

# **EuvisionTab**®

Manual

Version 1.0

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EuvisionTab® – Manual Online administration

# Online administration

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# Main page without login

Website: manage.euvision.hu



If you do not have any registration, you need to purchase firstly a package at the '**Packages**' menu then you can register in the system (see details at the First purchase and registration).

If you already have an account, use the 'Signin' menu (see details at the Login to website).

You can change the website language at the last dropdown menu at the right upper corner. The following languages are currently available:

EN: EnglishES: SpanishHU: Hungarian

At the footer in the 'About' block the following menu items are available:

- Contact us: please let us know if you have any questions or comments.
  - **Terms and Conditions**: you can read the Terms and Conditions regarding our system.
  - **Privacy Policy**: you can read the Privacy Policy regarding our system.

At the footer in the 'Links' block the following menu items are available:

- **User feedback**: please let us know if you have any problems or good experiences.
- Forum: you can share your experiences with other users publicly or you can ask help from other users or administrators.

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# First purchase and registration

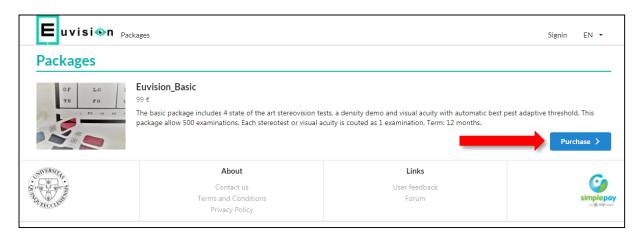
Please use desktop computer or laptop for purchase and registration.

Website: manage.euvision.hu

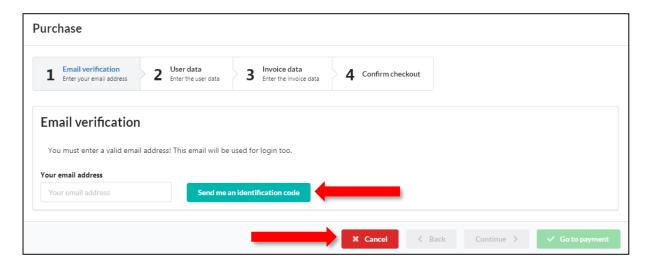
Choose the 'Packages' menu.



After selecting the package you want to buy, press the 'Purchase' button.

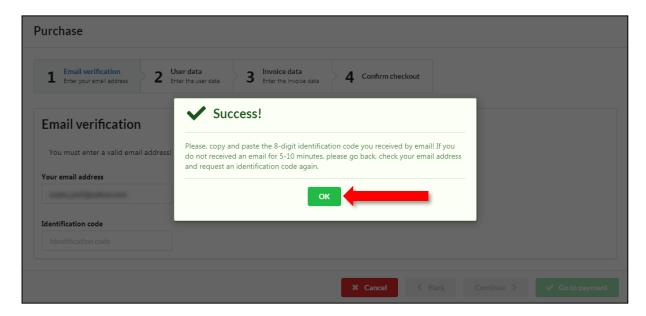


Enter your valid email address and press the 'Send me an identification code' button. During the whole procedure if you want to stop the purchase press the 'Cancel' button.

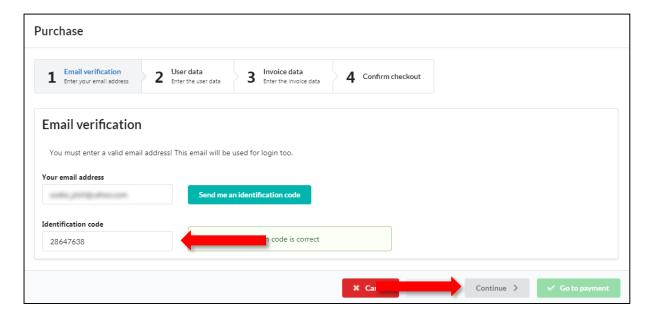


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Check your mailbox and copy the 8-digit identification code and press 'OK' button...

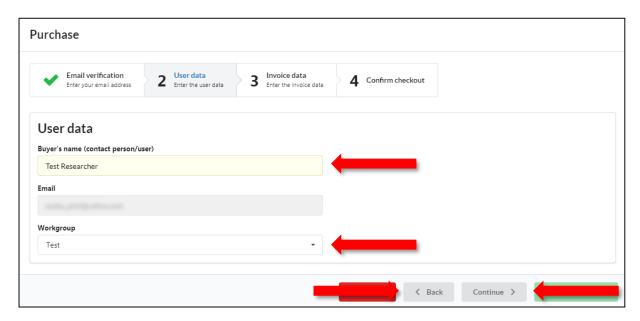


...then paste the code to the 'Identification code' field and press the 'Continue' button.

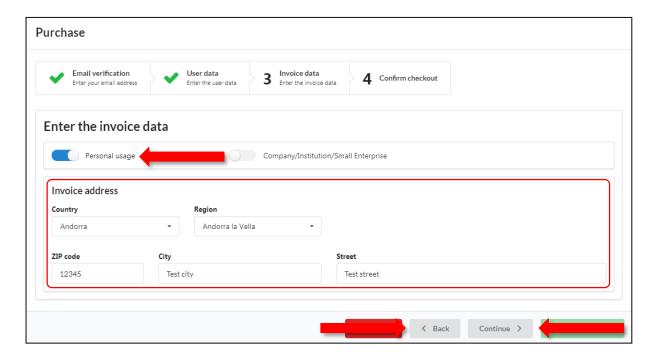


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Fill up all input fields of 'User data' then press the 'Continue' button. If you want to modify your previous data choose the 'Back' button.

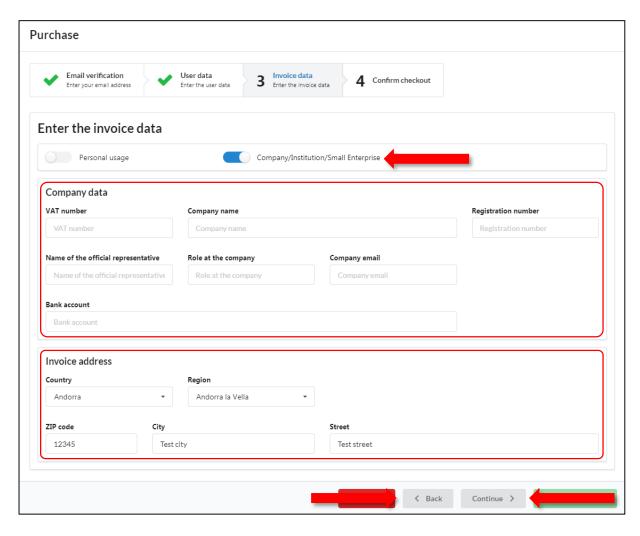


If you want to register for 'Personal usage' choose this option and fill up all fields of 'Invoice address' then press the 'Continue' button. If you want to modify your previous data choose the 'Back' button.



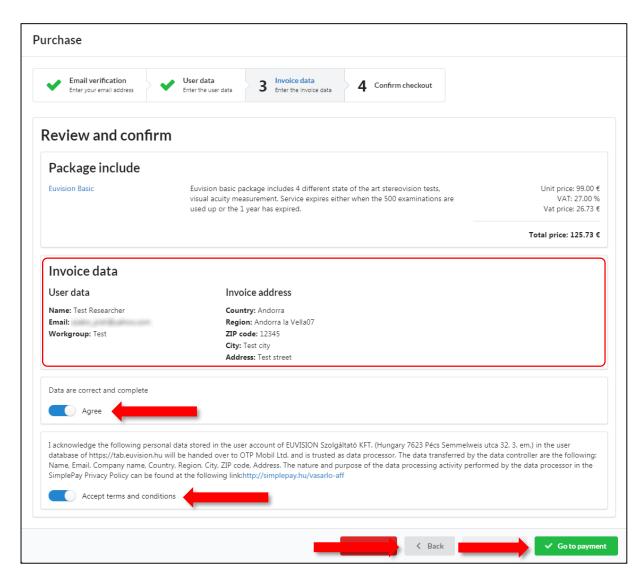
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If you want to register as a 'Company/Institution/Small Enterprise' choose this option and fill up all fields of 'Company data' and 'Invoice address' then press the 'Continue' button. If you want to modify your previous data choose the 'Back' button.



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After checking the 'Invoice data' accept the 'Data are correct and complete' and 'Accept terms and conditions' then press the 'Go to payment' button. If you want to modify your data choose the 'Back' button.

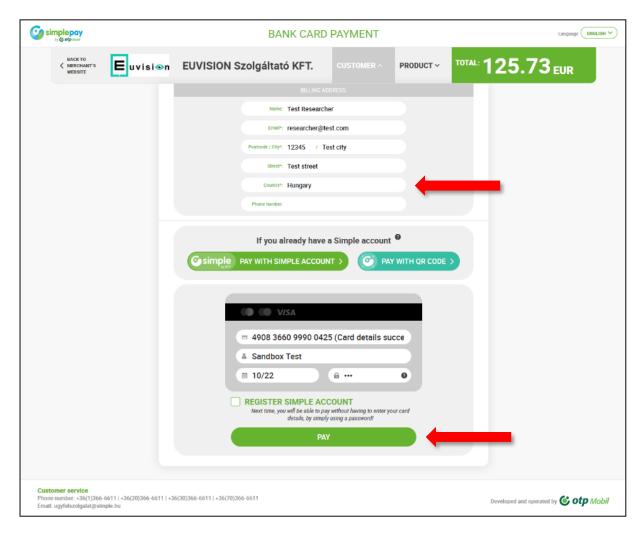


After pressing the 'Go to payment' button wait for redirection to the 'SimplePay' secure payment site.



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Fill up the 'Country' input field with your country and press the 'Pay' button.



After successful payment press the 'OK' button...

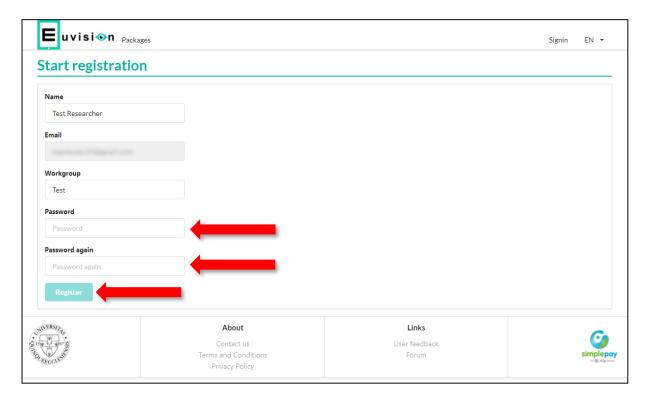


...then register in the system after pressing the 'OK' button.



