of charge, or if the user of the tonometer has travelled to a new time zone. Therefore, in these situations, it is recommended to either
   a) connect the tonometer to computer using the provided cable and start iCare EXPORT or
   b) using the provided cable, connect the tonometer to smartphone or tablet that has iCare PATIENT installed.

**PRECAUTION!** Ensure that the computer, smartphone or tablet running the iCare EXPORT or PATIENT application is set to the correct time and date.

5. The patient, or a professional user uses iCare EXPORT or iCare PATIENT to upload measurement results to the iCare CLINIC database. See 4.5 and 4.6 for uploading the results.
6. A physician or trainer creates a report from the patient’s selected IOP measurement results. The report may be printed or saved as a PDF and stored to another software system of the clinic for later review. See 4.4.7.
7. A physician or trainer marks the tonometer as returned by clicking the v symbol in the HOME use periods list. The tonometer cannot be used for another HOME use period before it has been marked as returned.

4.4 Using iCare CLINIC

4.4.1 Introduction to the user interface of iCare CLINIC

The Landing page lists the patients with information available. Logging into iCare CLINIC initially takes the user to the landing page.

User list displays the organization’s professional users to the administrator. To access the user list, organization’s administrator clicks the USERS button. Users only having the role Trainer or Physician cannot access the user list.

Device list displays the organization’s devices. To view the device list, click the DEVICES button.
**Patient profile** shows each patient's individual information. To view a patient profile, click a patient name in the patient list shown on the landing page.

**HOME use periods** list shows the periods during which a patient has previously been self-measuring with the iCare HOME(2) tonometer. New HOME use periods are also defined from this page. To access HOME use periods, click the HOME use periods information on the landing page or click the **HOME use periods** tab after selecting a patient from the landing page.
Measurement list shows the measurements from a patient. To access the measurement list, click the measurement icon on the landing page or click the Measurements tab after selecting a patient from the landing page.

4.4.2 Managing user accounts

An organization’s administrator is defined when the organization subscribes to iCare CLINIC. The administrator user adds additional users to iCare CLINIC. The administrator clicks the USERS button on the landing page to view the user list. The administrator clicks the ADD NEW USER button to add a new user.

In the user profile, the obligatory information is: email address, first name, last name and the user’s role. The email address is used as a user’s username to log into iCare CLINIC. The web link needed for defining the password is sent via email to the added user.
4.4.3 Managing patient information

After logging into iCare CLINIC, a user is displayed the landing page showing a patient list comprising the patients added to the iCare CLINIC's database. The patients can be sorted in alphabetical order (column Name) or based on ID (column ID) or email address (column Email). Patients with measurement results that have exceeded the defined IOP notification limit (red flag) populate the beginning of the list. Patients with new results (exclamation mark) are listed next and then the rest of the patients.

The column HOME use period indicates the most recent period during which a patient has been measuring IOP using an iCare HOME(2) tonometer. Clicking the shown period opens the list of all HOME use periods of the selected patient, see 4.4.6 for more.

The column Notifications provides information on the patient’s status. Return overdue indicates that the patient has not returned the device loaned by the clinic (defined by the HOME use period). The Return overdue notification appears after a full calendar day has elapsed since the end of the HOME use period. Not certified indicates that the patient has not been certified to use the iCare HOME(2) tonometer following the patient certification procedure of iCare CLINIC.

To view a user profile of a patient, click one of: name, ID or email address on the patient list.

Click Add new patient to add a new patient into the database. Fill in at least the obligatory fields marked with an * sign. Either a National ID No. or a Patient ID is obligatory.

When using the HOME tonometer, it is recommended to measure and store a patient’s forehead and cheek support settings during the patient certification process (see 4.4.5).

The user can set high and low IOP notification limits for the patient. If an IOP measurement result is equal or greater than the defined high limit (or equal or lower than the defined low limit), an IOP notification email is sent to the user defined in the Notification recipient field. The Trigger limit for notification defines how many times the limit must be reached before the email is sent. The limit can be set to be between 1 and 10. The recipient must be a user of the iCare CLINIC software.

⚠️ PRECAUTION! The IOP notifications received via email do not replace healthcare professionals' established processes for IOP supervision.
**The Patient is active box** is ticked by default but can be unticked. If unticked, the patient is not shown in the patient list on the landing page. A free text comment can be added to the **Comment field**.

To allow a patient to login and view their information, provide the patient’s email address in the **Email** field and click CREATE account. iCare CLINIC sends the patient an email with a web link for setting a password. The patient does not see the IOP notification limits or the **Comment field**. The **User account** part of the user interface is not shown immediately after clicking the **ADD NEW PATIENT** button but only after the new patient entry has been saved.

Ticking **“Do not show measurement results”** hides measurement results in the iCare HOME2 tonometer and in the iCare EXPORT application (referred to as “hide mode” in iCare HOME2 Instruction Manual). With this setting iCare HOME2 tonometer does not show the measurement results in its display and iCare EXPORT does not show the measurement results in its user interface. To activate the setting in the iCare HOME2 tonometer, connect the tonometer to iCare EXPORT.

