Online Web User Manual

Version 9.0

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Ascom UMS s.r.l. Unipersonale
Via Amilcare Ponchielli 29, 50018, Scandicci (FI), Italy
Tel. (+39) 055 0512161 – Fax (+39) 055 829030
www.ascom.com

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Online Web

For information about the Product environment, precautions, warnings and intended use see USR ENG Digistat Care and/or USR ENG Digistat Docs (depending on the modules installed - for the Digistat Suite EU) or USR ENG Digistat Suite NA (for Digistat Suite NA). The knowledge and understanding of the appropriate document are mandatory for a correct and safe use of "Online Web", described in this document.

1. Introduction

Online web is a web application that displays the incoming data from the medical devices connected to the patient (for example: monitor, ventilator, laboratory etc.).
The raw collected data can be integrated and validated by the user to create an accurate and readable user documentation.
The application can also be configured to connect to other Digistat® modules and display their data (for example Digistat® Diary, Digistat® Connect).

1.1. Data display

Data can be viewed in tables and charts. The way data is displayed is widely customizable. Refer to the system administrators for customization options. The figures included in this manual show a configuration example.

Parameters are displayed exactly as they are received from the connected medical devices. Therefore, it is possible for different parameters to have different decimal separators, depending on the decimal separators used by the devices.

1.2. Data acquisition

Data can be either automatically acquired or manually entered by users.

Automatic acquisition is for parameters transmitted by interfaceable medical equipment (for example: ventilators, patient monitors), or by a laboratory (for example: exams results).
Manual editing enables users to check and validate data, to eliminate artifacts and redundant data, to insert values whenever, for any reason, automatic acquisition is unavailable.

Data validation is performed on a separate screen, described in section 3.

Some configurations envisage Online Web without the Validation screen. For these configurations the validation procedures and functionalities do not apply.

1.3. Launching Online Web

To launch Online Web:

- Click the  icon on the lateral bar.

A screen is displayed, showing the data of the patient currently selected.
Online web requires patient selection. If no patient is currently selected, an empty screen is displayed, reminding that “This module requires a patient”. See section 1.4.

1.4. Patient selection

To select a patient,

- Click the **Select Patient** button indicated in Fig 1 **A**.

Fig 1

The Patient Explorer Web module opens. See the Digistat® Patient Explorer Web user manual (*USR ENG Patient Explorer Web*) for further instructions on patient management functionalities.

Other modules can be configured for the patient selection in place of Patient Explorer Web, depending on the configuration. If this is the case, see the specific documentation for instructions.

When a patient is selected the module displays the data of the selected patient.

1.5. Display mode

Two display modes are available, according to the chosen configuration. One “Dark” mode and one “Grey” mode.

2. Online

2.1. Screen structure

The Online Web screen (Fig 2) displays in chart and tables the data available for the selected patient. The screen is composed of the following items:

1) the lateral bar (Fig 2 **A** – see section 2.2);
2) the parameters table (Fig 2 **B** – see section 2.3);
3) the parameters charts (Fig 2 **C** – see section 2.4);
4) the command bar (Fig 2 **D** – see section 2.5);
5) the configured widgets (if available - Fig 2 **E**. I.e. areas displaying data acquired from other Digistat® modules – see section 2.6).

These tools are available in all Online web configurations.

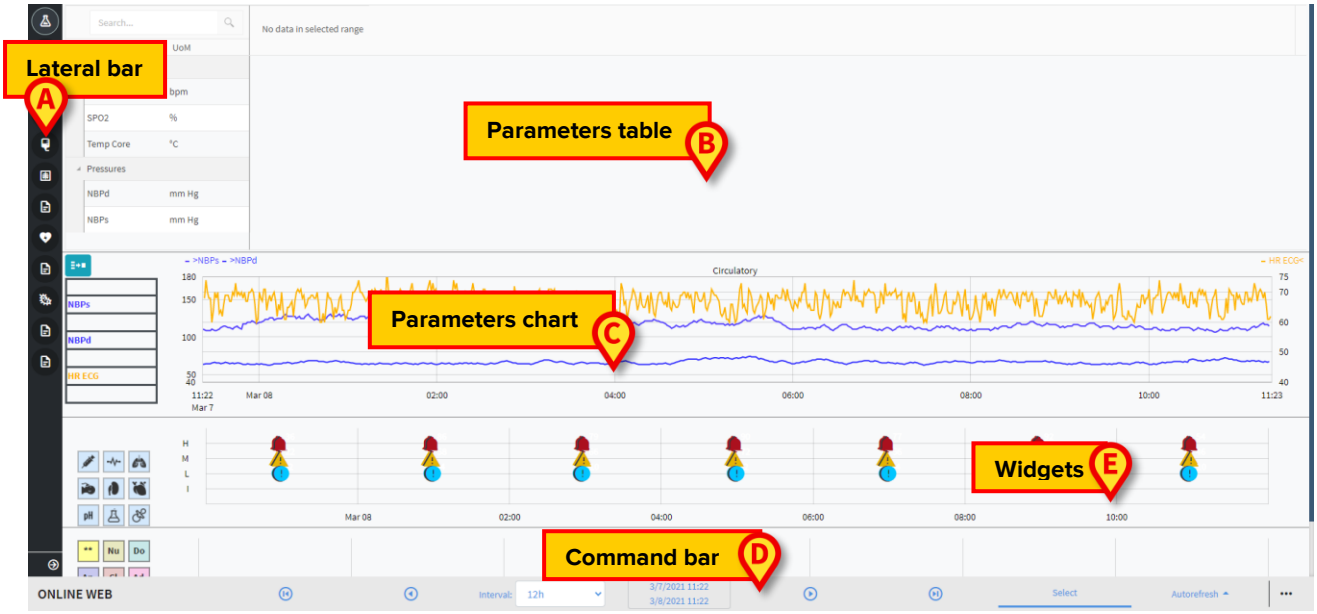


Fig 2

2.2. Lateral selection bar

Different Online pages can be configured for the same patient, each one focusing on a subset of parameters. The different pages can be selected on the lateral selection bar (Fig 2 **A**). Different icons can be associated during configuration to symbolize the kind of data contained in the page.

➢ Click the icon to display the corresponding page.

Refer to the system administrators for the existing configuration options.

2.3. Parameters table

The tables display the acquired data (either numeric or strings depending on the data type). Two display modes are possible, according to the chosen configuration:

1) only validated data is displayed;
2) all raw data is displayed.

In case 1) only the values that the user explicitely validated are displayed. The validation procedure is described in section 3.3.
In case 2) all the data acquired are displayed. Acquisition rate is usually 1 minute.

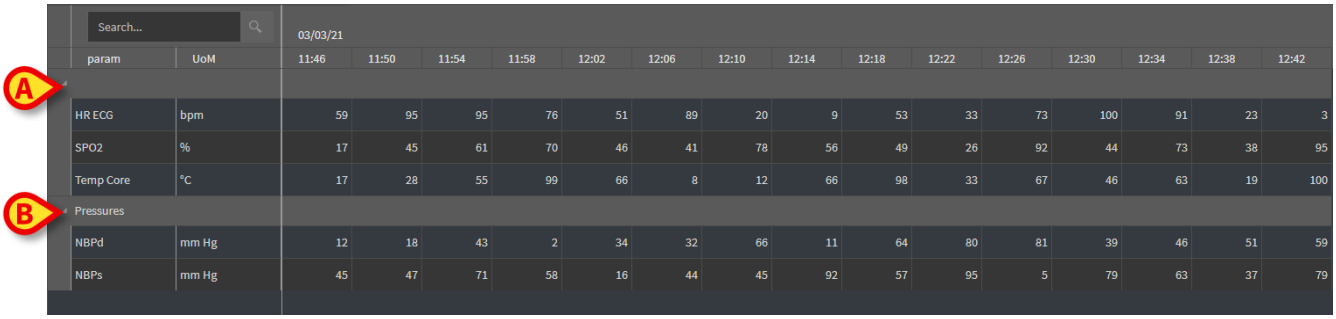


Fig 3

2.3.1. Tables general features

The parameters are divided in groups. The name of the group is displayed on the top-left corner of each group (Fig 3 **A** and **B**).

The first column displays the parameters names (Fig 4 **A**), the second coloumn displays the unit of measure (Fig 4 **B**).

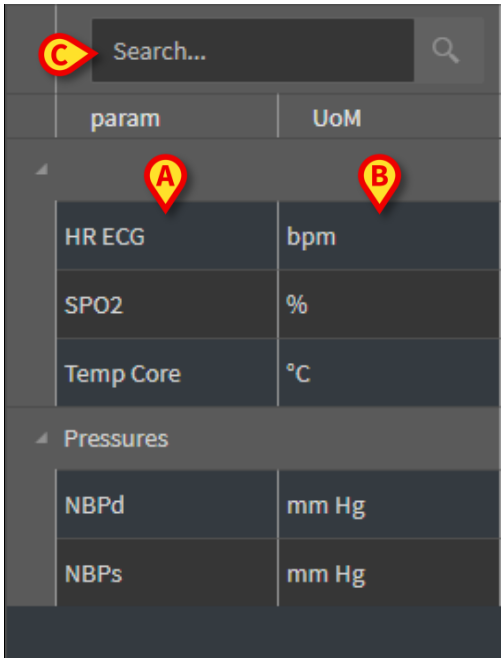


Fig 4

Use the search field indicated in Fig 4 **C** to search for a specific parameter.

The values of a parameter can be read on the corresponding row. Therefore, each row shows the parameter changes in time. In Fig 5 **A**, for example, the SPO2 values are circled.