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Create a 'Password' to your account and repeat it in the 'Password again' input field and press the 'Register' button. The password must contain minimum eight characters, at least one uppercase letter, one lowercase letter, one number and one special character (#?!@\$%^&\*-).



After successful registration press  ${}^{\circ}OK{}^{\circ}$  to login.



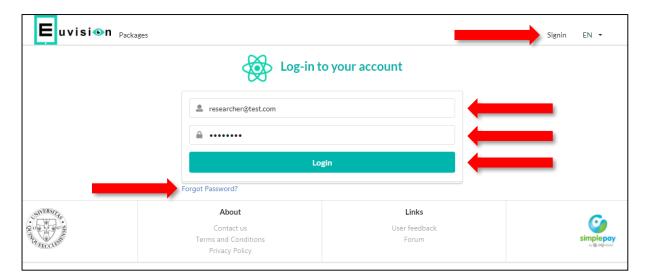
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EuvisionTab® – Manual Login to website

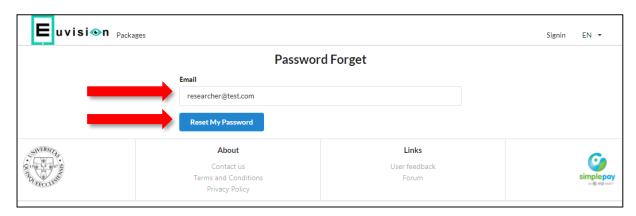
# Login to website

Website: manage.euvision.hu

Login with your e-mail address and password. If you do not have any account, you need to purchase firstly a package at the 'Packages' menu then you can register in the system (see details at the <u>First purchase and registration</u>). Choose the 'Signin' menu at the right upper corner.



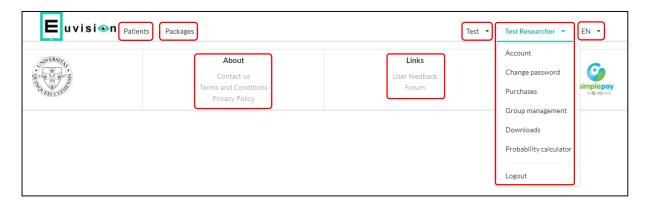
If you already have an account but you forgot your password choose the 'Forgot Password' menu, give your registered e-mail and press the 'Reset My Password' button and follow the instructions in the e-mail that will be sent to your address.



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# Main page after login

Website: manage.euvision.hu



At the 'Patients' menu you can manage your patients (see details at the Patient management).

If you want to purchase new packages choose the 'Packages' menu item (see details at the Purchase more packages).

At the first dropdown menu at the right upper corner you can change between your groups if you have more than one, actually always the chosen group can be seen.

At the middle dropdown menu at the right upper corner the following sub-menu items are available:

- **Account**: you can modify your account data (see details at the Account information).
- Change password: you can change your password (see details at the Change password).
- **Purchases**: the list of your purchased packages (see details at the <u>List of purchases</u>).
- Group management: you can set the 'Packages', invite and delete members of groups (see details at the <u>Group management</u>).
- Downloads: you can download the latest version of Android application (see details at the <u>Download and install application</u>).
- Probability calculator: this function evaluates the result of the so called binomial cumulative distribution function (see details at the Probability calculator).
- Logout: you can logout from the system.

You can change the website language at the last dropdown menu at the right upper corner. The following languages are currently available:

EN: EnglishES: SpanishHU: Hungarian

At the footer in the '**About**' block the following menu items are available:

- **Contact us**: please let us know if you have any questions or comments.
- **Terms and Conditions**: you can read the Terms and Conditions regarding our system.
- **Privacy Policy**: you can read the Privacy Policy regarding our system.

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At the footer in the 'Links' block the following menu items are available:

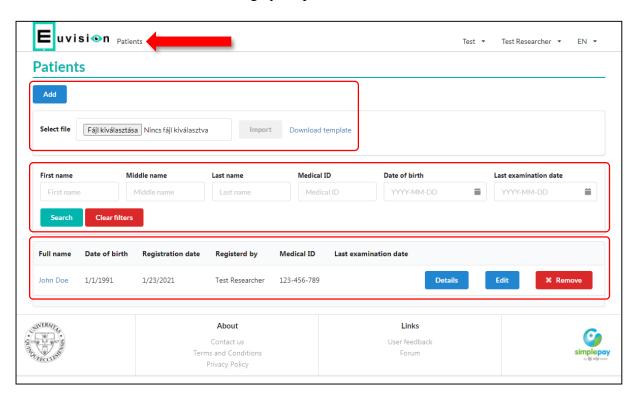
- **User feedback**: please let us know if you have any problems or good experiences.
- Forum: you can share your experiences with other users publicly or you can ask help from other users or administrators.

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# Patient management

Website: manage.euvision.hu

Choose the 'Patients' menu to manage your patients' data.



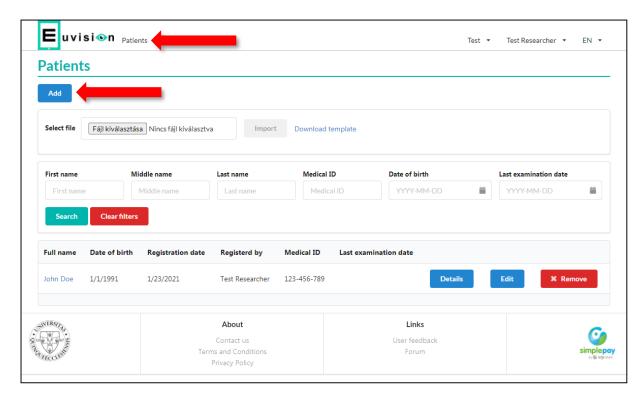
The 'Patients' page contains 3 major blocks:

- 1. <u>Add patients:</u> add manually one by one (see details at the <u>Add patients manually</u>) or import a file with the patients' data (see details at the <u>Import patient list</u>).
- 2. Filter: search patient from the list by given data.
- 3. <u>Patient list:</u> only the first 10 patients can be seen from the whole list or the first 10 results after searching.

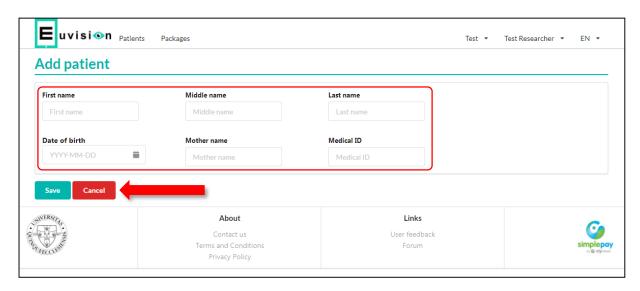
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### Add patients manually

Choose the 'Add' button on the 'Patients' page.



Fill up all input fields ('Middle name' is not obligatory) then press 'Save' button. If you do not want to save the patient's data press the 'Cancel' button and you will go back to the 'Patients' page. If you want to write manually the 'Date of birth' instead of the usage of built-in calendar (to open it click on the right side of input field) type only the numbers (i.e. 19910101) and click anywhere on the screen but do not use tabulator to leave this field.



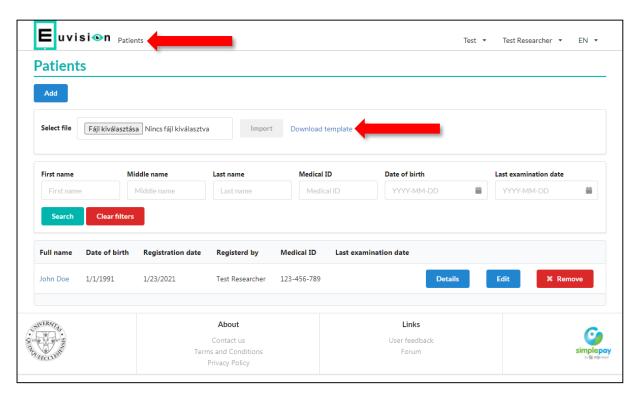
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After successful saving press the 'OK' button to go back to the 'Patients' page.

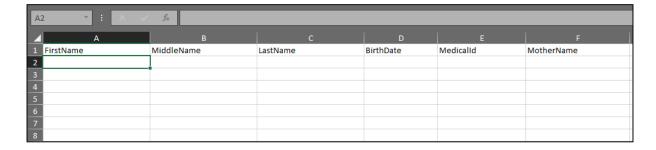


### **Import patient list**

First, 'Download template' Excel file from the 'Patients' page.



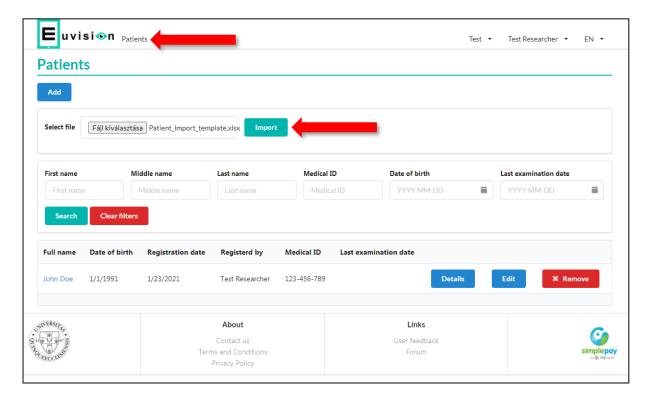
Open the downloaded Excel file, then fill up the table, each row corresponds to one patient. Do not modify the header (first row) because the system cannot import the file properly. The obligatory fields are the **FirstName**, **LastName**, **BirthDate** and **MedicalId**. The format of the **BirthDate** must be an Excel date format but you can use any of them.



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EuvisionTab® – Manual Patient management

After filling up the table, save it then select this file on the 'Patients' page then 'Import' it.



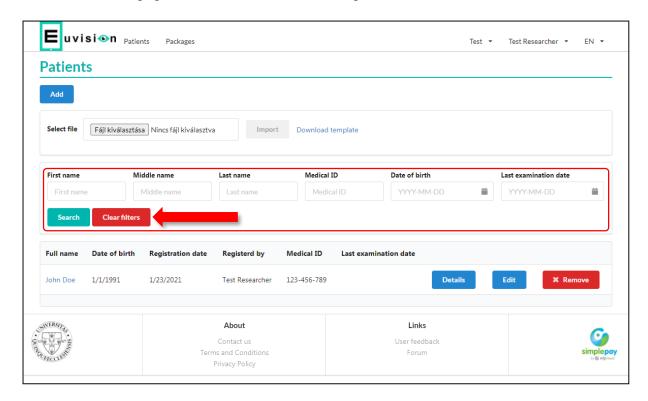
After successful import the next message can be seen on the page, it can be closed by X-sign in the right upper corner.