### 4.4.4 Managing iCare tonometers

To transfer measurement results from a tonometer, the tonometer must first be added to the device fleet.

1. Click the **DEVICES** button to enter device management.
2. Click **ADD NEW DEVICE**.
3. Connect the tonometer to the computer using a USB cable or Bluetooth functionality.

4. In iCare EXPORT, copy the serial number of the connected device using the Copy button below the tonometer image.

5. In iCare CLINIC, paste the serial number of the connected device where it says Paste serial number here.

6. Give the tonometer a unique, easily recognized name. Type the name of the device into the Device name field. Consider putting a sticker (with the chosen name) on each tonometer to make them easily recognizable.

7. Select Device type, iCare HOME(2), iCare IC200 or iCare PRO. By default, a tonometer is automatically activated when it is added to the system. An inactive device can be activated later. Note that a non-active device cannot be assigned to a patient.

8. Click ADD AS NEW DEVICE.

The new tonometer is now visible in the device list. A tonometer can be removed from the device fleet by unticking the Active box which is shown when the device row is clicked. A device that is active cannot be added to or activated on the device fleet of another clinic. If the device is owned by the patient, click on the added device to open the device information and tick the Owned by patient check box.

### 4.4.5 Managing patient certification for iCare HOME tonometer

The iCare CLINIC guides a professional user to certify a patient to use an iCare HOME tonometer. The system guides a professional user through the following steps:

1. **Step 1:** Select the desired patient and go to the tab Certification. Clicking on the OPEN THE PATIENT TRAINING PROCEDURE opens instructions for training the patient to use iCare HOME
tonometer. Train the patient according to the procedure. Click **NEXT** when training has been accomplished.

2. **Step 2:** Select the eye(s) to be certified. By default, both eyes are selected for certification. Select the device that the patient uses in the certification. It is also possible to click **CERTIFIED OFFLINE** to proceed directly to storing of certificate. This can be practical if the patient has been previously certified for using the iCare HOME tonometer without the help of iCare CLINIC. Click **NEXT**.

3. **Step 3:** Provide the forehead and cheek support settings that were found when the patient was trained to use the iCare HOME tonometer. Click **NEXT**.
4. **Step 4:** Ask the patient to independently take 3 test measurements for each of the eyes selected for the certification. Supervise that the patient can correctly position the tonometer during self-use and tick the check box if so. Click **NEXT**.

5. **Step 5:** Use either iCare EXPORT or iCare PATIENT to send the test measurements to iCare CLINIC. Make sure that the used application indicates successful sending of the measurements with the **Measurements saved!** notification. Click **NEXT**.

6. **Step 6:** The list shows all the measurements taken with the connected tonometer during the previous hour. Use the time stamps to identify the three reference IOP values (measured by the patient) for each eye. Tick the values. Then click **NEXT** to continue.
7. **Step 7**: Enter IOP reference values measured by a professional. Click **NEXT**.

8. **Final step, summary**: iCare CLINIC accepts completion of the patient’s training based on the reference IOP values, including collecting three patient’s reference IOP measurements for selected eye(s).

For successful certification, the measurement criteria to be met are:

a) The first of the three HOME readings self-measured by the patient differs by 5 mmHg, or less, from the professional’s reference IOP values entered in step 7.

b) The range (maximum-minimum) of the three IOP readings self-measured by the patient is 7 mmHg, or less.

c) The patient positions the tonometer correctly during self-use.
After the criteria for self-measurement concordance and variation have been met, the patient is certified by the system and a certificate is saved into the patient’s profile.

4.4.6 Managing HOME use periods

A user can manage HOME use periods by clicking the tab **HOME use periods**. A HOME use period is defined as the duration of the time a user self-measures their IOP using an iCare HOME(2) tonometer.

A user can access the HOME use periods tab by clicking the HOME use period column on the Landing page. The tab lists the history of HOME use periods. The Period start and Period end columns indicate the starting and ending dates of the period. The Device name column indicates the device that is used during the measurement period. The Measurement count column shows the total number of measurements performed during the self-measurement period. Clicking the right-most icon of the HOME use period row opens the measurement list for the selected period.

To define a new HOME use period, the user clicks the ADD PERIOD button. The starting and ending dates and times are selected from a calendar / clock menu. Clicking on a date and time field opens the date picker tool. Select the device used during HOME use period from the dropdown menu. It is possible to set Rental mode to an iCare HOME2 tonometer used on the HOME use period. To set the mode, tick the check box. An iCare HOME2 tonometer disables measuring after the time defined in the Period end field. To activate the setting in the iCare HOME2 tonometer, connect the tonometer to iCare EXPORT.
To confirm and activate the new HOME use period, click the **SAVE NEW PERIOD** button.

