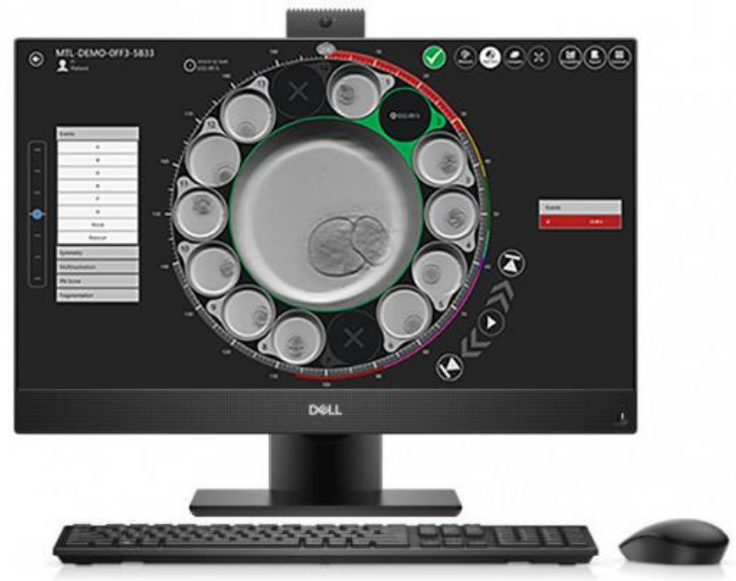
ESCO MEDICAL

Life has begun

CE 0088



User Manual

MIRI® TL family`s multiroom IVF incubators Viewer Software

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Rx only

CERTIFIED INCUBATION

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Caution: Federal law restricts this device to sale by or on the order of a licensed healthcare practitioner.

Only to be used by a trained and qualified professional. The device is sold under exemption 21 CFR 801 Subpart D.

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1 How to use this manual

The manual is designed to be read by sections and not ideally from cover to cover. It means that if the manual is read from start to finish, there will be some repetition and overlap.

2 Safety warning

- Anyone working with, on or around this equipment should read this manual. Failure to read, understand, and follow the instructions given in this documentation may damage the unit, injure operating personnel, and/or poor equipment performance.
- Any internal adjustment, modification or maintenance to this equipment must be undertaken by qualified service personnel.
- In this manual, important safety-related points will be marked with the following symbols:

NOTE

It is used to direct attention to a specific item.

WARNING

Use caution.

3 Indication for use

Esco Medical MIRI® TL family`s multiroom IVF incubators are intended to provide an environment with controlled temperature, CO_2 and other gases for the development of embryos. This model has an integrated inverted microscope and imaging system for embryo viewing. The device use is limited up to six days (199 hours), covering the time from post-fertilization to day 6 of the development.

4 About the product

The Esco Medical MIRI® TL6 and MIRI® TL12 multiroom IVF incubator are a CO_2/O_2 incubators with time-lapse capability. In the MIRI® TL6 it possible to incubate up to 84 embryos, whereas MIRI® TL12 – up to 168 embryos. The multiroom IVF incubators can generate time-lapse images and provide them to identify development quality and stages.

Direct warming of the dishes in the chambers gives superior temperature conditions in comparison to conventional multiroom IVF incubators.

The temperature in the compartment will remain stable up to 1 °C (even when a lid is open for 30s) and will recover within 1 min after the lid is closed.

The Esco Medical MIRI® TL6 multiroom IVF incubator has 6 completely separate culture heat chambers, whereas MIRI® TL12 – 12 chambers. Each chamber has its own heated lid and a room for one CultureCoin® dish.

To ensure maximum performance, the system of MIRI® TL6 multiroom IVF incubator has 12 completely separate PID temperature controllers, whereas MIRI® TL12 – 24. They control and regulate temperature in culture chambers and lids. Compartments do not affect each other's temperatures in any way. The top and the bottom of each compartment is separated with a PET layer so that the lid temperature would not affect the bottom. For validation purposes, each compartment has a PT-1000 sensor built in. The circuitry is separated from the unit's electronics so it remains a truly separate validation system.

The multiroom IVF incubator has to be supplied with 100% CO_2 and 100% N_2 in order to be able to control the CO_2 and O_2 gas concentrations in the culture chambers.

A dual beam infrared CO_2 sensor with extremely low drift rates controls the CO_2 level. A chemical medical grade oxygen sensor controls the level of O_2.

Gas recovery time is less than 3 min after opening the lid. To validate gas concentration, the MIRI® TL6 multiroom IVF incubator is fitted with 6 gas sample ports that allow the user to sample gas from the individual compartment, whereas MIRI® TL12 – 12.

The multiroom IVF incubator features a recirculated gas system where gas is continuously put into the compartment and taken out at the same rate. Gas is cleaned via 254 nm UVC light with direct gas contact between the bulb and gas, then through a VOC filter and through a HEPA filter. The UVC light has filters that inhibit any 185 nm radiation that would produce dangerous ozone. The VOC filter is located under the UVC light.

Complete gas repletion in the system takes less than 5 min.

The total gas consumption is very low. Less than 2 l/h CO_2 and 5 l/h N_2 in use.

For safety reasons the multiroom IVF incubator has a very complete gas control system that consists of: pressure regulator (preventing dangerous gas pressure problems), gas flow sensors (actual consumption can be accumulated), gas pressure sensors (then user knows that the pressure and variation can be logged to avoid dangerous conditions), gas filters (to avoid valve problems).

The CultureCoin® dish location in a compartment is easy to reach and safe because of the compartment numbering and the ability to write on the white lid with a pen.

The multiroom IVF incubator has been primarily developed and designed for incubation of gametes and embryos with an overlay of either Paraffin or mineral oil.

The upright LED display is large, clear and easy to read from a distance. The user can tell if the parameters are correct without going near the unit.

The software is running on the built-in touchscreen. PC controls a microscopy system that can generate an image every 5 min. When compiled, these images can be viewed as a time-lapse movie.

The Software contains logging functions for a long-term data logging and storage. Web module enables the QC data to be transferred for off-site evaluation – by performing this, the manufacturer can provide a valuable service to the customers.

A pH sensor port is part of the DAQ package. The user can plug any standard BNC pH probe to the unit and measure the pH in the samples at will.

The device is manufactured under a full EU certified 13485 ISO quality management system.

This product fulfils the requirements of EN60601-1 3rd edition standards as a Class I type B equivalent device suited for continuous operation. It also conforms to the requirements of the Regulation (EU) 2017/745 concerning medical devices and is classified as a Class IIa device under rule II.

Personal Protective Equipment (89/686/EEC) and Machine Directive (2006/42/EC) is not applicable for the MIRI® TL family`s multiroom IVF incubators. Also, the MIRI® TL family`s multiroom IVF incubators does not contains or incorporates: a medical substance, including a human blood or plasma derivate; tissues or cells, or their derivates, of human origin; or tissues or cells of animal origin, or their derivatives, as referred to in Regulation (EU) No. 722/2012.

5 About the Viewer Software

The MIRI® TL family`s multiroom IVF incubators Viewer software is an information-providing tool that can help the MIRI® TL multiroom IVF incubator users process the data generated by the MIRI® TL6 and MIRI® TL12 multiroom IVF incubators. The software

contains a complete patient database. In the database, various details about the patient and treatment can be entered if the user chose so.

The software can also be used without entering any other information other than the patient's name. The software will assign a unique identifier to each patient so they cannot be mistaken. With the unique identifier and the generated time-lapse, the software allows for annotating the user's development and a quick graphical comparison tool that allows for comparison embryos. The software also functions as a video player that plays the time-lapse video.

The Software will also show incubator status and alarm conditions, but the user alerting and interaction functions are all contained on the device itself.

6 Installing the Software

The software is provided preinstalled on an AIO computer.

6.1 Requirements

The software is validated and tested to run under the Windows 8 or 10 operating system. It may run under previous versions of Windows, but the manufacturer cannot guarantee stability.

Requirements for MIRI® TL Viewer software:

- Intel i5, i7 or AMD FX at ≥ 3.0GHz
- 4GB RAM
- 4GB Available Storage Space
- 23” or 24” Full HD display with touch capabilities
- Windows 8 or 10 (64-bit) Operating System
- Gigabit Ethernet port

Requirements for MIRI® TL Viewer-Server hybrid computer:

- Intel i7 processor with CPU benchmark rating of ≥ 8000
- ≥ 8GB RAM
- 256GB SSD Storage space for software
- 1000 GB SSD Storage space for data storage
- Windows 8 or 10 (64-bit) Operating System
- At least 2 USB 3.0 (type A) or newer ports
- HDMI-input port
- Gigabit Ethernet port

7 Running the Viewer

7.1 Start-up

There is a "MIRI® TL Viewer" start icon on the desktop.

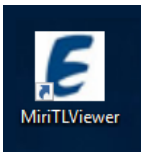


Figure 7.1 "MIRI® TL Viewer" icon on the desktop

By double-clicking on the icon, it will start the MIRI® TL Viewer application and show it on the main screen.

7.2 The main view

The main view shows 4 buttons:

- Time-lapses (a list of the generated Time-lapses)
- Patients (the patient's database)
- Multiroom IVF incubators (the MIRI® TL6 and MIRI® TL12 multiroom IVF incubators connected to the Viewer)
- Settings (a module that allows the user to customize the parameters, annotation and ideal times).

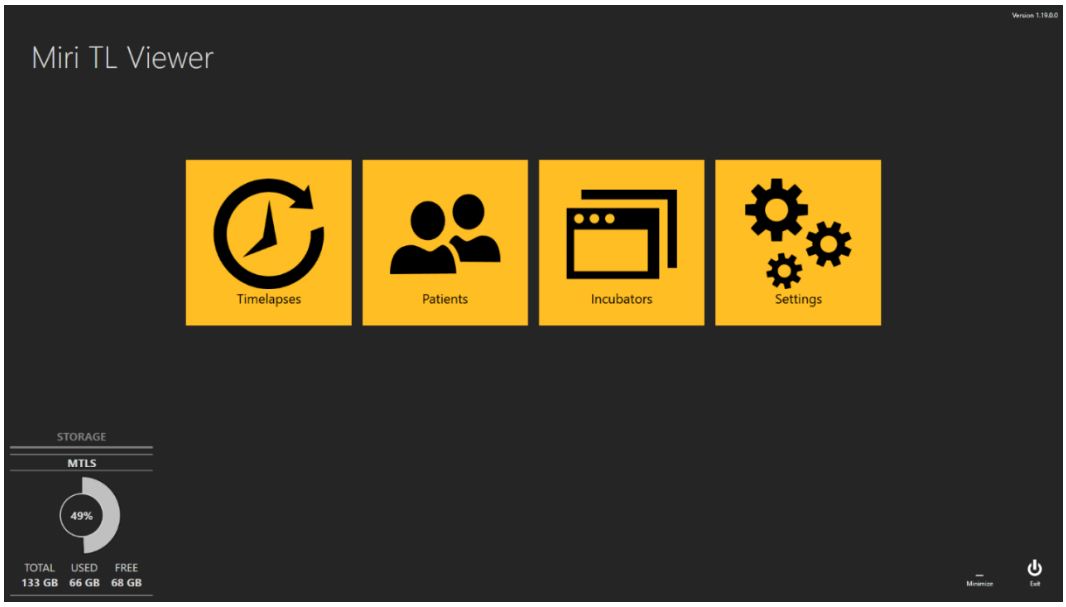


Figure 7.2 MIRI® TL6 and MIRI® TL12 multiroom IVF incubators Viewer main screen

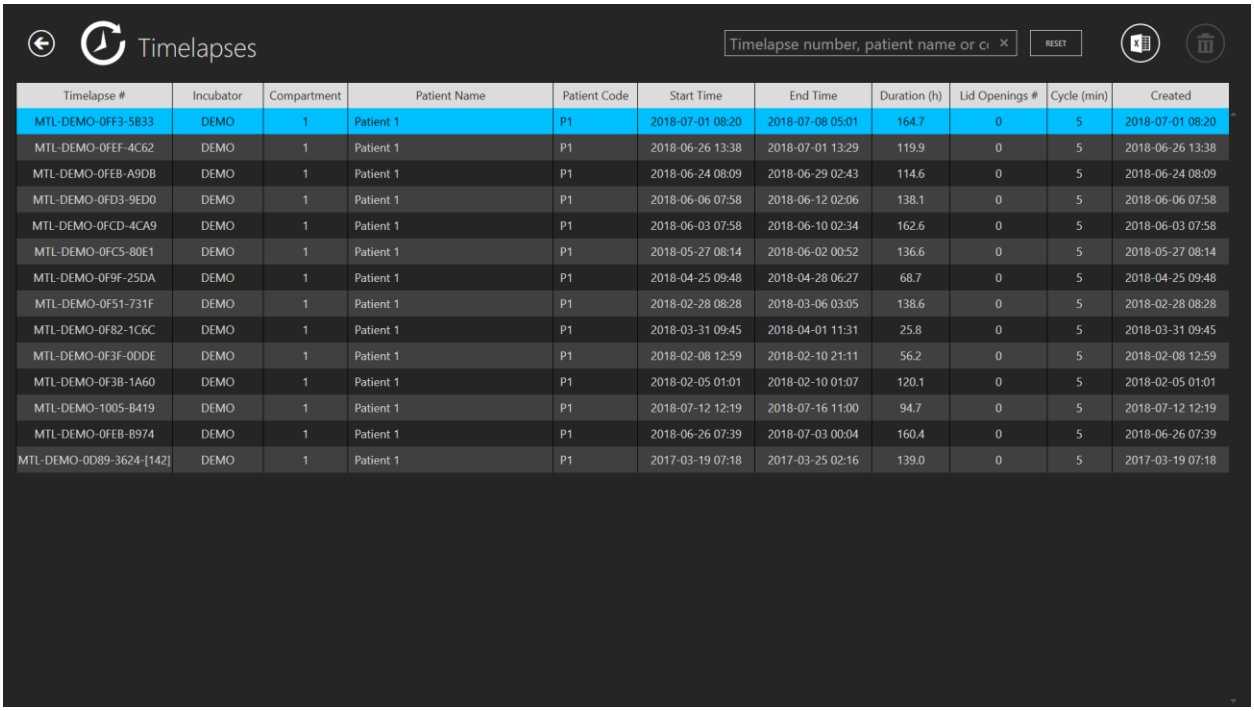
All interaction with the software is intuitive and straightforward. Navigation between the views is done by pressing the relevant colored icons or the back arrow in the top left corner.

In the lower corner of the main MIRI® TL family`s multiroom IVF incubators Viewer screen, storage information is also provided to the user.

7.3 Time-lapses

7.3.1 Time-lapse list view

Pressing the “Time-lapses” button changes the view to the list of the time-lapses generated on the attached MIRI® TL family`s multiroom IVF incubators. If more than one MIRI® TL6 or MIRI® TL12 multiroom IVF incubators are connected to the server, the list will consist of data from all these devices.



Timelapse #	Incubator	Compartment	Patient Name	Patient Code	Start Time	End Time	Duration (h)	Lid Openings #	Cycle (min)	Created
MTL-DEMO-0FF3-5B33	DEMO	1	Patient 1	P1	2018-07-01 08:20	2018-07-08 05:01	164.7	0	5	2018-07-01 08:20
MTL-DEMO-0FEF-4C62	DEMO	1	Patient 1	P1	2018-06-26 13:38	2018-07-01 13:29	119.9	0	5	2018-06-26 13:38
MTL-DEMO-0FEB-A9DB	DEMO	1	Patient 1	P1	2018-06-24 08:09	2018-06-29 02:43	114.6	0	5	2018-06-24 08:09
MTL-DEMO-0FD3-9ED0	DEMO	1	Patient 1	P1	2018-06-06 07:58	2018-06-12 02:06	138.1	0	5	2018-06-06 07:58
MTL-DEMO-0FCD-4CA9	DEMO	1	Patient 1	P1	2018-06-03 07:58	2018-06-10 02:34	162.6	0	5	2018-06-03 07:58
MTL-DEMO-0FC5-80E1	DEMO	1	Patient 1	P1	2018-05-27 08:14	2018-06-02 00:52	136.6	0	5	2018-05-27 08:14
MTL-DEMO-0F9F-25DA	DEMO	1	Patient 1	P1	2018-04-25 09:48	2018-04-28 06:27	68.7	0	5	2018-04-25 09:48
MTL-DEMO-0F51-731F	DEMO	1	Patient 1	P1	2018-02-28 08:28	2018-03-06 03:05	138.6	0	5	2018-02-28 08:28
MTL-DEMO-0F82-1C6C	DEMO	1	Patient 1	P1	2018-03-31 09:45	2018-04-01 11:31	25.8	0	5	2018-03-31 09:45
MTL-DEMO-0F3F-0DDE	DEMO	1	Patient 1	P1	2018-02-08 12:59	2018-02-10 21:11	56.2	0	5	2018-02-08 12:59
MTL-DEMO-0F3B-1A60	DEMO	1	Patient 1	P1	2018-02-05 01:01	2018-02-10 01:07	120.1	0	5	2018-02-05 01:01
MTL-DEMO-1005-B419	DEMO	1	Patient 1	P1	2018-07-12 12:19	2018-07-16 11:00	94.7	0	5	2018-07-12 12:19
MTL-DEMO-0FEB-B974	DEMO	1	Patient 1	P1	2018-06-26 07:39	2018-07-03 00:04	160.4	0	5	2018-06-26 07:39
MTL-DEMO-0D89-3624-[142]	DEMO	1	Patient 1	P1	2017-03-19 07:18	2017-03-25 02:16	139.0	0	5	2017-03-19 07:18

Figure 7.3 List of performed time-lapses

A multiroom IVF incubator filter function is in the top left corner of the main display, where the user can narrow the time-lapse search by selecting the specific incubator.

The user can also narrow the time-lapse search by selecting the time-lapse state: “All”, “Active” or “Finished”.

There is a search function in the top right corner, where the time-lapse number, incubator, patient name or patient code can be entered for the search.

In a default mode, the view will list all time-lapses arranged according to the treatment number (a counter that counts from the 1st time-lapse to the current and always counts one up when the new time-lapse is started).

The "Reset" button will reset all selected filters.

By pressing on a "Report" button in the top right corner of the main MIRI® TL family`s multiroom IVF incubators Viewer view, the user can generate a time-lapse annotation file, which will also consist of linked score model results.

In the exported file, the embryo score model results are listed in the last column of the excel file.

	AV	AW
	Models	
	Hierarchical test model	Weighted test model
	N/A	N/A
	N/A	N/A
	N/A	N/A
	N/A	N/A
	Acceptable	6.334
	N/A	N/A
	N/A	N/A
	N/A	N/A
	N/A	N/A
	Bad	2.167
	N/A	N/A
	N/A	N/A
	N/A	N/A
	N/A	N/A

Figure 7.4 Score models location in the exported excel file

The "Delete" button will delete the selected time-lapse. The user can delete the time-lapse entry only when it is not started in the incubator. This feature allows the user to select another incubator if they made a mistake in choosing the incubator when creating time-lapse.

The time-lapse film can be entered here by double-clicking on the specific time-lapse that the user wants to open.

The time-lapse view shows:

- Time-lapse number (unique time-lapse identifier)

- Multiroom IV incubator (in which MIRI® TL multiroom IVF incubator the specific time-lapse was generated)
- Compartment (in which MIRI® TL6 or MIRI® TL12 multiroom IVF incubators compartment the specific time-lapse was generated)
- Patient name
- Patient code
- Start time (pending if still running)
- End time (pending if still running)
- Duration (h) (pending if still running)
- Lid openings number (counter that counts lid openings in the specific compartment during the time-lapse)
- Cycle (min) (the set cycle time between each image stack)
- Created (the date and time when the time-lapse file was created)

7.3.2 Time-lapse view

A time-lapse data file is opened either from the main time-lapse list view, from the specific patient view or the specific patient treatment view.

A revolver view with the movie files will open.

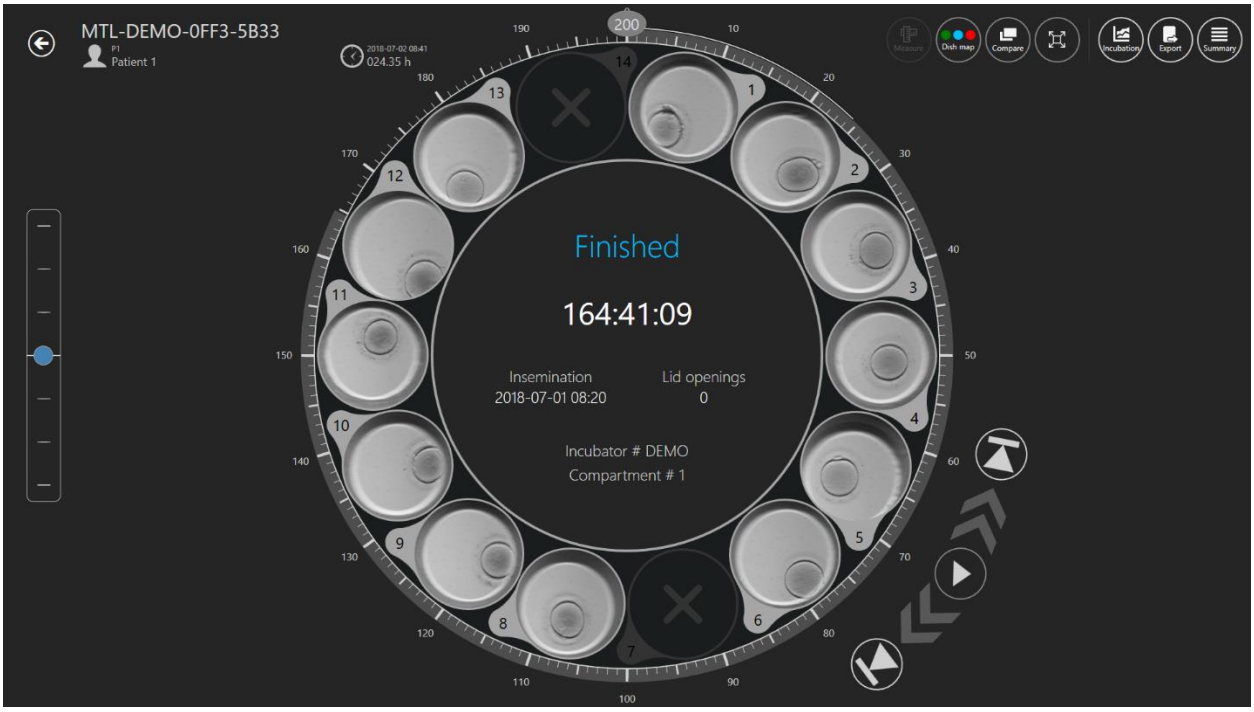


Figure 7.5 The time-lapse view of a specific patient

The view contains the 14 wells of one single CultureCoin® dish. Sometimes the well can be displayed as inactive (see User Manual of MIRI® TL family`s multiroom IVF incubators), and the user will not select it. In figure 7.4, wells 7 and 14 are inactive. When the well is active, the user can select it, and it will be displayed in the middle of the revolver view. By clicking on the well-used not only enlarges the well view but also enables features like annotation, measurement, comparison, etc.

In the middle of the view, there is an area where some necessary information is provided:

- Incubator number
- Compartment number
- Insemination time
- Lid openings during the time-lapse
- A status: “Pending” or “Finished”

In the upper left corner of the Time-lapse view, the time-lapse ID number and patient information are provided.

To the left of the Time-lapse view, there is a focal plane shifter. It will have the number of steps the time-lapse movie was generated in (i.e., 3, 5 or 7). Move the blue marker up and down to shift all movies simultaneously through the focal planes. Focal planes cannot be shown differently for discrete wells. All 14 wells will be at the same focal plane at all times.

To the right, just near the wheel, 5 video player controls are located. They enable the user to move through film, pause, play or jump to the start or end.

The circular time indication around the revolver view can also be used to select the desired time quickly. The selected time is displayed to the left of revolver view, near the 13th well.

7.3.2.1 Annotations

The annotation system is structured around “Events” located to the left of the wheel and only when an embryo is in the active area.

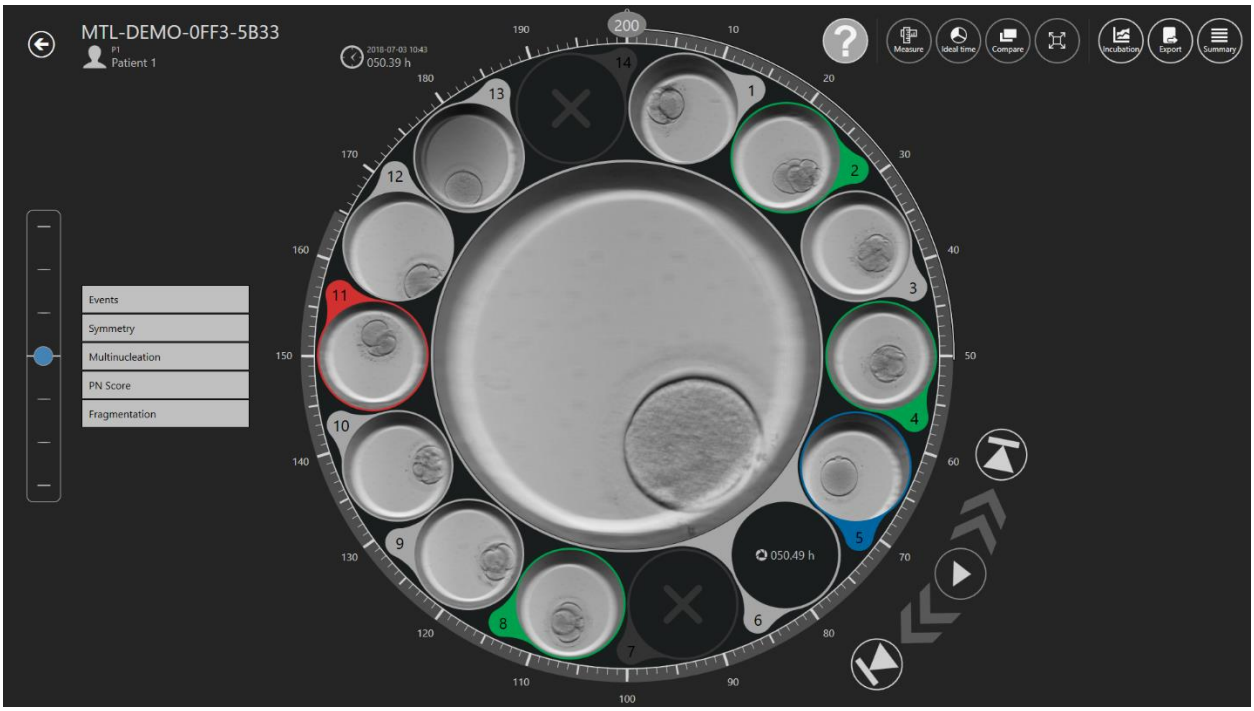


Figure 7.6 Time-lapse annotations view

When the user observes an event taking place in the film, for instance, sees the division to a 2 cell embryo – then the user will double-click the "t2" under the event list. Now the t2 will move to the Time-lapse view's right side, and the timeline until the event will be colored with appropriate annotation color. When all events have been assigned a time, the embryo has been annotated. How many events the user wants to use (level of annotation) is entirely at their discretion and dependent on the selection criteria that the clinic use. Any incorrect annotation can quickly be moved back (deleted) by double-clicking on it on the result side.

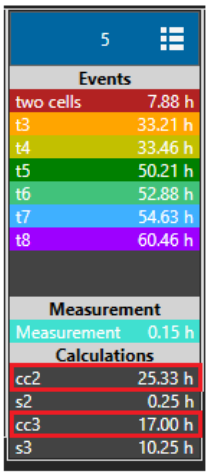
Annotations are stored in the database.

Annotations can be user-customized (See section 7.6.1 for more details).

In the default form it contains:

- Events (t2 – t8, Morula, Blastocyst)
- Symmetry (Even or Uneven)
- Multinucleation (MN 1c, MN 2c)
- PN score (1PB, 2PB, 2PN, Syngamy, PN Fading, 1PN, Z1, Z2, Z3, Z4, Central, Central Side, Side)
- Fragmentation (5%, 10%, 15%, 20% or Reversal)

Events results will be automatically calculated and will appear in the “Summary view” result list and “Report” annotation group table once the events have been assigned a time. For instance, cell cycles time difference between certain cell divisions, i.e., cc2 = t3 – t2; cc3 = t5 – t3.



ANNOTATION GROUP	NAME	TIME
Events	two cells	7.88h
	t3	33.21h
	t4	33.46h
	t5	50.21h
	t6	52.88h
	t7	54.63h
	t8	60.46h

ANNOTATION GROUP	NAME	TIME
Measurement	Measurement	0.15h

ANNOTATION GROUP	NAME	TIME
Calculations	cc2	25.33h
	s2	0.25h
	cc3	17h
	s3	10.25h

Figure 7.7 Cell division time calculations in the Summary view and Report

In the picture below, the embryo is in the active area. The event list is open and t2 assigned a time and moved to result (annotated).