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### **Search patient**

On the 'Patients' page use the search area to find a patients.



It is not necessary to fill up all input fields but the search key must be exactly same as the searched expression. E.g. if the searched expression is 'John' it will be found only when 'John' is written as a search key into the input field but cannot find any result when only 'Joh' is written.

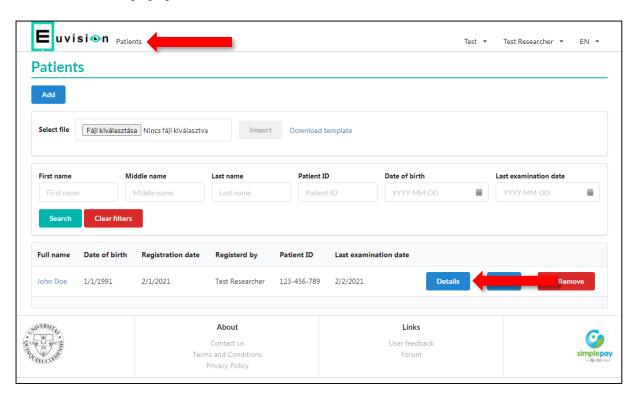
After writing the search key(s) press the '**Search**' button. If there is no result the patient list will be empty. Only the first 10 results of the search are listed. If you do not find what you are searching for use more accurate search keys.

For cancelling the searching parameters press the 'Clear filters' button.

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### Patient's personal and examination data

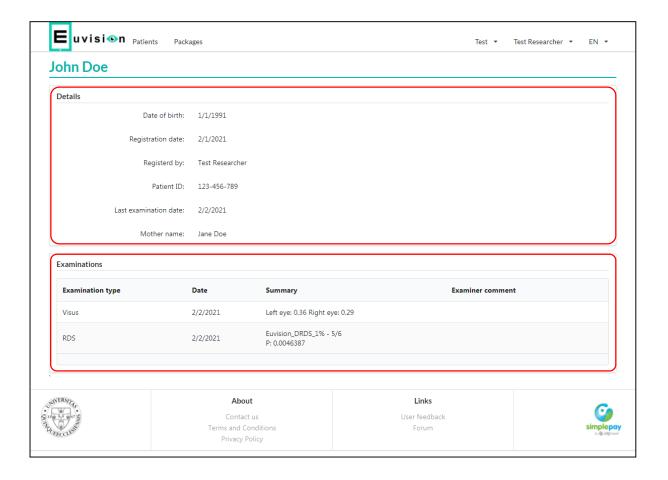
On the 'Patients' page press the 'Details' button.



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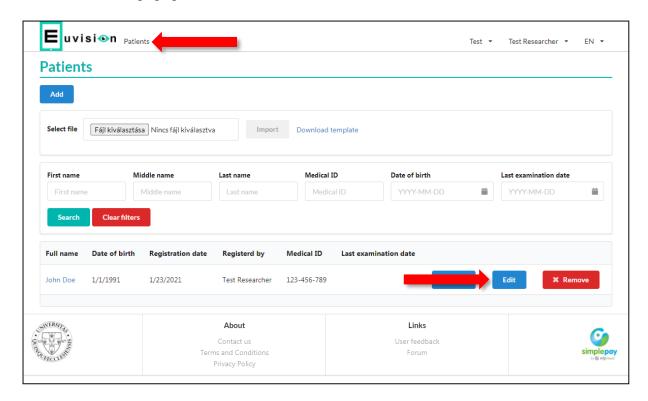
At the '**Details**' block can be seen the patient's personal data while at the '**Examinations**' area all the results of examinations can be found.



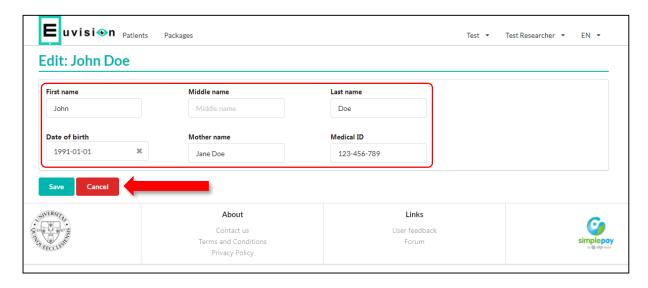
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### Modify patient's personal data

On the 'Patients' page press the 'Edit' button.



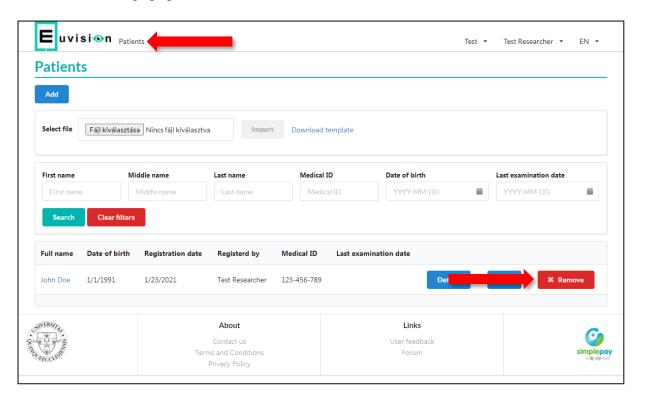
All the patient's data can be modified, if you are ready press the 'Save' button. If you do not want to modify it you can go back the 'Patients' page without saving after pressing the 'Cancel' button.



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### **Delete patient**

On the 'Patients' page press the 'Remove' button.



If you really want to delete the patient confirm it with the 'Ok' button. The procedure can be interrupted by pressing the 'Cancel' button.

Warning: deleting the patient is permanent, cannot be revoked!



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# Purchase more packages

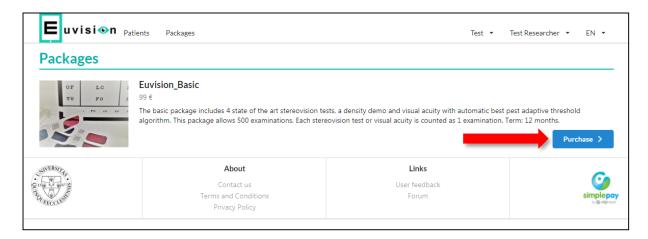
Please use desktop computer or laptop for purchase and registration.

Website: manage.euvision.hu

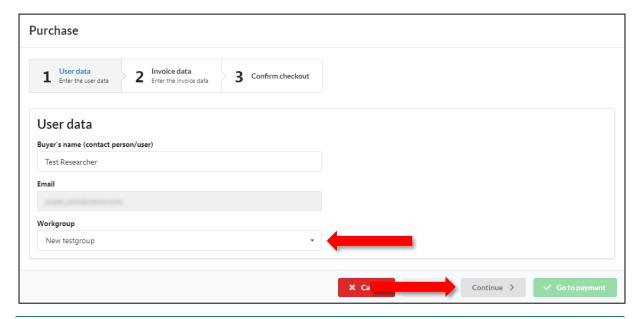
Choose the 'Packages' menu.



After selecting the package you want to buy, press the 'Purchase' button.

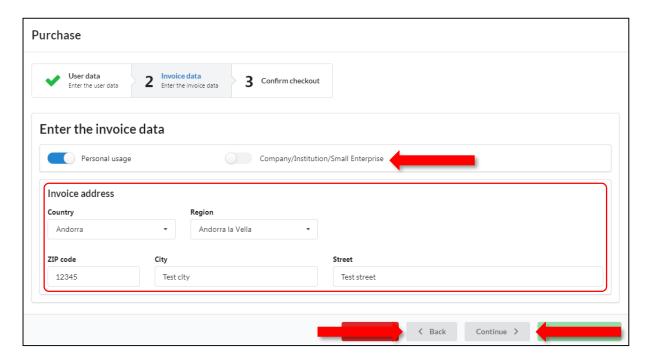


Fill up the 'Workgroup' input field with the name of your new group or choose one of your previously created groups from the dropdown list then press the 'Continue' button. During the whole procedure if you want to stop the purchase press the 'Cancel' button.



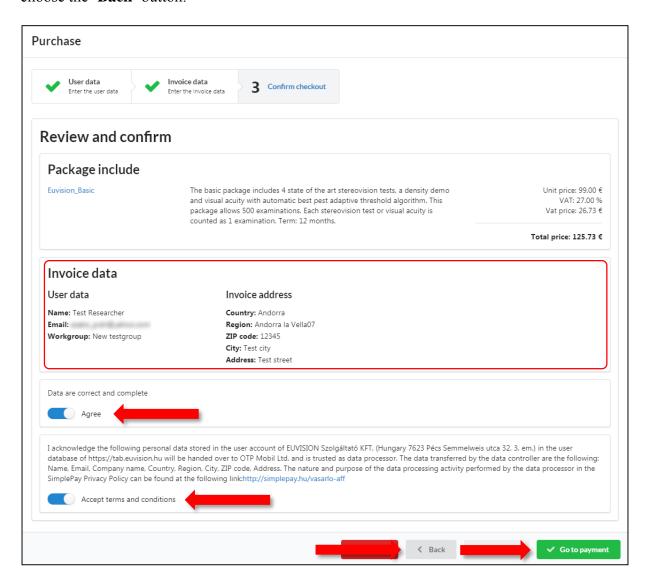
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You can change your 'Invoice data' if you want then press the 'Continue' button. If you want to modify your previous data choose the 'Back' button.

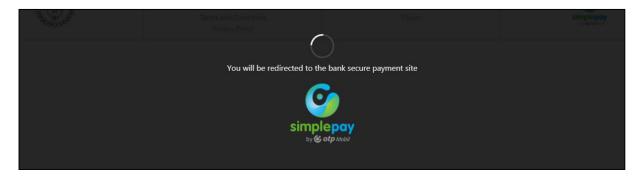


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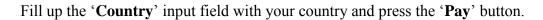
After checking the 'Invoice data' accept the 'Data are correct and complete' and 'Accept terms and conditions' then press the 'Go to payment' button. If you want to modify your data choose the 'Back' button.