### 4.4.7 Managing IOP measurement results and creating reports

IOP measurements are listed under the **Measurements tab**. The listed measurements can be filtered either by entering **From** and **To** dates or by selecting a HOME use period from the **Select period** drop down list.

The quality of the measurement, as calculated by the tonometer, is shown to the right of the displayed IOP value. The term **Excellent** for quality indicates a low variation among the IOP data sampled by the tonometer during a measurement. The term **Good** indicates fairly low variation among the data sampled. **Satisfactory** indicates higher but still acceptable variation of the data sample for IOP values 19 mmHg or lower. **Rejected** indicates high variation in the sampled data and the IOP measurement result should not be used for clinical determination.

The user may have defined an **IOP notification limit** for a patient (see 4.4.3). If the measurement result is equal or greater than the notification limit, there is a red flag symbol beside the result. Clicking the **ACKNOWLEDGE** button resets all the red flags and changes them to white flags.

A **Trainer** or **Physician** can add a comment to a measurement result by clicking the eye symbol at the far right of a measurement result row. There is a blue note symbol beside such results.

A new IOP measurement can be manually added by clicking the **ADD** button. See 4.4.8 for details of adding measurements to a patient.

An IOP report is created from the rows of IOP measurement data listed. The healthcare professional can exclude a measurement by ticking the **Exclude box** on the measurement row. To create a report, click on the **REPORT** button. A report shows a graph with time on the x-axis and the IOP measurements from both eyes (if both were measured) on the y-axis. The measurement time and the calculated IOP for individual measurements are revealed by moving the cursor (with the PC mouse) over the IOP measurement results.
on the graph. The user can zoom the graph by moving the cursor over the graph while pressing and holding down the left-side button on the PC mouse (painting the graph). The statistics describing the data vary according to the user’s zooming and are dynamically recalculated for display.

The format of the graph can be changed using the **Chart type** menu. The chart type **Line** connects the presented data points with direct lines.

**Chart type Line**

The chart type **Scatter** displays the data points without connecting them with lines.

**Chart type Scatter**
The chart type **Diurnal** positions all the IOP data points to a 24-hour x-axis. Thus, all data points measured at the same time of the day will show at the same point on the x-axis. The IOP data points of each day are connected with direct lines.

The chart type **Diurnal Periods** positions combined IOP data points into three hour time slots on a 24 hour x-axis. The combined data points measured display the mean value of the measurements of the three hour time slot. The IOP data points of each time slot are connected with direct lines. The graph shows the standard deviation bars of three hour time slots over the selected period of measurements.
Ticking the **Compare periods** check box (shown above the graph when **Line** or **Scatter** chart type is selected) when the chart type **Line** is displayed, allows the user to select two sub-periods from the displayed chart and compare the periods to each other one eye at a time. The sub-periods are selected by painting the displayed chart.

Clicking on the **SHOW TABLE** button below the graph opens a list of all the measurements on the graph. The entire report can be printed or saved as PDF file by clicking the **PRINT** button on the report. Click the **SHOW TABLE** button to open and display the measurement list below the graph.

The measurement results displayed in the graph can be exported to a csv file, and the graph can be saved as an image via the dropdown menu at the upper right-hand side of the graph. The language of the csv file is fixed to English despite the language selection of the user interface.

**Managing measurement results that do not belong to a HOME use period**

Normally, a HOME use period (see 4.4.6) is defined before measuring. Defining a HOME use period associates a specific tonometer to a specific patient. If no HOME use period has been defined, measurements are nevertheless uploaded to iCare CLINIC's database. In that case the measurement
results go to the list of unassigned results. From there, any of the results can be manually assigned to a patient (or deleted).

Any unassigned results from earlier measurements are indicated at the top of the landing page. To manage the unassigned results, click Assign measurements.

Select the results you want to assign by ticking the boxes to the left of the Date / Time column. Select Assign measurements from the drop-down menu at the bottom of the window, select the patient and then click ASSIGN MEASUREMENTS.

Alternatively, click on the chain symbol at the far right of a row and select the associated patient from the drop-down menu that then appears.

Any unassigned measurements can be deleted by first selecting one or more measurements, then choosing the Delete measurements selection in the drop-down menu and clicking the DELETE MEASUREMENTS button at the lower right-hand side of the window. Alternatively, select a measurement and click the “trashcan” symbol displayed at the right of the measurement row.

The PID column displays the Patient ID that may have been set in the IC200 tonometer when measuring the IOP (0 if no patient ID was set). The PID is not copied to patient’s records when the IOP measurement result is assigned.
4.4.8 Adding measurement results for a patient

To add measurements, click **ADD** button at the upper right-hand corner of the **Measurements** tab.

To add a measurement manually, click the **TYPE IN MANUALLY** button. Select the date and time of the measurement using the date picker and fill in the IOP value of the right and/or left eye. The device type can be optionally selected from the **Device type** drop down menu. You may add new rows by clicking the **ADD NEW ROW** button. Remember to click the **SAVE ALL MEASUREMENTS** button to save the added measurements.