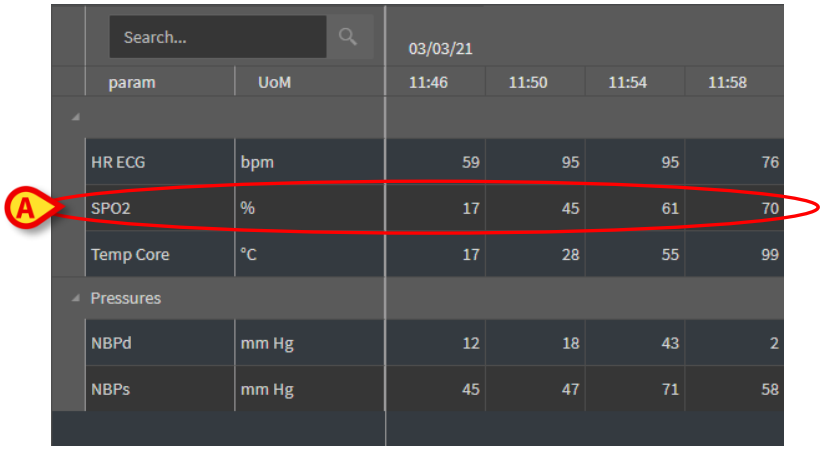


Fig 5

Each column corresponds to the acquisition of a set of parameters. The date and time at which the set of data was acquired are displayed on top. Therefore, the values of all the parameters acquired at a certain time can be read on each column (Fig 6 **A**).

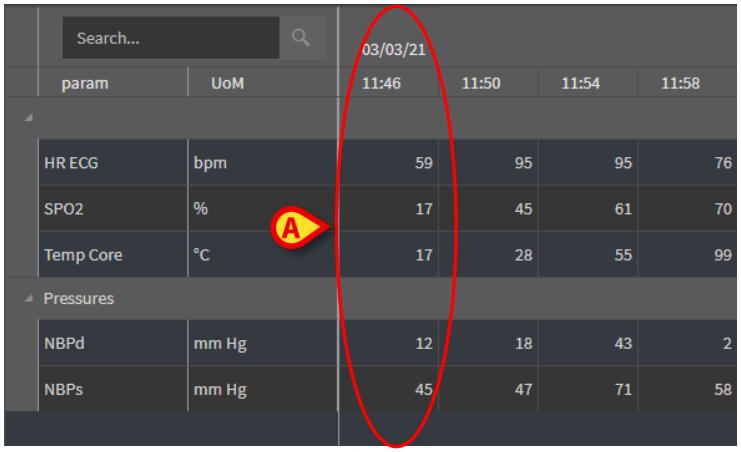


Fig 6

The number of decimals that can be displayed for a value is defined during the configuration of the corresponding parameter.

Use the button indicated in Fig 7 to minimize/maximize a single group.

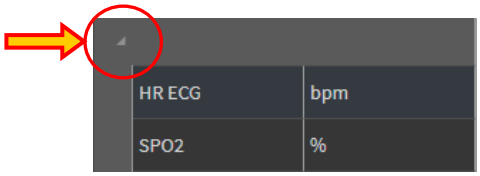


Fig 7

When a small red triangle is displayed on the top-left corner of a cell, it means that the value is outside a given range of normality (Fig 8, the range of normality is set in the configuration of the specific parameter). These values are notified only for validated data.

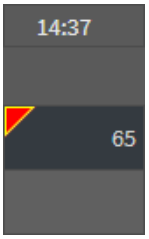


Fig 8

A yellow triangle on the top-right corner of a cell (Fig 9) indicates that there is a textual note associated to the data specified in the cell.

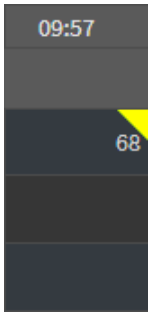


Fig 9 - Note

- Click the triangle to display the note (Fig 10).

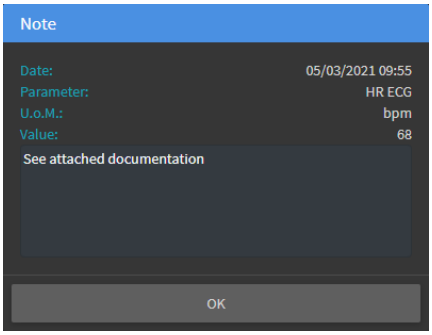


Fig 10

2.4. Charts

The trends of the configured parameters can be displayed in charts.

2.4.1. Charts general structure

The horizontal axis represents time. The vertical axis indicates the value of the represented parameters. Two scales of values can be used: one on the left (in the example shown in Fig 11 **A**, referring to NBPs and NBPd); one on the right (in the example shown in Fig 11 **B**, referring to HR ECG). The names of the represented parameters are displayed above the chart. The colour of the font corresponds to the color used in the chart to draw the trend of the parameter.

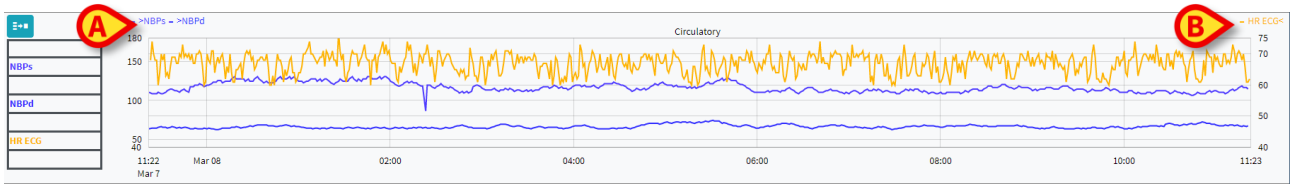


Fig 11

Drag the chart left or right to display the trends referring to times preceding or following those currently displayed.
Drag the chart up or down to display values above or below those currently displayed.
A legenda for the configured parameters is displayed on the left (Fig 12).

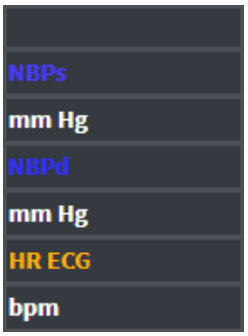


Fig 12

The unit of measure of each parameter is displayed below the parameter name (NBPs -> mm Hg ; HR ECG -> bpm).

The  icon (Fig 13 **A**) is a noise filter. Click it to draw a chart drawn on the middle value of each five-values pack.

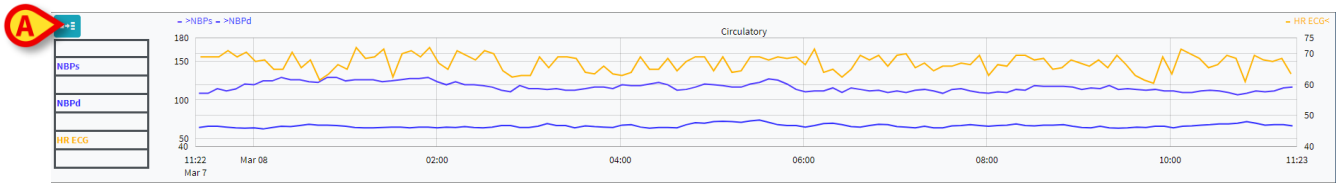


Fig 13

Point the cursor on the chart to dynamically display the values corresponding to the indicated position (Fig 14 **A**).

Click the chart to draw a vertical cursor-bar (Fig 14 **B**). The values acquired at the same time are highlighted in the other areas of the screen if the **Select** synchronization functionality is active (see section 2.5.5). The legend on the left dislays the values corresponding to the clicked time

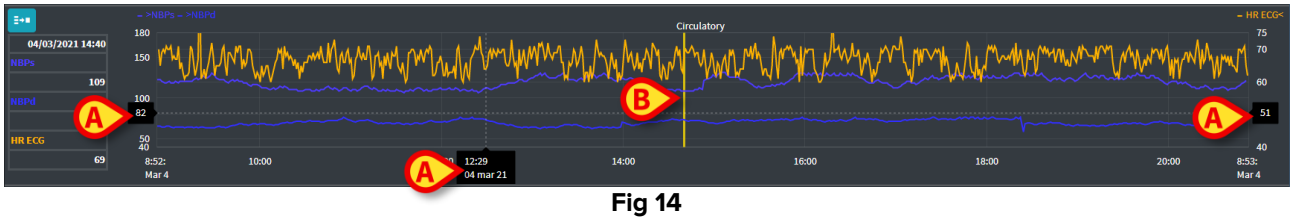


Fig 14

2.5. The command bar

The command bar is shown in Fig 15. The buttons on the command bar trigger different functionalities, described later.

Fig 15

2.5.1. Application name and info

The application name and info are available only for system administrators.

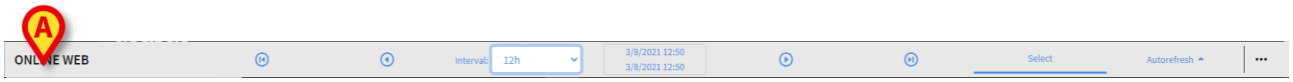


Fig 16

The name of the application currently selected is displayed on the left (Fig 16 **A**).

- Click the name of the application to display general information (Fig 17).