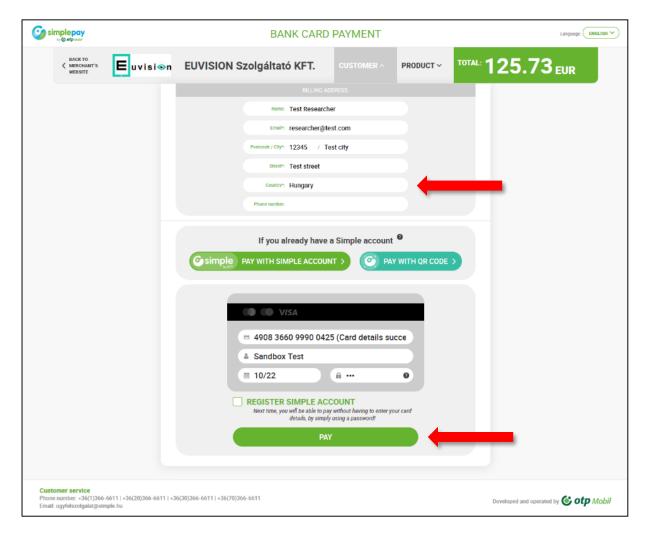


After pressing the 'Go to payment' button wait for redirection to the 'SimplePay' secure payment site.



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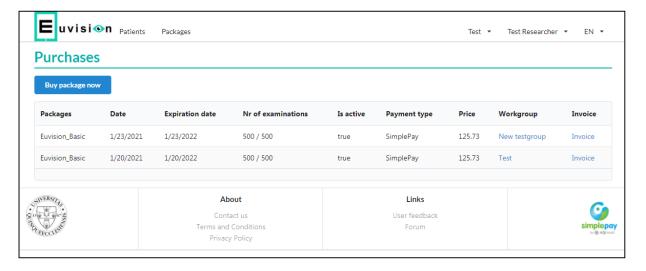


After successful payment press the 'OK' button...



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...and you will be redirected to the '**Purchases**' page where all your purchases can be seen (see details at the <u>List of purchases</u>).

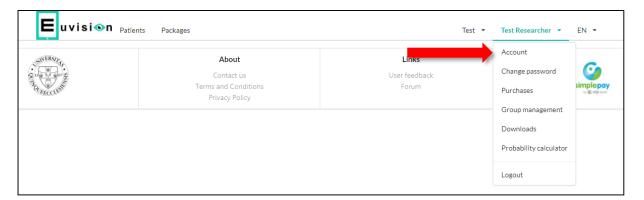


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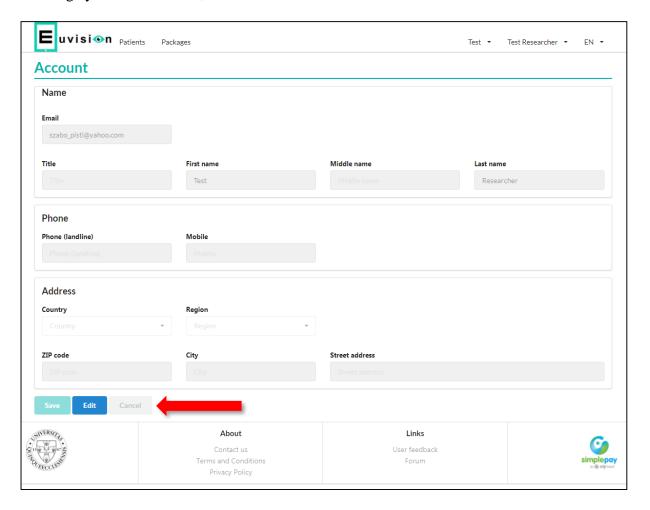
EuvisionTab® – Manual Account information

# **Account information**

Choose the 'Account' submenu from the dropdown menu.



All your personal information is available on this page. If you want to modify them choose the 'Edit' button then after the modification press the 'Save' button to save it. If you do not want to change your modification, choose the 'Cancel' button.



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EuvisionTab® – Manual Account information

After successful saving press the '  $\mathbf{O}\mathbf{K}$  ' button.

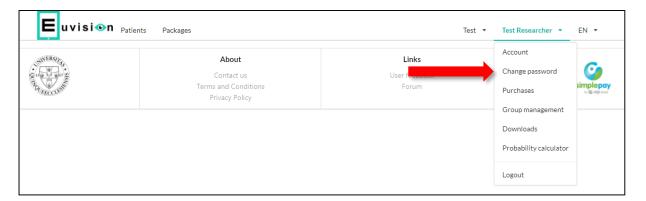


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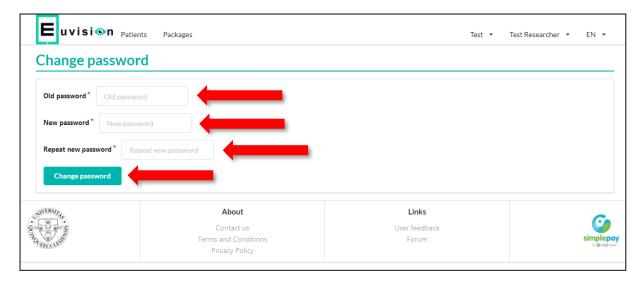
EuvisionTab® – Manual Change password

## Change password

Choose the 'Change password' submenu from the dropdown menu.



Type your 'Old password', your new password into the 'New password' and 'Repeat new password' input fields then press the 'Change password' button. The password must contain minimum eight characters, at least one uppercase letter, one lowercase letter, one number and one special character (#?!@\$%^&\*-).



After successful change press the 'OK' button.

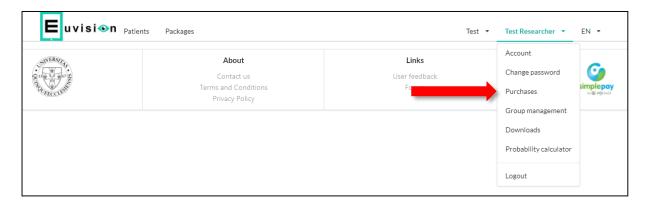


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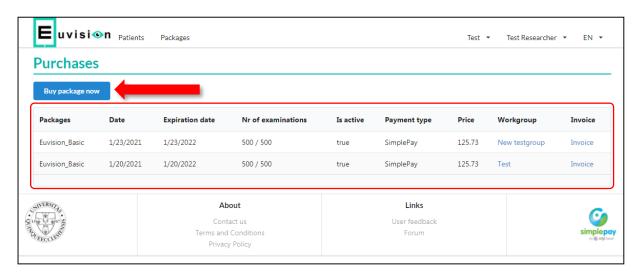
EuvisionTab® – Manual List of purchases

# List of purchases

Choose the 'Purchases' submenu from the dropdown menu.



If you want to purchase new packages choose the '**Buy package now**' button (see details at the <u>Purchase more packages</u>). All the data of your purchases are available in a table.



The table contains the following information:

- Packages: the name of the purchased package.
- Date: the date of purchase.
- Expiration date: the date until the package is active. After this date you cannot start
  new examination with the given package.
- **Nr of examinations:** number of the available examinations / number of all examinations.
- Is active: true = active; false = inactive.
- Payment type: how happened the payment.
- **Price:** the price of the package.
- Workgroup: which workgroup uses the given package. Each package can be used by only one workgroup, but one workgroup can use more packages (see details at the Group management). If you click on the name of the workgroup you can manage the given workgroup.
- Invoice: you will be redirected to the webpage of Billingo where you can download your invoice.

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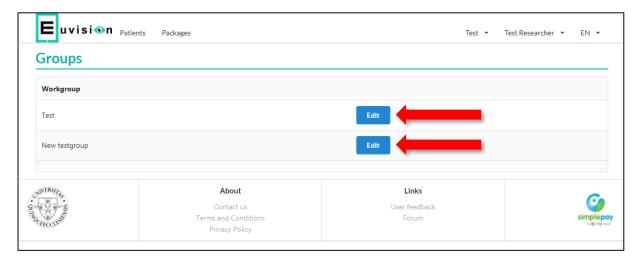
EuvisionTab® – Manual Group management

# Group management

Choose the 'Group management' submenu from the dropdown menu.



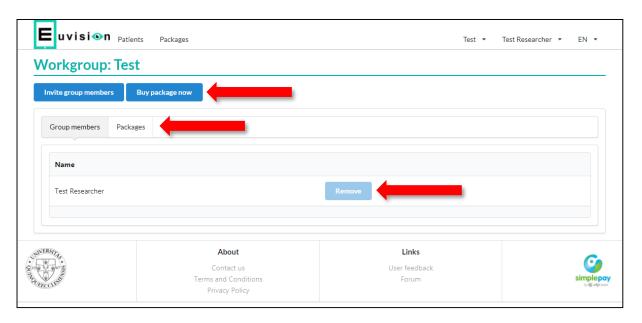
Press the 'Edit' button in the row of workgroup what you want to manage.



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EuvisionTab® – Manual Group management

After choosing a workgroup you can manage the 'Group members' and the 'Packages'. To adding a member to the workgroup press the 'Invite group members' button. To deleting a member from the workgroup press the 'Remove' button (you cannot remove yourself). By pressing the 'Buy package now' button, you can purchase a new package (see details at the Purchase more packages).



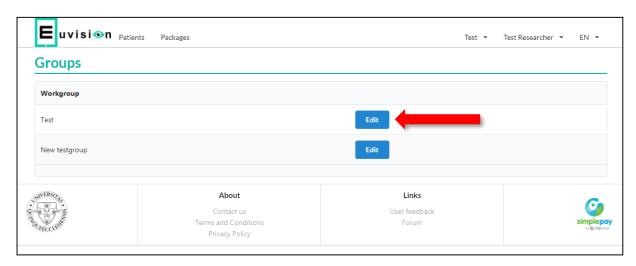
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### Invite a group member

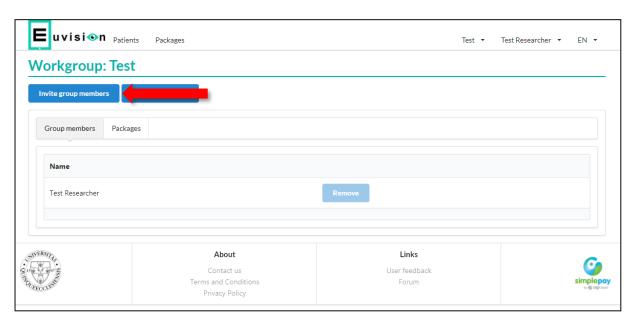
Choose the 'Group management' submenu from the dropdown menu.



Press the 'Edit' button in the row of workgroup what you want to manage.