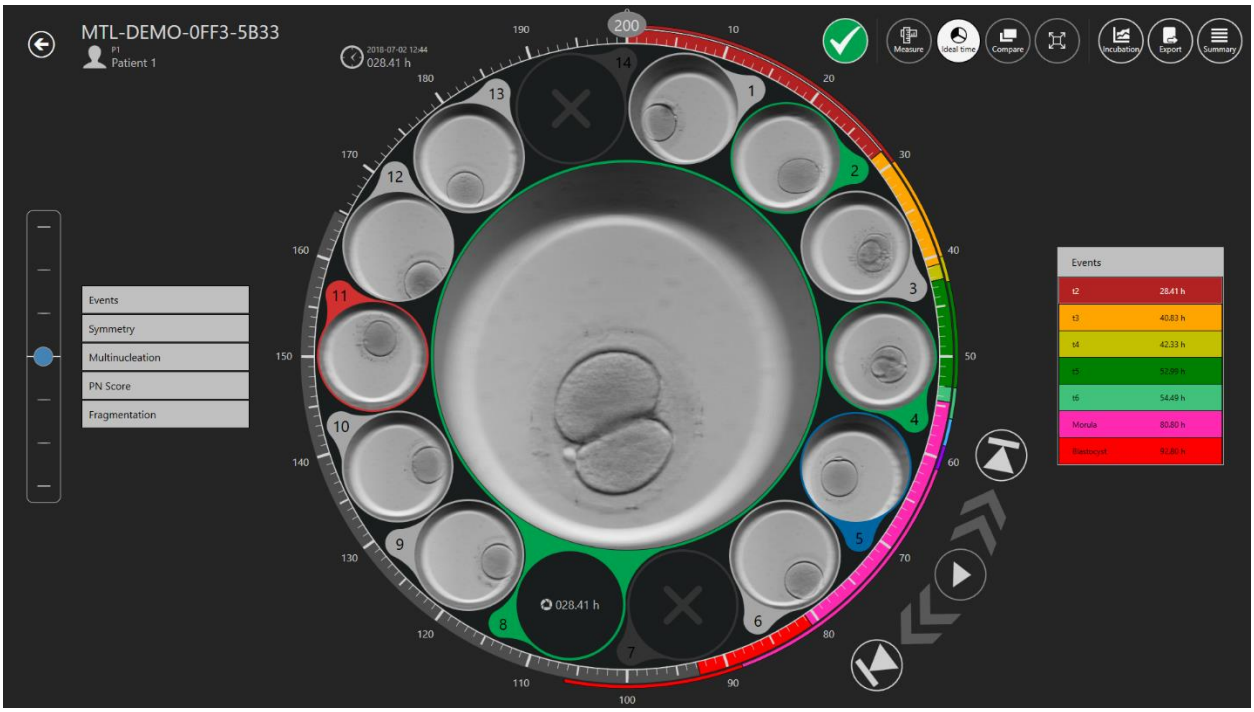


Figure 7.8 Selected “two cells” event annotation

Once the selection process has been completed (or the process results are exact at an early stage), the embryos can be assigned with colors that indicate the decision.

No color means no decision, green means transfer, red means discard, blue means freeze. The “A” embryo state is inactive and displayed in a darker font; all other embryo states are active and are shown normally in the picture below.

The user can create additional embryo states. More information is provided in the “7.6.2 Embryo states” section.

The assignment is done on the icon at the top right.

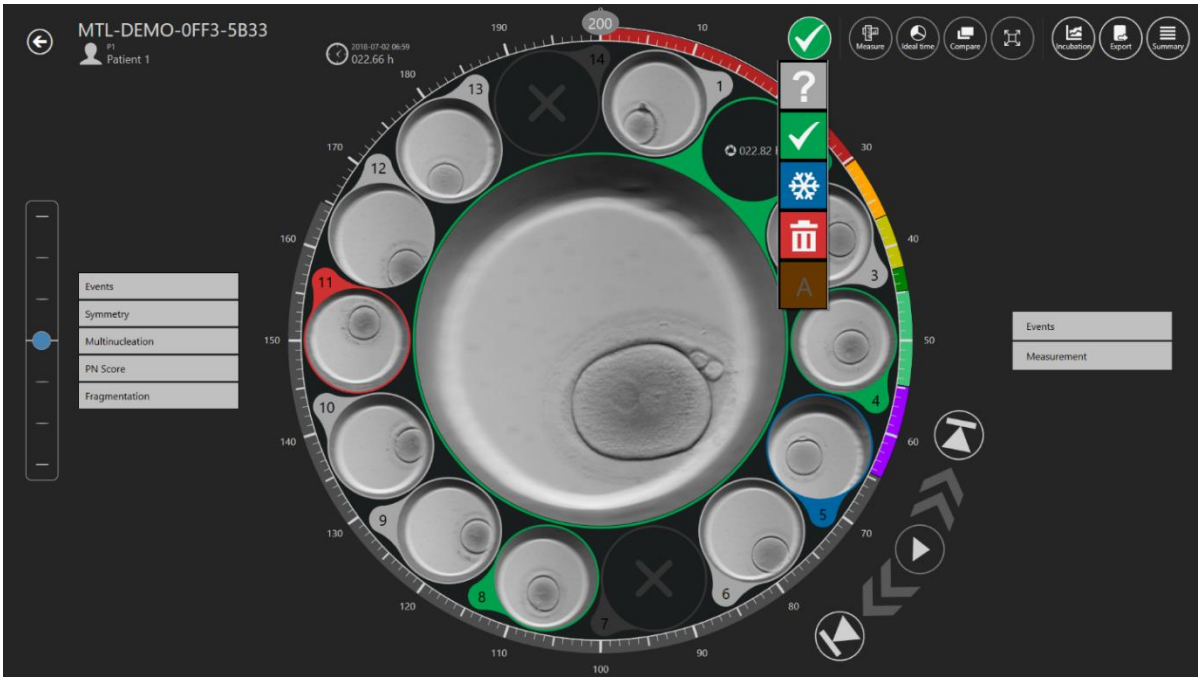


Figure 7.9 The embryo status selection

Clicking on it makes a drop-down list where the desired status can be chosen. A colored ring will appear around the embryo well and the color of the position on the dish map will also change.

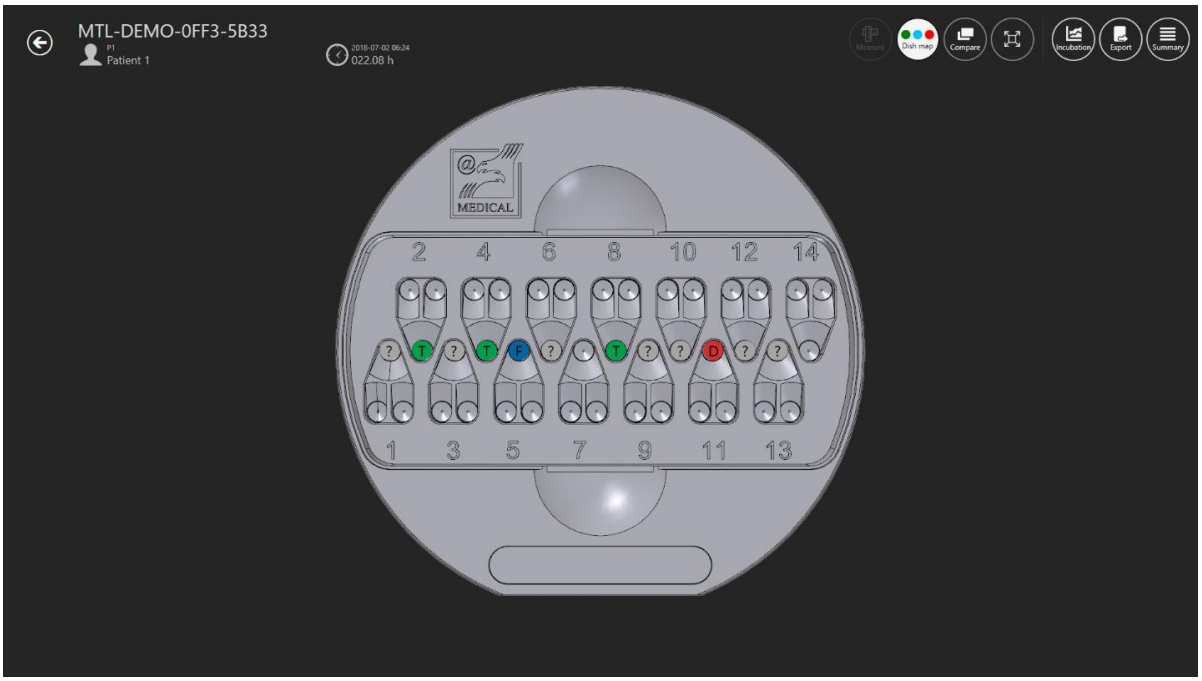


Figure 7.10 The dish map

7.3.2.2 Embryo measurement function

There is a “Measure” button in the upper right corner of the main time-lapse view. Only when the desired dish well is chosen, the “Measure” button will be activated. Otherwise, the button will be inactive.

Figure 7.11 Active and inactive “Measure” button on the MIRI® TL Viewer

After pressing on the “Measure” button, there will appear three new measurement options.

Figure 7.12 Three measurement options

There is a possibility to choose from 2 lines and 1 circle measurement. It is also possible to select the color for the desired embryo measurement.

When the 3 measurement option appears, the user can not make annotations and the previous functions will be unavailable.

In the picture below, 3 added measurements can be seen on the desired time-lapse image.

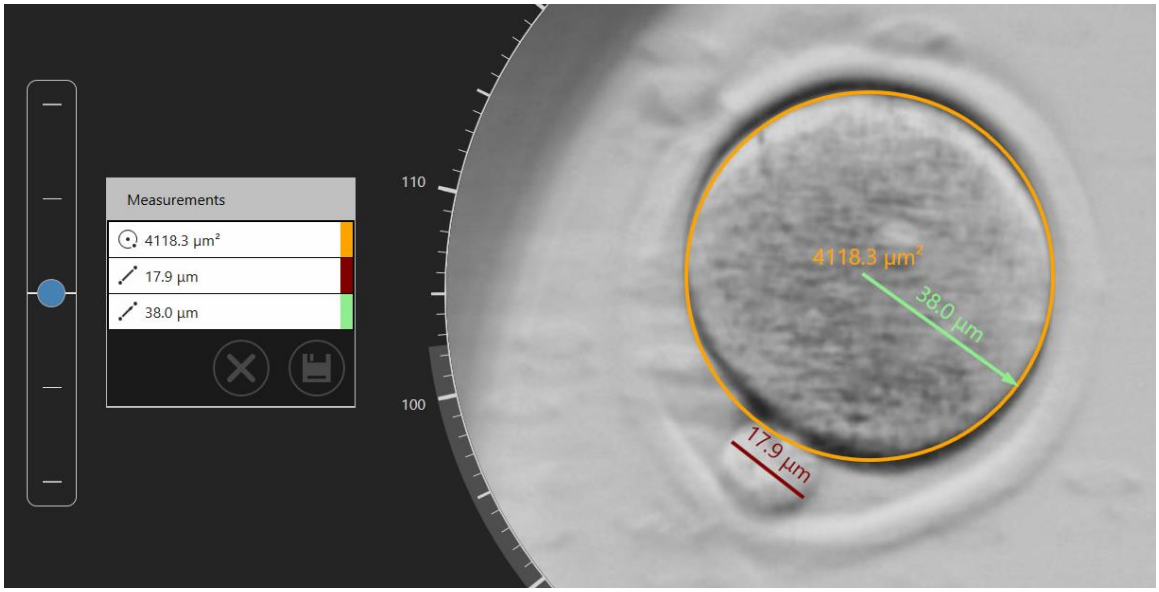


Figure 7.13 Added measurements on the time-lapse image

There is a possibility to delete the unwanted measurement by double-clicking on it. Pressing on the "X" button will delete all of the measurements.

When the measurements are saved, on the right side of the main time-lapse view, "Measurements" will appear.

When a measurement is created, or an existing one is adjusted, the user cannot change the displayed time (time slider is inactive) until the changes are saved or canceled.

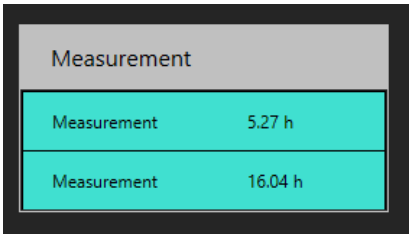


Figure 7.14 Measurements done at a specific time

7.3.2.3 The dish map

The “Dish map” button will open a view that shows the embryos' location in the CultureCoin®. It will also show the embryo state that the user selected. The dish map can be printed or used during the transfer or handling of the embryos.

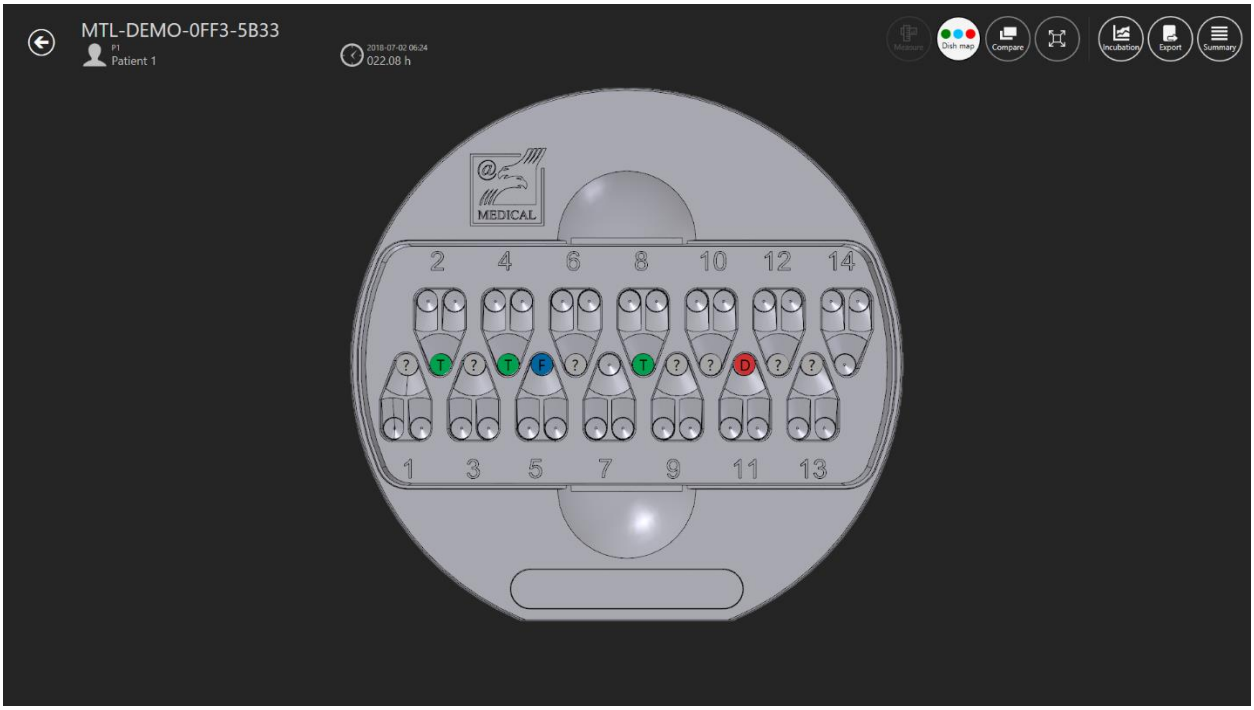


Figure 7.15 The dish map

Green means that the embryo is suitable for transfer, red for discard, blue for freeze and the “?” mark means that the user did not choose the embryo state.

7.3.2.4 Ideal time

The ideal time button turns “ON/OFF” a ring around the revolver wheel that colors the “Ideal” time length of a specific event (shown in Figure 7.16 below).

For instance, if t2 should be 28 hours, the colored line will stop at the time mark for 28. A quick visual comparison is now possible between the ideal and the annotated parameter. The more the time point where the parameters match, the more ideal the embryo.

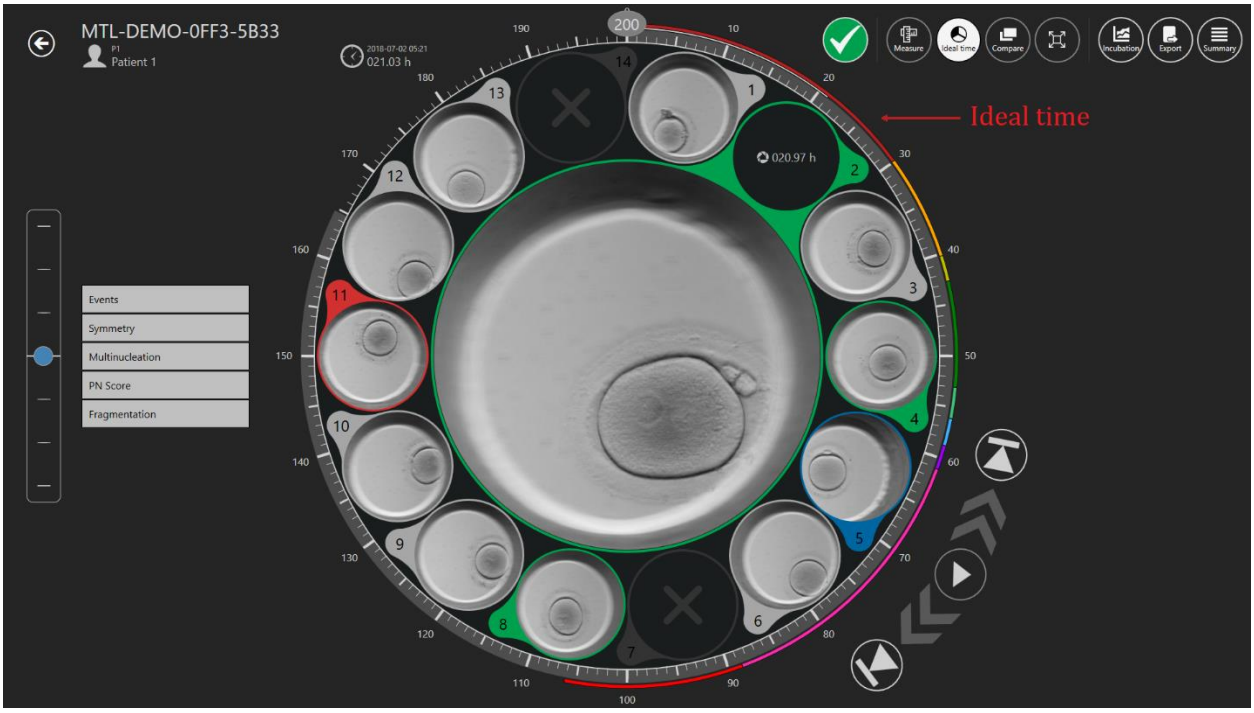


Figure 7.16 The ideal times shown around the revolver

The user sets up the ideal times as the parameters may differ for different clinics due to differences in working methods.

Please read more in the “7.6.1 Annotations” section for more guidance on how to change a specific event's ideal times.

7.3.2.5 Compare function

The “Compare” button makes it possible to maximize two embryos side by side for a more detailed comparison if it is difficult to make a selection decision. Click the “Compare” button, then select one well (if the well is already selected). It will be displayed in the center. Then choose another well you are interested in from the rest. Selecting the second well will display the Compare view.

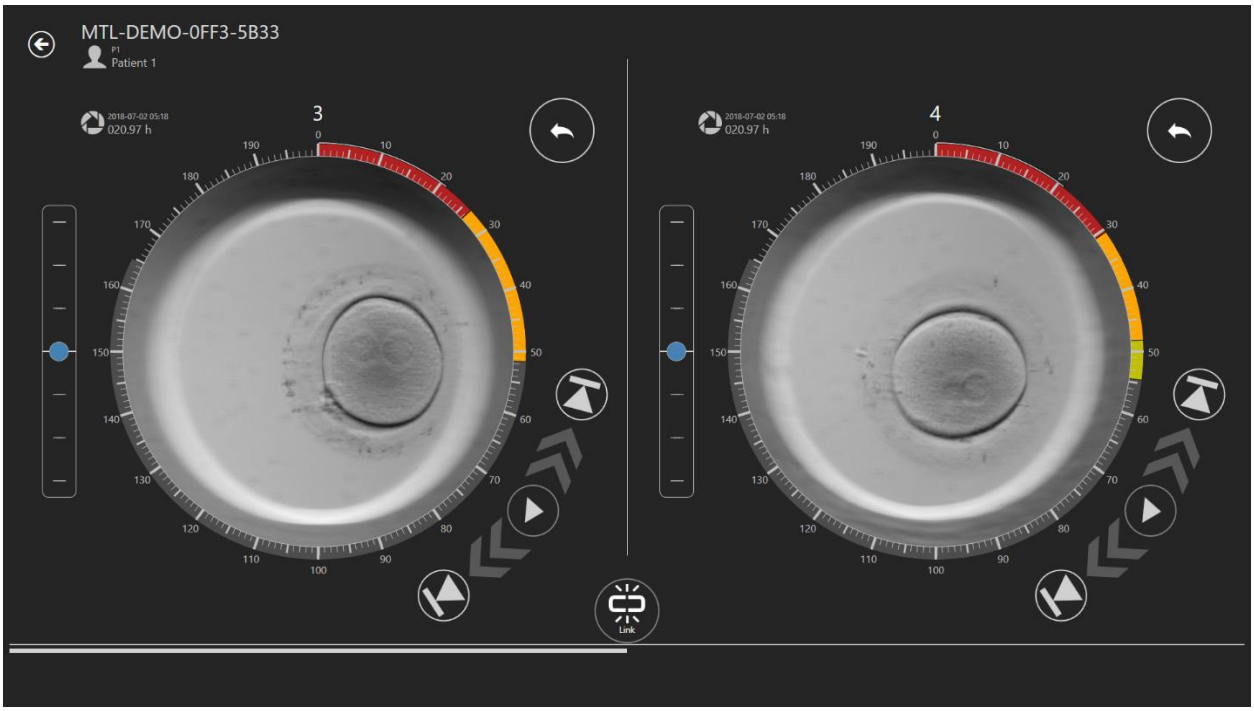


Figure 7.17 The independent "Compare" view

The two video players can be played independently or linked.

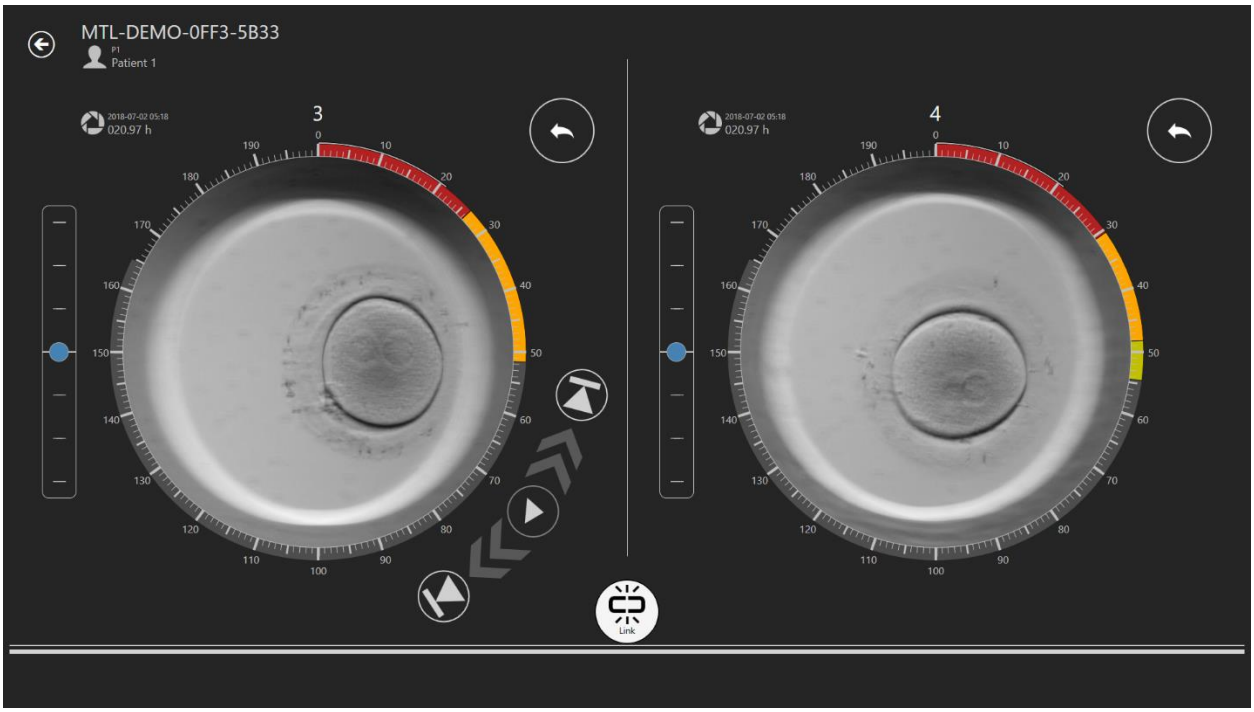


Figure 7.18 The linked "Compare" view

When they are linked, playback controls on the right side disappear.

7.3.2.6 Image maximization function

The “Maximize” button will increase the selected image in the center of the revolver.

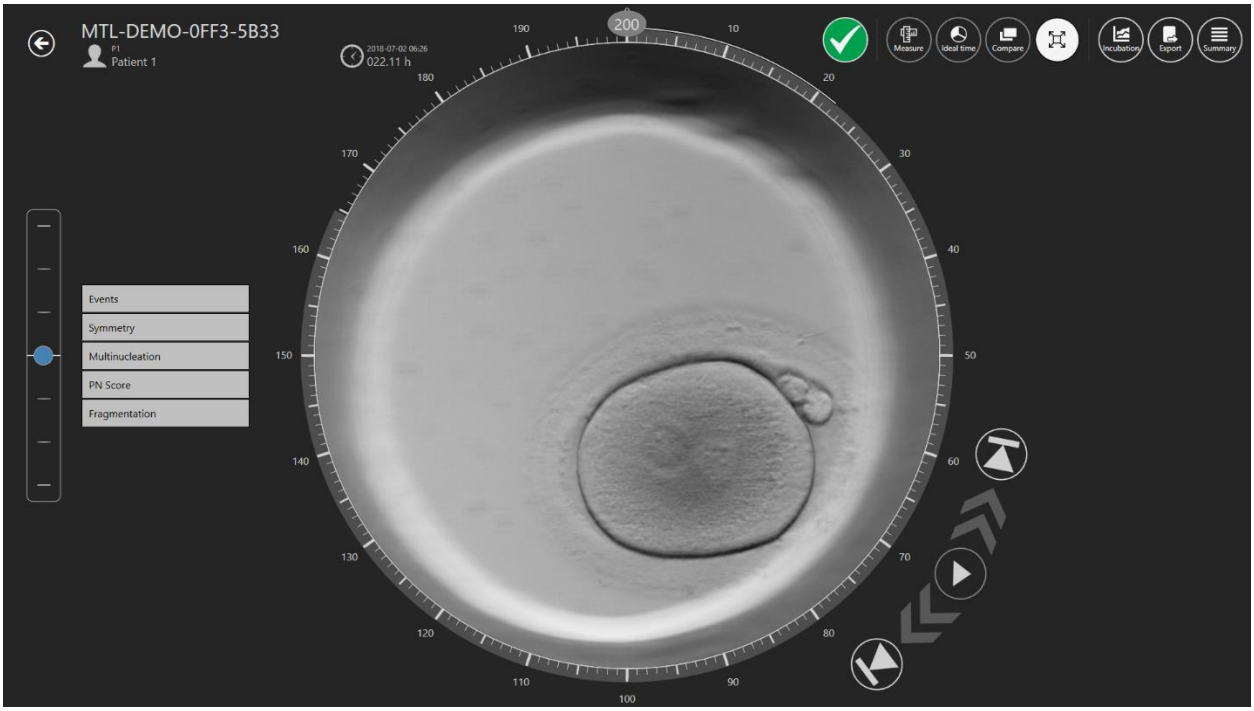


Figure 7.19 The “Maximize” view

7.3.2.7 Incubation data logging function

The “Incubation” button shows the incubation data for the MIRI® TL family`s multiroom IVF incubator CultureCoin® was or is. Incubator incubation data is displayed here when the time-lapse was performed.

The user can select between temperature, CO_2, O_2 and alarms incubation data log in the top left corner.

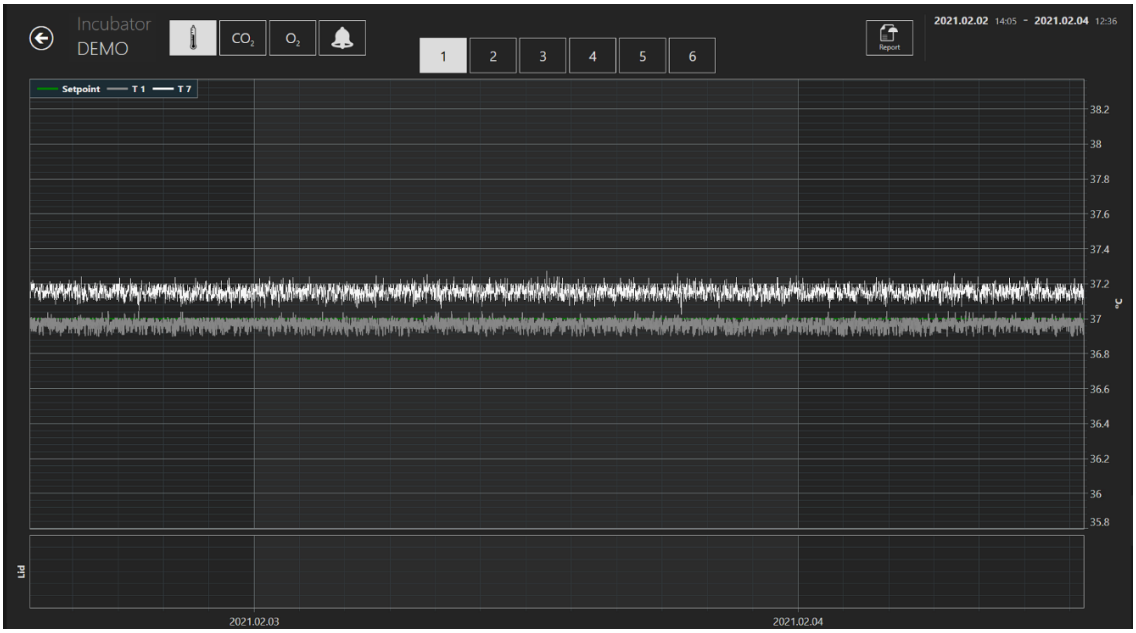


Figure 7.20 Temperature incubation view

At the top, there are buttons from 1 to 6, where the user can choose the desired compartment. In this case, compartment number 1 is selected. It will show the setpoint, T1 and T7 zones temperature values.

A zoom function is available by touching the screen and swiping the finger left (or with a computer mouse) over the area that should be zoomed. Pressing the zoom-out button (marked with a red rectangle) will jump back to full view.