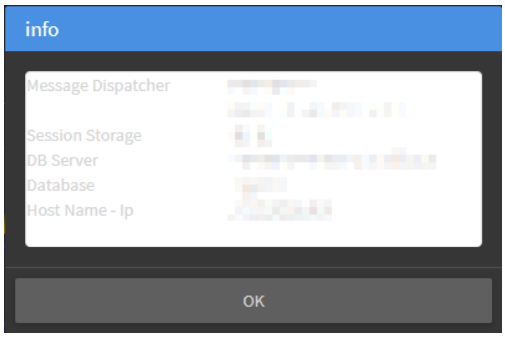


Fig 17

2.5.2. Scroll buttons

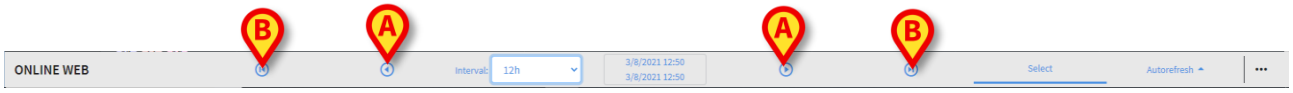


Fig 18

Use the arrow buttons to scroll the screen contents left and right.
The single arrows (Fig 18 **A**) display a time span preceding (left) or following (right) the one currently displayed. The length of the time span is set on the “Interval” menu. See section 2.5.3.
The double arrows (Fig 18 **B**) display the beginning (left) or the end (right) of the acquisition.

2.5.3. Interval selection

Fig 19

The “Interval” menu allows to select the time span displayed (Fig 19 **A**).

- Click the arrow placed alongside the “Interval” field to open the following menu (Fig 20).

Fig 20

- Click the required option.

The screen changes accordingly.

2.5.4. Custom Interval selection

The area indicated in Fig 19 **B** shows the time span currently displayed.

- Click this area to open a Date/time selector that allows to indicate the start and end dates of a custom time span to be displayed.

The new time span displayed is shown in the area in the form “start date/time – end date/time”. The “Interval” field is automatically set to “Custom”.

2.5.5. Select button

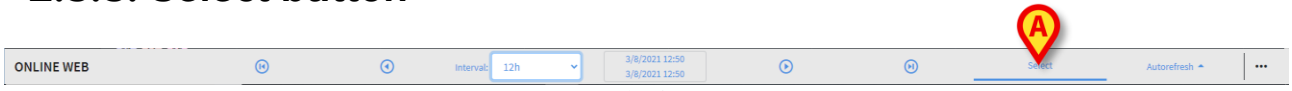


Fig 21

The **Select** button (Fig 21 **A**) allows to activate the tables and charts synchronization functionalities. The **Select** button is active by default.
When the functionality is active the different screen areas are synchronized (charts, tables, widgets). That means that if a portion is selected in one area, the corresponding portions in the other areas are highlighted.
In Fig 22 **A**, for example, the column containing the data acquired at 9:27 is selected on the table. The corresponding moment in the chart is automatically indicated by the yellow cursor bar (Fig 22 **B**). The corresponding areas in the configured widgets are also highlighted (Fig 22 **C** and **D**). The same synchronization functionality also activates if the chart is clicked.

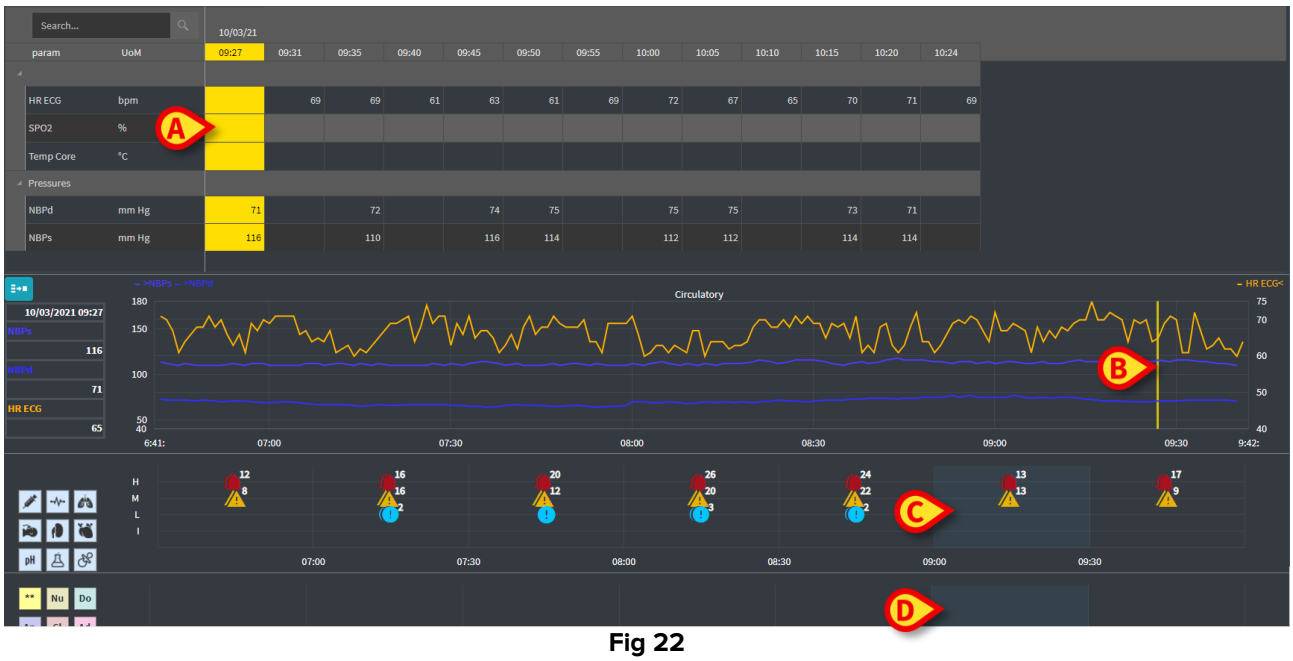


Fig 22

2.5.6. Refresh time selection

Fig 23

The “Refresh” menu allows to select the autorefresh interval for the data displayed.

- Click the **Autorefresh** button (Fig 23) to open the following menu (Fig 24). The options available for the current user depend on the user permissions.

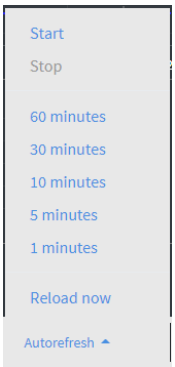


Fig 24

- Click the required option.

The autorefresh time changes accordingly.

The **Reload now** option reloads the screen contents.

Click **Stop** to stop the autorefresh. If autorefresh is stopped, the page contents are static. They are updated again only if a reload is explicitely triggered by the user (i.e. using the **Reload Now** option on this menu or restarting the autorefresh).

The **Start** option starts the autorefresh (if stopped).

2.5.7. Additional options

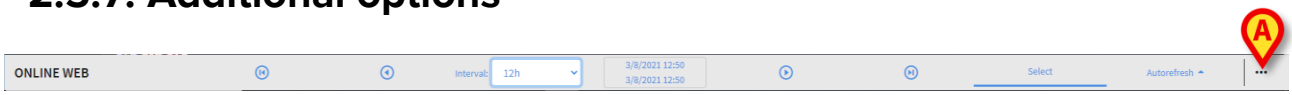


Fig 25

- Click the button indicated in Fig 25 **A** to open the following menu.

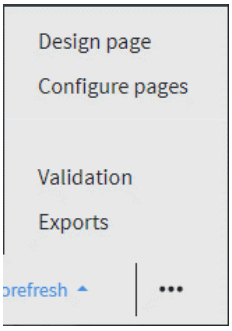


Fig 26

- Click the **Validation** option to access the validation functionalities, described in section 3.

- Click the **Exports** option to export the page contents to a configured print report.

A window showing the list of available reports, defined during configuration, opens.

- Click an item on the list to generate and download the report.

The “Design page” and “Configure pages” options are reserved to the system administrators.

2.6. Widgets

Online Web can be configured to connect to other Digistat® modules and display their data (for example Digistat® Diary, Digistat Connect). The data is displayed in widgets. This section offers a description of the widgets available. The actual widgets available depend on the configuration in use.

Refer to the system administrators for the existing configuration options.

2.6.1. Notification history display

Online web can be connected with the Digistat® Connect to display the history of the notifications coming from the medical devices connected to the patient.

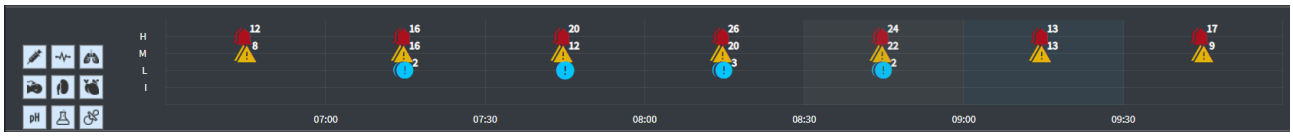


Fig 27

The notifications are displayed in a grid. The vertical axis refers to the notification priority:
"I" = "Info"
"L" = "Low" =
"M" = "Medium" =
"H" = "High" =

The horizontal axis indicates the time of occurrence.

The number placed alongside each icon indicates the number of notifications of the same kind that were collected together.

- Click any icon to display a window showing additional details for each notificaton (Fig 28).

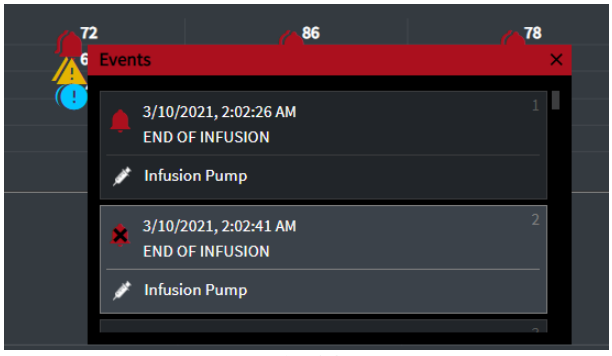


Fig 28

The buttons on the left are filters (Fig 29 **A**). The icons are the same defined on Digistat® Connect.