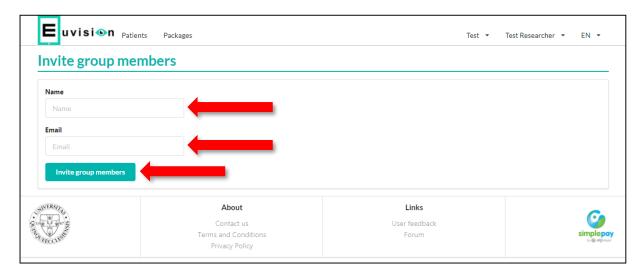


Press the 'Invite group members' button.



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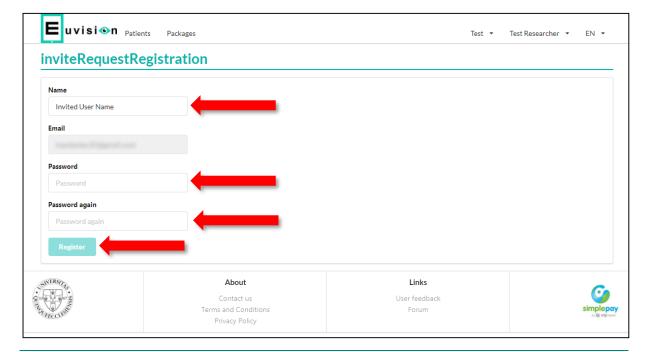
On the 'Invite group members' page you must type the 'Name' and 'Email' address of the person you want to invite then press the 'Invite group members' button.



After successful invitation press 'OK' button.



The invited person has to accept the invitation which can be found in the sent email. After clicking the invitation link the user will be redirected to the registration page. Here the user can change the 'Name' and set the 'Password' then has to press the 'Register' button. The password must contain minimum eight characters, at least one uppercase letter, one lowercase letter, one number and one special character (#?!@\$%^&\*-).

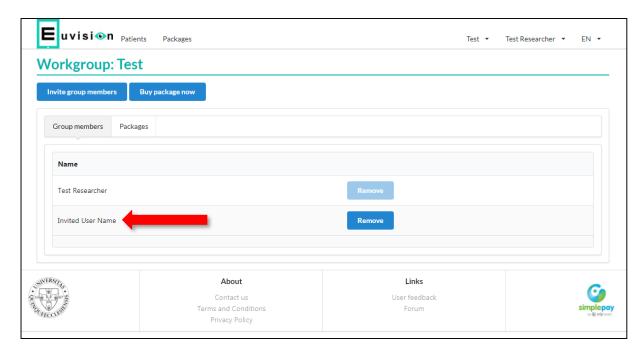


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After successful registration the user has to press the 'OK' button.

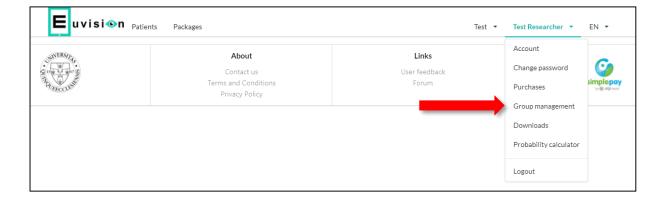


After the successful registration of invited member the member can be seen in the list of the workgroup page.



#### Delete a group member

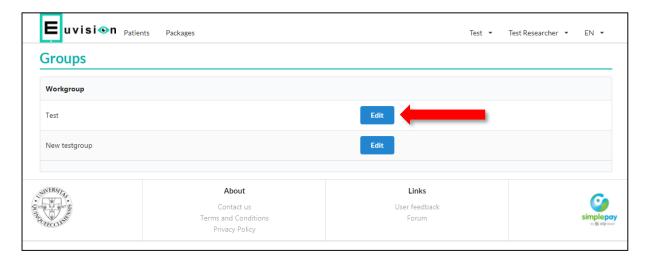
Choose the 'Group management' submenu from the dropdown menu.



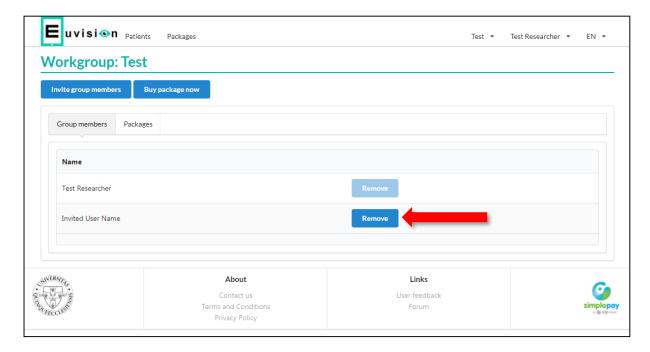
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EuvisionTab® – Manual Group management

Press the 'Edit' button in the row of workgroup what you want to manage.



Press the 'Remove' at the row of member you want to delete. You cannot delete yourself.



Press 'Ok' if you really want to delete the member or 'Cancel' to stop the procedure.



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EuvisionTab® – Manual Group management

After successful deleting press the 'OK' button.



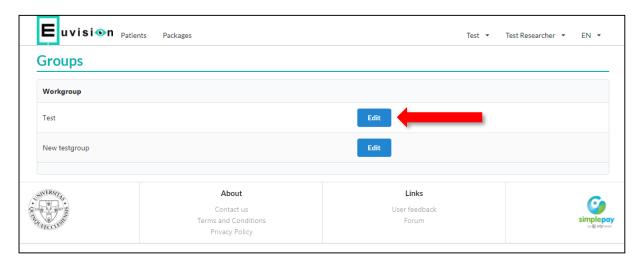
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#### Package management

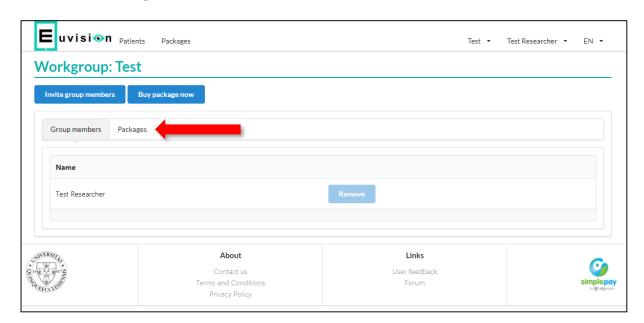
Choose the 'Group management' submenu from the dropdown menu.



Press the 'Edit' button in the row of workgroup where you want to manage the packages.



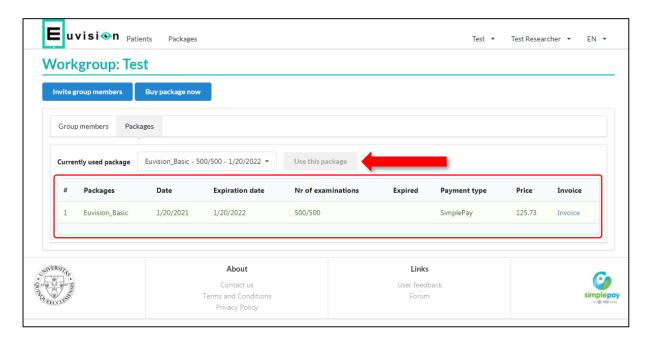
Choose the 'Packages' tab.



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EuvisionTab® – Manual Group management

Each group can use only one package simultaneously. If you have at least one unused package you can choose it at the 'Currently used package' dropdown list then press the 'Use this package' to set it as a current package. The available packages can be seen in the table.



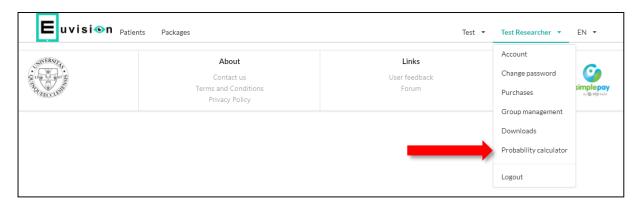
The table contains the following information:

- Packages: the name of the purchased package.
- Date: the date of purchase.
- Expiration date: the date until the package is active. After this date you cannot start new examination with the given package.
- **Nr of examinations:** number of the available examinations / number of all examinations.
- **Expired:** the package is expired or not.
- **Payment type:** how happened the payment.
- **Price:** the price of the package.
- **Invoice:** you will be redirected to the webpage of Billingo where you can download your invoice.

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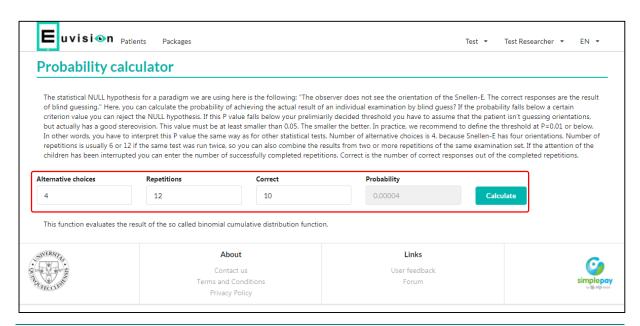
## Probability calculator

Choose the 'Probability calculator' submenu from the dropdown menu.



The statistical NULL hypothesis for a paradigm we are using here is the following: "The observer does not see the orientation of the Snellen-E. The correct responses are the result of blind guessing." Here, you can calculate the probability of achieving the actual result of an individual examination by blind guess? If the probability falls below a certain criterion value you can reject the NULL hypothesis. If this P value falls below your preliminarily decided threshold you have to assume that the patient isn't guessing orientations, but actually has a good stereovision. This value must be at least smaller than 0.05. The smaller the better. In practice, we recommend to define the threshold at P=0.01 or below. In other words, you have to interpret this P value the same way as for other statistical tests. Number of alternative choices is 4, because Snellen-E has four orientations. Number of repetitions is usually 6 or 12 if the same test was run twice, so you can also combine the results from two or more repetitions of the same examination set. If the attention of the children has been interrupted you can enter the number of successfully completed repetitions. Correct is the number of correct responses out of the completed repetitions.

Fill up all the input fields then press the 'Calculate' button to get the result in the '**Probability**' field.



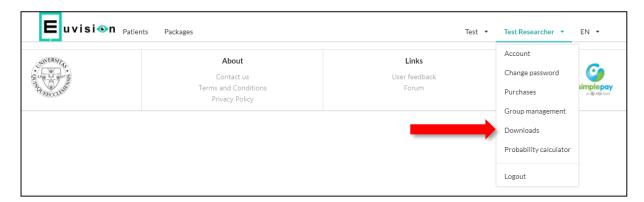
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# Euvision Tab® application

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## Download and install application

Use your Android device (for other operating systems is not available yet) to download the application and not your computer. The EuvisionTab<sup>®</sup> application is available for download on website, after login (see details at the <u>Login to website</u>) choose the '**Downloads**' submenu from the dropdown menu. Website: <u>manage.euvision.hu</u>



Choose the 'Android application' to download the *apk* file and install it. Since your device considers any application outside of Google Play an "unknown app", you need to allow installation of apps from unknown sources. Most of the devices ask it at the beginning of installation, in other cases this setting is available at Settings > Security > Unknown sources (it could be different on various devices).