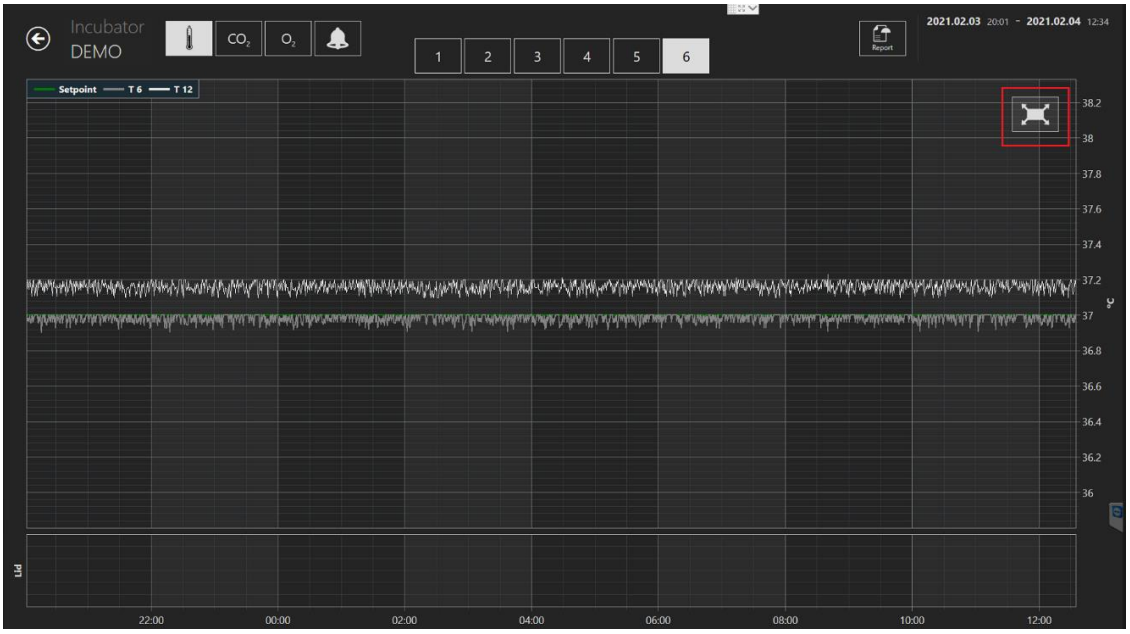


Figure 7.21 The reset button

Pressing the CO_2 button will shift from the temperature data view to the CO_2 gas data view.

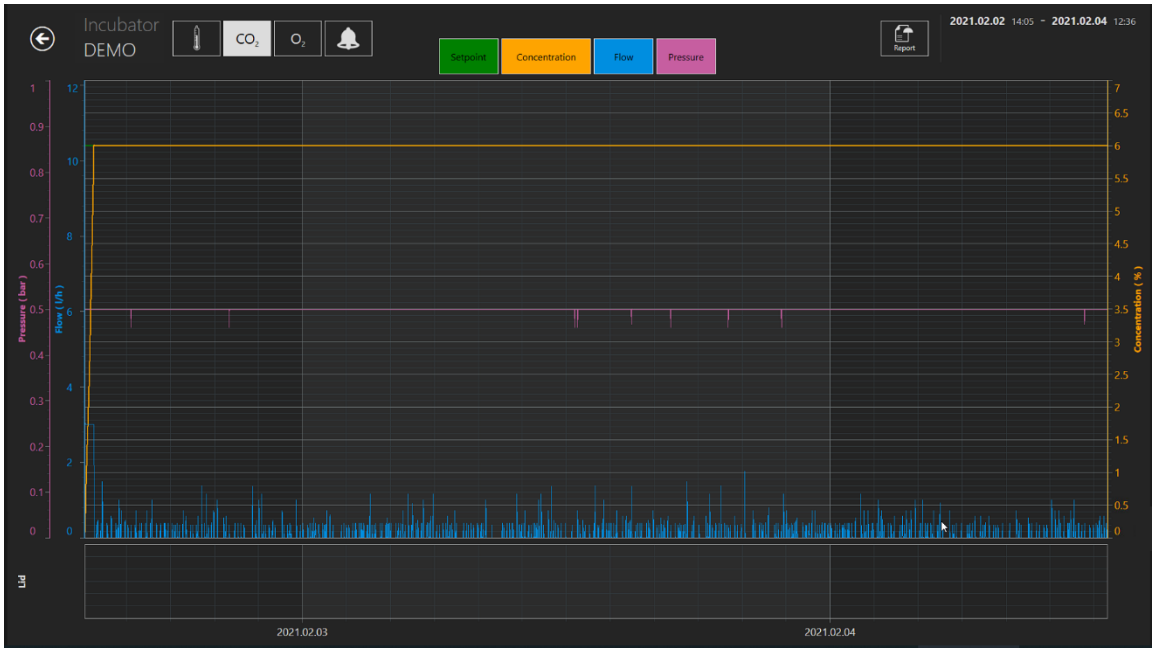


Figure 7.22 The CO_2 data view

The user can see the historical data of CO_2 gas concentration setpoint, concentration, flow and pressure.

Pressing the O_2 button will shift from the CO_2 gas data view to the O_2 gas data view.

Figure 7.23 The O_2 data view

The user can see historical data of O_2 gas concentration setpoint, concentration, N_2 gas flow and pressure.

The “Alarm” button will bring up the graphical alarm view.

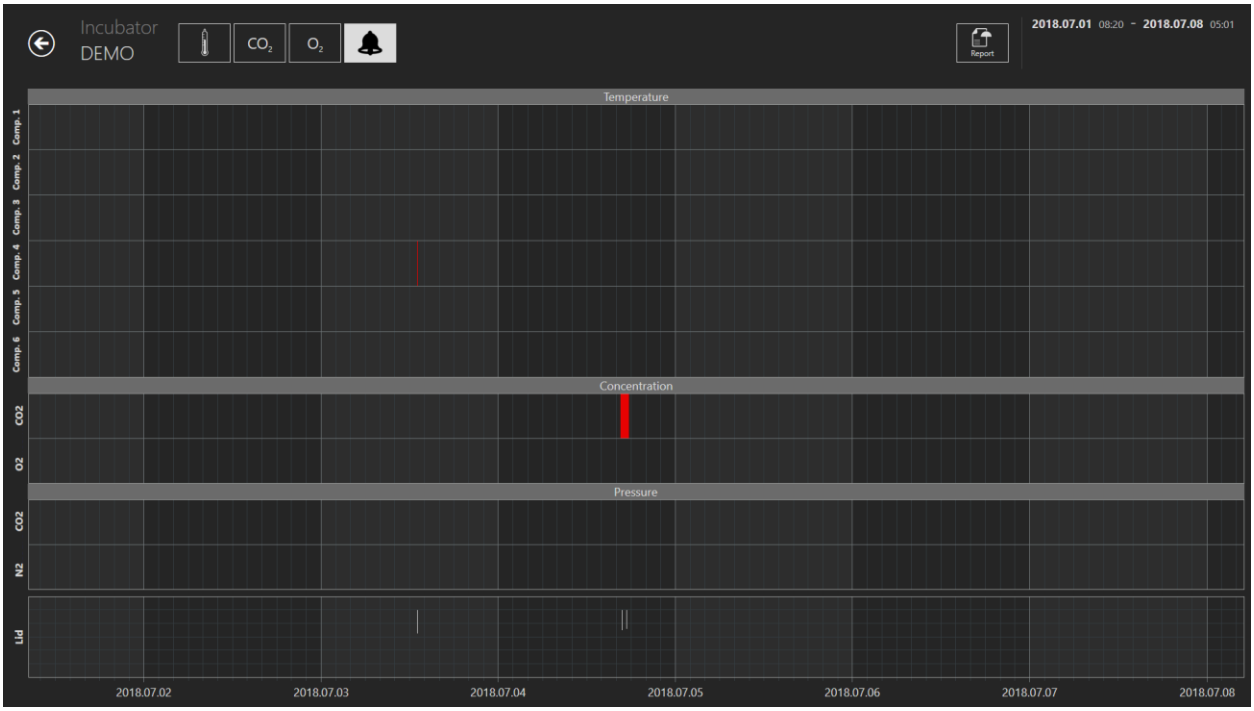


Figure 7.24 The graphical “alarm” view

The “Report” button will bring up the report mode. All running parameters can easily be documented and printed as a report or exported in PDF, Excel or Word for convenient ISO quality management compliance.

7.3.2.8 Export function

How to export a video:

When clicking the “Export” button, it will list 3 options where selection between making the video, the image or the Report is possible. In this case, the user should press the “Video” button.

Figure 7.25 The "Export" option view

When the user selects the video, the view changes to the video selection view.

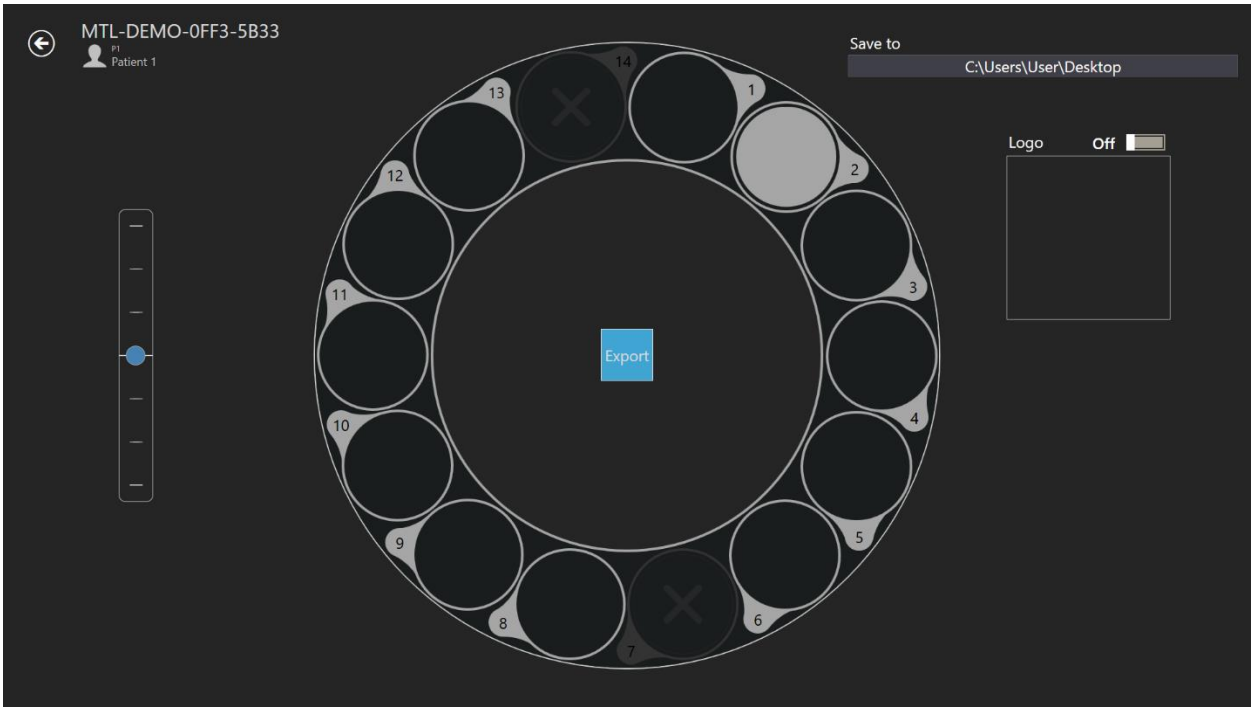


Figure 7.26 The video export view

The time-lapse video that the user wants to export can be selected here by clicking the desired well number. In the picture above, only the 2nd well is selected. A logo can be added to the movie by moving the slider to one. In the square below "Logo", "Select image" will be displayed and only by clicking will it be possible to select a logo file.

The user can choose where to save the exported video. The resulting AVI file can be played in the Open-Source freeware VLC player (http://www.videolan.org/vlc/). Windows media player does not work. It is due to codec restrictions from Microsoft.

⚠ **The user should always wait for the video export to complete.**

How to export an image:

When pressing on the "Image" button, there is a possibility to export the selected image.

When clicking the "Export" button, it will list 3 options where selection between making the video, the image or the Report is possible. In this case, the user should press the "Image" button.

Figure 7.27 Selected image exportation button

When the desired image is selected and the "Image" button is pressed, it will open the window below.

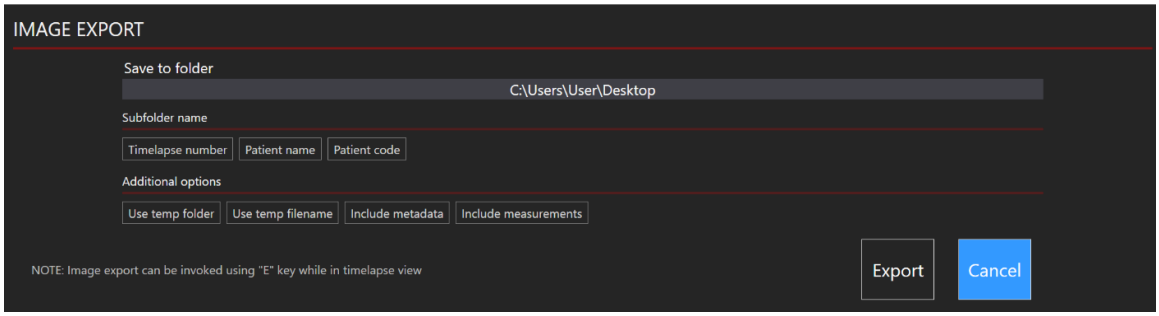


Figure 7.28 All options are inactive

The user can choose which information it wants to include in the exported image.

It is possible to choose how the exported photos will be grouped. For example, if you select only the Time-lapse number, a new directory "MTL-DEMO-XXX-XXXX" will be created, and photos will be placed in it. If nothing is selected, then all photos will be placed in the root directory.

There are additional options that can be included in the exported image: "Use temp folder", "Use temp filename", "Include metadata" and "Include measurements".

By pressing on any of the options, they will be included in the exported file. They must be in white.

Image export can be invoked using the "E" key on the keyboard.

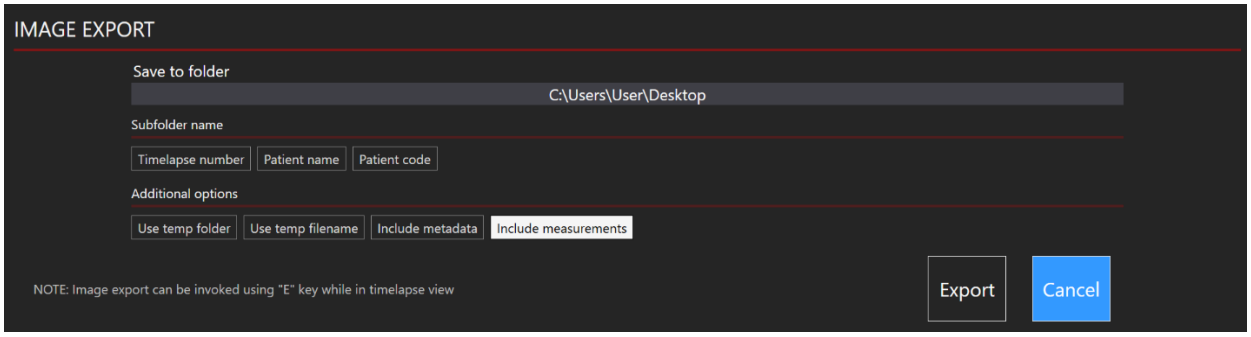


Figure 7.29 "Include measurements" option active

As a default, "Include measurements" is OFF, but after being included for the 1st time, they will be automatically included in other exported images.

Notice that the image name does not automatically change, so be careful about overwriting the images!

How to export a report:

When clicking the "Export" button, it will list 3 options where selection between making the video, the image or the Report is possible. In this case, the user should press the "Report" button.

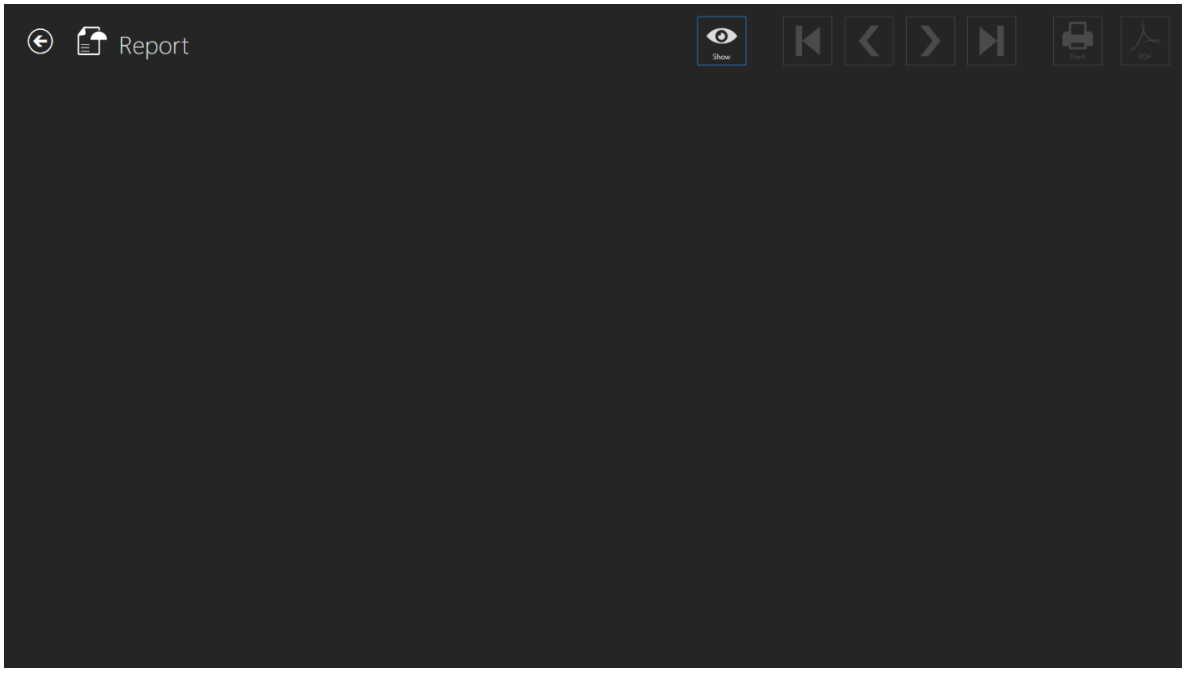


Figure 7.30 "Report" view

The Report can be shown on the screen by clicking the "Show" button. Near the "Show" button, navigation buttons can be used for moving between exported report pages. By clicking the 1st or 4th button, the user can navigate to the first and the last report page. By clicking the 2nd and 3rd button, the user can navigate one page per click. The user can select to print or make a PDF file.

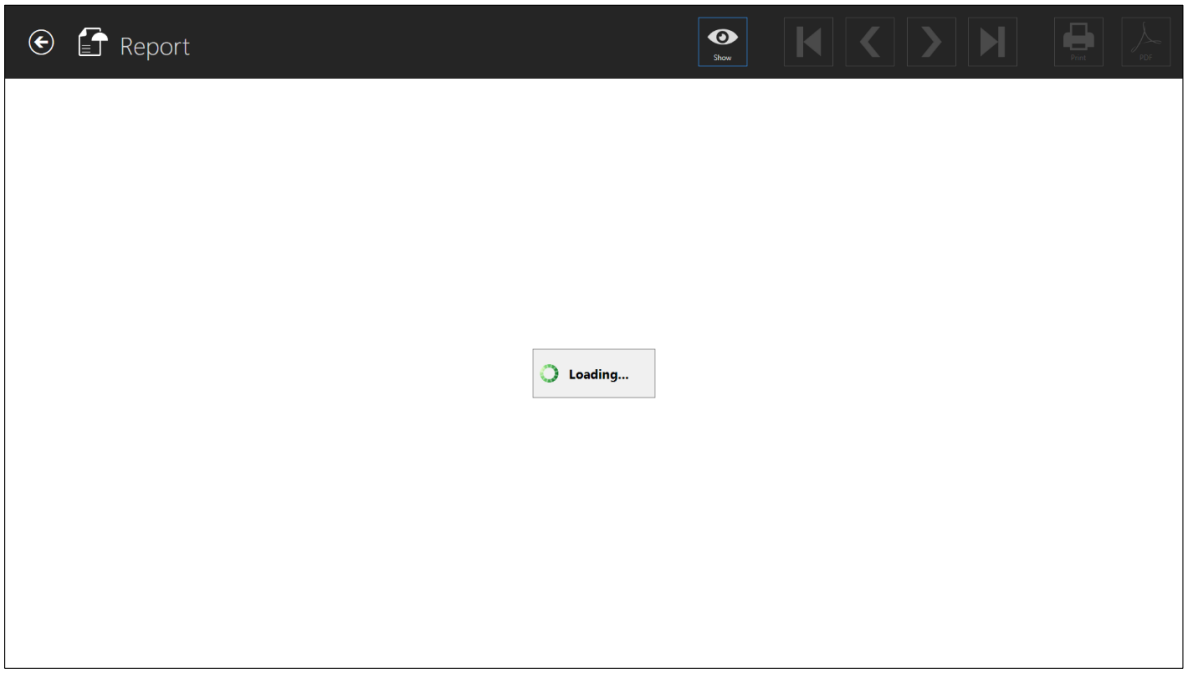


Figure 7.31 Report loading view

The Report may take a while to load.

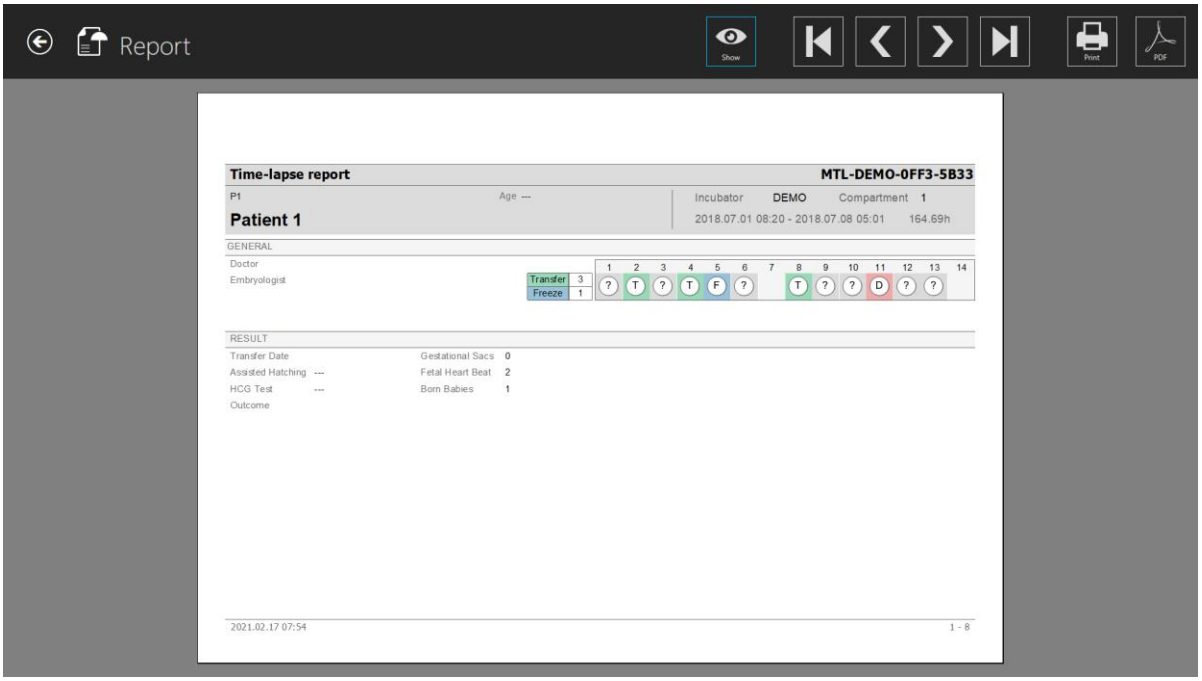


Figure 7.32 Time-lapse report view (general page)

In the picture below are all included development images when events were annotated. When the time-lapse Report is generated, images with measurements will be included automatically.

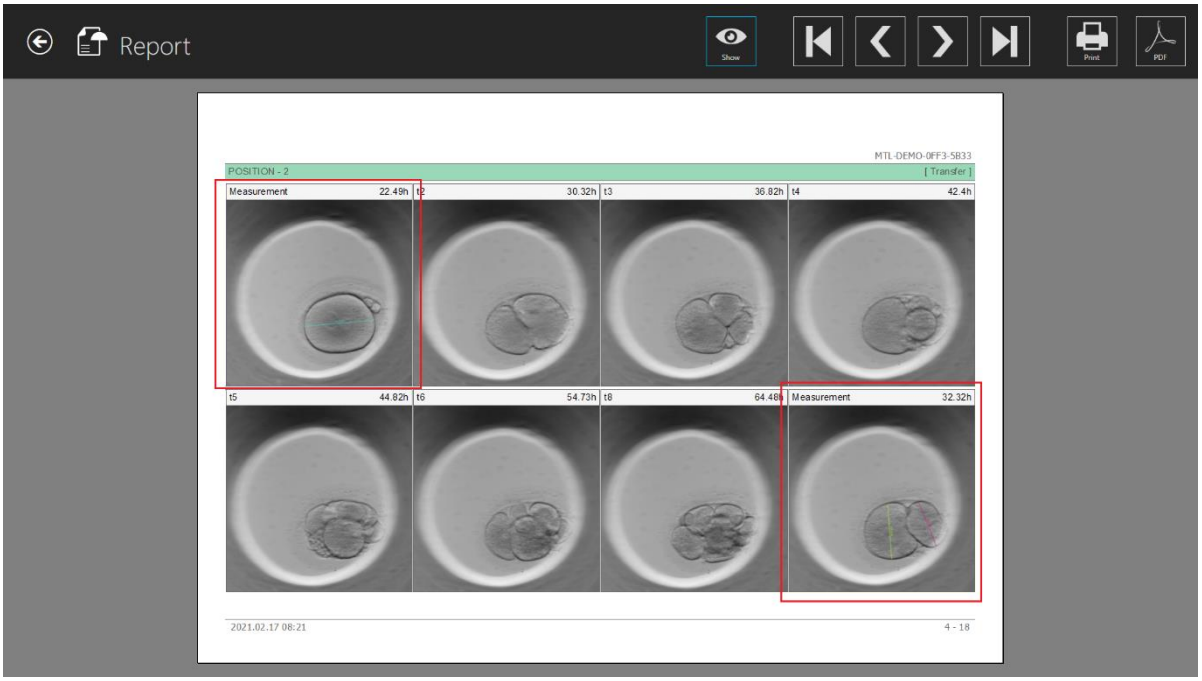


Figure 7.33 Images with measurement in a generated time-lapse report

In the picture below are all annotation overview matrices.

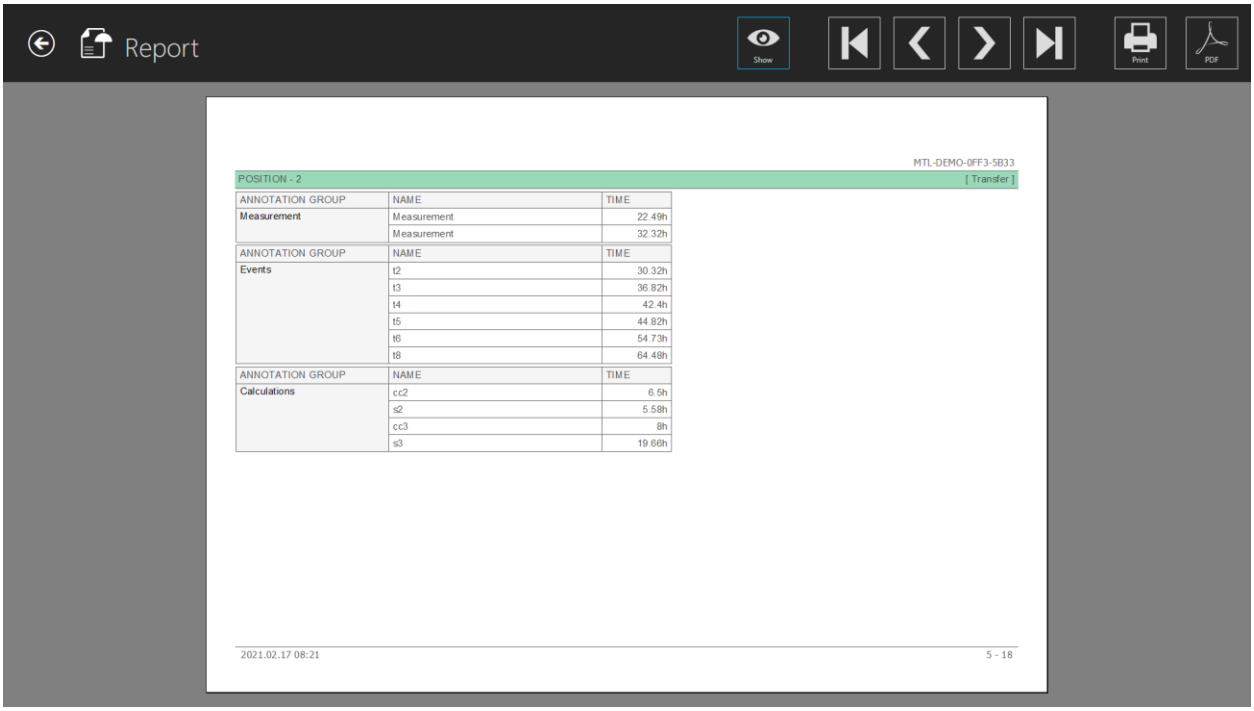


Figure 7.34 Time-lapse report view (annotations)

All new additional information (i.e., outcomes, gestational sacs, etc.) is also included in the time-lapse Report (Fig. 7.32).

7.3.2.9 Summary view function

The summary view consists of two different graphical representations that show the user's annotations in direct comparison.

In the first view that opens up, the well numbers from 1 to 14 are shown in the top art lines, top to bottom. In an example, well number 1 is first. In a horizontal line, the annotations made for well number 1 are shown. Under well number 1 is number 2 and the annotations for that well in the horizontal line, and so forth.

Figure 7.35 All selected dish positions in a summary view

The ideal times are shown as horizontal lines with a tag on and in color representing them.

The wells numbers are listed horizontally under the graphical lines and the events annotated are shown in text vertically under each.

There is a possibility of selecting/deselecting all dish positions by clicking on a checkmark in a summary view.