To add IOP measurements previously loaded from a tonometer, click **ASSIGN MEASUREMENTS** button in the **Add new measurements** window. List of measurements that have not been assigned to any patient opens. Clicking the **REFRESH MEASUREMENTS** button updates the list with the measurements that have been read from a tonometer after this window was opened. Select the measurement to be added for the selected patient as described in 4.4.8.

**NOTE:** IC200 measurements without eye selection are listed in the No eye selected column of the Unassigned measurements list of iCare CLINIC. The eye needs to be selected before it can be assigned to a patient.

To add measurements directly from an IC200 tonometer while measuring, click **MEASURE NOW** button in the **Add new measurements** window. Select the device that is used for measuring IOP from the dropdown menu.
An empty window opens. The window gets filled with new measurements taken with the selected IC200 tonometer. Assign the measurements to the patient as described earlier. Measurements that are not needed and invalid measurements can be deleted by clicking the trashcan symbol to the far right of a row.

4.4.9 Importing IOP measurement results
IOP measurement results can be exported from iCare CLINIC by choosing Download CSV in the menu displayed in an IOP report graph, see 4.4.7. Also, the IOP results stored in the earlier generation iCare LINK software can be exported to a csv file. The results in the csv files can be imported for a patient in iCare CLINIC.

NOTE: The language selection of iCare LINK while exporting measurement results to a csv file must be English GB if the results are to be imported to iCare CLINIC.

To import IOP measurement results to iCare CLINIC
1. Go to the Measurements tab of the selected patient. Click IMPORT button.
2. Click **ADD FILE** button and select the data file to be imported. Alternatively, drag and drop the data file over the Import measurements window.

3. The import function verifies the data file and counts the number of measurements in the file. Click **SAVE ALL MEASUREMENTS**.

4. Click **CONFIRM** to confirm that you really want to import the measurement results in the selected data file to the selected patient.

5. The check mark indicates successful importing. Measurement count shows the number of imported measurements. Click **CLOSE** to close the window.
4.5 Using iCare EXPORT to upload IOP measurement results from iCare tonometer to iCare CLINIC

The language of the iCare EXPORT user interface can be selected from the settings menu at the lower right-hand corner of the application window.

To upload measurement results from an iCare HOME or HOME2 tonometer directly to a patient's record in iCare CLINIC, the patient must have a HOME use period defined, see 4.4.6. To upload results from an IC200 tonometer to a patient's record, the user needs to use the ADD - MEASURE NOW functionality, see 4.4.9. Without defining a HOME use period or using the MEASURE NOW functionality to add measurements in real-time, the measurements are loaded to the list of unassigned results of iCare CLINIC, see 4.4.8.

**To upload measurement results from an iCare tonometer**

1. Launch iCare EXPORT
2. Connect the tonometer
   - Connect the iCare HOME tonometer to the PC using USB cable or
   - Connect the iCare HOME2 tonometer to the PC using USB cable or wireless functionality or
   - Connect the IC200 tonometer to the PC using the wireless Bluetooth functionality. See 4.5.1 for information about setting up the wireless connection.
3. Successful uploading is confirmed by iCare EXPORT with Measurements saved!

**NOTE!** By default, iCare EXPORT uploads the measurement results to iCare CLINIC. iCare EXPORT does not send the results to iCare CLINIC in the Local mode. The mode can be set via the configuration menu in the lower right-hand side of the user interface.

iCare EXPORT displays the uploaded results in chronological order. The results can be saved to a local csv file by clicking the Save csv button. The results are appended to the selected csv file if an existing csv file has been selected.

If a local copy of locally saved results has been saved earlier, it can be accessed by clicking on the Open csv button and selecting the name of the file the results were originally saved in.

The results can also be saved to a PDF format by clicking the Create report button. Fill in the patient name and patient ID. The report includes measurement time, IOP results and quality of measurement for both right and left eye, and the tonometer model.

By default, all measurement results that have been uploaded to the iCare CLINIC database are removed from the memory of the iCare HOME, iCare HOME2 or iCare PRO tonometer. Results are not uploaded to the iCare CLINIC database if the connected iCare tonometer has not been added to device fleet or
iCare EXPORT is used in **Local mode**. In **Local mode**, the results in the memory of the connected iCare tonometer can be removed by clicking the **Clear device memory** button and by confirming the removal.

The measurement results uploaded from an IC200 tonometer are not removed from the tonometer after they have been uploaded to iCare CLINIC. User can remove the results by clicking the **Clear device memory button** in iCare EXPORT when the tonometer is connected.