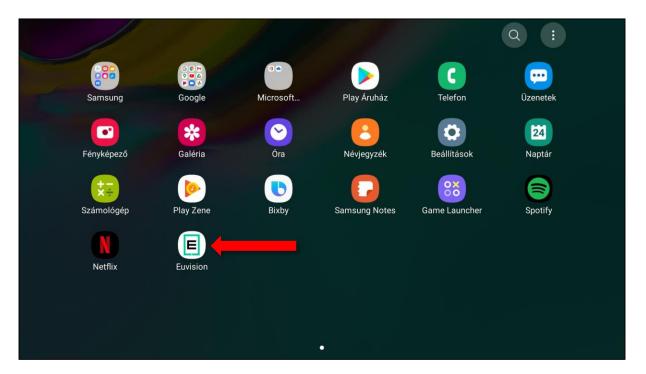


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EuvisionTab® – Manual Start application

# **Start application**

After installation on your Android device (see details at the <u>Download and install application</u>), look for the icon of application and tap on it.



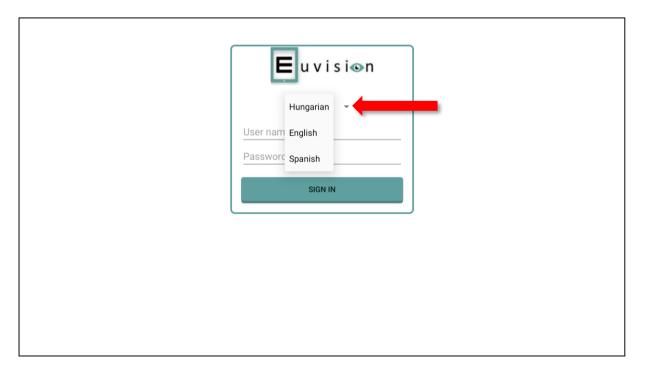
This program is optimized for 10.1 inches tablet display, however, essentially should work on all android device. Various hardware may display certain pages incorrectly. Please, send us a feedback if you experience any inconvenience!

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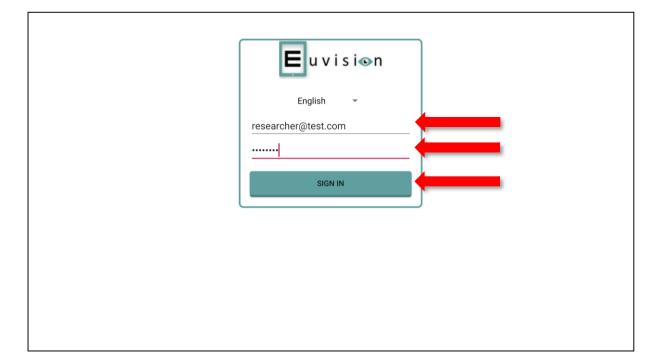
EuvisionTab® – Manual Login to application

# Login to application

Change language to English / Spanish. If you want to change the language setting later, you have to sign out and return to this screen.



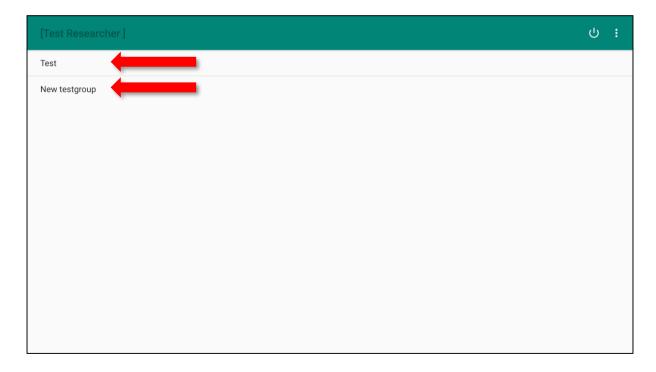
Sign in with your e-mail address and password (same as the website login).



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EuvisionTab® – Manual Login to application

If you have more than one workgroups you have to choose firstly which one you want to use, you can change it later if you need it (see details at the <a href="Change group">Change group</a>). In case of one workgroup the application skips this screen.



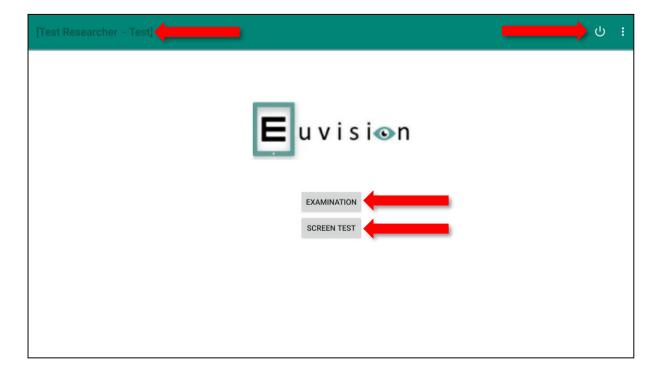
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### Start screen

At the main screen at left upper corner the name of researcher and the selected workgroup can be seen. At the right upper corner the 'Logout' icon and the 'Settings' menu (three vertical dots or kebab menu, see details at the Settings menu) is available.

In the middle of the screen the following functions are available:

- **Examination:** you can search your patient and execute the examinations on them (see details at the Patients and examinations).
- Screen test: the application tests your device to determine if it is suitable to perform the examinations or not (see details at the <u>Screen test</u>).



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#### **Settings menu**

At the right upper corner in '**Setting**s' menu (three vertical dots or kebab menu) the following functions are available:

- **Start screen:** you can go back to the '**Start screen**' from the other screens of the application.
- About: information about the application.
- **Change group:** if you have more than one workgroups you can switch between them.



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#### **About**

If you choose at the right upper corner in '**Settings**' menu (three vertical dots or kebab menu, see details at the <u>Settings menu</u>) the '**About**' submenu the following information is appearing on the screen:

- the name of the company,
- the address of the company,
- the type of the application,
- the version of the application.

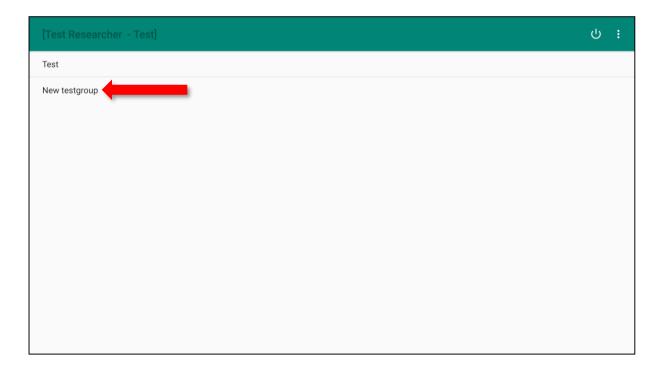
This window can be closed by tapping on the '**OK**' button.



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#### **Change group**

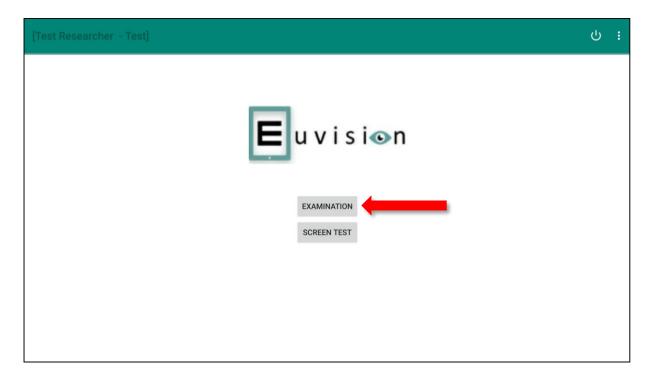
If you choose at the right upper corner in 'Settings' menu (three vertical dots or kebab menu, see details at the Settings menu) the 'Change group' submenu you can switch between your workgroups. After tapping on the selected workgroup you will be redirected to the 'Start screen' and the name of the selected workgroup can be seen after the researcher's name at the left upper corner.



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# Patients and examinations

On the 'Start screen' tap on the 'Examination' button.

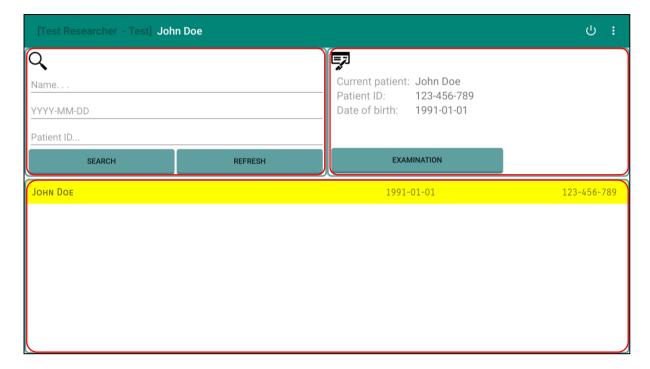


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#### **Patient management**

After choosing the 'Examination' button on 'Start screen', on the 'Patient management' screen three major area can be seen:

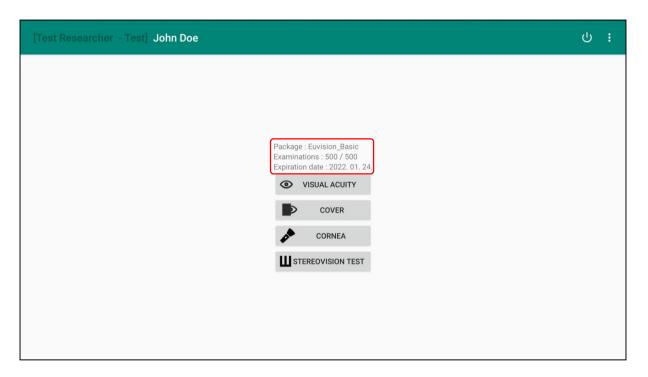
- At the left upper area is used for patient search by name, date of birth or medical ID. It is enough to use only one of them and only a part of searched term. After writing the search expression tap on the 'Search' button to see result in the area below. Use the 'Refresh' button if you added a new patient on the website (see details at the Add patients manually or Import patient list) and you want to see it in the list below.
- At the right upper area can be seen all the personal information of selected patient. If you want to examine the selected patient tap on the 'Examination' button.
- In the lower are can be found the patient list (in case of search only patients who matched the search criteria) with their personal data. The yellow background indicates the selected patient.