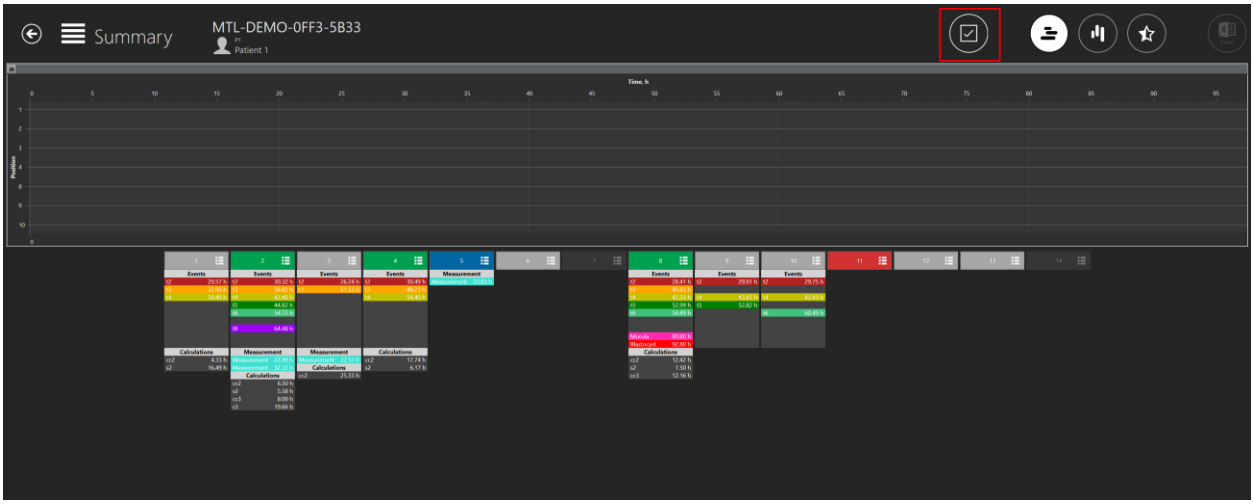


Figure 7.36 All deselected dish positions in a summary view

Showing the well on the graphical line can be toggled “ON/OFF” by pressing anywhere on the listed annotation information. A white border is shown on the wells that are “ON” and when it is toggled “OFF”, the line disappears.

The user can select the desired dish positions by clicking on them.

Figure 7.37 Selected dish positions in a summary view

Events annotations are in alignment for comparison, but measurements and calculations are listed normally.

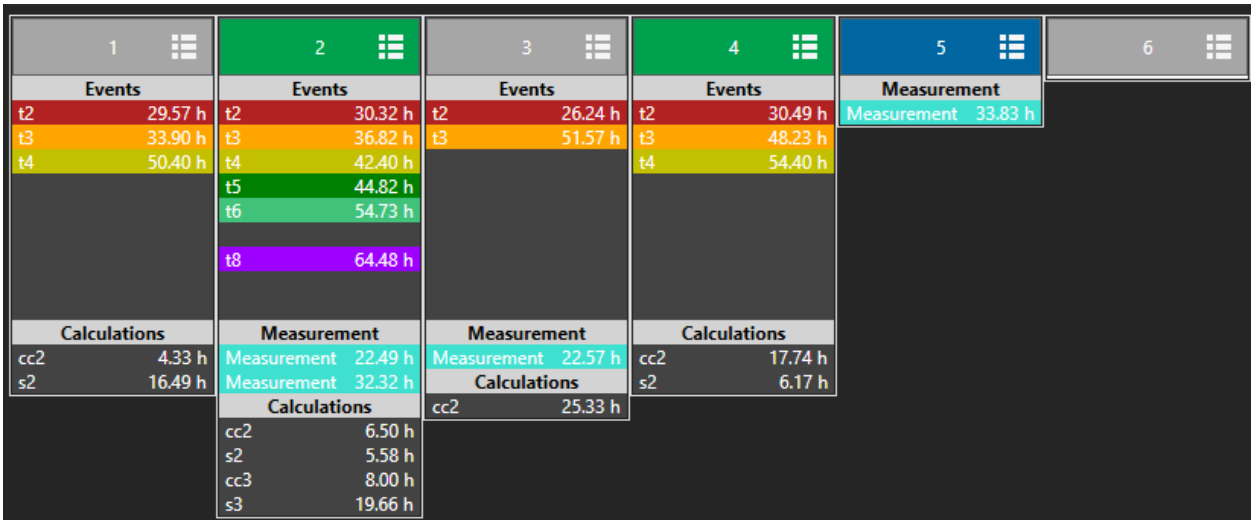


Figure 7.38 Event annotation are in alignment

It is possible to work with the selection in this view. When clicking on the well number 1, the user can set the selection status for a list that will open (the click must be on the number field, not the below listed annotation information).

Figure 7.39 Dish status selection option in a vertical summary view

Here the status can be set. It will change the color in the annotation view and the dish map. The "A" status, in settings, is chosen to be inactive, so the image is in a darker font. The user cannot select it.

The second summary view lists the events horizontally in the top section. Under each event, the deviation from the ideal time is shown for each of the 14 wells. If the deviation is > 100%, the line will turn red.

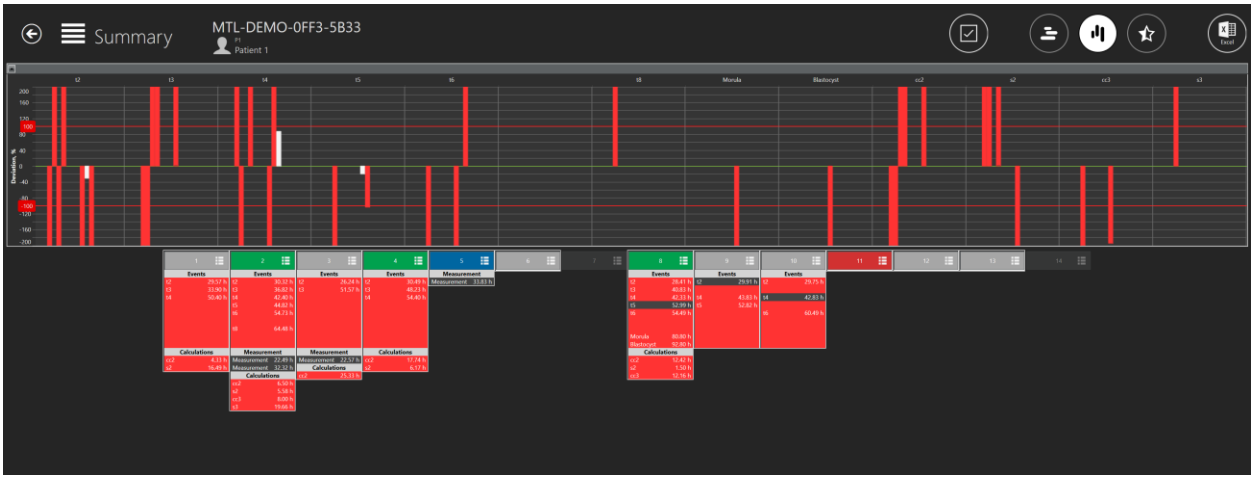


Figure 7.40 Horizontal summary view

Again, the showing the well on the graphical line can be toggled "ON/OFF" by pressing anywhere on the listed annotation information. A white border is shown on the wells that are "ON" and when it is toggled "OFF", the line disappears.

The line is 200% off in the graph, which means that the ideal time deviation is more than 200%.

It is possible to work with the selection in this view as well. When clicking on the well number 1, the user can set the selection status for a list that will open (the click must be on the number field, not the below listed annotation information).

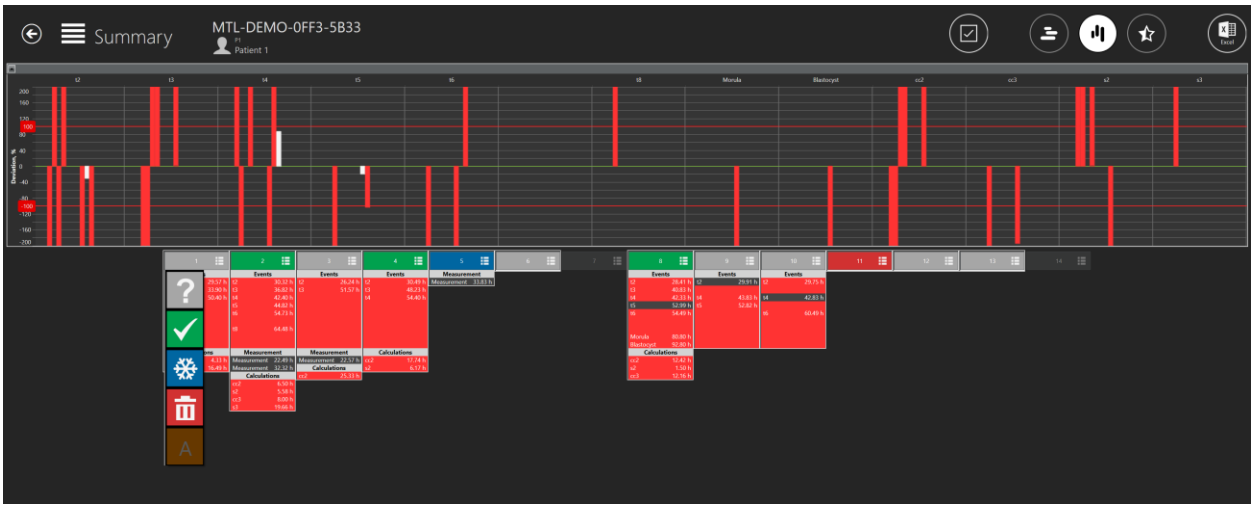


Figure 7.41 Dish status selection option in a horizontal summary view

Here the status can be set. It will change the color in the annotation view and the dish map. The "A" status, in settings, is chosen to be inactive, so the image is in a darker font. The user cannot select it.

New feature – embryo score model summary view

The user can access the embryo score model summary view by pressing a "Star" button at the top of the summary view.

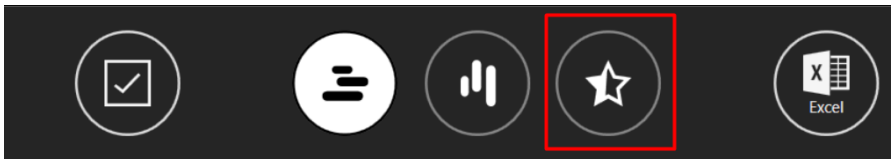


Figure 7.42 "Star" button in a summary view

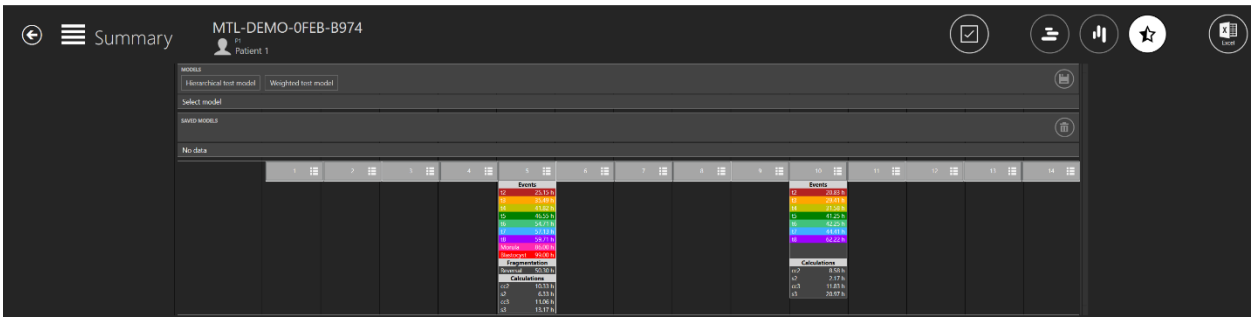


Figure 7.43 Embryo score model summary view

Linking score model to a timelapse

At the top of the screen, the user can see all active embryo score models that were created in "Settings".

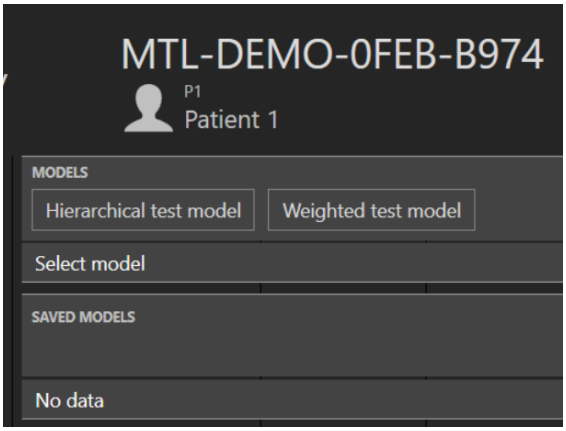


Figure 7.44 List of all created embryo score models

The selected embryo score model will turn white when it is selected.

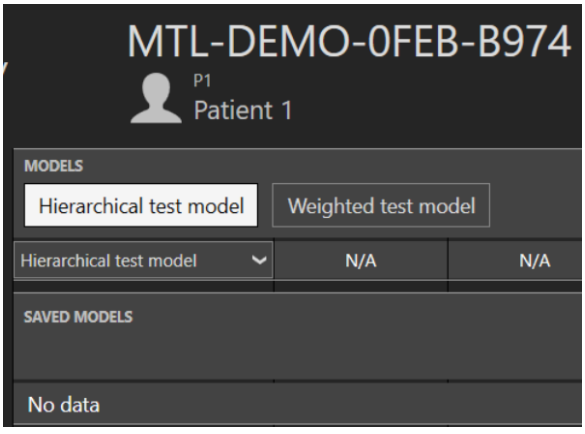


Figure 7.45 Selected "Hierarchical test model"

When the desired embryo score model is selected, the embryo model evaluation will be displayed and the "Save" button will become active.

Figure 7.46 "Save" button

When pressed, the embryo score model is linked to a timelapse and will be placed below the list of models.

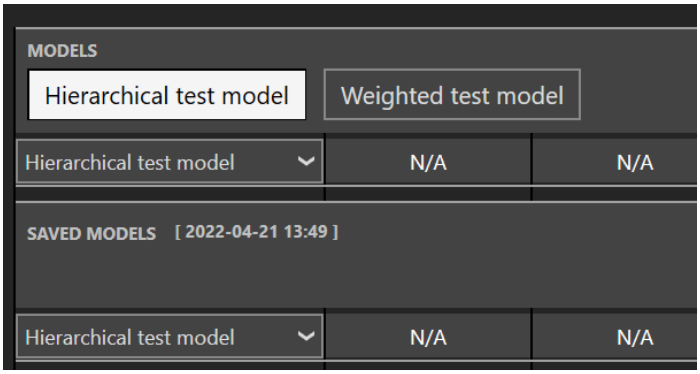


Figure 7.47 Hierarchical test model is linked to a timelapse

When the embryo score model is saved, the date and time when it was saved will be written.

When one embryo score model is selected and saved, another embryo score model cannot be saved to a timelapse.

If the user wants to add another embryo score model to a timelapse with linked models, it must delete the linked ones, select multiple desired models and add them at once.

Hierarchical score model

Near the created hierarchical score model, there is an arrow pointing down symbol. When it is pressed, all created conditional nodes will be listed.

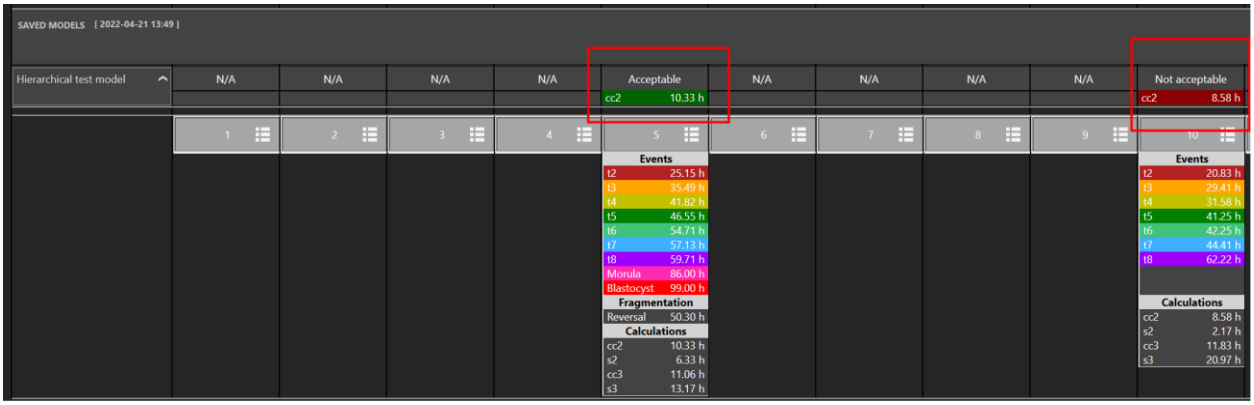


Figure 7.48 List of all conditional nodes that are created in the hierarchical score model

If there are no annotations in the wells, the "N/A" will be written according to the well number. If the conditional node result is "True", it will be in green; if it is "False", it will be in red, as seen in the 2.40 picture above.

☞ The changes will not apply to a saved score model if the score model is modified in the "Settings".

Weighted score model

If there are no annotations in the wells, the "N/A" will be written according to the well number.

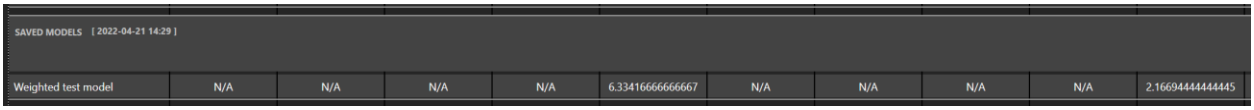


Figure 7.49 Results of all annotations with the linked weighted score model

As seen in the picture above, many numbers are written after the comma. The user can modify the weighted score model formula in the "Settings" view to show only 3 numbers.

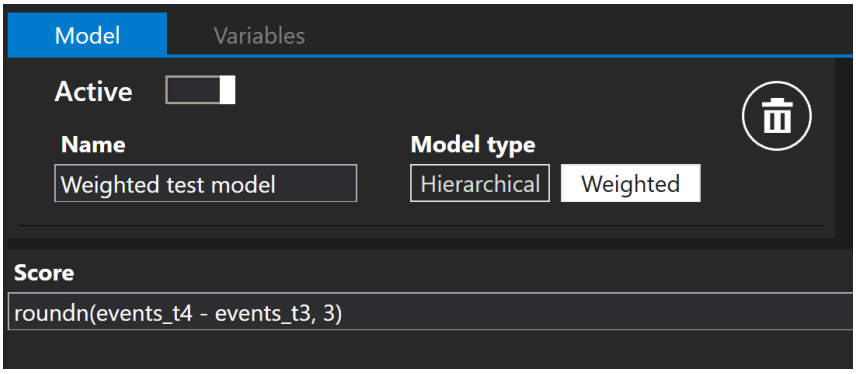


Figure 7.50 Modified weighted score model to show 3 numbers after the comma

As seen in the picture below, the saved model was not modified, but the “MODELS” list shows modified results with 3 numbers after the comma.

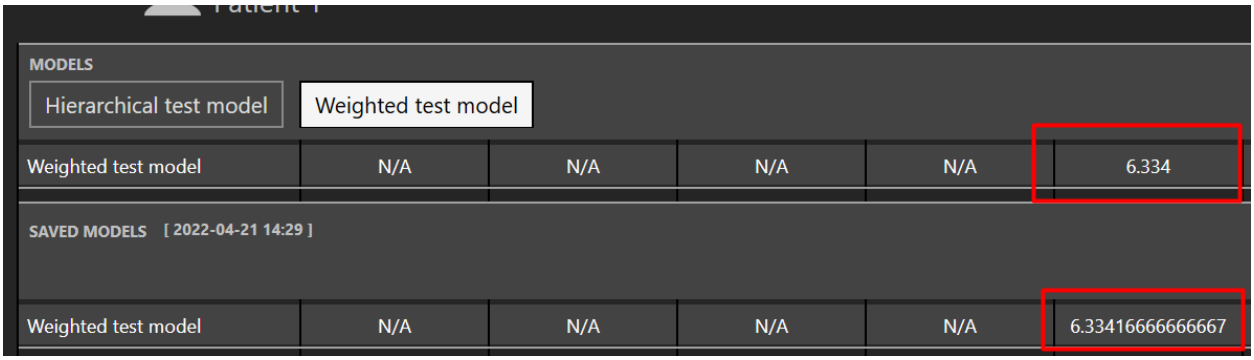


Figure 7.51 Results of all annotations with the linked weighted score model

The changes will not apply to a saved score model if the score model is modified in the “Settings”.

There are mathematical operations that the weighted score model supports:

1. **Basic Operations**:
   - Addition: “+”
   - Subtraction: “-“
   - Multiplication: “*”
   - Division: “/”
   - Modulo: “%”
   - Exponentiation: “^”
   - Negation: “!”
2. **Boolean Operations**:
   - Less than: “<”
   - Less than or equal: “<=” or “≤”
   - More than: “>”
   - More than or equal: “>=” or “≥”
   - Equal: “==”
   - Not equal: “!=” or “≠”

A list of all standard functions that the weighted score model supports can be seen in Table 2.1.

Table 7.1 Standard Functions

Function	Arguments	Description
sin	sin(A1)	Sine
cos	cos(A1)	Cosine
asin	asin(A1)	Arcsine
acos	acos(A1)	Arccosine
tan	tan(A1)	Tangent
cot	cot(A1)	Cotangent
atan	atan(A1)	Arctangent
acot	acot(A1)	Arccotangent
loge	loge(A1)	Natural Logarithm
log10	log10(A1)	Common Logarithm
logn	logn(A1, A2)	Logarithm
sqrt	sqrt(A1)	Square Root
if	if(A1, A2, A3)	If Function
max	max(A1, ..., An)	Maximum
min	min(A1, ..., An)	Minimum
avg	avg(A1, ..., An)	Average
median	median(A1, ..., An)	Median
round	round(A1)	Round
roundn	round(A1,N)	Round number to N digits after comma
random	random()	Random

7.4 Patients

7.4.1 Patient list view

In the patient's view, a list of the patients entered into the system can be seen.

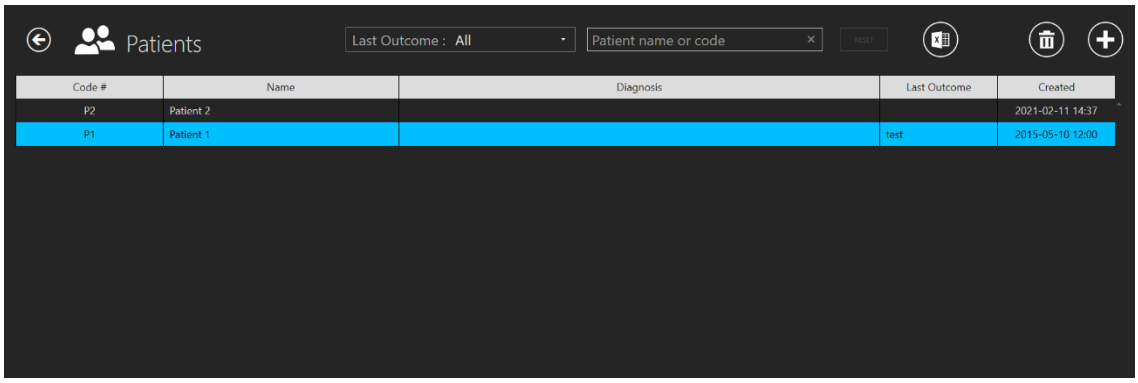


Figure 7.52 Patient list view

There is now a possibility to filter patients by their last treatment outcome. The option is located at the top of the screen in the Patient list view.

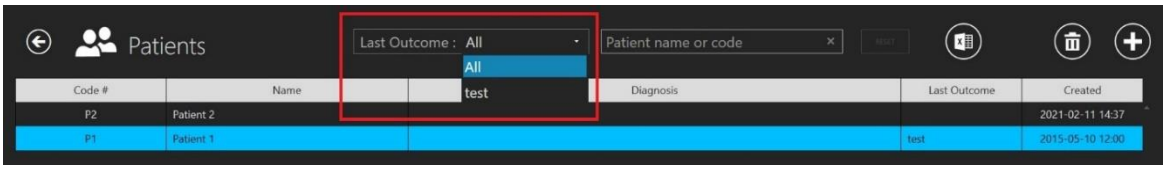


Figure 7.53 Last outcome filtration

There is also a newly added "Last outcome" column in the patient treatment list. It is shown in the picture below.

Figure 7.54 Patient treatment outcome filtration

There is a search function in the top right corner of the patient's list view, where the patient's name or code can be entered to find the correct patient.

The "Reset" button will reset all selected filters.

By pressing on a "Report" button in the top right corner of the patient's list view, the user can generate a patient's annotation file.

The patient can be deleted by pressing on the desired patient and pressing the "Delete" button in the patient list view top right corner. The new window will pop up, informing the user that all selected patient's data will be deleted.

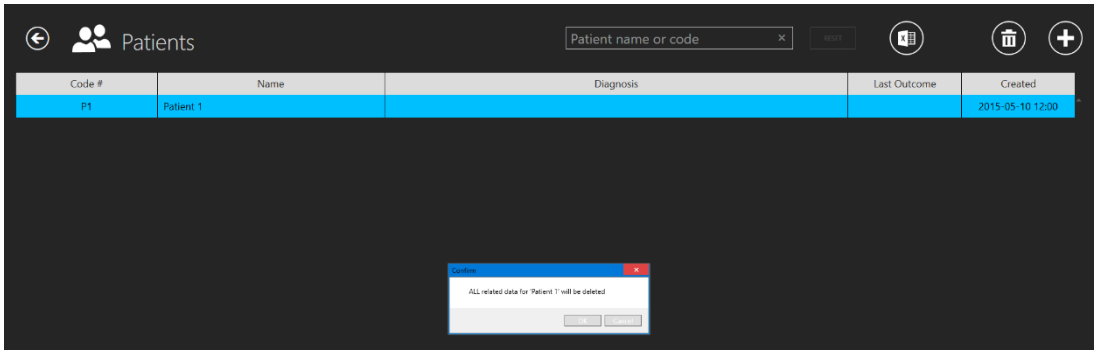


Figure 7.55 Confirmation window that all selected patient's data will be deleted

There will be a big “Time-lapses” button to the right under the particular patient.

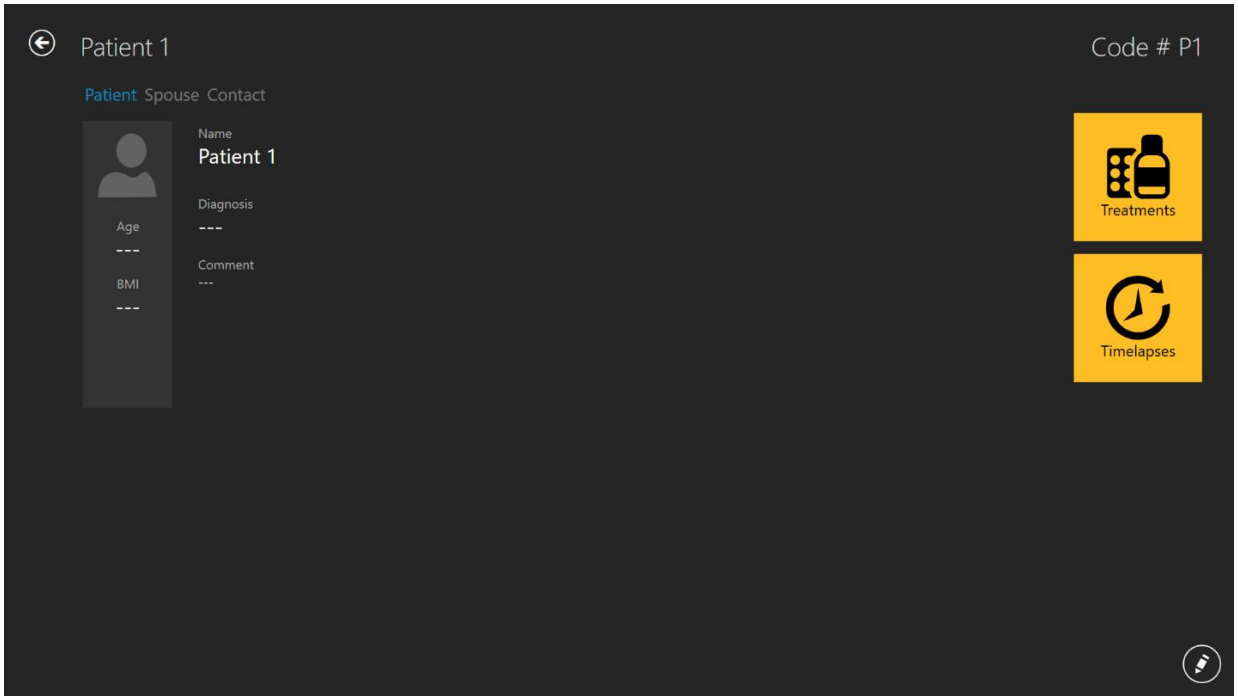
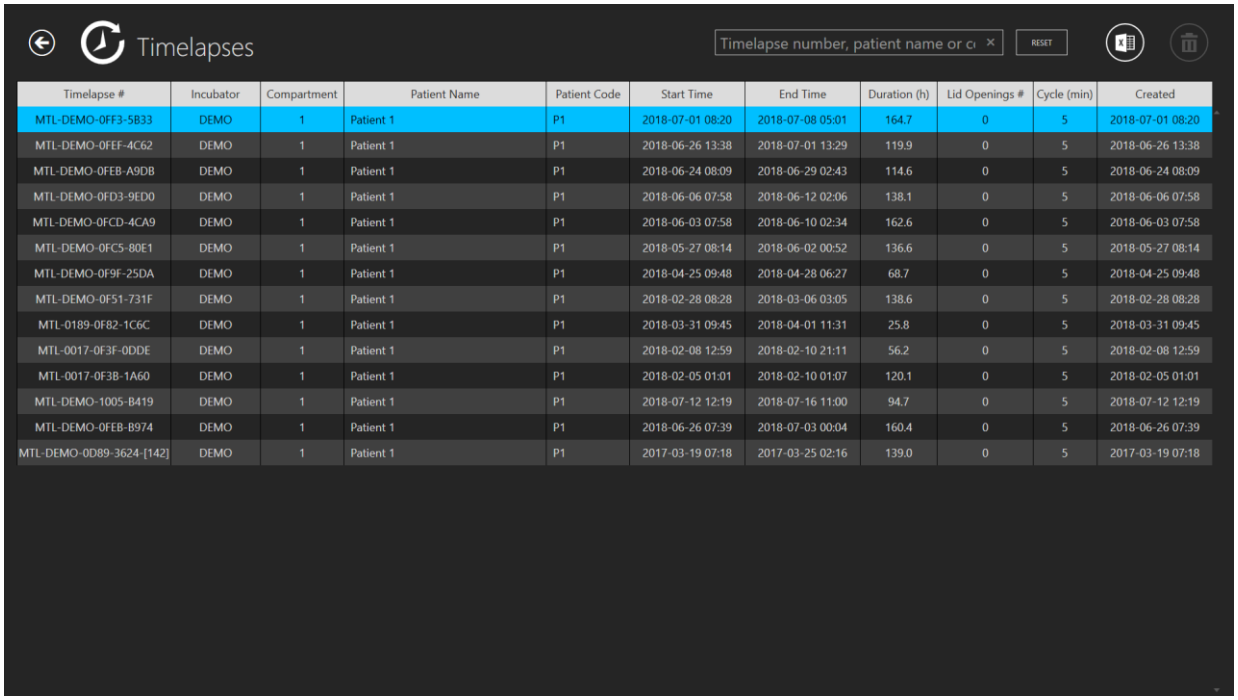


Figure 7.56 Selected patient view

Pressing on the “Time-lapses” button will open the time-lapses list for the selected patient.