Fig 29

- Select one of the buttons to exclude the notification coming from the corresponding device.

As default, all filters are disabled.

- Place the mouse pointer on a button to display a tooltip indicating the corresponding device.

See the Digistat® Connect user manual for additional information (document: USR ENG Connect).

2.6.2. Clinical Diary

Online web can be connected with the Digistat® Diary module and display the clinical diary notes.

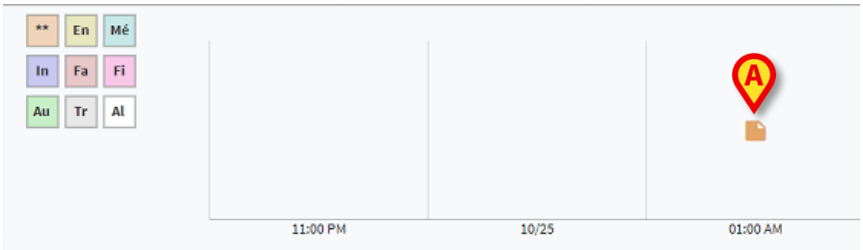


Fig 30

An icon indicates the presence of notes at a certain time (Fig 30 **A**). The horizontal axis indicates the time at which the note was added. A number placed alongside each icon indicates the number of notes of the same kind that are grouped together to enhance readability.

- Click any icon to display a window showing the actual notes.

The buttons on the left are filters.

- Select one of the buttons to exclude the corresponding note type. The types are the same defined on the Digistat® Clinical Diary module.

As default, all filters are disabled.

- Place the mouse pointer on a button to display a tooltip indicating the corresponding type.

See the Digistat® Diary user manual for additional information (document: USR ENG Diary).

2.6.3. Infusions

Online web can be connected with the Digistat® Connect to display data coming from the infusion pumps.

Fig 31

The vertical axis displays the names of the infusion therapies (either pump name or drug name, depending on the available data). The horizontal axis refers to time.
Each infusion therapy is displayed as a line (Fig 32).

Fig 32

The name of the infusion therapy is displayed on the left (Fig 32 **A**).
The beginning of the infusion therapy is indicated in Fig 32 **B**.
The end of the infusion therapy is indicated in Fig 32 **C**.
Possible changes to the infusion values are displayed on the line (Fig 32 **C**).

The button indicated in Fig 31 **A** activates tooltips displaying the infusion rates at a given time, as shown in Fig 33 **A**.

Fig 33

2.6.4. Microbiology

The microbiology data can be displayed in a dedicated type of widget. Fig 34 shows an example.

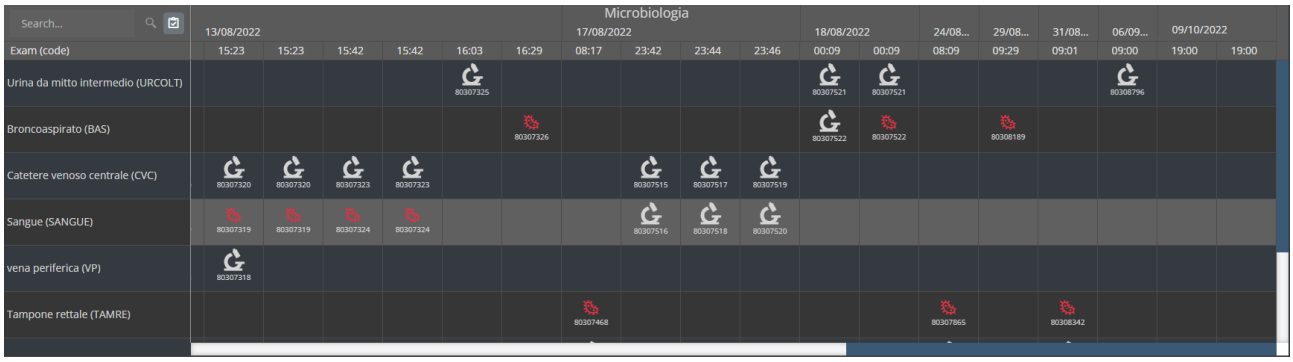


Fig 34

Data is displayed in a table. The columns indicate the date/time of the sample acquisition. The rows refer to the different types of exams. In Fig 35 a portion of the previous figure is enlarged.

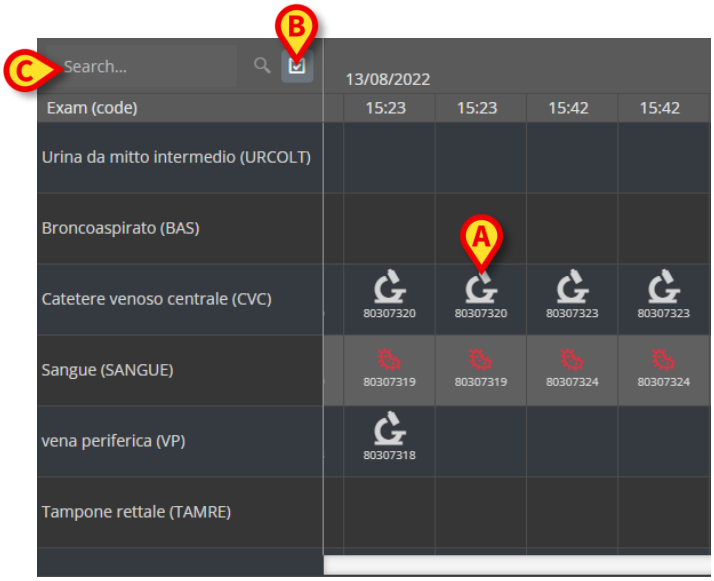


Fig 35

So, for example, the cell indicated in Fig 35 **A** refers to the available results for a CVC (Central Venous Catheter) acquired at 15:23 PM on the 13/08/2022.
If two different columns have the same date and time, it means that they refer to different updates of the same exam. The rightmost column contains the most recent update.

Use the  button indicated in Fig 35 **B** to display, in the grid, only the exams that were completed.

The data grid also displays results with partial data, referring to ongoing exams. Some exams take time to be completed: for these exams the results are progressively added when available. The  button *allows to display, in the grid, only the exams that were completed.*

Use the **Search...** field indicated in Fig 35 **C** to specify a search string and display only the results that match the specified string (Fig 36). Use the  icon (Fig 36 **A**) to clear the filter.

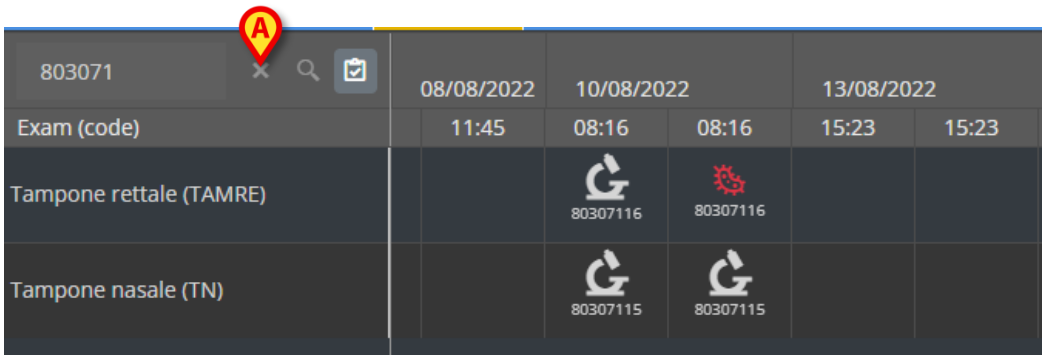


Fig 36

The  icon refers to results not indicating presence of germs. The  icon refers to results indicating presence of germs. The number placed below the icon is the specific exam id.

- Tap an icon to open a window containing the detailed results (Fig 37).

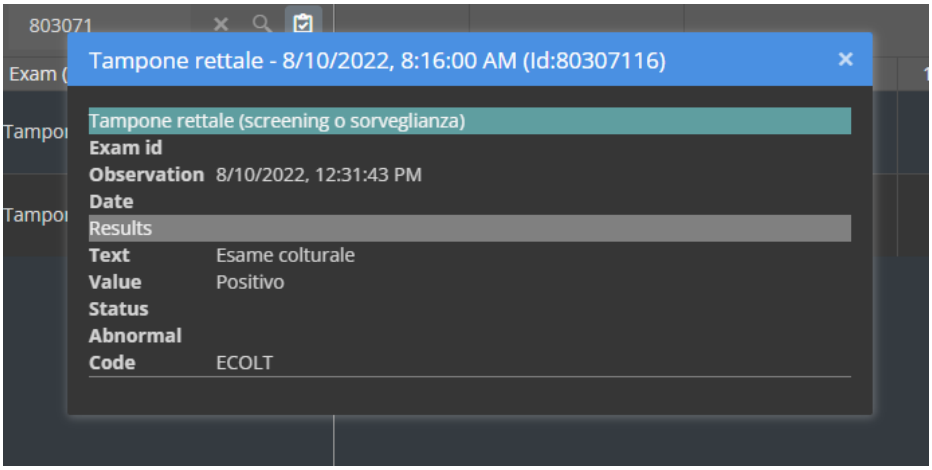


Fig 37

When a “Result detail” window is displayed, the corresponding column is highlighted on the grid (see Fig 38 **A**).