### 4.5.1 Connecting IC200 and HOME2 tonometer to iCare EXPORT through Bluetooth

The IC200 and HOME2 tonometers have the capability to wirelessly transfer measurement results to iCare EXPORT and further to iCare CLINIC. Pairing of the IC200 or HOME2 tonometer with the computer running iCare EXPORT must be established to enable transferring the results. To establish the pairing:

1. Make sure you have Bluetooth enabled in the computer
2. Initiate the pairing from the IC200 or HOME2 tonometer as described in the instruction manual of the tonometer.
3. Select the tonometer from the dropdown menu of iCare EXPORT based on the serial number displayed on the tonometer. The serial number of a device that is not paired is displayed in grey and italic font.
4. Type in the PIN code displayed on the IC200 or HOME2 tonometer screen.
5. The selected IC200 or HOME2 tonometer activates the connection with iCare EXPORT.

![Image of iCare EXPORT software interface](image)

Care EXPORT loads the measurements stored in the IC200 or HOME2 device. By default, the measurement results are displayed in the user interface and transferred and stored to iCare CLINIC. iCare EXPORT indicates the successful transfer and storing of the measurements with the **Measurements saved!** message.

![Image of measurements saved](image)

In local mode, iCare EXPORT only displays the measurements in the user interface. **Measurements loaded successfully!** message indicates that the measurements were successfully loaded from the device.

Once the pairing of the tonometer with iCare EXPORT has been established, the tonometer can be disconnected from iCare EXPORT by selecting another tonometer or by selecting **Select BT Device** from the menu. A tonometer that is paired with iCare EXPORT is connected to iCare EXPORT by selecting it from the BT Device menu. The paired tonometer device can be unpaired from iCare EXPORT and the used computer by clicking the red plug symbol to the right of the serial number of the device.
The pairing between the tonometer and iCare EXPORT needs to be done only once. The next time an IC200 or HOME2 tonometer should be connected to iCare EXPORT, ensure that the tonometer is powered on, the Bluetooth is activated in the device and choose the device from the dropdown menu. When Bluetooth functionality is activated in the tonometer and a pairing exists with iCare EXPORT, the tonometer’s Bluetooth menu shows a four-letter identifier, e.g. 825D. This identifier is also shown in iCare EXPORT the tonometer is paired with as shown in the picture below.

4.6 Using the iCare PATIENT app to upload IOP results from the iCare HOME tonometer

The language of the iCare PATIENT user interface depends on the language selected in the Android operating system of the used Android smartphone or tablet. In case the language selected in the smartphone or tablet is not supported by iCare PATIENT, English language is used.

To upload measurement results from an iCare HOME tonometer to a patient's record, a patient must have a HOME use period defined, see 4.4.6. Without defining a HOME use period, the measurements are loaded to the list of unassigned results of iCare CLINIC, see 4.4.8. Once the HOME use period has been defined and some measurements have been made, perform the following steps:

1. Connect the iCare HOME tonometer to the smartphone or tablet using the USB OTG cable.
   
   **NOTE:** iCare HOME tonometer cable's Host plug must be connected to the smartphone or tablet.

2. The iCare PATIENT app automatically starts up in the smartphone or tablet and the measurement results are uploaded to the iCare CLINIC database. The results are removed from the memory of the iCare HOME tonometer.
Click the **LOG IN ➔** text at the bottom of the display to log into iCare CLINIC to view uploaded results.

### 5 Maintenance and updates

iCare CLINIC is updated by Icare Finland Oy. This does not require any action from the users. The organization’s administrator will receive information about the imminent updates for example via email. The latest version of iCare EXPORT installer file can be downloaded from the *Help* menu of iCare CLINIC. The latest version of iCare PATIENT is available in Google Play application store. The smartphone or tablet will indicate to the user if an update is available and guide the update process.

**NOTE:** Updates never modify patient information or measurement results.

### 6 Decommissioning

An organization can use iCare CLINIC for the duration of a valid subscription. After expiration of a software-as-a-service subscription, the supplier is not obliged to store any data in the iCare CLINIC database but may do so if required by law and regulation. Customer’s organization administrator shall export all the data stored in iCare CLINIC to customer’s local files.

Customer’s organization administrator is responsible for exporting all data stored in iCare CLINIC before an iCare CLINIC on-premises subscription expires.

iCare EXPORT and iCare PATIENT do not store any data in the applications. They can be uninstalled at any time without loss of data.
7 iCare CLINIC on-premises in customer’s IT network

iCare CLINIC is available as an on-premises version that can be installed in customer’s IT network. This instruction manual applies to such installation with the following exceptions.

- For installation and system requirements, refer to the documentation provided by iCare.
- The user needs to use a browser-enabled device connected to customer’s IT network to log into iCare CLINIC.
- iCare PATIENT cannot be used for uploading measurement results from tonometer to iCare CLINIC.
- iCare CLINIC on-premises has two configuration options. In the local mode option, the measurement results can be uploaded only from within the customer’s IT network. In the other option the measurement results transfer is enabled over the internet, enabling the patients to send results remotely.
  - Configuration option is selected at the time of the installation. The user cannot select or change the mode.
  - In both configurations, the results are stored locally in the on-premises installation.