Timelapse #	Incubator	Compartment	Patient Name	Patient Code	Start Time	End Time	Duration (h)	Lid Openings #	Cycle (min)	Created
MTL-DEMO-0FF3-5B33	DEMO	1	Patient 1	P1	2018-07-01 08:20	2018-07-08 05:01	164.7	0	5	2018-07-01 08:20
MTL-DEMO-0FEF-4C62	DEMO	1	Patient 1	P1	2018-06-26 13:38	2018-07-01 13:29	119.9	0	5	2018-06-26 13:38
MTL-DEMO-0FEB-A9DB	DEMO	1	Patient 1	P1	2018-06-24 08:09	2018-06-29 02:43	114.6	0	5	2018-06-24 08:09
MTL-DEMO-0FD3-9ED0	DEMO	1	Patient 1	P1	2018-06-06 07:58	2018-06-12 02:06	138.1	0	5	2018-06-06 07:58
MTL-DEMO-0FCD-4CA9	DEMO	1	Patient 1	P1	2018-06-03 07:58	2018-06-10 02:34	162.6	0	5	2018-06-03 07:58
MTL-DEMO-0FC5-80E1	DEMO	1	Patient 1	P1	2018-05-27 08:14	2018-06-02 00:52	136.6	0	5	2018-05-27 08:14
MTL-DEMO-0F9F-25DA	DEMO	1	Patient 1	P1	2018-04-25 09:48	2018-04-28 06:27	68.7	0	5	2018-04-25 09:48
MTL-DEMO-0F51-731F	DEMO	1	Patient 1	P1	2018-02-28 08:28	2018-03-06 03:05	138.6	0	5	2018-02-28 08:28
MTL-0189-0F82-1C6C	DEMO	1	Patient 1	P1	2018-03-31 09:45	2018-04-01 11:31	25.8	0	5	2018-03-31 09:45
MTL-0017-0F3F-0DDE	DEMO	1	Patient 1	P1	2018-02-08 12:59	2018-02-10 21:11	56.2	0	5	2018-02-08 12:59
MTL-0017-0F3B-1A60	DEMO	1	Patient 1	P1	2018-02-05 01:01	2018-02-10 01:07	120.1	0	5	2018-02-05 01:01
MTL-DEMO-1005-B419	DEMO	1	Patient 1	P1	2018-07-12 12:19	2018-07-16 11:00	94.7	0	5	2018-07-12 12:19
MTL-DEMO-0FEB-B974	DEMO	1	Patient 1	P1	2018-06-26 07:39	2018-07-03 00:04	160.4	0	5	2018-06-26 07:39
MTL-DEMO-0D89-3624-[142]	DEMO	1	Patient 1	P1	2017-03-19 07:18	2017-03-25 02:16	139.0	0	5	2017-03-19 07:18

Figure 7.57 Selected patient time-lapses view

7.4.2 Patient view

Double-clicking on the desired patient will open the selected patient view.

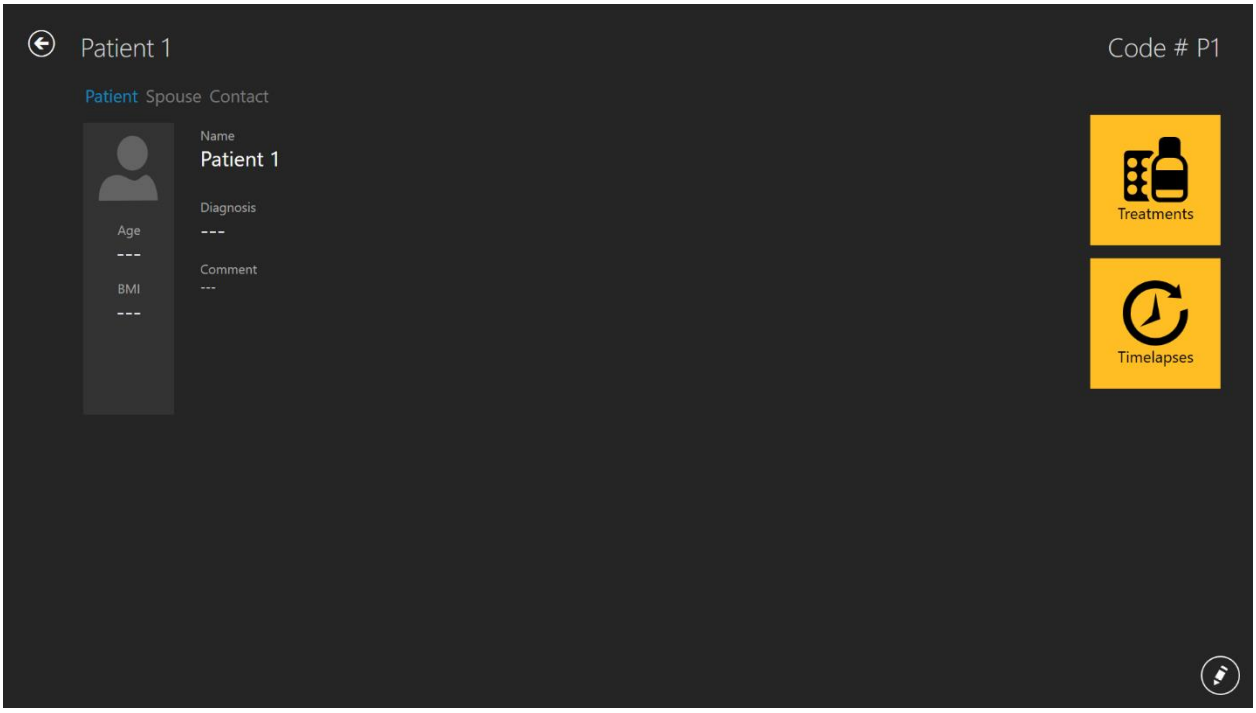


Figure 7.58 Selected patient view

At the right bottom of the screen, there is an “Edit” button.

The specific patient view has database information about the patient. All the data can be edited here or added if left blank when the patient data was created. Add and edit data by pressing the “Pencil” button in the lower right corner. The user must save (“Save” button appears when information has been added) for any changes to be stored.

The “Plus” button in the top right corner in the patient list view lets the user add a new patient. When it is pressed, a new view opens up:

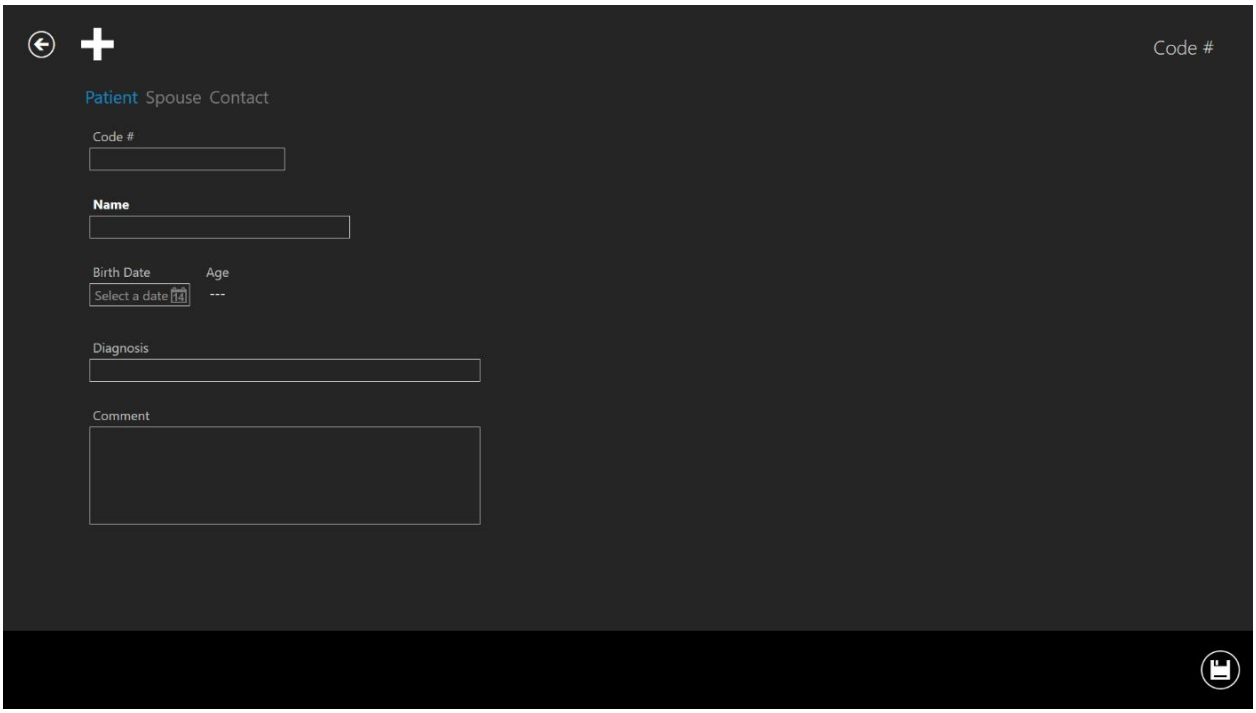


Figure 7.59 New patient creation window

Various information about the patient can be typed in:

- Code # (identifier number – if left blank, the system will assign a unique code)
- Name (must be provided)
- Birthdate (user calendar function to set the date)
- Age (is calculated)
- Diagnosis
- Comment

The birthdate is entered by using the calendar function that opens up when pressed.

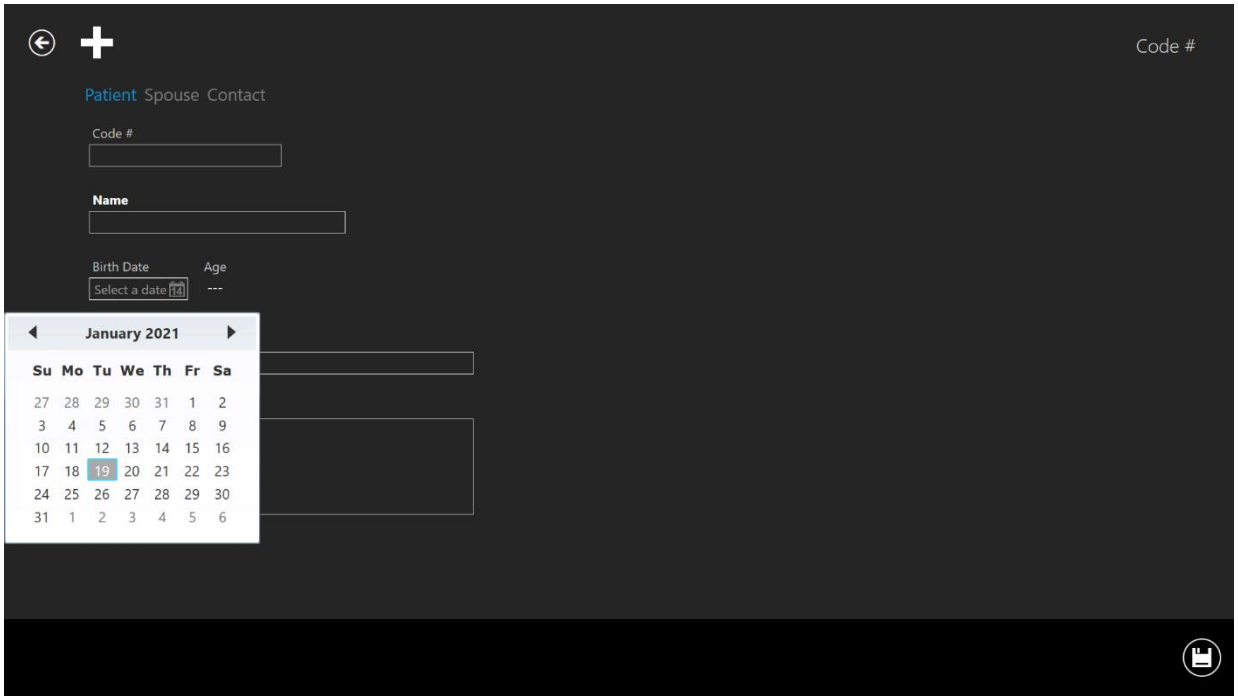


Figure 7.60 Birthdate input

Most of the information in the database is voluntary to enter, except for the patient's name. The system will warn if the necessary information has not been entered.

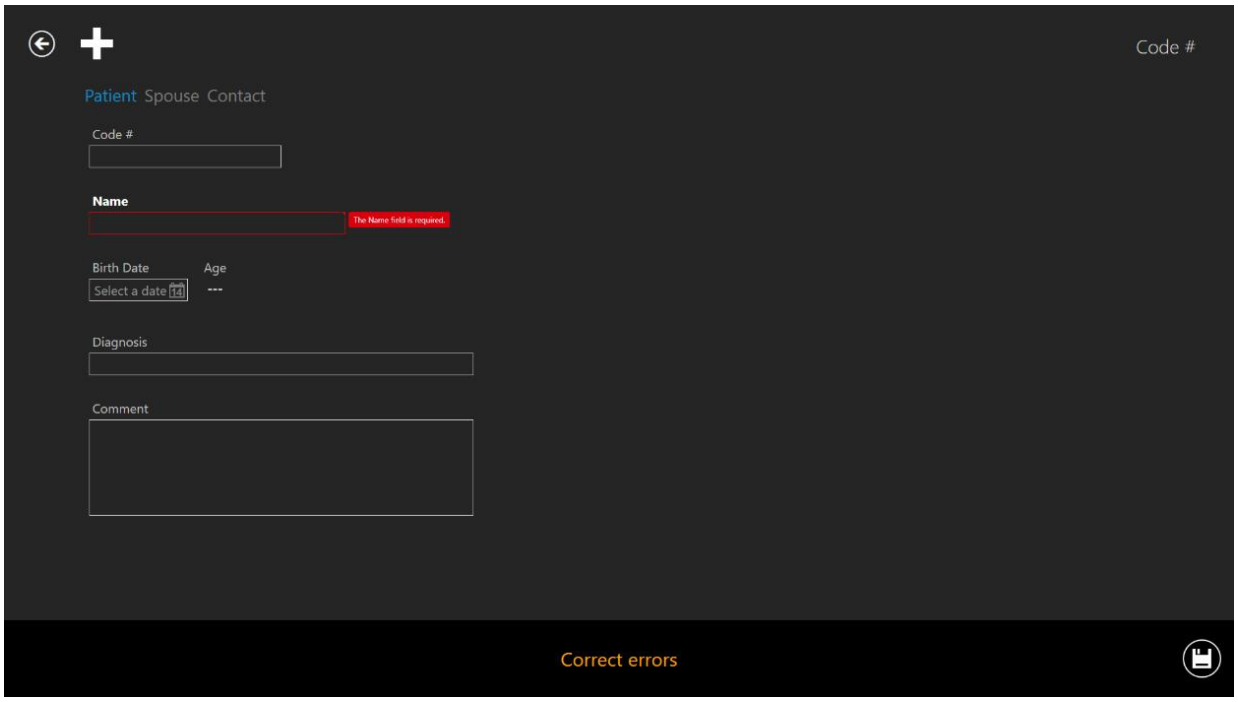


Figure 7.61 Warning information

The “Save” button in the lower right corner stores the provided information.

Pressing on the “Spouse” brings up a view where data for the spouse can be entered.

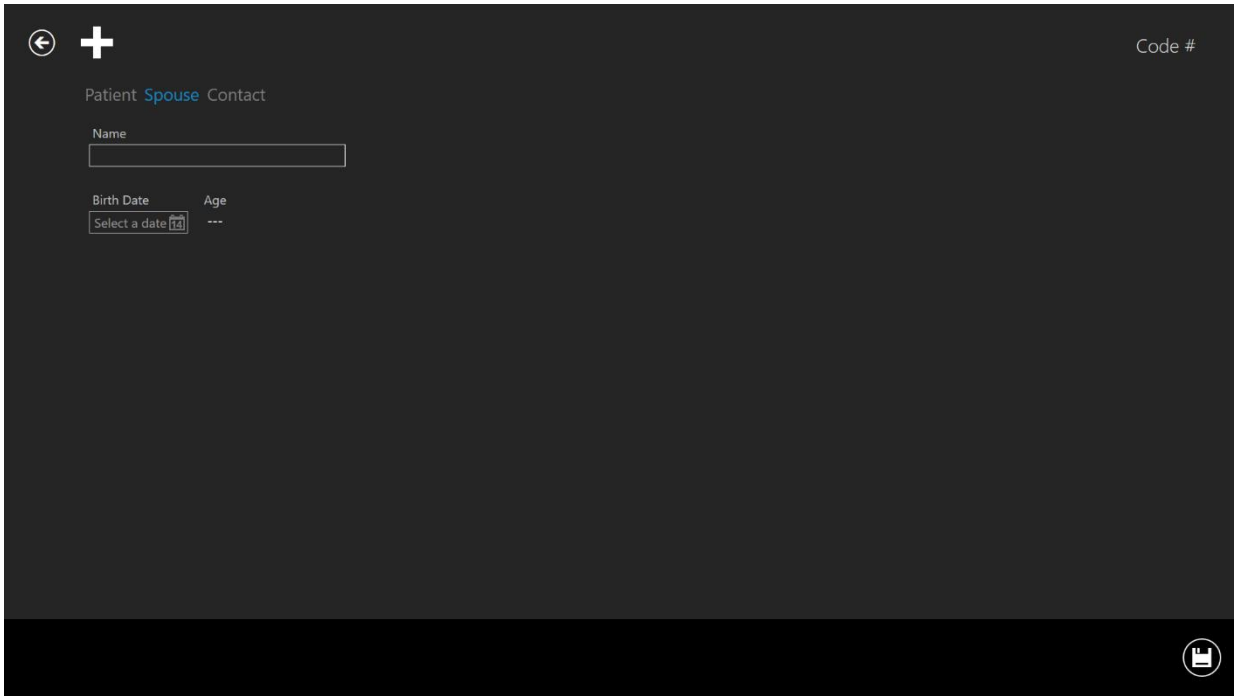


Figure 7.62 Information about spouse window

The name and birthdate can be entered. The save button in the lower right corner stores the information.

Pressing on the “Contact” brings up a view where detailed contact information can be entered.

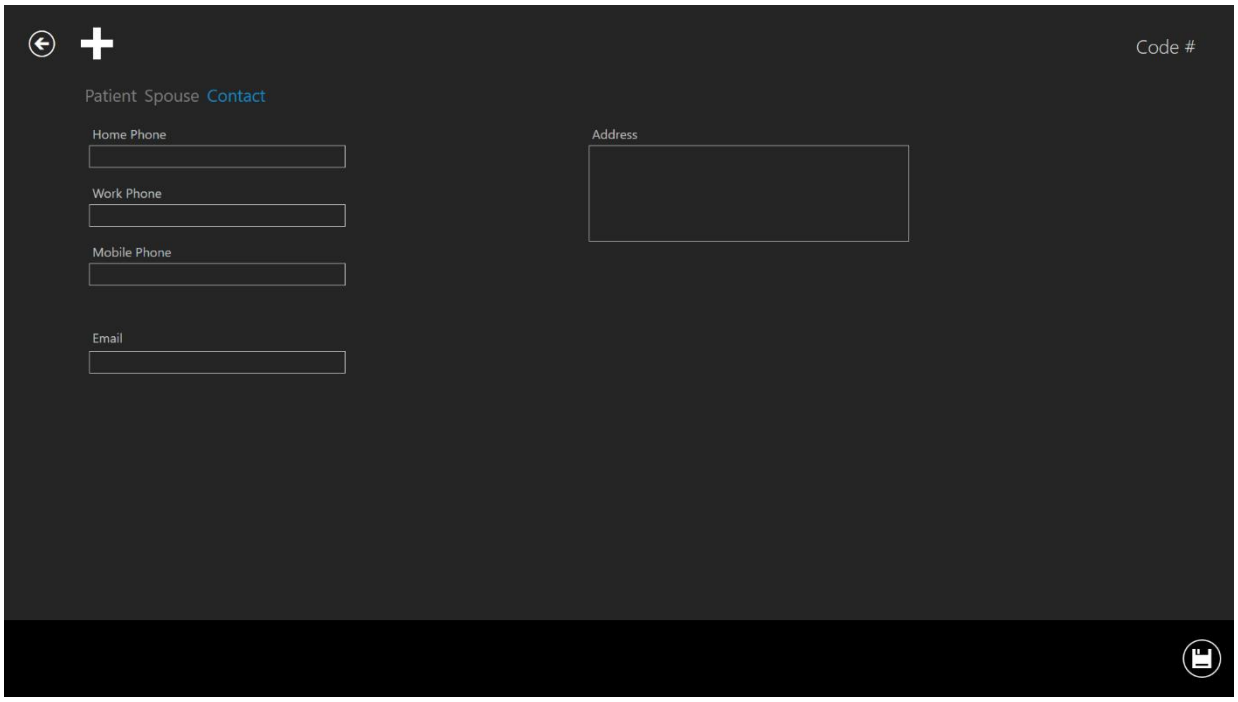


Figure 7.63 Contact information window

Various phone numbers, e-mail and addresses can be entered. The save button in the lower right corner stores the information.

When a patient has been added to the database, the information will be available on the list in the main patient’s view.

7.4.3 Treatment view

To provide treatment for the patient, the user needs to open the Patient view (for more information, please read section 7.4.2).

There will be a big “Treatment” button to the right under the particular patient. It opens up the treatment view that contains an overview list of the current or previous treatments for the patient and lets the user add a new treatment.

Treatment #	Patient Name	Protocol	Last Outcome	Created
14	Patient 1		test	2017-03-19 07:18
13	Patient 1			2018-07-01 08:20
12	Patient 1			2018-06-26 13:38
11	Patient 1			2018-06-24 08:09
10	Patient 1			2018-06-06 07:58
9	Patient 1			2018-06-03 07:58
8	Patient 1			2018-05-27 08:14
7	Patient 1			2018-04-25 09:48
6	Patient 1			2018-02-28 08:28
5	Patient 1			2018-03-31 09:45
4	Patient 1			2018-02-08 12:59
3	Patient 1			2018-02-05 01:01
2	Patient 1			2018-07-12 12:19
1	Patient 1			2018-06-26 07:39

Figure 7.64 Selected patient treatment view

Pressing the “Plus” button opens up the new treatment window.

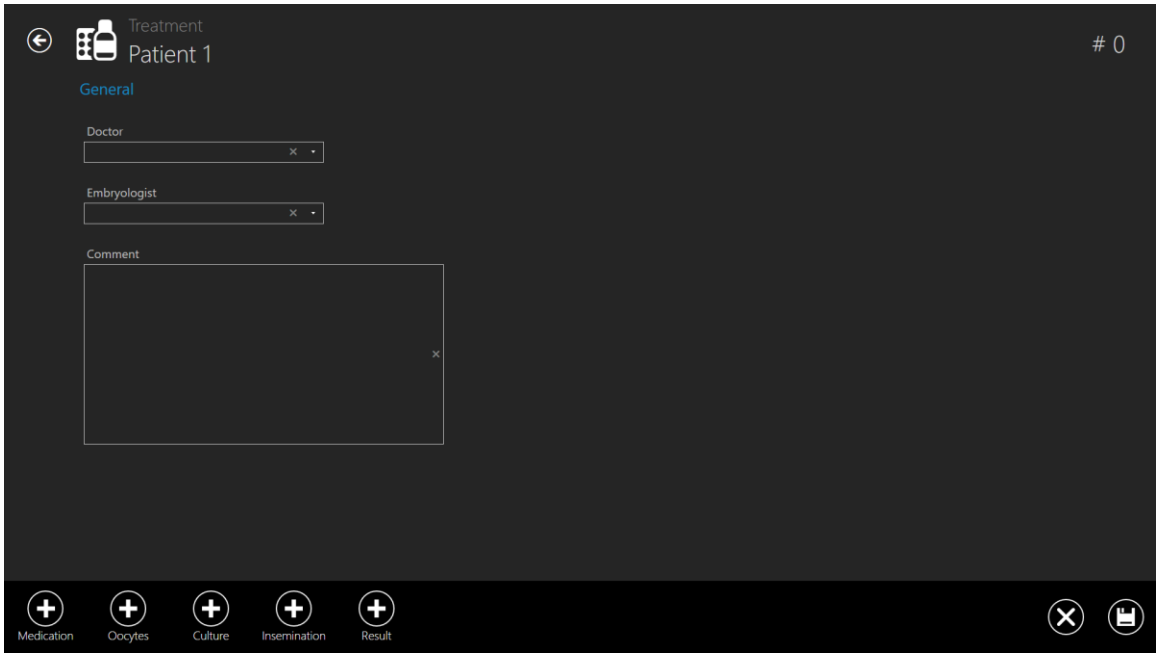


Figure 7.65 New treatment window

The “Plus” button in the lower panel opens up more possibilities for entering specific information about the patient's treatments.

The “General” section shows the doctor, embryologist and a comment field. All are optional information. Save if the information is entered.

The first “Plus” button will bring up the “Medication” section.

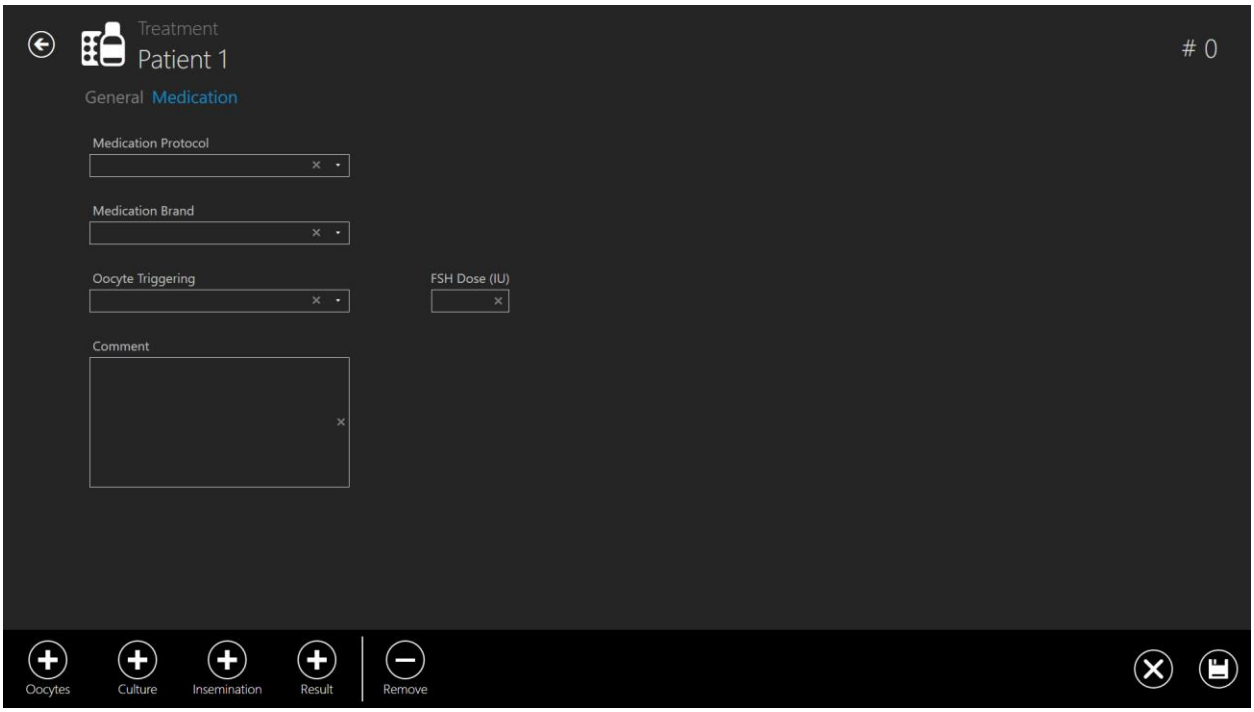


Figure 7.66 Added “Medication” section

In this section, the information about the medication can be entered:

- Medication Protocol
- Medication Brand
- Oocyte Triggering
- FSH dose
- Comments (free text field)

At the bottom of the treatment creation view, the rest of the treatment information sections are still listed. Only the opened “Medication” section has been removed from the list since the view is currently open.

Save the information that has been entered under the “Medication” section by pressing the “Save” button.

Pressing the “Plus” button under “Oocytes” opens the oocytes section.