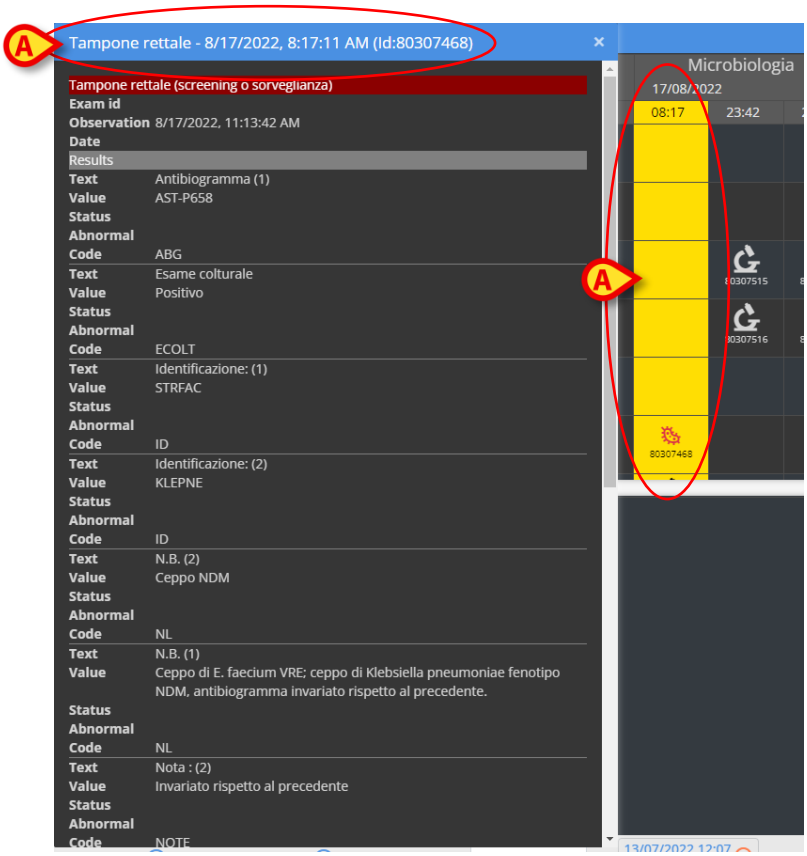


Fig 38

Multiple “Result details” windows can be opened at the same time for comparison (Fig 39). In these cases, the last opened column is highlighted.

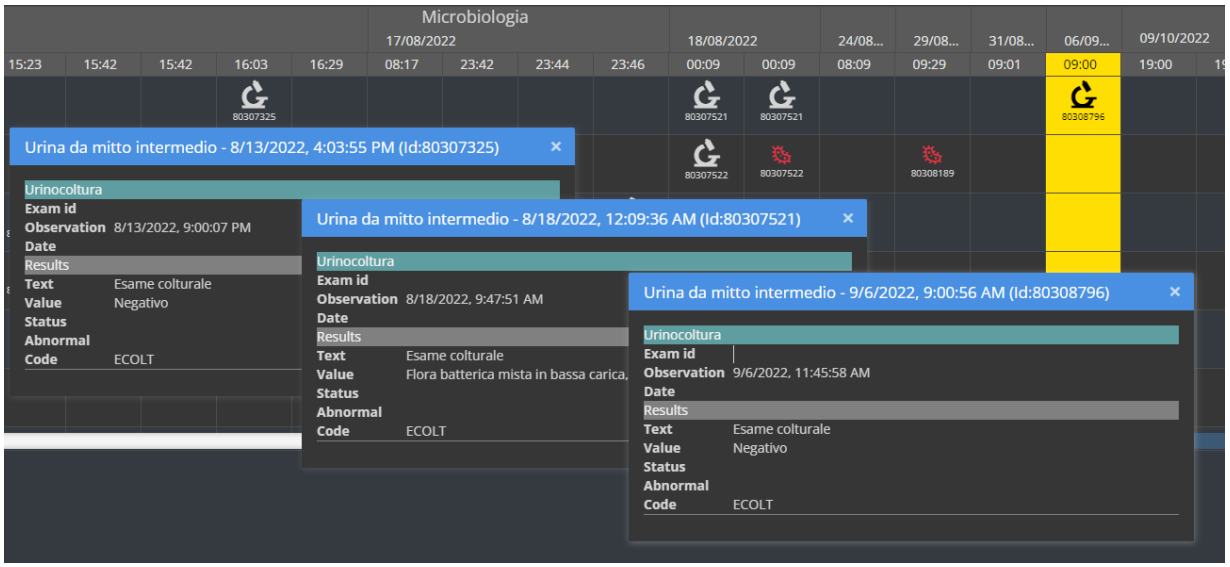


Fig 39

2.6.5. Laboratory

The laboratory data is displayed in a dedicated widget. Fig 40 shows an example.

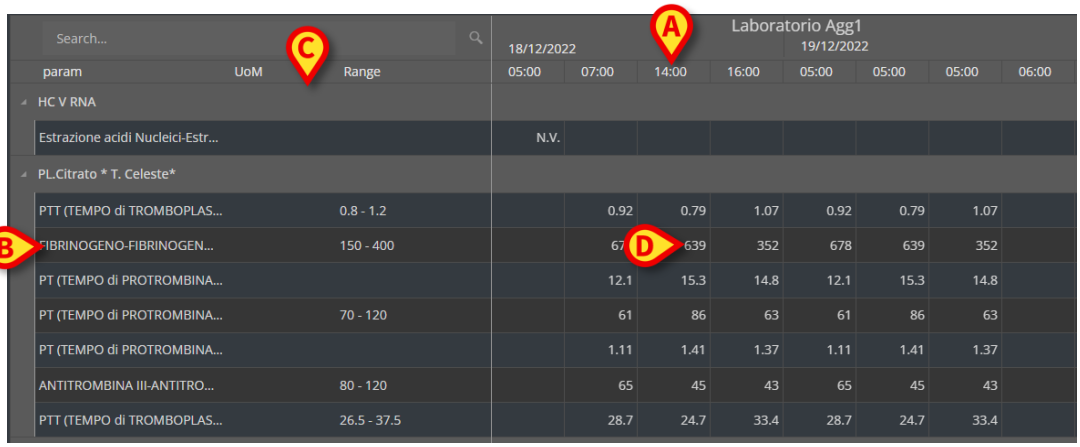


Fig 40

The Laboratory widget provides an overview, chronologically ordered, of all the results available for the currently selected patient in the specified time range.
Each column represents an exam. For example, the column indicated in Fig 40 **A** contains the results obtained at 14:00 on the 18/12/22.
Each row refers to an examination item. For example, the row indicated in Fig 40 **B** contains all the results obtained for “Fibrinogeno” (Fibrinogen). Alongside each examination item name, on the same row, the unit of measure and the value range are displayed if the information is available (Fig 40 **C**).
A cell is therefore the value of a certain item in the context of a specific exam, indicated by the results’ date and time. For example, the value 639 indicated in Fig 40 **D** is the value of “Fibrinogen” in the context of the results obtained at 14:00 on the 18/12/22. If an item is not available for an exam, then, in the corresponding row, the cell related to that item is empty.
The light-grey rows are group headings, naming a group of kindred items.

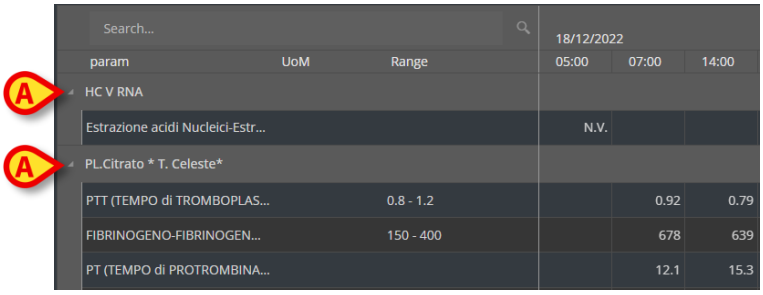


Fig 41

For example: “HC V RNA” and “PL.Citrato”, indicated in Fig 41 **A**, are group headings. All the dark-grey rows placed below a light-grey row belong to the same group, whose name is displayed on the row.
Use the icon on the left of the group heading to collapse/expand the rows belonging to that group (Fig 42 **A**).

Fig 42

The composition of groups can be configured on the Online Web configuration tool. Refer to the system administrators for the available configuration options. See the document CFG ENG Online Validation for more information.

Use the **Search...** field indicated in Fig 43 **A** to specify a search string and display only the results that match the specified string.

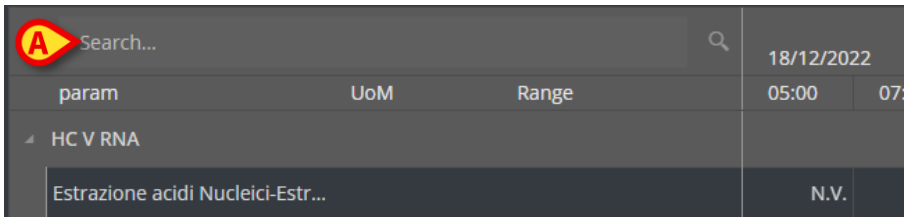


Fig 43

Tap a cell to highlight the corresponding column. If, on the same page, multiple tables are present, then the columns referring to the same date/time are highlighted on all the tables (see an example in Fig 44 **A**).