Subscribing to iCare CLINIC takes places between iCare sales representative and the customer. Updates to iCare CLINIC are installed by the customer. iCare informs the customer when updates are available.

8 Troubleshooting

Open cvs button in iCare EXPORT does not open the file in the application expected. The application used for opening a file is defined in the settings of the PC’s operating system. In MS Windows 10, the default applications are defined in Settings / System / Default apps / Choose default apps by file type.

The USB OTG cable has been connected between the iCare HOME tonometer and the smartphone or tablet, but nothing happens. Make sure that the Host end of the USB OTG cable has been connected to the smartphone or tablet.

iCare PATIENT pauses and displays “Connecting device, please wait – Do not unplug the device during progress.” when iCare HOME is connected to the smartphone or tablet. Disconnect and reconnect the cable to the smartphone or tablet and/or restart the iCare PATIENT app.

Data import function in iCare CLINIC displays an error when the csv file exported from the iCare LINK software is selected. Make sure that iCare LINK is set for English (GB) language when the csv data file is exported. Close the Import measurements window and try importing again.

You have uploaded the IOP measurement results from an iCare HOME(2) tonometer to iCare CLINIC, but they do not show up under the correct patient record. The possible reasons are the following:

- A HOME use period for that specific patient was not defined for the device from which the measurement results were uploaded. If the device was not defined for any patient, the IOP measurement results can be found in the list of unassigned measurements, see 4.4.8. If the device was erroneously assigned to another patient, the results show under that patient’s record.
- The time in the tonometer’s clock was not correct for example due to storing the tonometer for some time without batteries or due to change in time zone. The iCare CLINIC software could not show the results correctly in the patient’s timeline. Contact icare-mHOME-support@icare-world.com for assistance.

An IC200 is selected from iCare EXPORT device menu but iCare EXPORT fails to connect to the tonometer. Make sure the Bluetooth functionality of the tonometer is on. If it is on, remove pairing of the tonometer from iCare EXPORT (see 4.5.1) and remove pairing from the IC200 tonometer (see instruction manual of the IC200 tonometer). Pair the tonometer with iCare EXPORT again.
iCare EXPORT shows “Connecting to device” and eventually fails to connect with the IC200 tonometer. Remove pairing of the tonometer from iCare EXPORT and remove pairing from the IC200 tonometer. Pair the tonometer with iCare EXPORT again.

iCare EXPORT does not show the IC200 tonometer in the device menu. Remove pairing from the tonometer and pair the tonometer with iCare EXPORT again.

The measurement results loaded from an IC200 tonometer do not appear in iCare CLINIC. Make sure you have set cloud mode in iCare EXPORT. Reconnect the tonometer to iCare EXPORT.

9 Symbols

<table>
<thead>
<tr>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE mark</td>
</tr>
<tr>
<td>Product is a medical device</td>
</tr>
<tr>
<td>Refer to the instruction manual</td>
</tr>
</tbody>
</table>

10 Appendix 1 Technical description

iCare CLINIC service is provided from internet servers using a web browser. SSL in TCP port 443 is used for encrypting the data connections. For the proper use of iCare CLINIC, the user’s network environment must allow the web browsers to access the internet. Failure to access the internet makes any functionality of the iCare CLINIC service unavailable.

iCare CLINIC displays the IOP values with a resolution of one decimal point mmHg. IOP measurement results downloaded from iCare HOME(2) tonometers are always displayed as integers of mmHg.

For the proper use of the iCare EXPORT application, the user’s network environment must allow iCare EXPORT to access the internet using TCP port 443. Failure to access the internet through the defined port prevents the sending of data from a device connected to iCare EXPORT to the database in the iCare CLINIC service.

The user’s network environment must allow iCare PATIENT to access the internet using TCP port 443. Failure to access the internet through the defined port prevents sending of data from a device connected to iCare PATIENT app to the database in the iCare CLINIC service.

The date format used in the iCare CLINIC service is defined in the web browser’s language settings. The date format used by the iCare EXPORT application is defined in the MS Windows operating systems settings.

The responsible organization is strongly recommended to maintain virus protection up-to-date in the PCs and smartphones used. The responsible organization is also recommended to install security updates to the used web browsers, PCs and smartphones when available.

Execution of the iCare CLINIC, iCare PATIENT and iCare EXPORT application on customer’s IT network may cause previously unidentified risks to patients, users or third parties. The customer is advised to identify, analyze, evaluate and control these risks. Subsequent changes to the IT-network may introduce new risks and require additional analysis. Changes to the IT-network include: 1) changes in IT-network configuration;
2) addition of items (hardware and/or software platforms or software applications) to the IT-network; 3) removal of items from the IT-network; 4) update of hardware and/or software platforms or software applications on the IT-network; and 5) upgrade of hardware and/or software platforms or software applications on the IT-network.

iCare EXPORT and iCare PATIENT read IOP measurement results from an iCare tonometer over a USB cable or via Bluetooth connection. If the connection fails, try reconnecting the tonometer.

iCare EXPORT and iCare PATIENT send the measurement results read from a connected tonometer to iCare CLINIC. If the network fails to transfer results to iCare CLINIC, try again later.