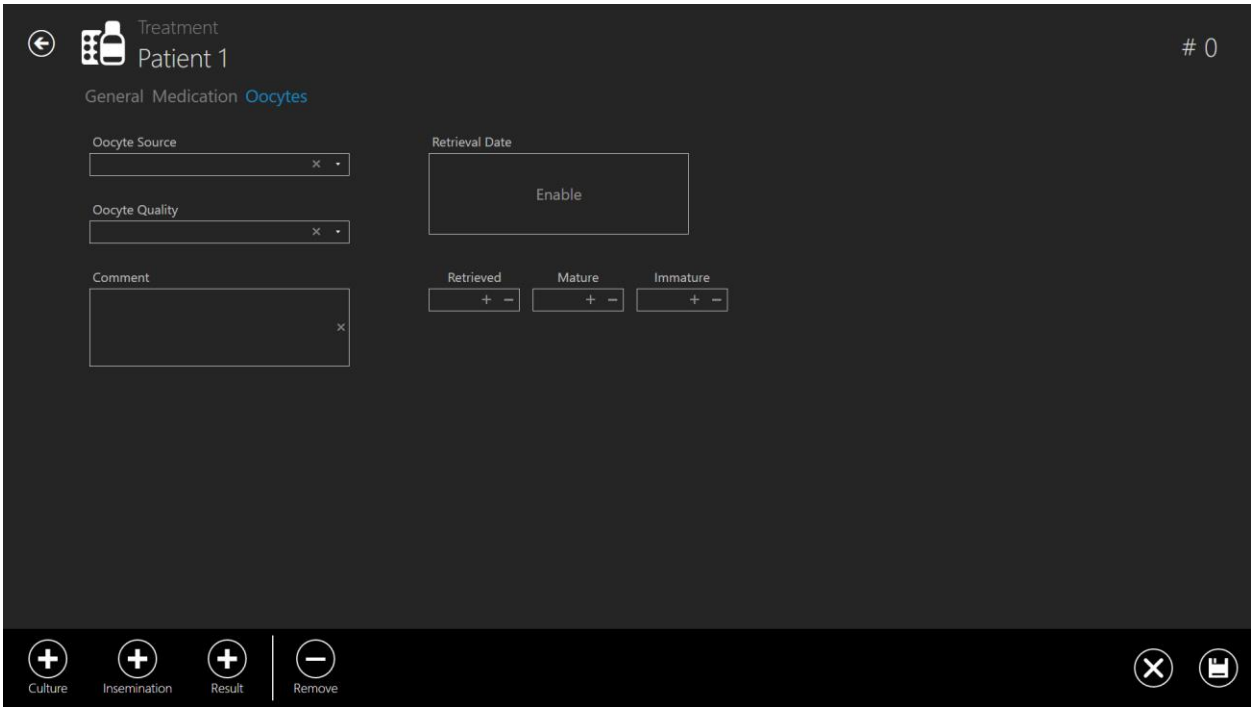


Figure 7.67 Added “Oocytes” section

In this section, the information about the oocytes can be entered:

- Oocyte Source
- Oocyte Quality
- Retrieval date
- The field for noting down the split between retrieved, mature and immature
- Comment (free text field).

Save the information that has been entered under the “Oocytes” section by pressing the “Save” button.

Again, the “Plus” button list at the bottom is reduced with now both “Medication” and “Oocytes”. Note that the sections under treatment at the top show how deep into the sections layers the user has navigated. Here it shows “General” (1st section), “Medication” (2nd section), “Oocytes” (colored blue – meaning active view).

Pressing the “Plus” button under “Culture” opens the culture section.

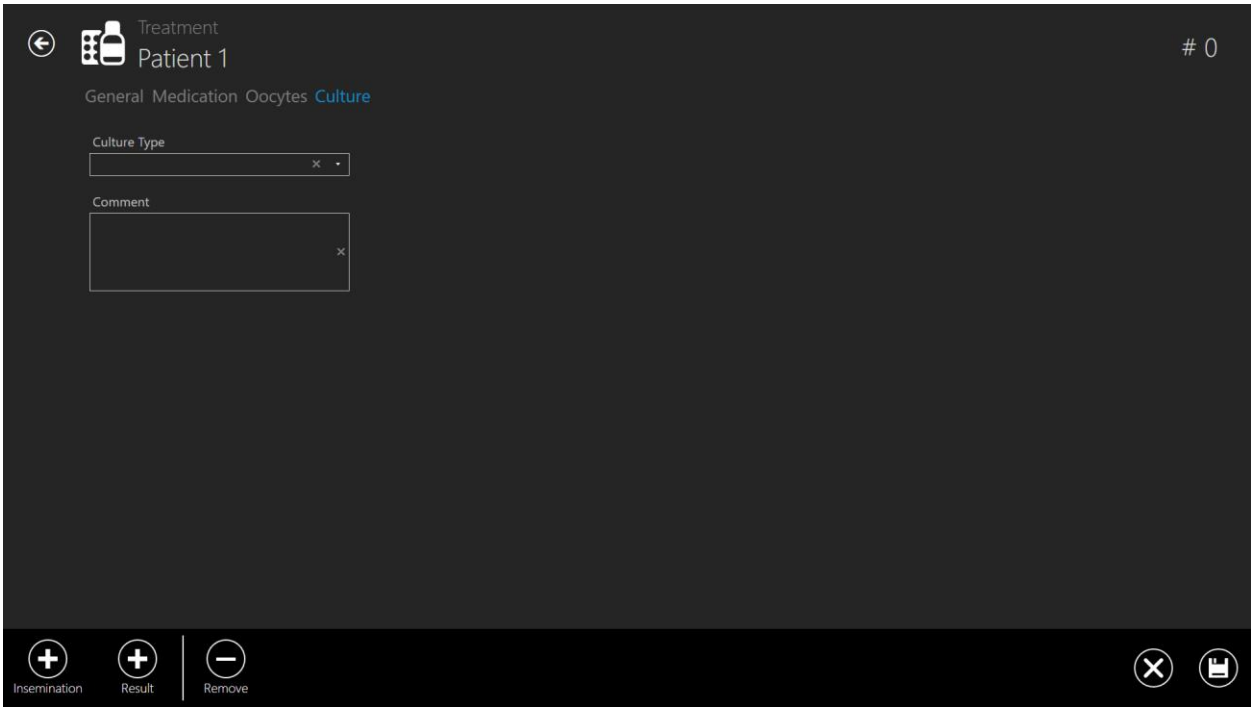


Figure 7.68 Added “Culture” section

In this section, the information about the culture can be entered:

- Culture type
- Comment (free text field)

Save the information that has been entered under the “Culture” section by pressing the “Save” button.

Again, the list of the “Plus” button is reduced and the section list under treatments is increased with the now open “Culture” section.

Pressing the “Plus” button under “Insemination” opens the insemination section.

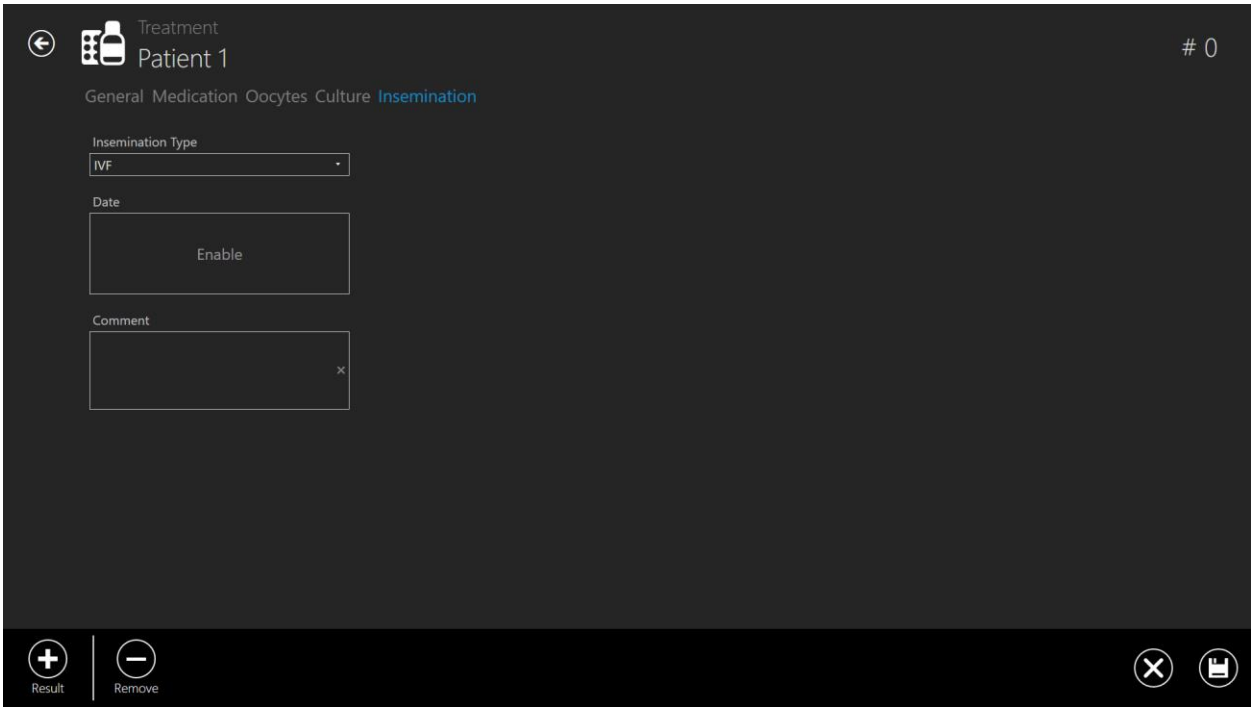


Figure 7.69 Added “Insemination” section

In this section, the information about insemination can be entered:

- Insemination Type (IVF, ICSI)
- Date
- Comment (free text field)

The insemination time must be entered correctly for any subsequent meaningful analysis of the time-lapse data. Division timings are calculated and registered according to the insemination time as the starting point. If no time is entered, the system will use it when the time-lapse is started as time zero. It can be useful if culturing oocytes as naturally, no insemination time would exist at this time point.

Save the information that has been entered under the “Insemination” section by pressing the “Save” button.

The last remaining “Plus” button under the “Result” opens the result section.

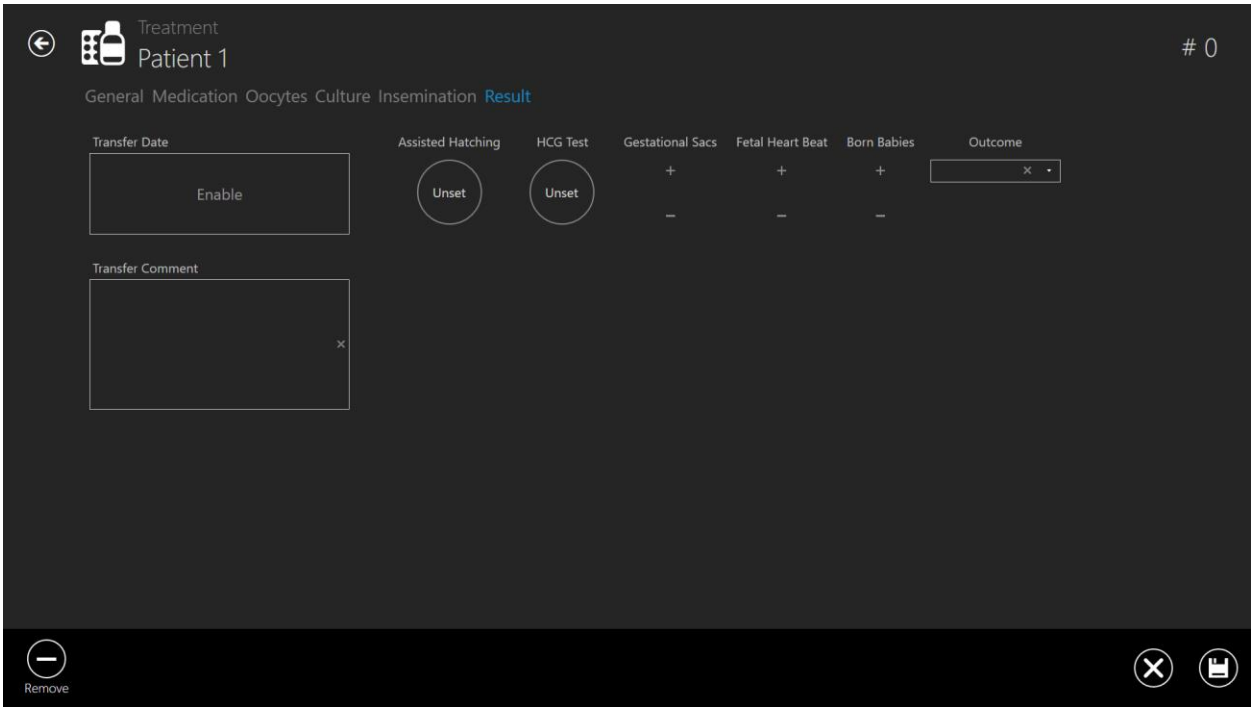


Figure 7.70 Added “Result” section

In this section, the information about the result can be entered:

- Transfer Date
- Transfer Comment (free text field)
- Assisted Hatching (unset – no – yes)
- HCG Test (unset – negative – positive)
- Gestational Sacs (from 0 to 5)
- Fetal Heart Beat (from 0 to 5)
- Born Babies (from 0 to 5)
- Outcome (free text field)

Save the information that has been entered under the “Result” section by pressing the “Save” button.

The results are set in by clicking the round button until it shows the correct result.

The user can delete anything they write in an “open text” field. For example, “Outcome”, “Patient name or code”, “Transfer comment”, etc.

It can be done by pressing the “X” button marked red in the picture below.

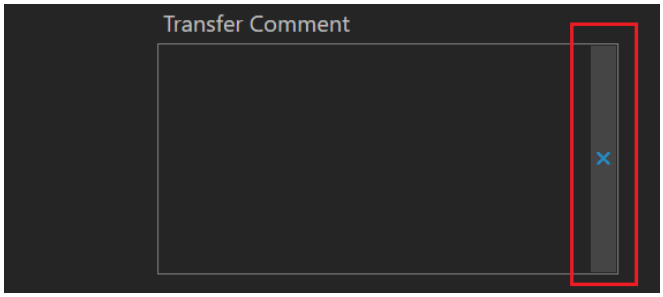


Figure 7.71 “Clear” button

7.4.4 Time-lapse creation view

Under the treatment view for the specific patient, it is possible to start a new time-lapse.

Figure 7.72 “Add time-lapse” button under the specific patient treatment

By pressing the “Add time-lapse” button, a new window will open. The user must select to which device the time-lapse is sent.

If there are incubators that are disabled in the “Incubator” view, there will not be visible in the “Select incubator” window below.

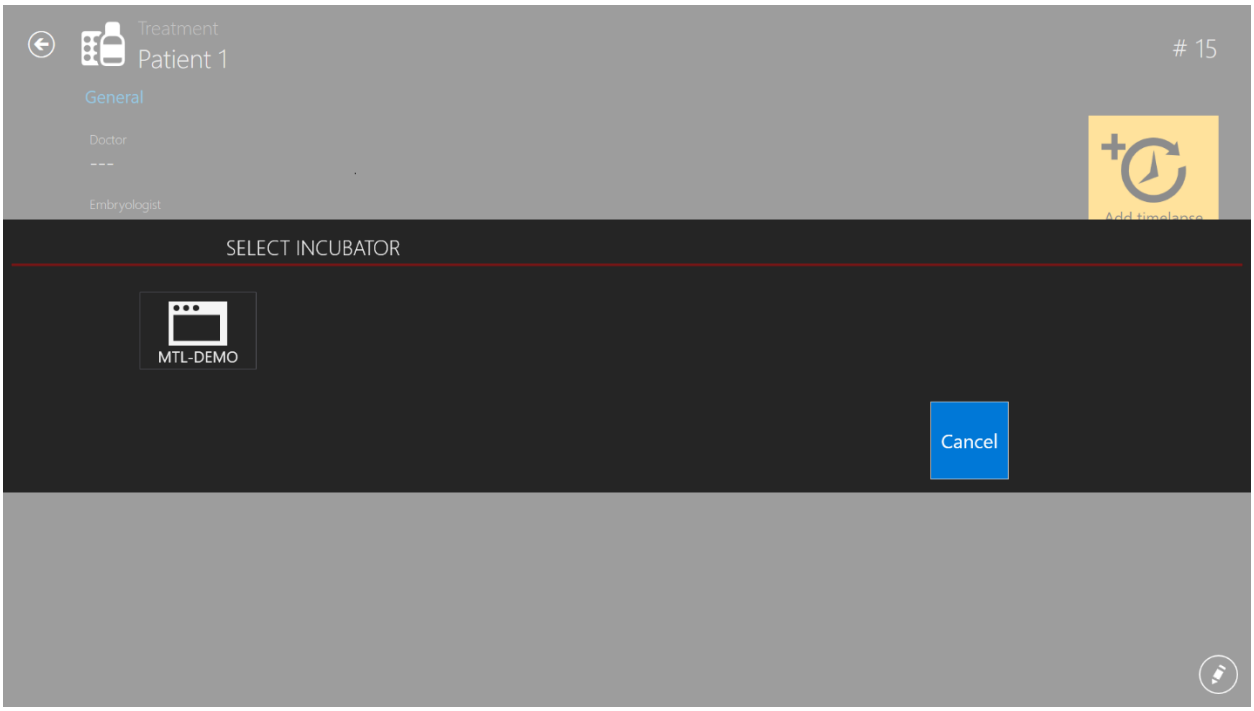


Figure 7.73 Select the device in which time-lapse is sent

One treatment can only have one time-lapse. If the user wants to add more time-lapses for the patient, a new treatment must be added.

A time-lapse must first be made on the TL Viewer and be sent to the MIRI® TL6 and MIRI® TL12 multiroom IVF incubator to show up on the list of available patients on the MIRI® TL6 and MIRI® TL12 multiroom IVF incubator. A time-lapse cannot be started in any other way.

For enabling and disabling incubator, please read more information in the section "7.5 Incubators" below.

If the time-lapse has been made, the treatment page will look like the below, and by pressing the “Time-lapse” button, Time-lapse view will be shown:

Figure 7.74 Treatment view when the time-lapse has been made

By pressing the “Time-lapse” button, the Time-lapse view will be shown.

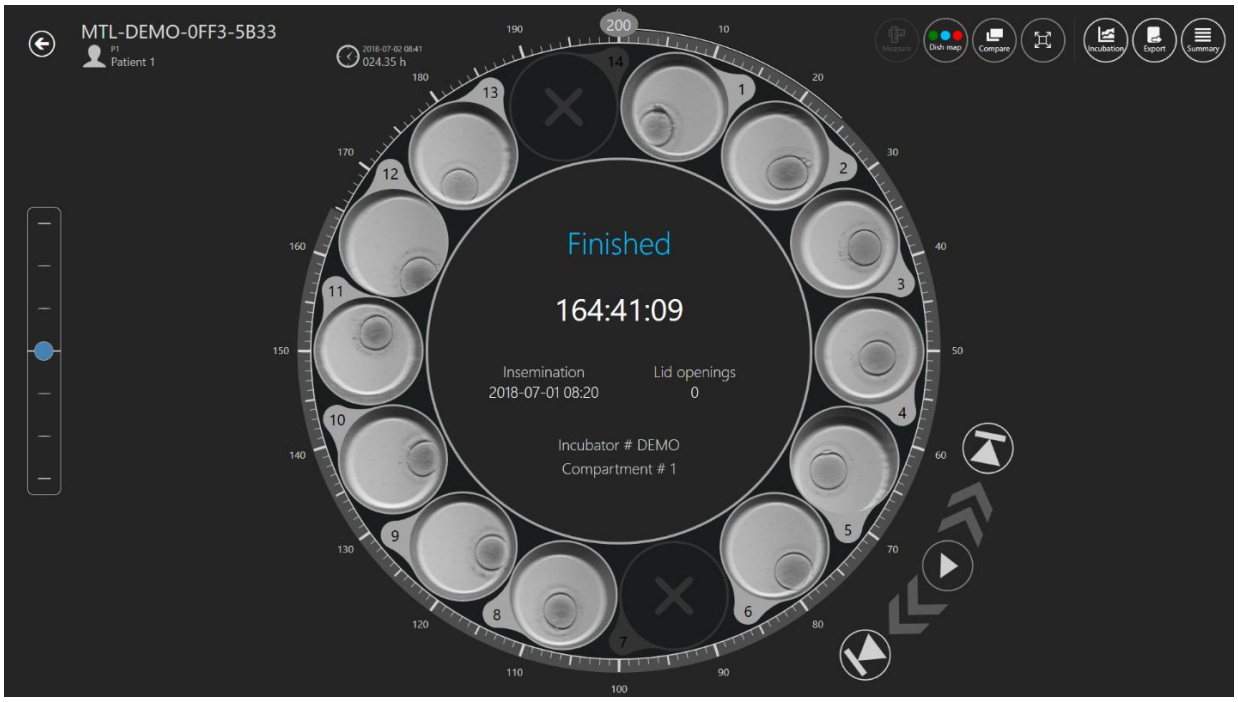


Figure 7.75 The time-lapse view of a specific patient

7.5 Incubators

Pressing on an “Incubator” button in the main view will open a new window where the user can see all MIRI® TL family`s multiroom IVF incubators that have ever been connected to MIRI® TL family`s multiroom IVF incubators Viewer software.

Figure 7.76 “DEMO” incubator is enabled

By pressing the “Disable” button in the top right corner, the user can disable the marked incubator. It will no longer be available for selection when creating a time-lapse.

Figure 7.77 “DEMO” incubator is disabled

Double-clicking on the selected incubator will move directly to the incubator's incubation data log view.

In the picture below, the 4th compartment temperature incubation data is shown.

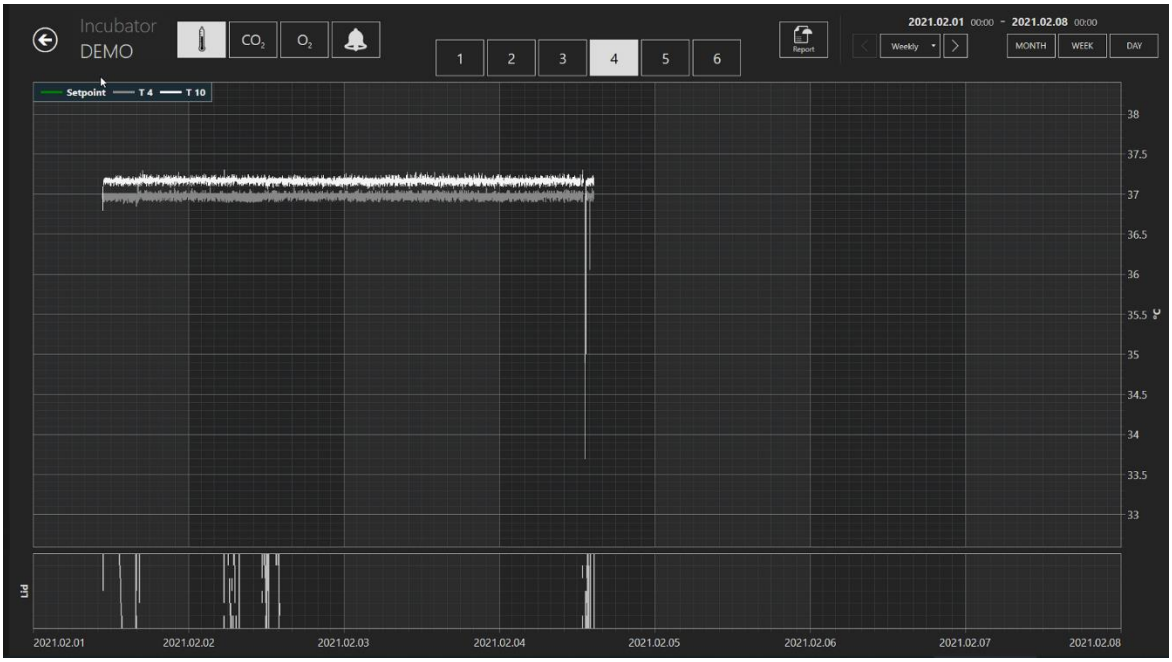


Figure 7.78 "DEMO" incubator temperature incubation data log view

There are few additional options here. In the top right corner of the screen, the user can shift the data to the current month by pressing the "Month" button, current week by pressing the "Week" button and current day by pressing the "Day" button.

The other option is that by pressing the button that is marked red in the picture below, the user can choose the desired month. The month is listed from the 1st month that MIRI® TL starts working.

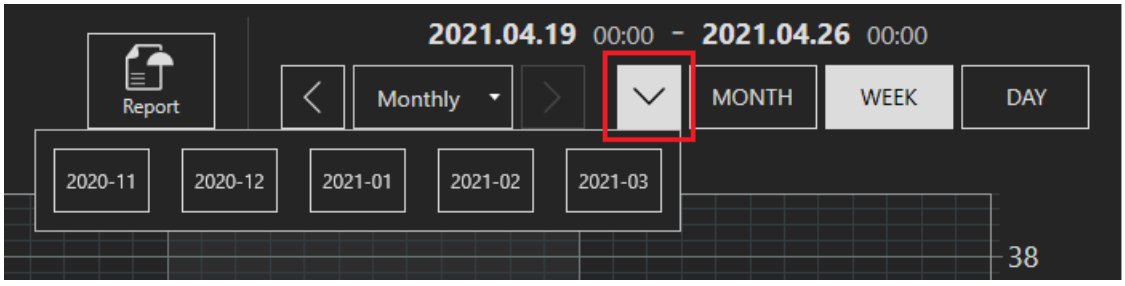


Figure 7.79 Incubation data selection options

The other option is that the user can shift the selected month's data between “Daily”, “Weekly” and “Monthly” intervals by pressing the appropriate buttons listed below.

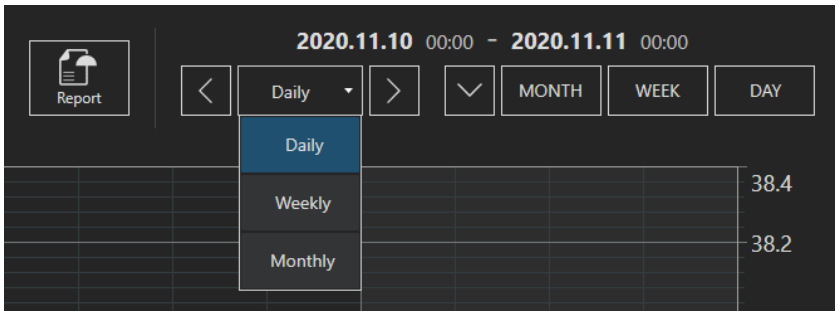


Figure 7.80 Incubation data selection options

After the selection of the desired data option, pressing the button that points left (<) and the button that points right (>), the user can shift between the data in those intervals.

7.6 Settings

In this section, the user can set the events, the results, the ideal times and create new embryo states. It has a default value when the device is delivered but must be set up to unique user's preferences and needs.

When pressing the “Settings” button, it opens up the settings view, which contains “Annotations” and “Embryo States” sections.

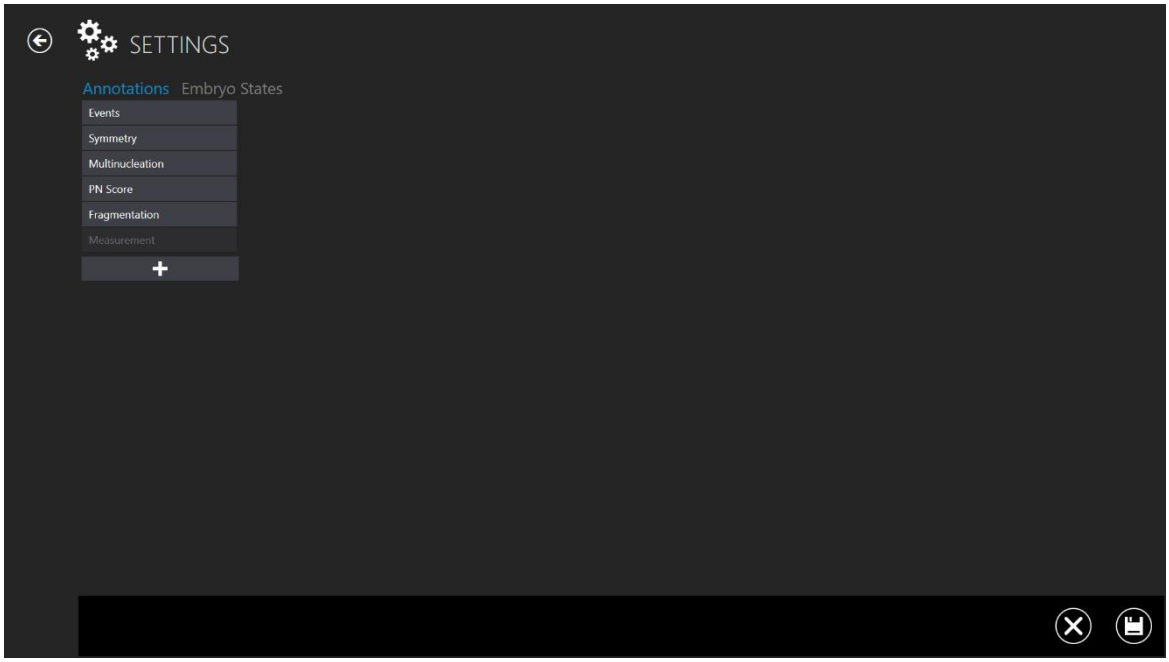


Figure 7.81 Settings view

It shows the groups of annotations. A group can be added by pressing the "+" button that is the lowest among the groupings. A group can be removed by pressings the delete icon on the lower right side of the display.

7.6.1 Annotations

By pressing on the "Event" bar, it will open an event annotation view.

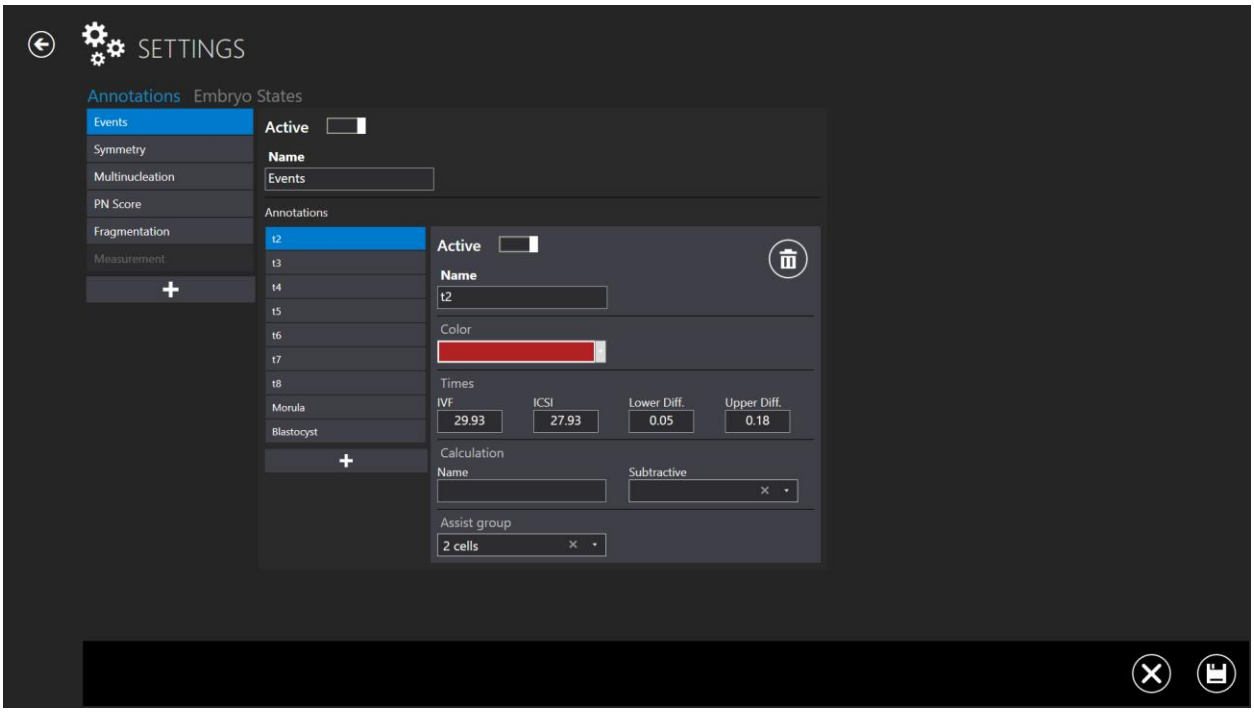


Figure 7.82 Settings – annotations – events view

Here can be seen the events that consist of annotations group. In the picture above is shown 2 (time to the two-cell stage). It is indicated as "active", meaning that it will be used in the annotation mode.