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#### **Examinations**

Choose a patient on the 'Patient management' screen then press the 'Examination' button.



Above the buttons the actually used package information is available:

- **Package:** name of the used package.
- **Examinations:** number of the available examinations / number of all examinations.
- **Expiration date:** the date until the used package is active. After this date you cannot start new examination with the used package.

The following examinations are available:

- Visual acuity: measurement of visual acuity of the selected patient (see details at the Examination of visual acuity).
- Cover: you can save the Cover test results of the selected patient (see details at the Recording cover test results).
- Cornea: you can save the Corneal light reflex test results of the selected patient (see details at the <u>Recording corneal light reflex test results</u>).
- Stereovision test: stereovision test of the selected patient (see details at the Examination of stereovision).

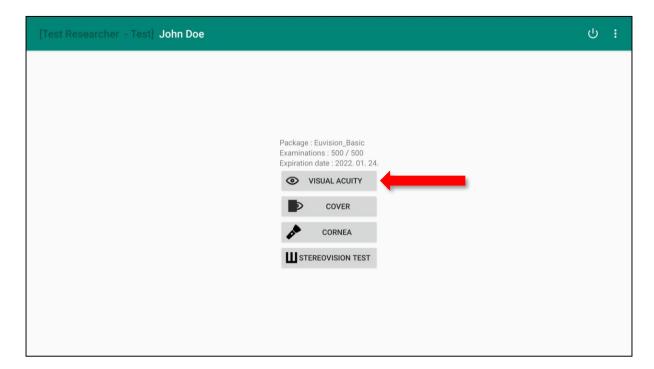
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#### **Examination of visual acuity**

Euvision visual acuity test uses the so-called BestPest adaptive threshold algorithm. A mathematical algorithm automatically calculates the best probable visual acuity after each input from the patient and presents the size of the optotype which carries the highest information to determine inflection point of the psychometric function which determines visual acuity. For the test, all you have to do is select and maintain the viewing distance. For adults, select the Landolt C with 8 orientations. Start the program and enter the correct and incorrect responses of the patients. At the beginning, the eye to be examined is indicated on the screen. For the BestPest method you can choose the "Fast adult", which will present 16 trials for each eye. For children, depending on the age, the Snellen-E is preferred. Since Snellen-E has only 4 orientations, for reliability, at least 24 trials are needed for each eye to achieve accurate results, select "Fast Children". Do not be surprised. If you repeat the measurement small deviation can be detected between measurements. For more detailed description of the technique see the <u>Literature</u>.

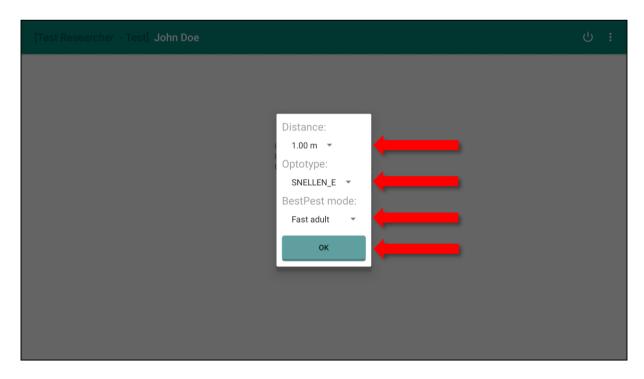
Before you start testing make sure that your mobile device is set to the maximum brightness and automatic or adaptive brightness adjustment is turned off! It is also useful to set the display sleep time to a longer time.

After choosing a patient on the 'Patient management' screen press the 'Examination' button (see details at the Patients and examinations) then press the 'Visual acuity' button.



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In case of visual acuity examination you can set 'Distance', 'Optotype' and 'BestPest mode' parameters.



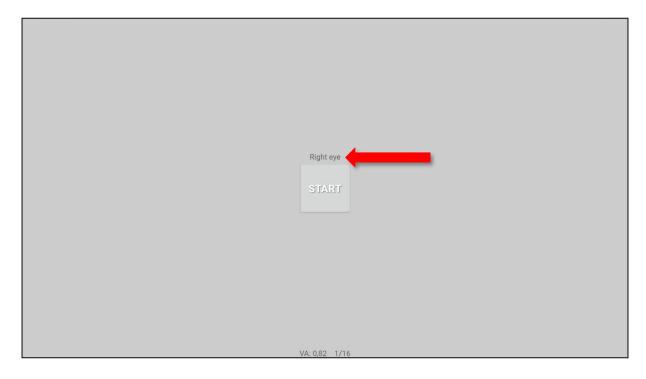
In case of visual acuity examination the following settings are available:

- **Distance:** between 1 and 6 meters.
- Optotype: Snellen E or Landolt C
- BestPest mode (best Parameter Estimation by Sequencial Testing): an adaptive algorithm that displays the next optotype depending on the patient responses, thereby estimating the threshold of insight. For all four settings, 16 optotypes are displayed for each eye.
  - o **Fast adult:** 16 optotypes are displayed for each eye, Landolt C is recommended,
  - o **original MB:** original setting by the article of Michael Bach (see details at the Literature),
  - o **limites:** the setting based on the article of Michael Bach (see details at the Literature), but the maximal visual acuity is 2.5,
  - o **Fast Children:** 24 optotypes are displayed for each eye, Snellen-E is recommended.

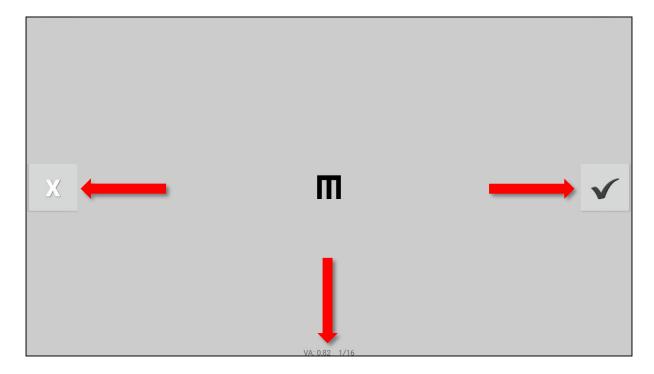
After setting all parameters press '**OK**' button to start the examination.

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The visual acuity measurement starts with the right eye then continue it with the left eye. Above the '**Start**' button can be seen which eye will be examined in the following session.



During the visual acuity examination, you only need to select whether the patient's answer was correct (right button) or incorrect (left button). The patient has to tell which is the orientation of the branches of the Snellen-E or in case of Landolt-C, the task is to name the direction of the gap in the ring. At the bottom you can follow the actually measured visual acuity (i.e. 'VA: 0.82') and the current state of the progress (i.e. '1/16'). In order to achieve the correct test result, the patient must decide on the orientation of the displayed optotype, can not give 'I do not know' answer.

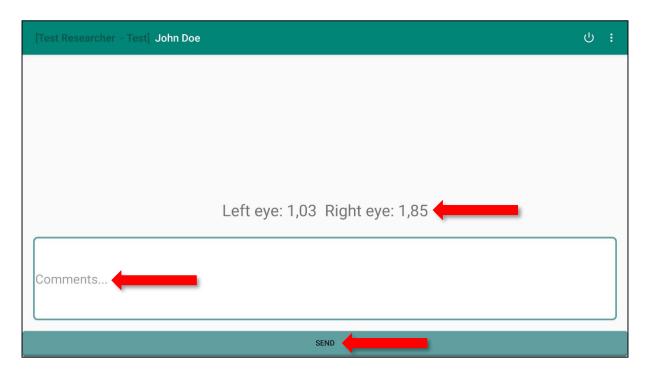


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If you press the back button before the end of the examination, the system will warn you that your data will be lost. Please note that the system only stores the results of the examinations finished!



After the examination of visual acuity of both eye the result is immediately available on the screen. After writing comments (not obligatory) press the 'Send' button to save the data on the server.



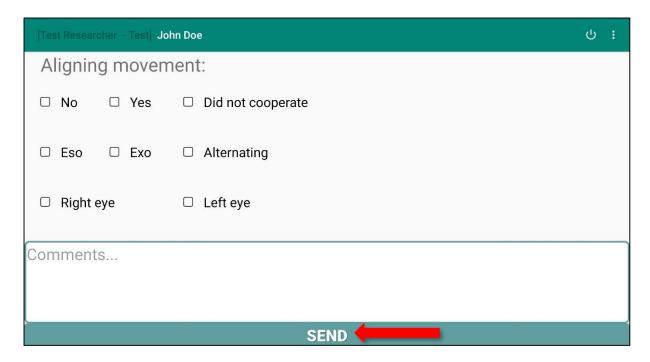
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#### **Recording cover test results**

After choosing a patient on the 'Patient management' screen press the 'Examination' button (see details at the <u>Patients and examinations</u>) then press the 'Cover' button.



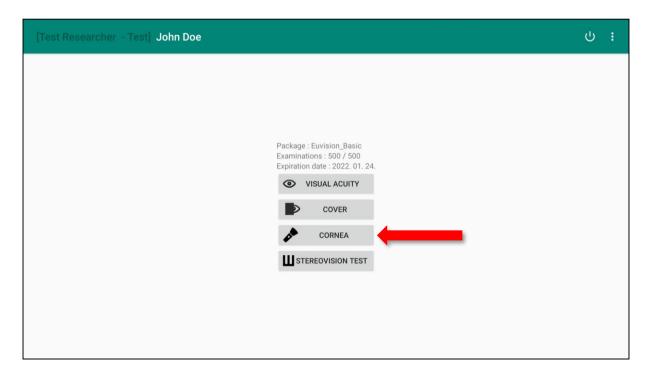
You can save the Cover test results and add comment then the data will be saved after pressing the 'Send' button.



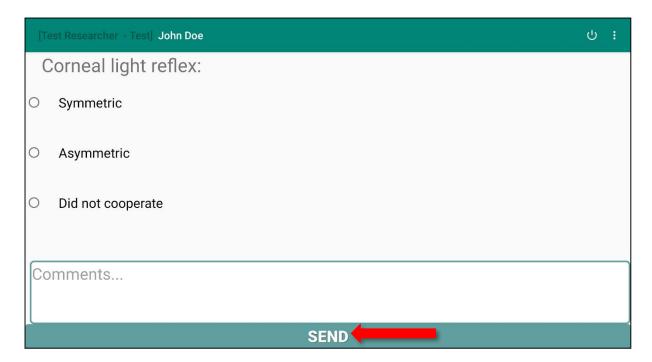
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#### Recording corneal light reflex test results

After choosing a patient on the 'Patient management' screen press the 'Examination' button (see details at the Patients and examinations) then press the 'Cornea' button.