## Appendix 2 System, error and fault messages

### 11.1 iCare CLINIC

In the table, professional user means a user whose user role is either organization administrator, physician, or a trainer.

<table>
<thead>
<tr>
<th>Message</th>
<th>Situation</th>
<th>Explanation and possible action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could not create user account</td>
<td>When an organization administrator creates a user account.</td>
<td>The user account could not be created. This may be due to temporary failure in the system.</td>
</tr>
<tr>
<td>User account update failed!</td>
<td>When a professional user updates own user profile, or an organization administrator updates user profile.</td>
<td>The user information could not be updated. This may be due to temporary failure in the system.</td>
</tr>
<tr>
<td>Could not add patient profile</td>
<td>When a professional user creates a patient entry.</td>
<td>The patient entry could not be added. This may be due to a temporary failure in the system or the national or patient ID is already in use.</td>
</tr>
<tr>
<td>Could not update patient profile</td>
<td>When a professional user updates a patient profile.</td>
<td>The patient profile could not be updated. This may be due to a temporary failure in the system or the national or patient ID is already in use.</td>
</tr>
<tr>
<td>Could not add the device</td>
<td>When a professional user adds device to organization's account.</td>
<td>The patient profile could not be updated. This may be due to a temporary failure in the system or the national or patient ID is already in use.</td>
</tr>
<tr>
<td>Failed to update device information</td>
<td>When a professional user updates device information.</td>
<td>The device could not be added to iCare CLINIC. This may be due to a temporary failure in the system or the device already exists in the device list of some organization.</td>
</tr>
<tr>
<td>Device has ongoing HOME use period and can’t be deactivated</td>
<td>When a professional user tries to deactivate a device on the organization's account.</td>
<td>The device information could not be updated. This may be due to a temporary failure in the system.</td>
</tr>
<tr>
<td>This serial number has already been registered</td>
<td>When a professional user adds device to organization's account.</td>
<td>The device could not be deactivated. This may be due to a temporary failure in the system or the device has not been marked as returned after using it in a HOME use period.</td>
</tr>
<tr>
<td>HOME use period overlaps with an existing period</td>
<td>When a professional user defines a HOME use period.</td>
<td>It was not possible to define the serial number for the device because the serial number is already in use in iCare CLINIC system.</td>
</tr>
<tr>
<td>Could not delete period</td>
<td>When a professional user deletes a HOME use period defined for a patient.</td>
<td>It was not possible to define the HOME use period because a HOME use period with overlapping time definition already exists for the patient.</td>
</tr>
<tr>
<td>Some measurements could not be added</td>
<td>When a professional user adds measurement results for a patient manually.</td>
<td>It was not possible to delete the HOME use period. This may be due to a temporary failure in the system.</td>
</tr>
<tr>
<td>Message</td>
<td>Situation</td>
<td>Explanation and possible action</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>None of the measurements could not be added</td>
<td>When a professional user adds measurement results for a patient manually.</td>
<td>It was not possible to add the defined measurements. This may be because measurements with the same time already exist, or due to a temporary failure in the system.</td>
</tr>
<tr>
<td>Failed to save comments</td>
<td>When a professional user defines a comment for a measurement result.</td>
<td>Saving the comment failed. This may be due to a temporary failure in the system.</td>
</tr>
<tr>
<td>Could not save some of the measurements</td>
<td>When a professional user imports measurement results for a patient from a file.</td>
<td>It was not possible to save some of the measurements in the file selected for importing. This may be because measurements with the same time already exist, or due to a temporary failure in the system.</td>
</tr>
<tr>
<td>File incompatible</td>
<td>When a professional user imports measurement results for a patient from a file.</td>
<td>The file selected for measurement importing is incompatible with iCare CLINIC.</td>
</tr>
<tr>
<td>Partially readable</td>
<td>When a professional user imports measurement results for a patient from a file.</td>
<td>The file selected for measurement importing has some rows that are not compatible with iCare CLINIC.</td>
</tr>
<tr>
<td>Could not save file</td>
<td>When a professional or patient user saves measurement results to a file.</td>
<td>It was not possible to save the results in the selected file. This may be due to a temporary failure in the system.</td>
</tr>
<tr>
<td>Token cannot be empty</td>
<td>When a professional or a patient user clicks password selection link in the received email.</td>
<td>The web link to activate user account is faulty. Contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a>.</td>
</tr>
<tr>
<td>Activation token does not exist</td>
<td>When a professional or a patient user clicks password selection link in the received email.</td>
<td>The web link to activate user account is faulty. Contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a>.</td>
</tr>
<tr>
<td>The activation token has expired</td>
<td>When a professional or a patient user clicks password selection link in the received email.</td>
<td>The web link to activate user account has expired. Contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a>.</td>
</tr>
<tr>
<td>Password change token does not exist</td>
<td>When a professional or a patient user clicks password reset link in the received email.</td>
<td>The web link to reset password is faulty. Contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a>.</td>
</tr>
<tr>
<td>The password change token has expired</td>
<td>When a professional or a patient user clicks password reset link in the received email.</td>
<td>The web link to reset password has expired. Contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a>.</td>
</tr>
<tr>
<td>Current password does not match</td>
<td>When a professional or a patient user enters new password.</td>
<td>The password provided by the user is incorrect.</td>
</tr>
<tr>
<td>Email already exists</td>
<td>When a professional or a patient user enters new password.</td>
<td>User account (either professional or patient) already exists with given email address.</td>
</tr>
<tr>
<td>Internal server error</td>
<td>Any time a professional or patient user accomplishes a task.</td>
<td>There was a temporary failure in the system. Try again. If the error persists, contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a>.</td>
</tr>
</tbody>
</table>
### 11.2 iCare EXPORT