It has been assigned the color red (the color shown in the context where t2 occurs). Ideal times are set for IVF and ICSI with lower and upper diff.

No calculations are linked to the t2 parameter here.

If the user wants to calculate the time between t2 and t3 automatically, the variables are entered in the calculation field. Then the mathematical function is selected, which will perform the calculation. For example, cc2 is the time difference from 2 cell divisions into 3 cells. The t3 cell division time value will be subtracted from the t2 cell division time value.

In that way, the system will automatically calculate cell cycles once the event times have been annotated. Experimentally calculated values can also be set up and tracked.

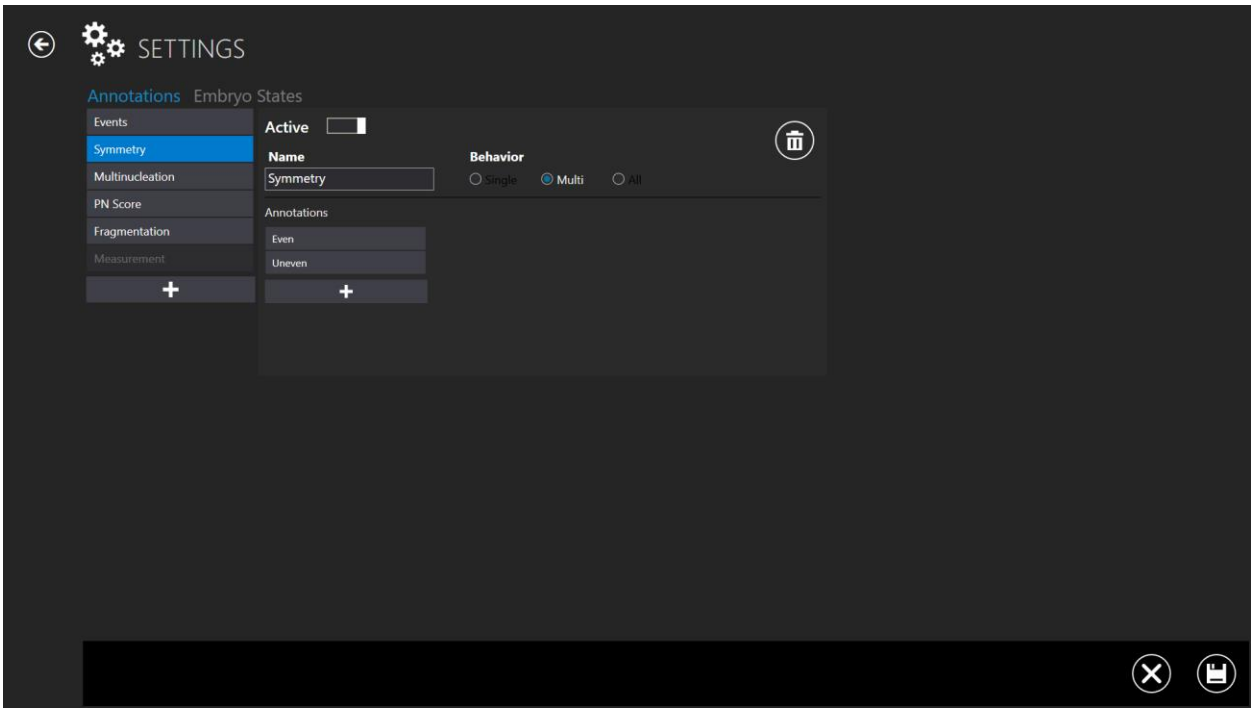


Figure 7.83 Settings – annotations – symmetry view

Events also have behavior that decides how they respond to being annotated. For instance, t2 will only occur once, which means that it is practical to disappear from the event list once assigned a value (annotated). This behavior is called “Single”.

Like symmetry, other things may occur at different stages and should remain selectable after being used once. This behavior is called “Multi”.

The user can also have a group of annotations linked, so the rest of the group goes away if that is chosen. This behavior is called “All”.

There is also listed a “Multinucleation”, “PN Score”, “Fragmentation” and “Measurement” annotations.

7.6.2 Embryo states

In previous versions, there was no other choice between settings, just the „Annotations“ section. With the 1.19.0.0 MIRI® TL family`s multiroom IVF incuabtors Viewer version, a newly added “Embryo States” section allows the user to add additional embryo states.

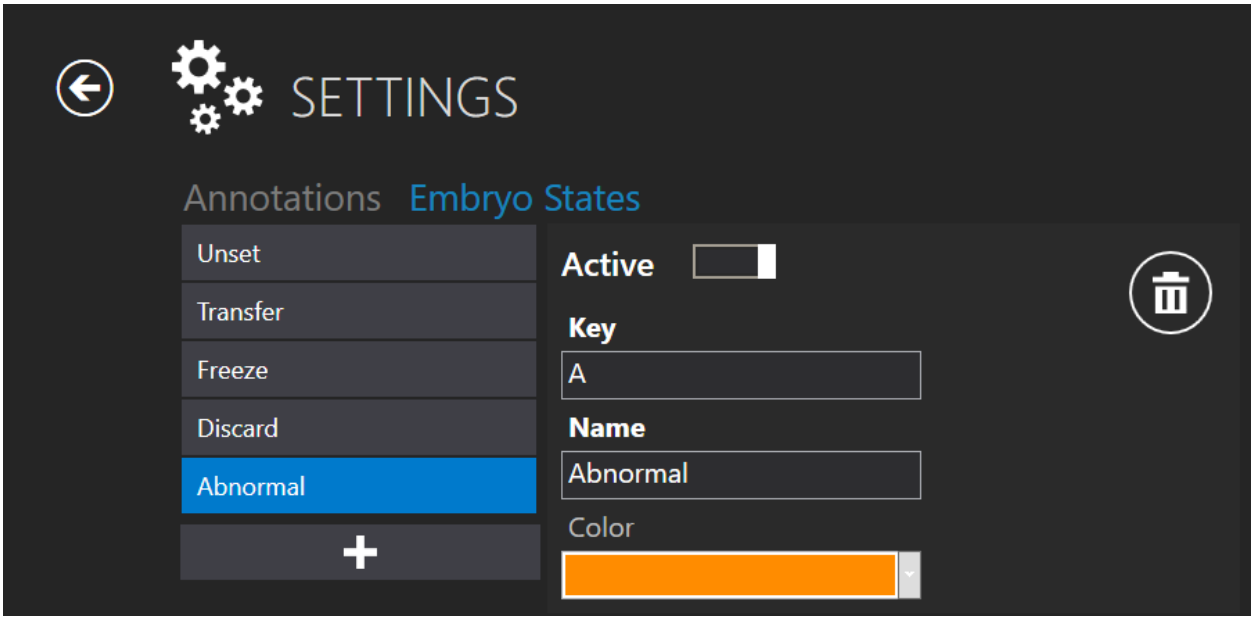


Figure 7.84 Active new embryo state

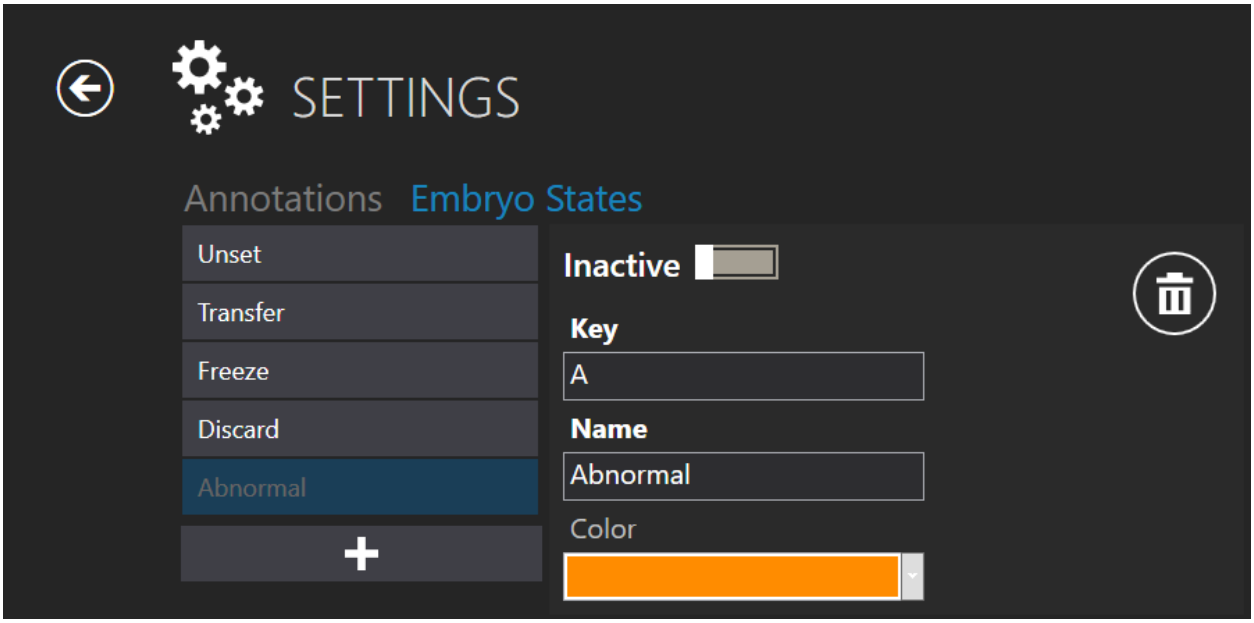


Figure 7.85 Inactive "Abnormal" embryo state

The creation of a new embryo state consists of 4 states:

1. Ability to activate/deactivate the created embryo state.
2. "Key" – one symbol, which will indicate the selected well on a "Dish map". It must be unique and not overlap with existing ones.
3. "Name" – created embryo state name.
4. Embryo state color selection.

7.6.3 Score models

With the 1.20.0.0 MIRI® TL family`s multiroom IVF incuabtors Viewer version, there is a possibility to create embryo score models.

There is a new function in the “Settings” menu, “Score Models”.

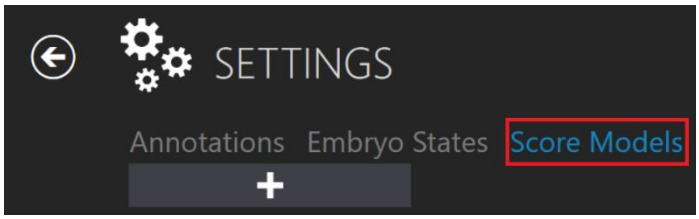


Figure 7.86 Score models

A score model input will be displayed by pressing the “+” button, where the user can create a desired embryo score model.

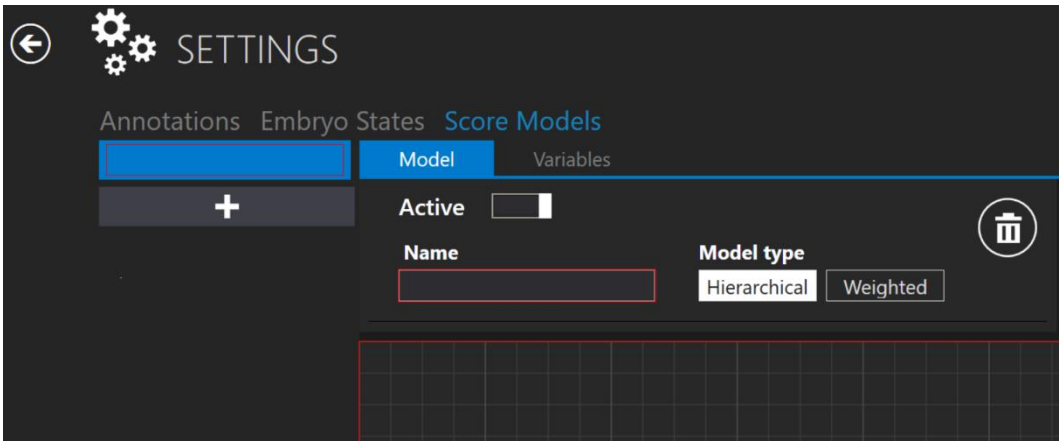


Figure 7.87 A new embryo score model creation window

Choosing the model type

The user can choose between two model types – “Hierarchical” and “Weighted”. The main difference between these model types is that “Hierarchical” is plotted graphically and “Weighted” – by formula.

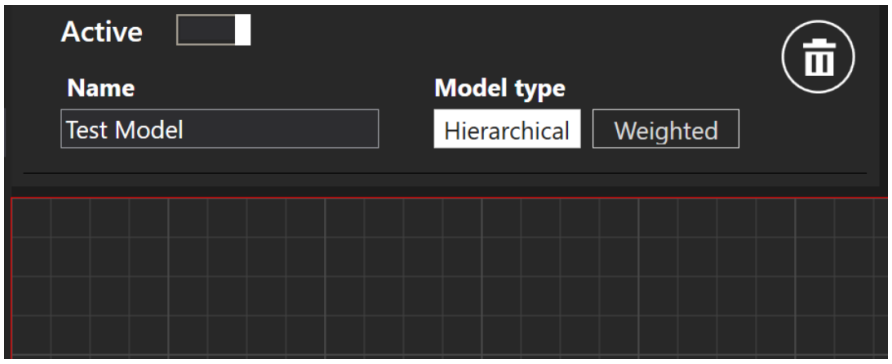


Figure 7.88 "Hierarchical" model type

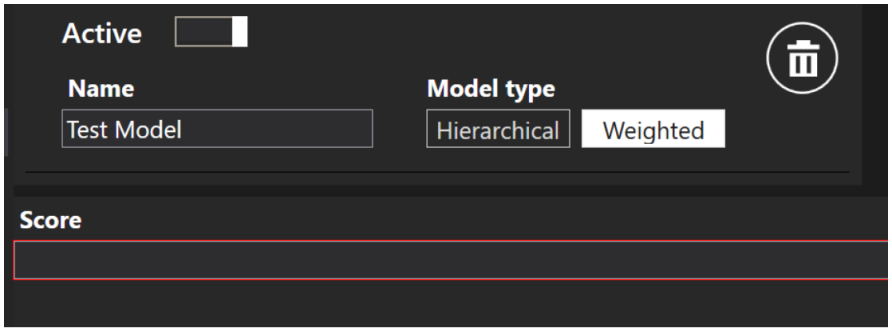


Figure 7.89 "Weighted" model type

The model can be activated or inactivated by pressing the button (marked red) in the picture below.

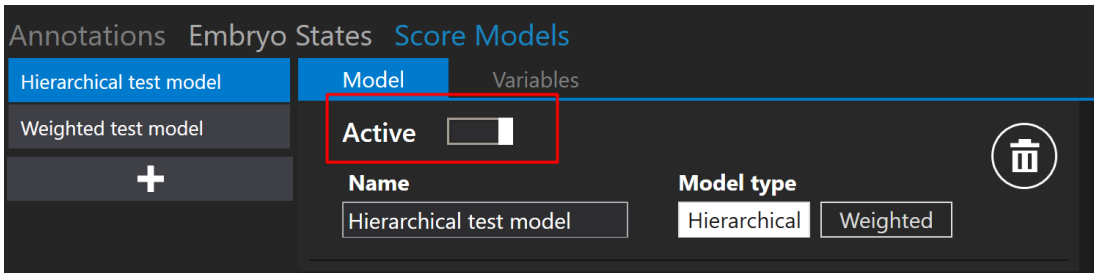


Figure 7.90 Activating or inactivating the selected score model

Variable creation

Near the "Model" button, there is also a "Variables" button. A variable list will be displayed by pressing it. The list will contain predefined variables automatically taken from the events calculation annotation list.

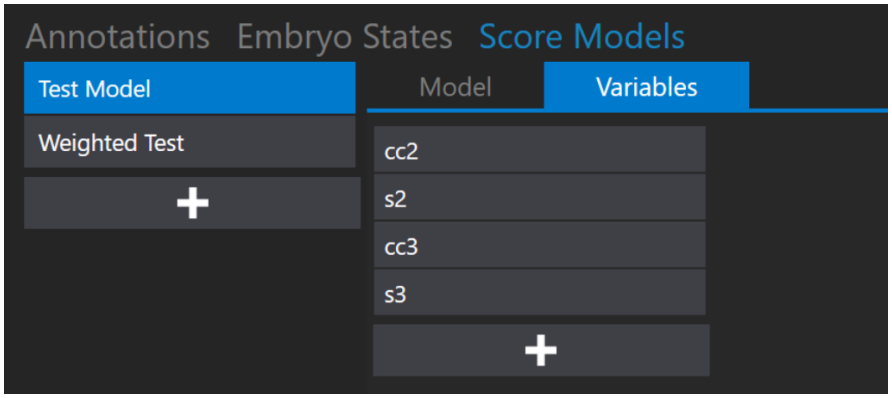


Figure 7.91 Listed "Variables" from the annotation list

By pressing the "+" button, the user can create a new variable by entering the name and formula.

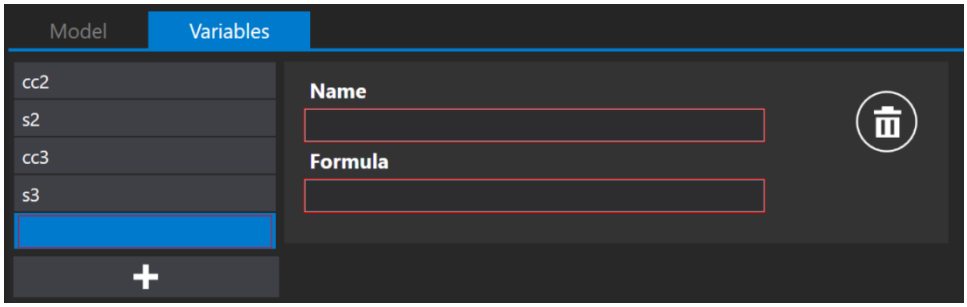


Figure 7.92 New variable creation

☞ **The variable name cannot consist of symbols, for example, "+", "-", "/", etc. If the symbol is used, the box will be circled in red.**

By pressing the "e" letter in the "Formula" box, there will be a list of "Events" annotations where the user can choose the desired event instead of writing it all down.

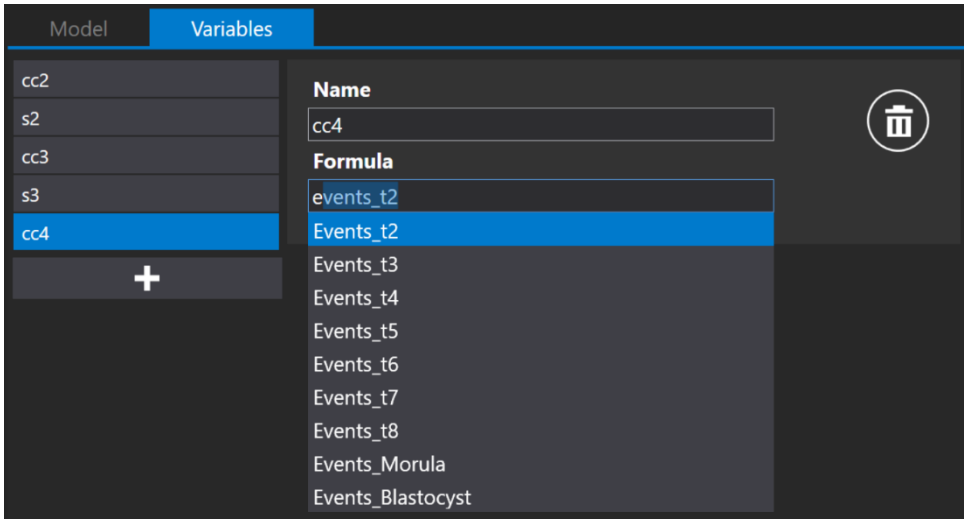


Figure 7.93 New variable creation

☞ **When the "Formula" field has some text to invoke the display of events list, the "Space" key should be used. Otherwise, the user will need to write the annotation group name, underscore and annotation name (e.g., events_t2).**

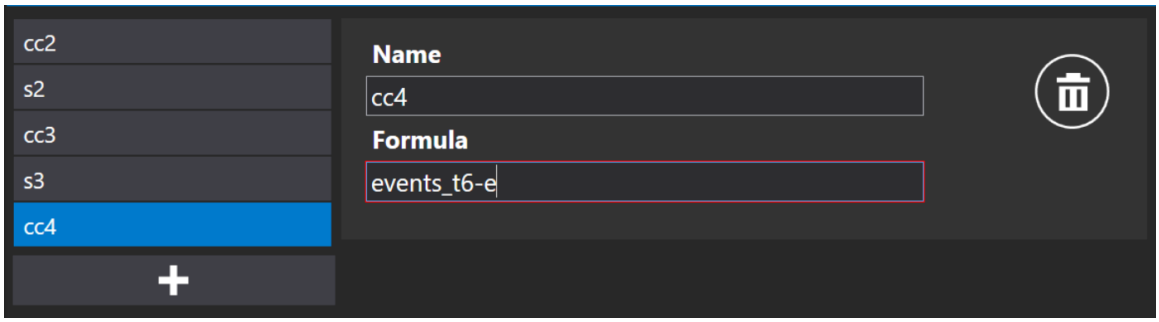


Figure 7.94 Formula creation without pressing the "Space" key

☞ **The red square around "Formula" will disappear if the variable formula is written correctly.**

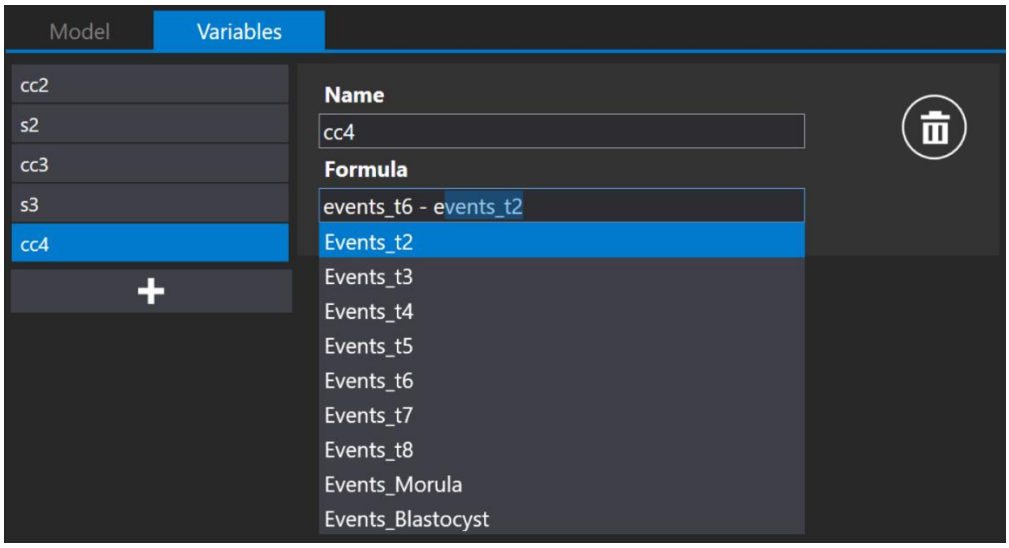


Figure 7.95 Formula creation when pressing the "Space" key

If users create additional variables, they will only apply for a specific embryo score model. When creating a new embryo score model, variables should also be created separately.

Press the save button located at the bottom of the screen. If everything is filled correctly, the "Saved" message will appear; if not, the "Score model variables has errors" message will appear.

7.6.3.1 Hierarchical score models

The first thing the user should do is enter a name for the hierarchical embryo score model. After entering the name, the red square around "Name" will disappear.

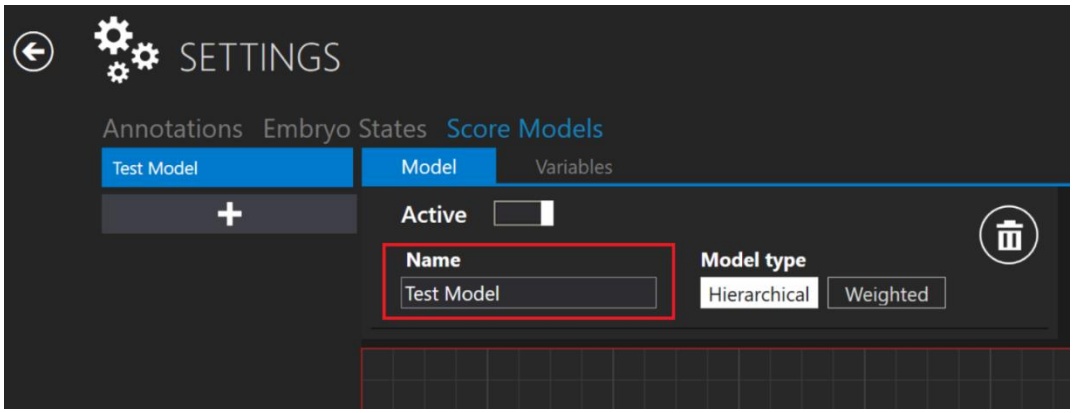


Figure 7.96 Naming the hierarchical embryo score model

7.6.3.1.1 Conditional node creation

Below the name field, there is an area where the user can place nodes. By pressing the right mouse key on the area, a list of possible actions will be displayed. The user can add a conditional node, result node or remove the selected node (only applicable when a node is selected).

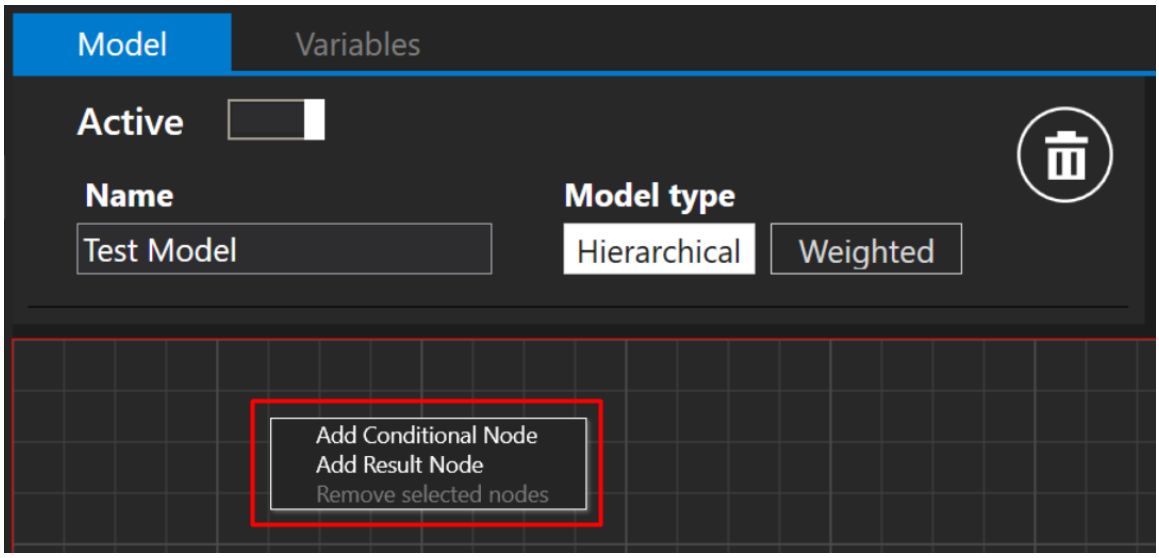


Figure 7.97 New conditional or result node creation

A "Condition" input will appear when the "Add Conditional Node" is pressed.

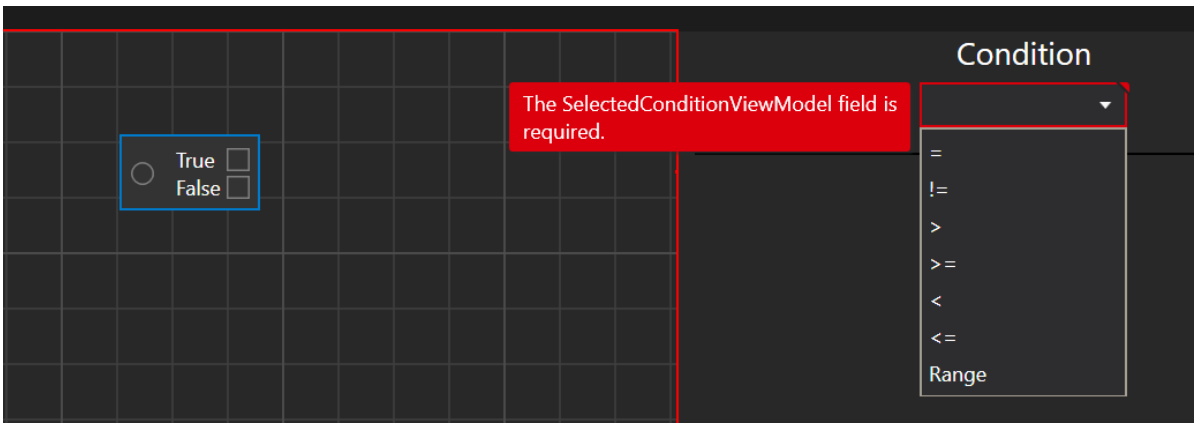


Figure 7.98 Chosable conditions

The user can choose between seven conditions: **equal** (symbol "="), **not equal** (symbol "!="), **more than** (symbol ">"), **more than or equal** (symbol ">="), **less than** (symbol "<"), **less than or equal** (symbol "<=") and **Range**.