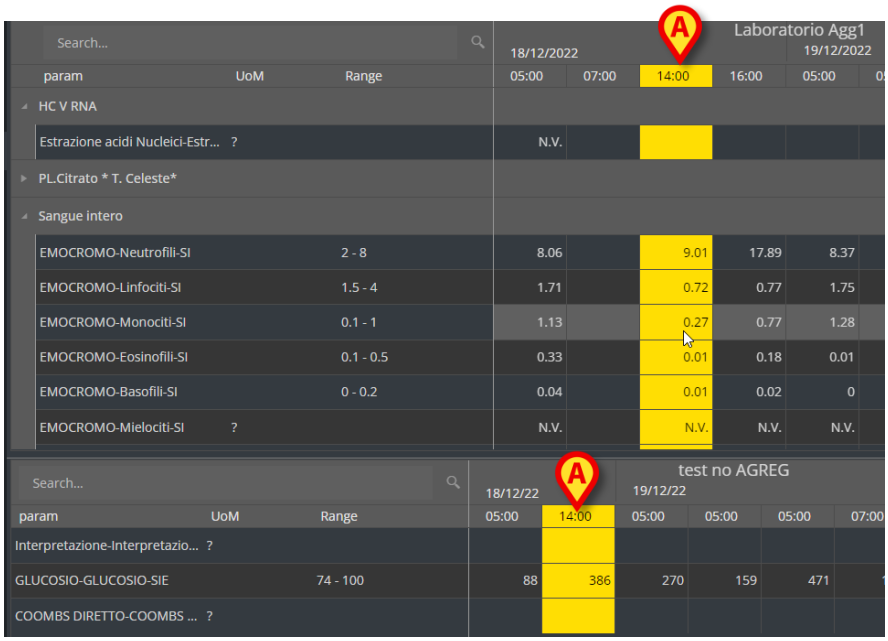


Fig 44

If a value is too long to be fully displayed inside a cell, three suspension points are displayed on the right. Place the mouse pointer over the cell to display the full value in a tooltip (Fig 45).

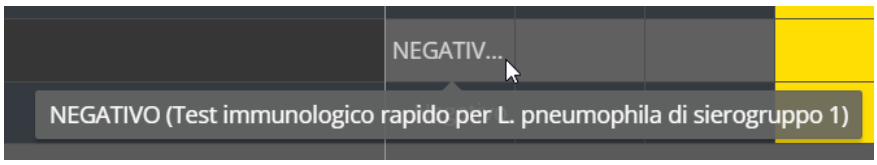


Fig 45

2.6.6. Fluid Balance

Online web can be connected to the Digistat® Fluid Balance module to display a chart representing the recorded fluid balance amounts. According to the widget configuration, it is possible to represent either the balance of a single item (as shown in Fig 46), or the total fluid balance for the selected patient.

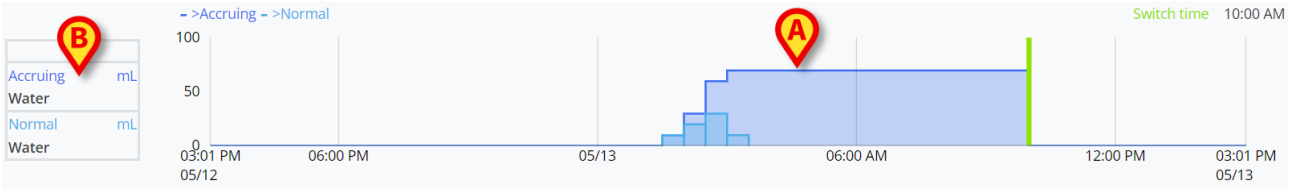


Fig 46

The vertical axis displays the fluid amounts. The amounts can be both positive (referring to "In" fluids, as shown in the figure) or negative (referring to "Out" fluids). The horizontal axis refers to time. The fluid balance chart is indicated in Fig 46 **A**. The balance displayed as example is for the "water" item, as indicated in the box on the left (Fig 46 **B**). The box shows the name of the balance item (or "total balance" if so configured) and the unit of measure.

Two display modes are available for the same chart:

1 – Normal, for which the fluid balance variations are displayed separately. The variation is calculated at specific intervals, defined by the "Range in minutes" setting in the Online Web Configurator. In Fig 47 **A** a single column refers to a specific variation, with a "Range in minutes" of 30 minutes.

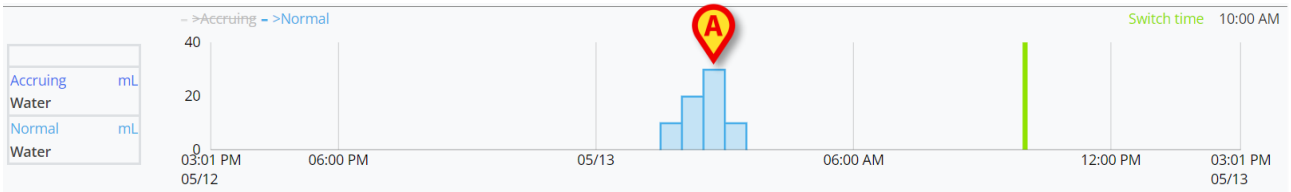


Fig 47

2 – Accruing, for which the variations are progressively added to a single chart representing the total amount (Fig 48 **A**). The accruing balance is reset at "Switch Time". The "Switch Time" bar (Fig 48 **C**) indicates the time at which the daily balance is closed. See the Fluid Balance

or Fluid Balance Web user manuals (USR ENG Fluid Balance/USR ENG Fluid Balance Web) for the explanation of the balance closing time.

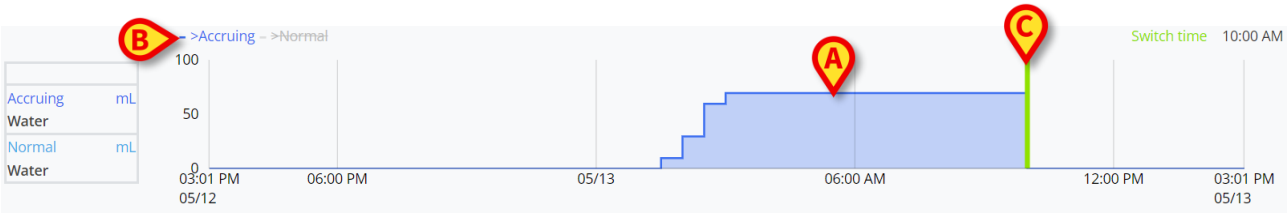


Fig 48

Both charts can be displayed together. It is possible to hide/show one of the two charts by clicking the labels indicated in Fig 48 **B**.

The balance variation is calculated at the end of each "Range in minutes" interval. Therefore, if the timeframe displayed by the Online Web module does not include the next "Range in minutes" end, the next variation is not included in the variation calculation and not displayed.

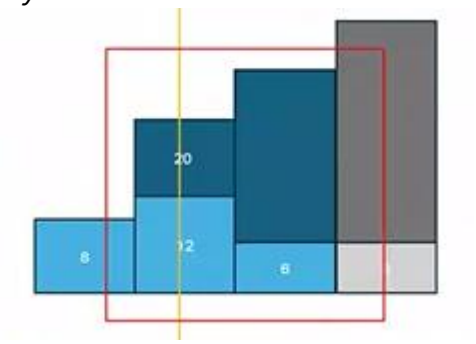


Fig 49

See, for example, Fig 49. The red square represents the timeframe selected on Online Web. The four columns are balance variations, calculated every XX minutes. The blue columns are those included in the calculation and displayed in the chart. The grey one is not calculated and not displayed because the end of the "Range in minutes" is outside the selected timeframe.

2.6.7. OranJ

Online web can be connected to the Digistat® OranJ system to display a chart representing a configured set of room events (i.e. operating markers, administered drugs, surgical procedures etc.). See Fig 50 for an example.

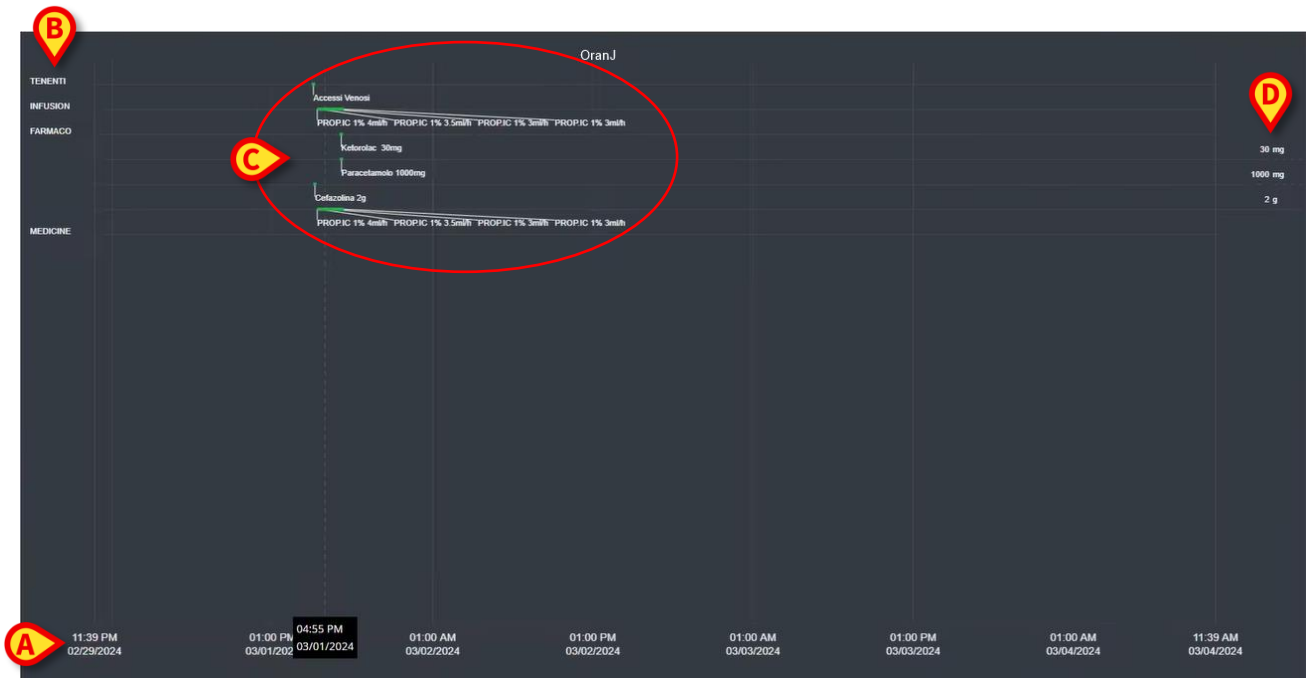


Fig 50

The horizontal axis represents time. The dates / times to which the displayed data refer are indicated at the bottom of the screen (Fig 50 **A**). In the vertical axis are indicated the configured groups of OranJ events. The groups displayed here are a sub-set of the groups existing in the OranJ system, chosen during configuration.