<table>
<thead>
<tr>
<th>Message</th>
<th>Situation</th>
<th>Explanation and possible action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown device!</td>
<td>When a professional or a patient user connects a tonometer to the computer with iCare EXPORT installed.</td>
<td>The connected device does not belong to any organization using iCare CLINIC or the iCare EXPORT should be updated. If the purpose is not to send results to iCare CLINIC, set iCare EXPORT to run in local mode. To update iCare EXPORT to the latest release, download the latest version from <a href="https://www.icare-world.com/export/">https://www.icare-world.com/export/</a> or from iCare CLINIC.</td>
</tr>
<tr>
<td>Unable to post measurements into iCare CLINIC database!</td>
<td>When a professional or a patient user connects a tonometer to the computer with iCare EXPORT installed.</td>
<td>The fault may be due to a temporary error in the service. Try later again.</td>
</tr>
<tr>
<td>Error connecting device</td>
<td>When a professional or a patient user connects a tonometer to the computer with iCare EXPORT installed.</td>
<td>There was an error in connecting the device to iCare EXPORT. Reconnect the device.</td>
</tr>
<tr>
<td>Unable to write measurements to file</td>
<td>When a professional or a patient user saves measurement results shown in the iCare EXPORT user interface to a file.</td>
<td>The results could not be stored to file. This may be due to missing write permission for the selected file and folder or the file is open in another application.</td>
</tr>
<tr>
<td>Device info is not valid. Please, contact technical service</td>
<td>When a professional or a patient user connects a tonometer to the computer with iCare EXPORT installed.</td>
<td>iCare EXPORT could not read some information from the tonometer. Contact <a href="mailto:icare-mhome-support@icare-world.com">icare-mhome-support@icare-world.com</a></td>
</tr>
<tr>
<td>BT adapter supporting Low Energy is not found.</td>
<td>When a professional or a patient user connects an iCare IC200 or an iCare HOME2 tonometer to the computer with iCare EXPORT installed.</td>
<td>The function you are trying to use requires Bluetooth Low Energy functionality which is missing from the used computer.</td>
</tr>
</tbody>
</table>

### 11.3 iCare PATIENT

<table>
<thead>
<tr>
<th>Message</th>
<th>Situation</th>
<th>Explanation and possible action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error connecting device</td>
<td>When a professional or a patient user connects a tonometer to the smartphone with iCare PATIENT installed.</td>
<td>There was an error in connecting the device to iCare PATIENT. Reconnect the device.</td>
</tr>
<tr>
<td>Error encountered!</td>
<td>When a professional or a patient user connects a tonometer to the smartphone with iCare PATIENT installed.</td>
<td>There was an error in the communication with the connected device. Reconnect the device.</td>
</tr>
<tr>
<td>Couldn't read device serial number</td>
<td>When a professional or a patient user connects a tonometer to the smartphone with iCare PATIENT installed.</td>
<td>There was an error in the communication with the connected device. Reconnect the device.</td>
</tr>
<tr>
<td>Couldn't authorize with server</td>
<td>When a professional or a patient user connects a tonometer to the smartphone with iCare PATIENT installed.</td>
<td>This may be due to a temporary error in the service. Try again later.</td>
</tr>
<tr>
<td>Device not registered!</td>
<td>When a professional or a patient user connects a tonometer to the smartphone with iCare PATIENT installed.</td>
<td>The connected device does not belong to any organization. Therefore, the results cannot be sent to iCare CLINIC.</td>
</tr>
<tr>
<td>Unknown error encountered</td>
<td>When a professional or a patient user connects a tonometer to the smartphone with iCare PATIENT installed.</td>
<td>iCare PATIENT fails to communicate with iCare CLINIC. Reconnect the device.</td>
</tr>
</tbody>
</table>