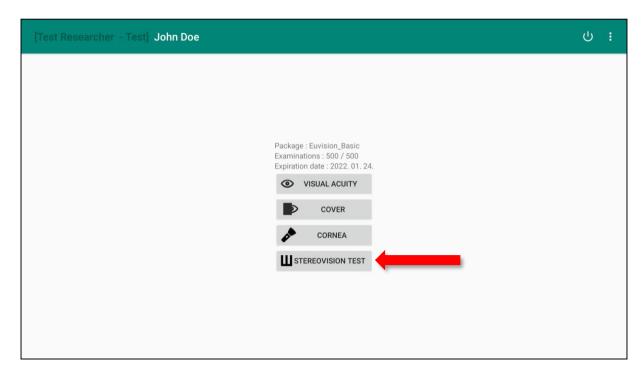
You can save the Corneal light reflex test results and add comment then the data will be saved after pressing the 'Send' button.



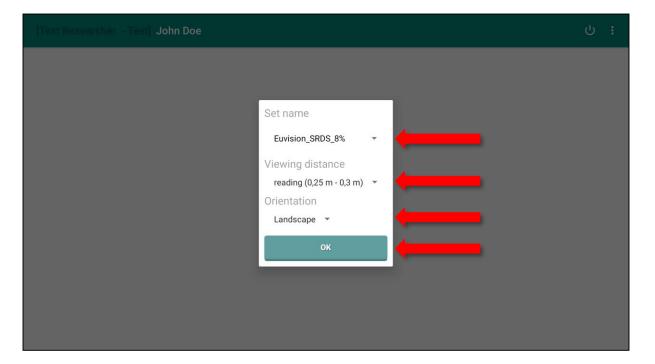
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#### **Examination of stereovision**

After choosing a patient on the 'Patient management' screen press the 'Examination' button (see details at the <u>Patients and examinations</u>) then press the 'Stereovision test' button.



In case of stereovision test you can set the type of examination ('**Set name**') and the '**Examination distance**'. After setting all parameters press 'OK' button to start the examination.



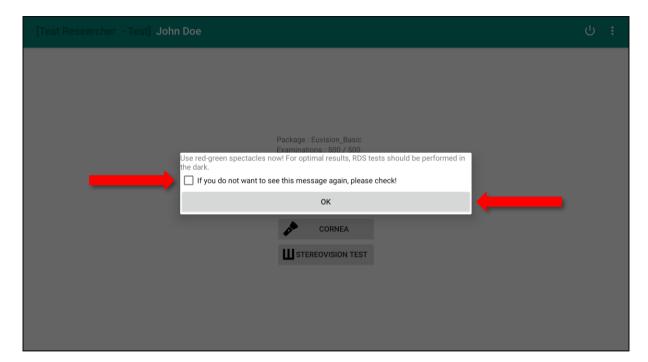
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In case of visual acuity examination the following settings are available:

- Set name: see the setting parameters and their evaluation at the <u>Evaluation of</u> stereovision test
- Examination distance:
  - o reading (0.25 m 0.3 m)
  - o 0.5 m
  - o 1.0 m
  - o 1.5 m
- Orientation: 'Landscape' or 'Portrait', in case of smaller screen size the 'Portrait' orientation is recommended, otherwise the 'Landscape' orientation.

After setting all parameters press '**OK**' button to start the examination.

Before starting the stereovision test, the system sends a reminder of the tools and conditions required for a successful examination. If you check the box before pressing ' $\mathbf{OK}$ ' this message will not appear next time.

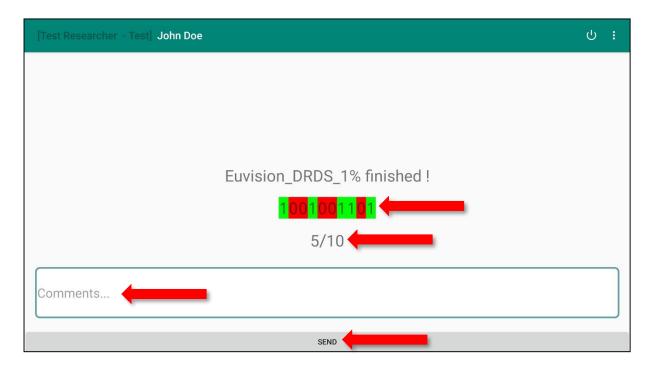


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After putting the red-green spectacles on the patient we can start the stereovision test. The patient has to tell which is the orientation of the branches of the Snellen-E letter and the examiner will press the appropriate silver button around the RDS. All setting data and actual frame rate ('**FPS**') of RDS can be read at the left upper corner.



After the stereovision test the result shows which answer was correct (green '1') or incorrect (red '0') and how much is the hit rate. After writing comments (not obligatory) press the 'Send' button to save the data on the server.



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#### **Evaluation of stereovision test**

#### Euvision\_DRDS\_1%+N

The orientation of 6 randomly generated cyclopean Snellen-E targets has to be determined in 1% density dynamic stereograms with 0.25% correlated and uncorrelated noise. Pass levels: <4 failed; 4: p=0.03760; 5: p=0.00464; 6: p=0.00024; Recommended pass levels are 5 or 6. Dot Size: 420", Disparity: 840" from 25 cm. Frame rate: 30Hz; filter types: left red, right green.

Comment: This is the highest sensitivity state of the art dynamic stereovision test in the market. Sensitive to amblyopia and amblyogenic conditions accompanied with binocular visual impairments.

#### **Euvision\_DRDS\_1%**

The orientation of 6 randomly generated cyclopean Snellen-E targets has to be determined in 1% density dynamic stereograms. Pass levels: <4 failed; 4: p=0.03760; 5: p=0.00464; 6: p=0.00024; Recommended pass levels are 5 or 6. Dot Size: 420", Disparity: 840" from 25 cm. Frame rate: 30Hz; filter types: left red, right green.

*Comment:* This is one of the highest sensitivity state of the art dynamic stereovision test in the market. Sensitive to amblyopia and amblyogenic conditions accompanied with binocular visual impairments.

#### **Euvision DRDS 0.7%**

The orientation of 6 randomly generated cyclopean Snellen-E targets has to be determined in 0.7% density dynamic stereograms. Pass levels: <4 failed; 4: p=0.03760; 5: p=0.00464; 6: p=0.00024; Recommended pass levels are 5 or 6. Dot Size: 420", Disparity: 840" from 25 cm. Frame rate: 30Hz; filter types: left red, right green.

*Comment:* This is one of the highest sensitivity state of the art dynamic stereovision test in the market. Sensitive to amblyopia and amblyogenic conditions accompanied with binocular visual impairments.

#### Euvision\_SRDS\_8%

The orientation of 6 randomly generated cyclopean Snellen-E targets has to be determined in 8% density static stereograms. Pass levels: <4 failed; 4: p=0.03760; 5: p=0.00464; 6: p=0.00024; Recommended pass levels are 5 or 6. Dot Size: 420", Disparity: 840" from 25 cm. Disparity: 840" from 25 cm. Frame rate: static; filter types: left red, right green.

*Comment:* This is one of the highest sensitivity state of the art static stereovision test in the market. The performance is similar to TNO. Sensitive to amblyopia and amblyogenic conditions accompanied with binocular visual impairments.

#### Euvision\_density\_demo

Fifteen different density dynamic stereograms. Densities are as follows (%): 50, 32, 16, 8, 4, 2, 1, 0.5, 0.25, 0.125, 0.0625, 0.0313, 0.0156, 0.0078, 0.0039. Normally, the orientation can be determined down to 0.0156. The last two lowest densities are hardly visible. Dot Size: 420", Disparity: 840" from 25 cm. Frame rate: 30 or 60 Hz; filter types: left red, right green.

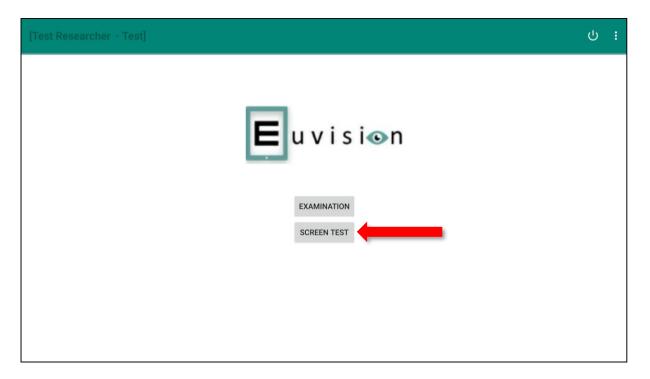
*Comment:* This is just a demonstration how low densities are visible. Visibility depends on frame rate. Lower densities also require more time to recognize the orientation.

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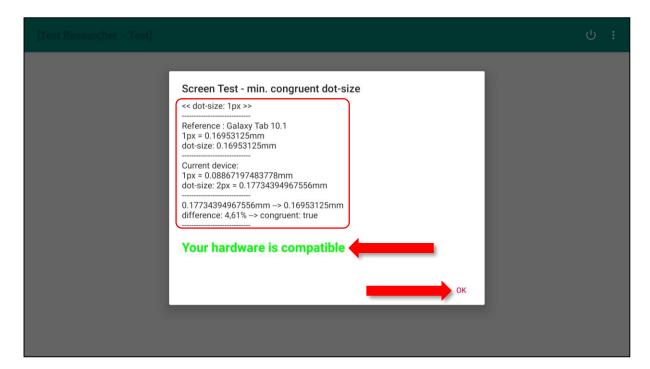
EuvisionTab® – Manual Screen test

# Screen test

Choose the 'Screen test' button on the 'Start screen'.



The application compares the display parameters of your device to a reference display, and notifies the user whether the device is compatible or not. This window can be closed by tapping on the '**OK**' button.



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EuvisionTab® – Manual Literature

# Literature

Bach, M. The Freiburg Visual Acuity test--automatic measurement of visual acuity. *Optom Vis Sci* 73(1), 49-53 (1996)

Bach, M. The Freiburg Visual Acuity Test-Variability unchanged by post-hoc re-analysis. *Graefes Arch Clin Exp Ophthalmol* 245, 965–971 (2006).

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