When the desired condition is chosen, it will automatically display a list with “Variables” and annotations.

The system will automatically choose the first variable from the list!

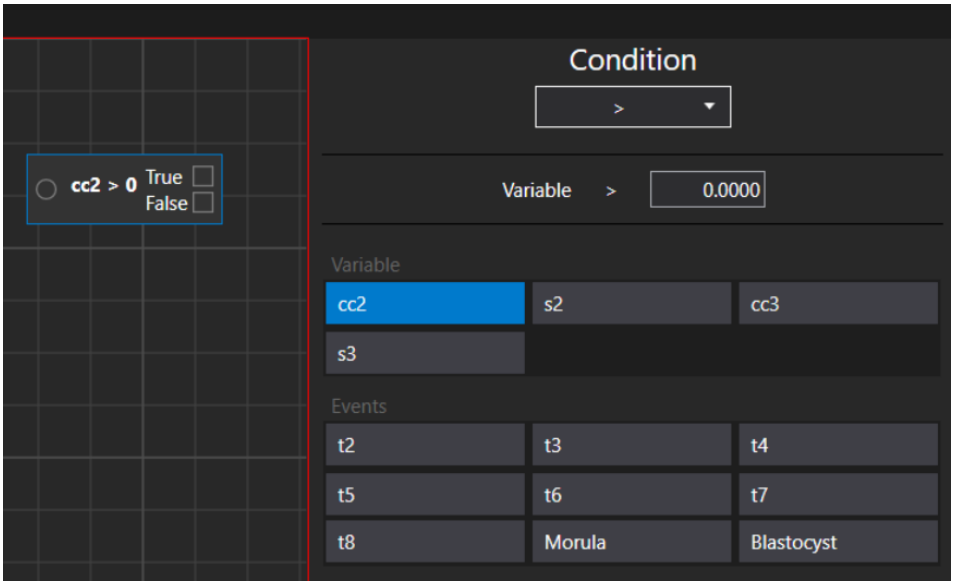


Figure 7.99 “More than” condition and annotation options

Only those annotations will be displayed which annotation group behavior is “Single” or “All”.

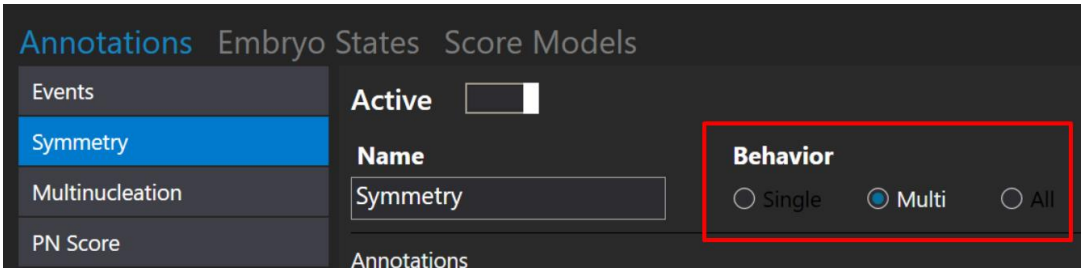


Figure 7.100 Possible annotations “Behavior” options

Hierarchical score model cannot have two separate conditional nodes in one score model. It can have multiple conditional nodes, but they must be linked to one another.

7.6.3.1.2 Result node creation

Let’s set that the “cc2” variable is more than 10. (“cc2” variable means the amount of time that is passed between the “t2” event and the “t3” event).

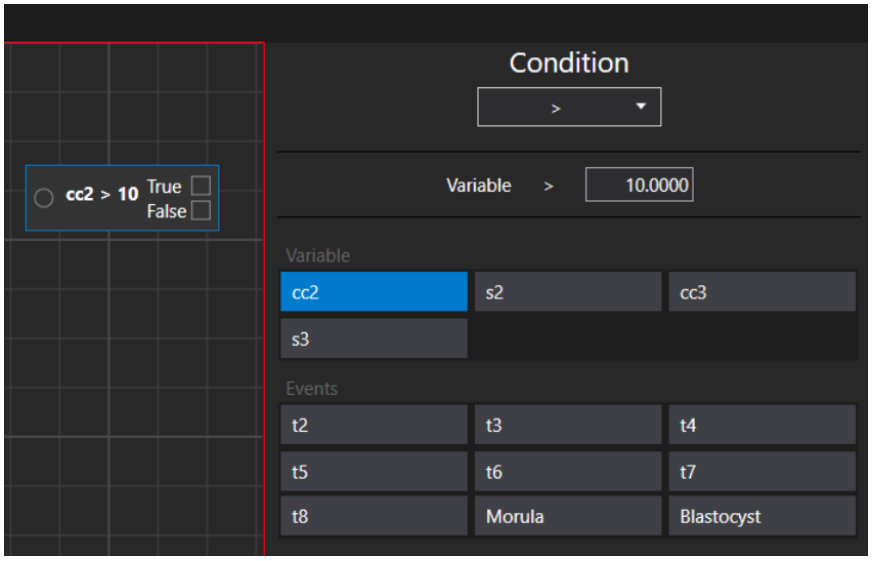


Figure 7.101 "cc2" variable is set to be more than 10

When the conditional node is created, the next step is to create a result node, which the user can do by pressing the right mouse key on the area of a node and choosing the "Add Result Node" action.

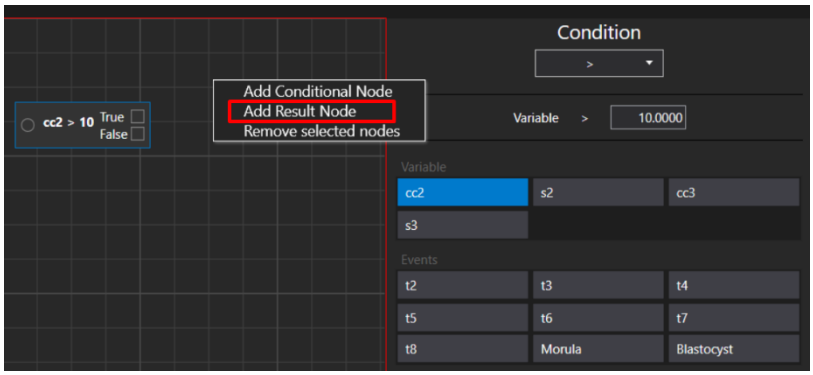


Figure 2.17 "Add Result Node" window

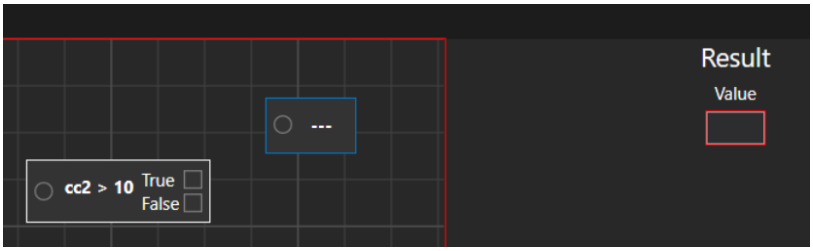


Figure 7.102 Created result node without set "value"

The value of the result node can be created according to any user's preferences. In this case, we will set it "Acceptable". It will be set as a "True" value. For the "False" value, let's create a "Not acceptable" result node.

Figure 7.103 Conditional node with 2 result nodes

After the result nodes are created, the conditional node needs to be linked with each result node. It can be linked by pressing the left mouse key on the conditional node's quadrilateral and then moving the appeared line towards the circle located in the result node.

Figure 7.104 Conditional node with connected "Acceptable" result node

☞ The score model cannot be saved if the "Conditional Node" and "Result Nodes" are not linked. If the user tries to save it anyway, the "Score models has errors" message will appear.

☞ The embryo score model will be saved only when created according to the steps described above, and the saved button on the right side is pressed. The user will be notified by the "Saved" message.

7.6.3.1.3 Removing the conditional and result nodes

The link between the conditional and result nodes can be deleted by moving the mouse on the created line. When it turns into small blue lines, click on it using the left mouse key.

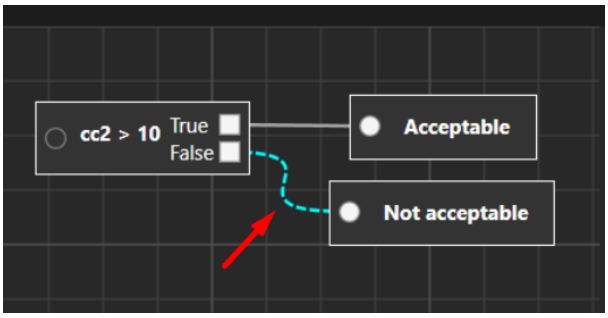


Figure 7.105 Removing the link between conditional and result nodes

The conditional or result node can be deleted by pressing the right mouse key over the selected node. A possible "Remove node" action will be displayed.

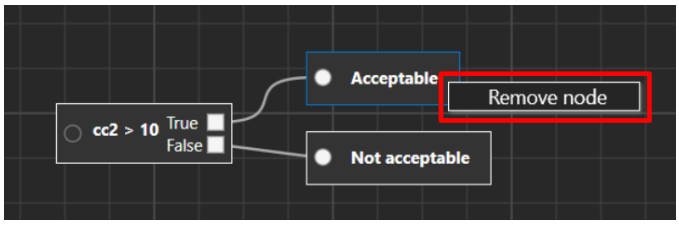


Figure 7.106 Removing "Acceptable" result node

There are two different methods of how the user can delete undesired nodes. The first method is by moving the mouse and marking all nodes.

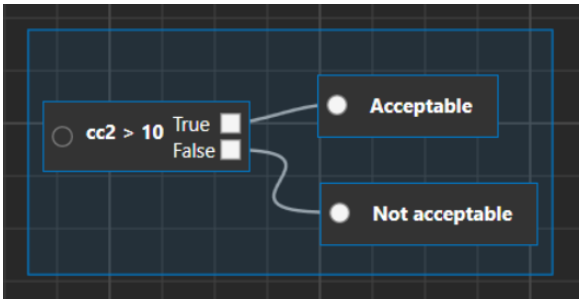


Figure 7.107 Selecting all the nodes

After the nodes are selected (it will be marked with a blue line around them), by pressing the right mouse key on the cell box window, choose "Remove selected nodes".

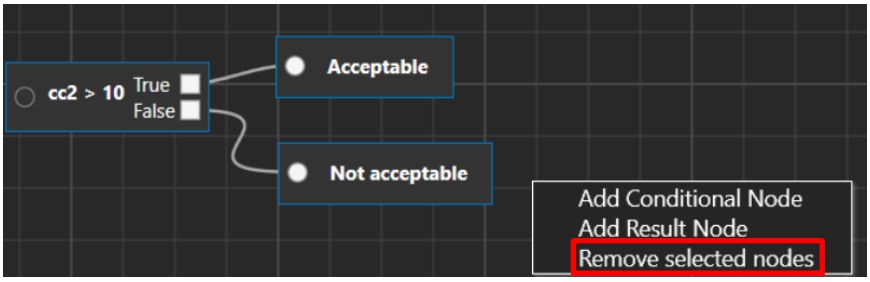


Figure 7.108 Removing all selected nodes

The second method is by clicking on the desired nodes one by one while holding the "Ctrl" key. After all the nodes are selected, please repeat the removing step above.

7.6.3.1.4 Additional functions

When pressing and holding the right mouse key on the cell box, the user can move the embryo score view.

The user can maximize or minimize the view by using the mouse scroll wheel.

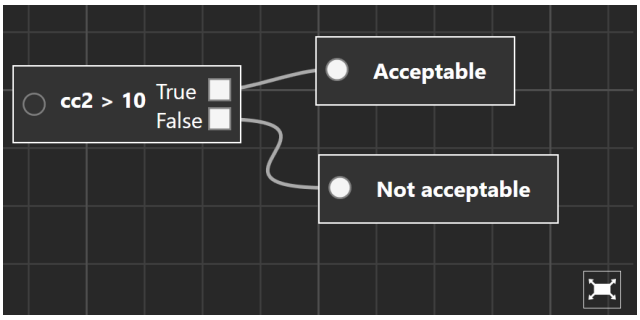


Figure 7.109 Maximized embryo score model view

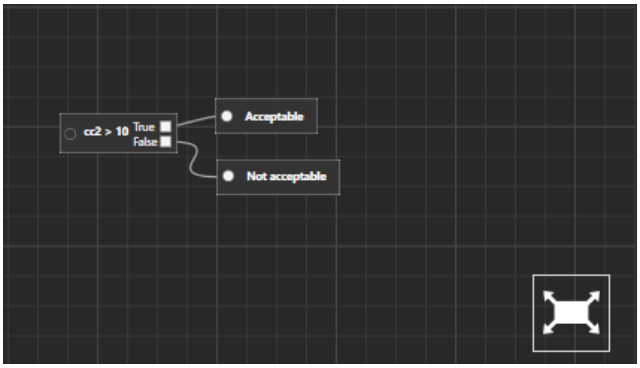


Figure 7.110 Minimized embryo score model view

By pressing the "Reset" button, the view will go back to its initial creation stage.

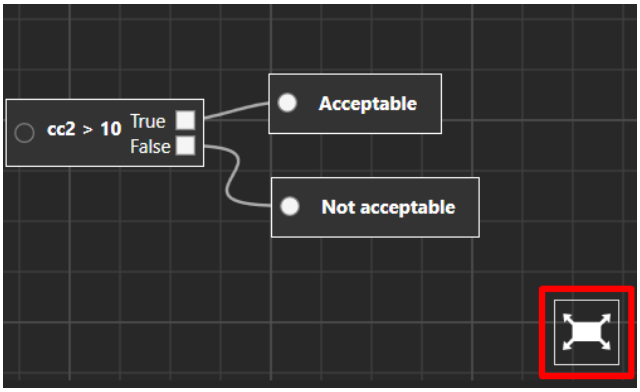


Figure 7.111 Resetting the initial score model view

The nodes can be moved in all cell box window by selecting them and simply moving using the mouse key. Multiple nodes (selected while holding the "Ctrl" key) will move simultaneously. The node's link line will be adjusted automatically.

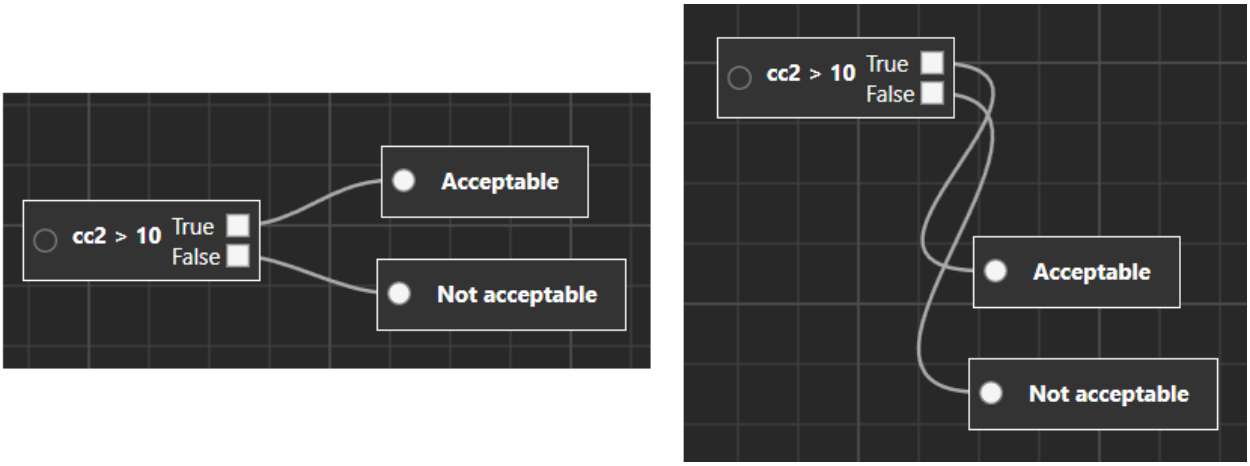


Figure 7.112 Moving the result nodes simultaneously

7.6.3.2 Weighted score models

The first thing the user should do is enter a name for the weighted embryo score model. After the name is entered, the red square around "Name" will disappear.

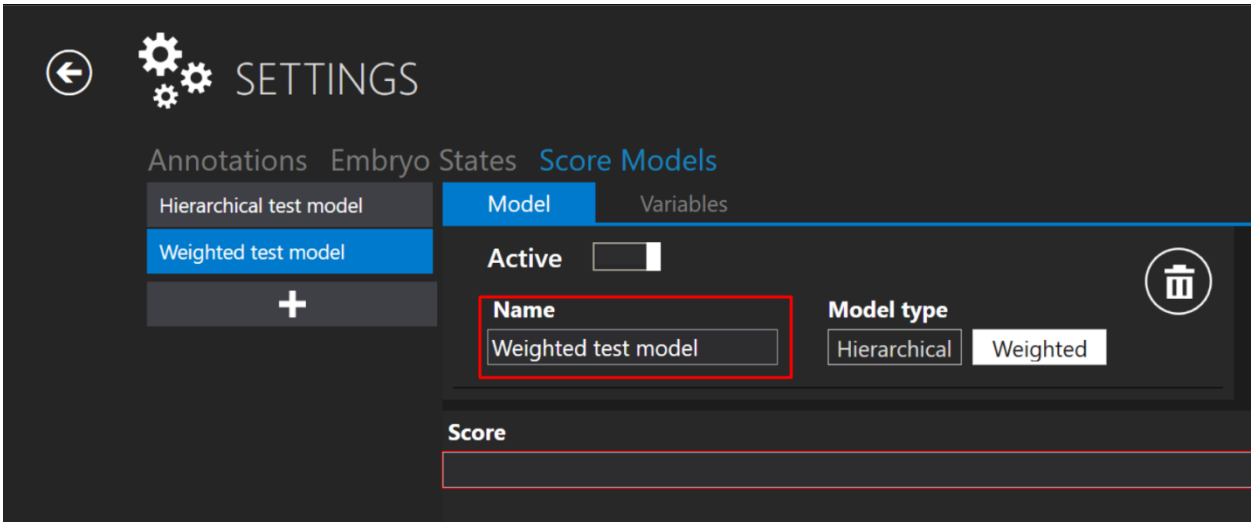


Figure 7.113 Naming the weighted embryo score model

By pressing the "e" letter in the "Score" box, there will be a list where the user can choose the desired event instead of writing it all down.

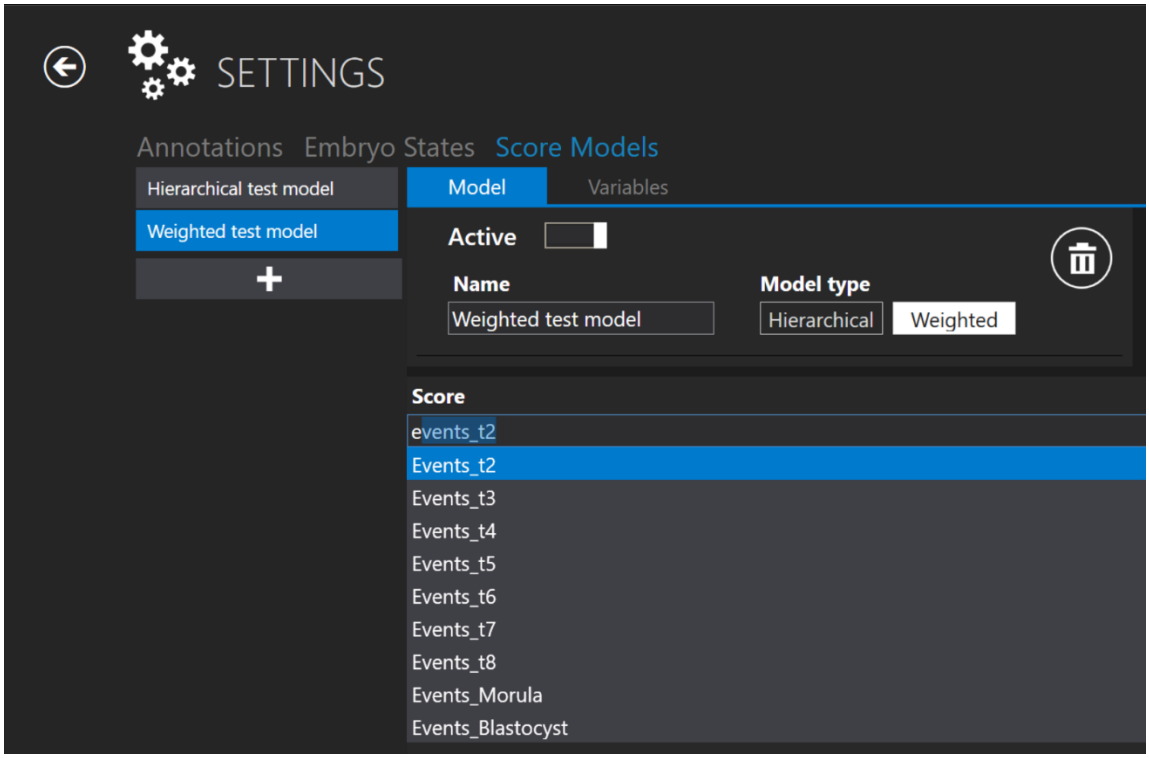


Figure 7.114 New score creation

The same rules apply to creating a "Score" formula as when creating the "Variables" formula. For more information, please read the 2.1.2 "Variables creation" section.

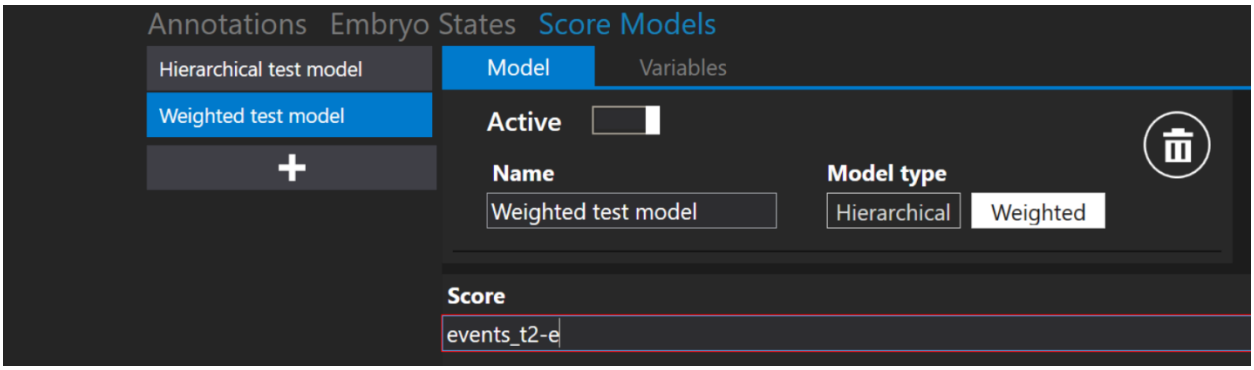


Figure 7.115 New score creation without using the "Space" key

The red square around "Score" will disappear if the score formula is written correctly.

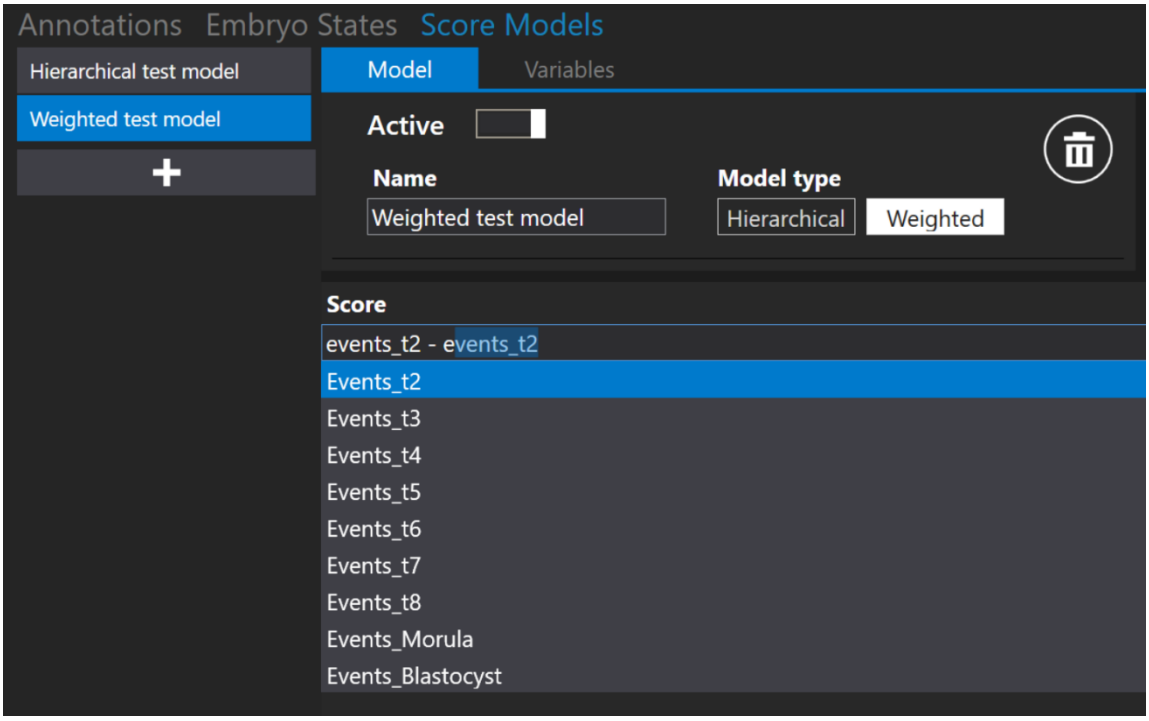


Figure 7.116 New score creation using the "Space" key

7.6.3.3 Deleting the score models

The created embryo score model can be deleted by pressing the "Trash bin" button near the "Model type".

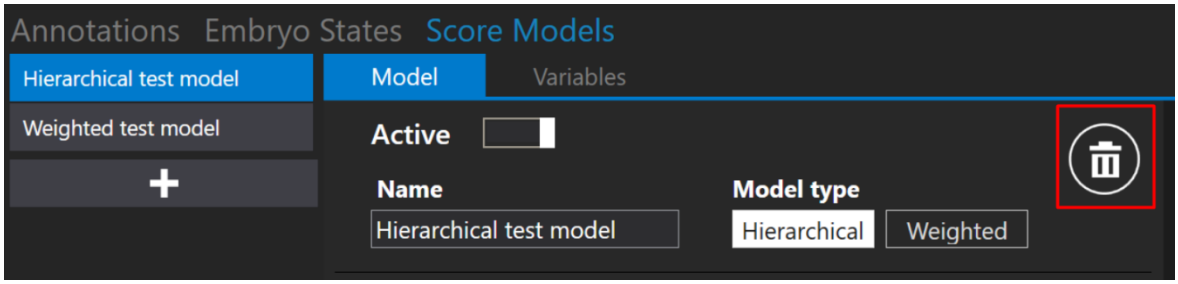


Figure 7.117 "Trash bin" button to delete created embryo score model

The embryo score model cannot be deleted if assigned to a specific timelapse. At the bottom of the view, a "Score model cannot be deleted" message will appear.

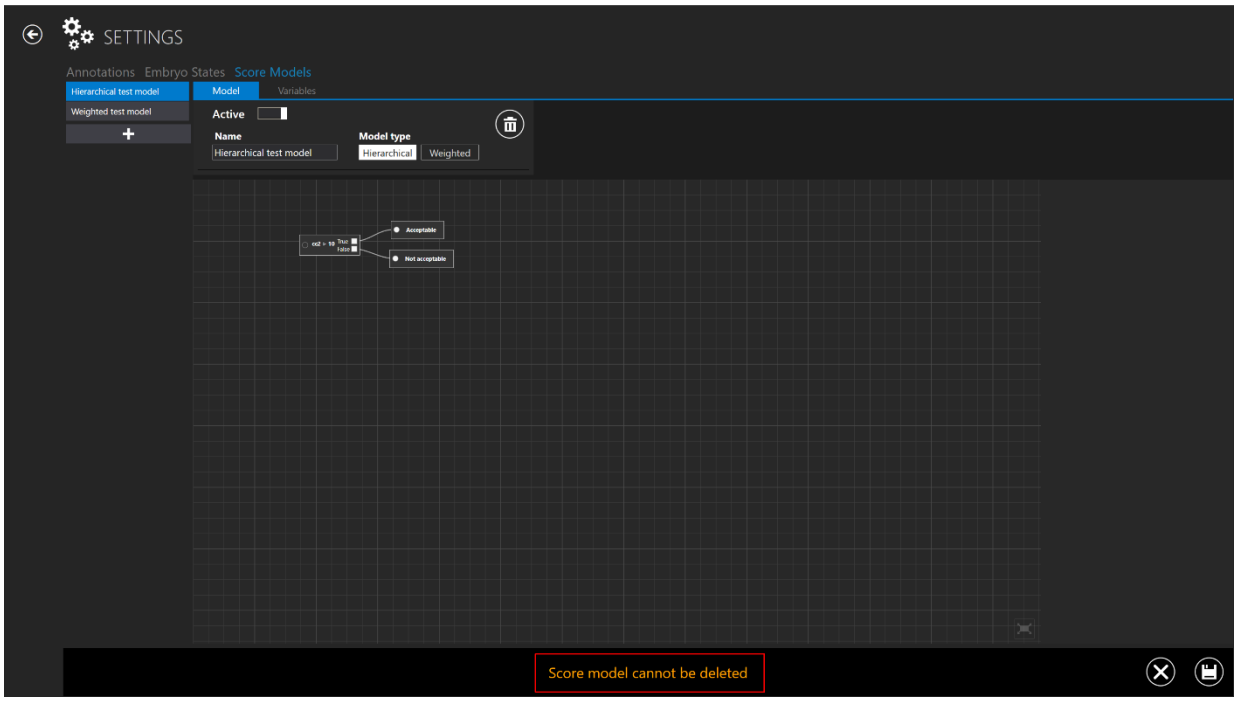


Figure 7.118 Error message when trying to delete embryo score model which is assigned to a timelapse

The "X" button located at the bottom of the screen will get back to the main "Score Models" view.

8 Technical assistance

For more information, contact Esco Medical or the local representative.