A configuration option allows to decide whether the name of a group is also displayed if there are no recorded events belonging to that group.

The charts indicated in Fig 50 **C** and enlarged in Fig 51 represent the OranJ events. On the right are displayed the total amounts of a specific event, if relevant (Fig 50 **D** - this is the case of administered drugs, for example). The presence/absence of the total amounts depends on a configuration option. If the totals are displayed, then the different events are positioned on different rows (that is the case of Fig 51 and Fig 52).

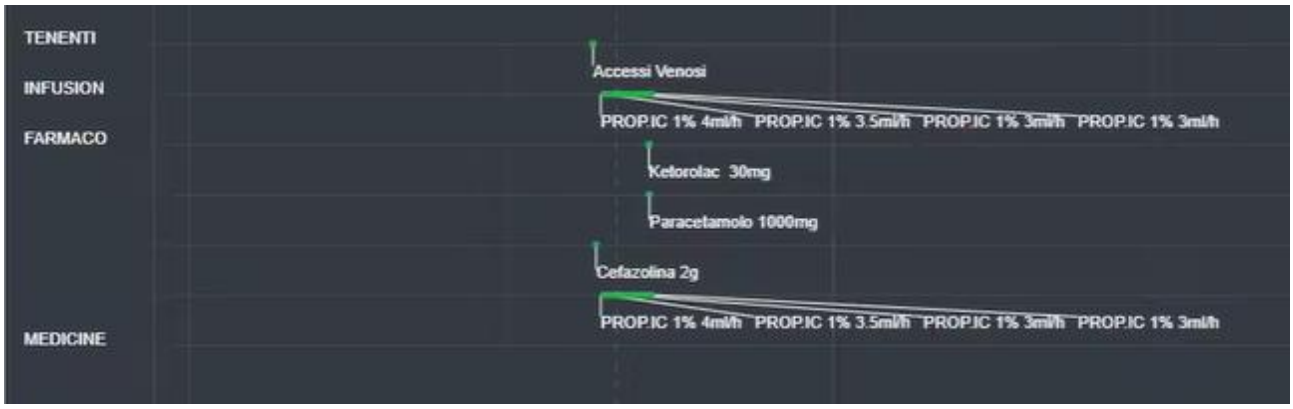


Fig 51

There are two types of events: punctual (for example: the “Room in” marker) and durative (for example: an infusion that lasts a certain time). On the chart, the punctual events are indicated as single points while the durative ones are lines whose length indicates the duration of the event. The colour of the chart is customizable.

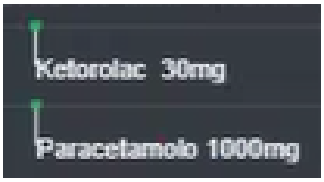


Fig 52

Fig 52 shows two punctual events (the administration of Ketorolac and Paracetamol). The green point is positioned according to the administration time. The amounts are indicated alongside the event name.

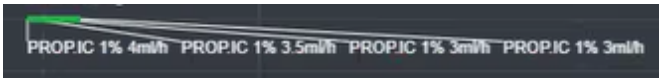


Fig 53

Fig 53 shows a durative event (the administration of Propofol via infusion). The green line indicates the duration of the event. Any changes in the administration parameters (speed, concentration etc.) are indicated in the chart.
If a durative event starts or ends outside of the time interval currently displayed on screen, the left and/or right edges are represented with broken lines (Fig 54 **A**).

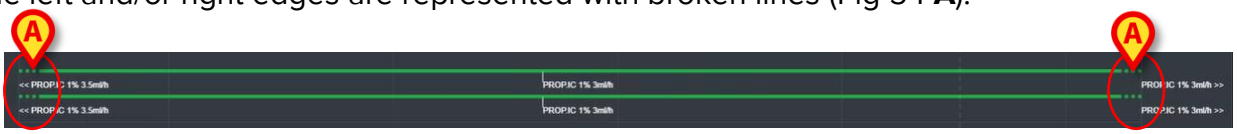


Fig 54

2.7. Switching Standard Time – Daylight Saving Time

This section explains the way the information is displayed on Online Web when the time switches from standard time to daylight saving time and vice versa.

In both cases a specific icon is displayed to mark the time switch, while the pink color highlights the switching hours (Fig 55 **A**).

Fig 55

When switching from Daylight Saving Time to Standard Time (the clock “jumps” one hour back) the time corresponding to 02:00 a.m. is repeated twice.
When switching from Standard Time to Daylight Saving Time (the clock “jumps” one hour forward) the time corresponding to 03:00 a.m. is not displayed. I.e.: 02:00 a.m. is displayed and the next hour is 04:00 a.m.

3. Validation

The raw data automatically acquired from the medical devices can be evaluated, edited and validated by the clinical staff members having specific permissions.

The data displayed on the parameters table on Online Web, according to configuration, can display either the raw data or the validated data. To validate data use the procedures described in this section.

There are two ways to access the validation functionalities:

1) Click the corresponding icon - 

- on the lateral bar.
2) Click the **Validation** option on the "Additional options" menu on the command bar. See section 2.5.7.

The following screen opens (Fig 56):

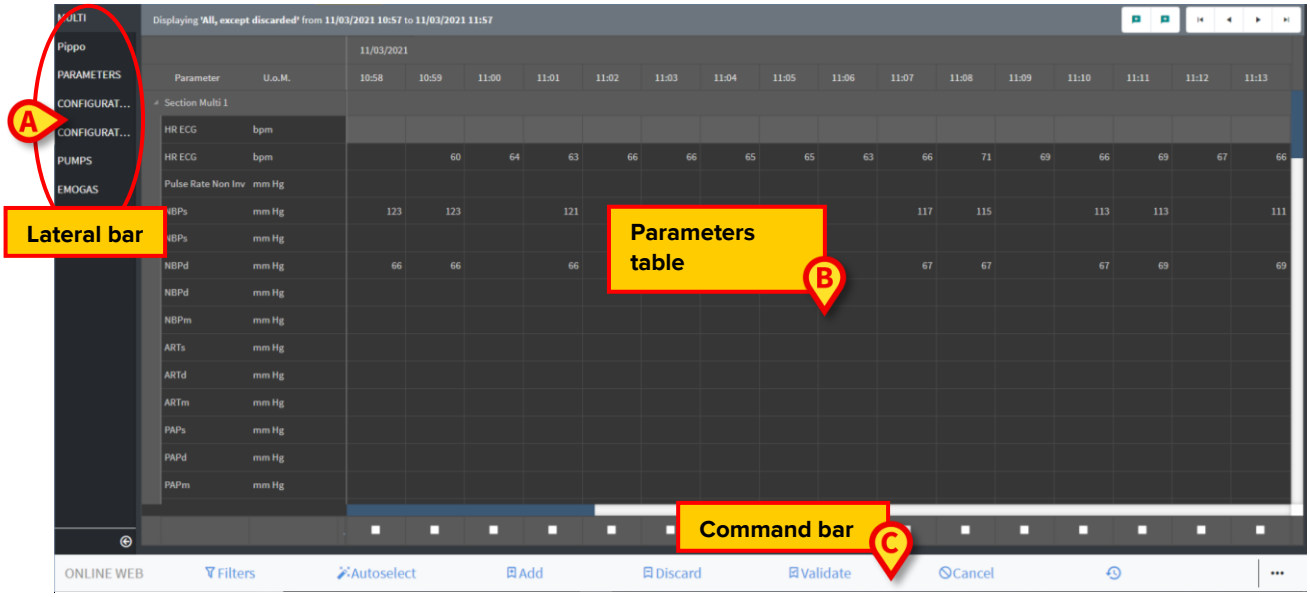


Fig 56

The **Validation** screen displays in a table all the raw data acquired by the configured medical devices. Sample rate is usually 1 minute.

Different pages can be configured for the same patient, each one focusing on a subset of parameters. The different pages are available on the lateral selection bar (Fig 56 **A**). Click the name of the page to display the corresponding data.

The acquired parameters are displayed in a table (Fig 56 **B**).

The buttons on the command bar (Fig 56 **C**) trigger different procedures, described later in this document (see section 3.4).

3.1. Parameters table (Validation)

The parameters table, indicated in Fig 56 **B** and enlarged in Fig 57, displays all the raw data acquired for the configured parameters.

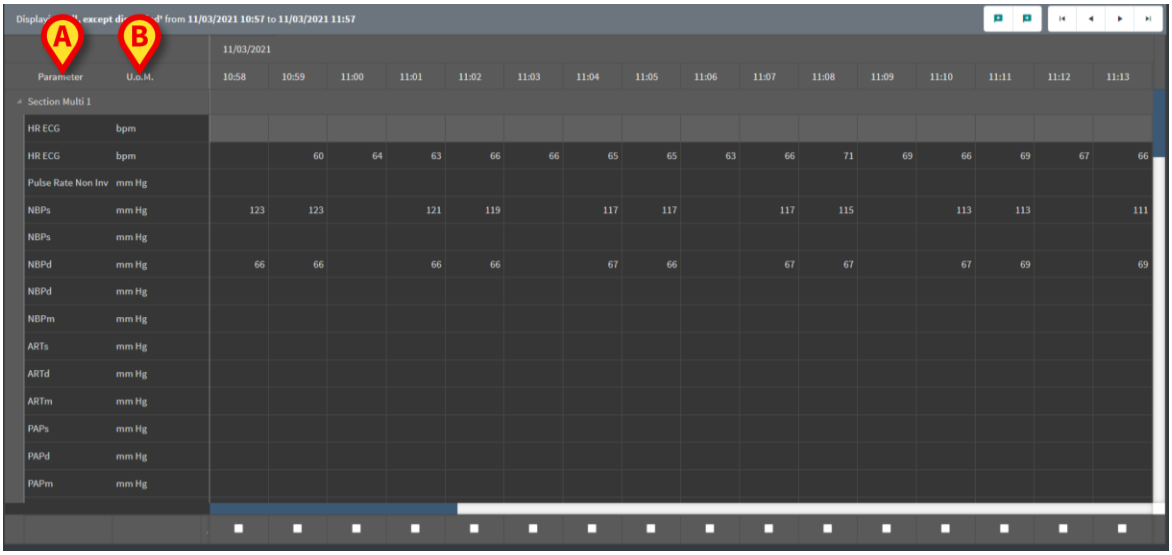


Fig 57

The tables display the acquired data either in numeric form or as strings.
The first column displays the parameters names (Fig 57 **A**), the second column displays the unit of measure (Fig 57 **B**).
The parameters can be grouped. The name of the group is displayed on the top-left corner of the corresponding portion of table (Fig 58 **A**).

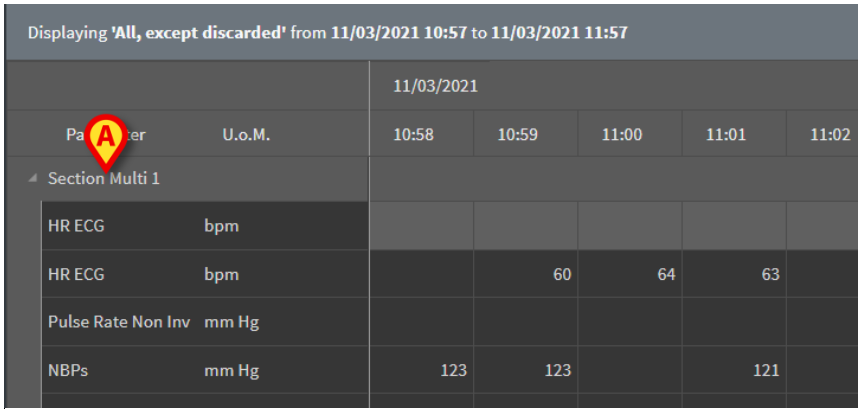


Fig 58

Use the button indicated in Fig 59 to minimize/maximize the group.

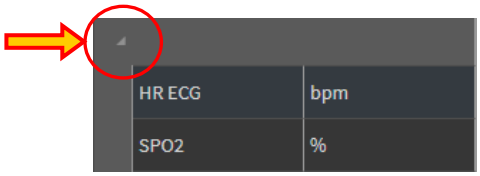


Fig 59

The values of a specific parameter can be read on the corresponding row. Therefore, each row shows the parameter changes in time. In Fig 60 **A**, for example, the HR ECG values are circled.

Fig 60

Each column corresponds to the acquisition of a set of parameters. Raw data is acquired at 1-minute rate, as standard. The acquisition date and time are displayed on top. Therefore, the values of all the parameters acquired at a certain time can be read on each column (Fig 61). The single cell displays the value of a specific parameter at a specific time.

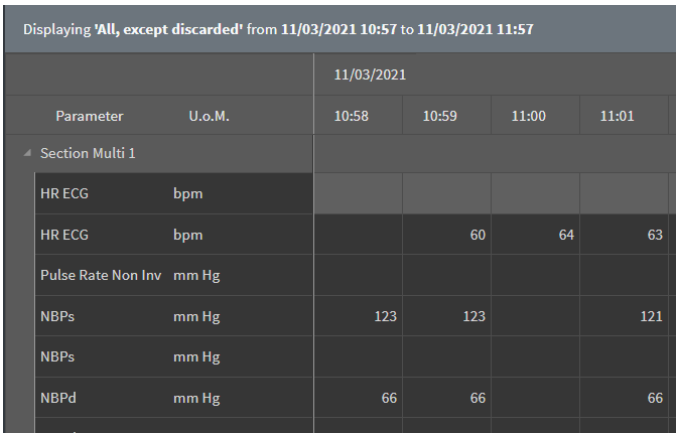


Fig 61

The type of data displayed and the acquisition interval are indicated on the top-left corner of the table (Fig 62 **A**).

Fig 62

Use the **Filters** functionality to set the type of data and the acquisition interval displayed (see section 3.4.1).
A small red triangle displayed on the top-left corner of a cell means that the value is alarmed, i.e. it is outside a given range of normality (Fig 63, the range of normality is set during the configuration of the parameter).

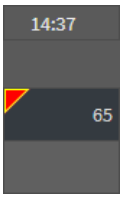


Fig 63

A yellow triangle on the top-right corner of a cell (Fig 64) indicates that there is a textual note associated to the data specified in the cell.

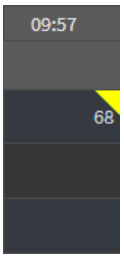


Fig 64

- Click the triangle to display the note (Fig 65).

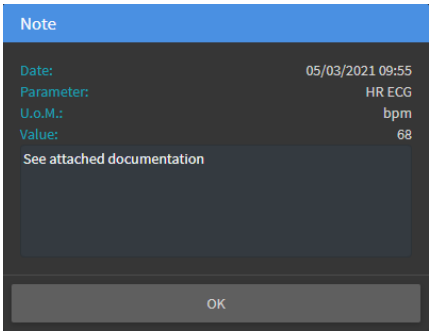


Fig 65

A value is displayed inside a square if edited by the user. See section 3.2 for data entry procedures (Fig 66).

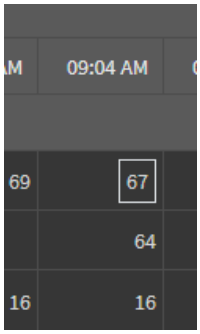


Fig 66

The checkbox placed at the botton of each column (Fig 67 **A**) enables to select/deselect the column. The selected columns are highlighted (three columns are selected in Fig 67).

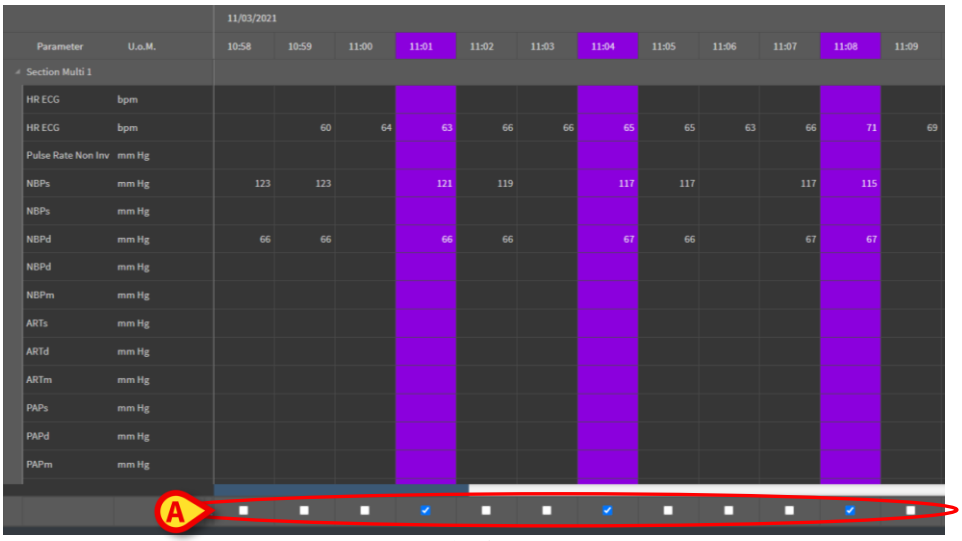


Fig 67

The buttons placed on the top-right corner of the table (Fig 68 **A**) allow to move back and forth in the available data. Moving to the left means displaying columns previously acquired; moving to the right means displaying columns successively acquired.

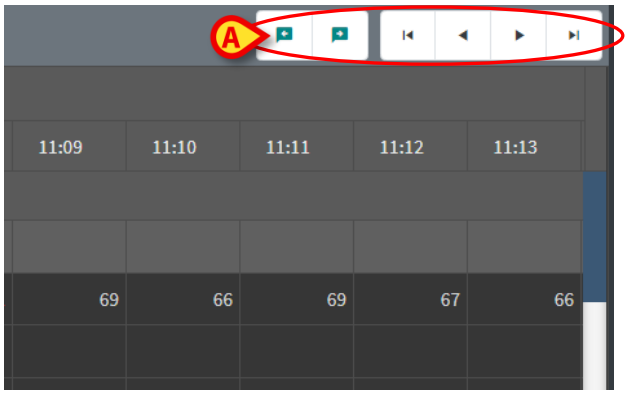


Fig 68

 - Go to the previous (left) or next (right) validated column.

 - Go to:

- first column;
- previous column;
- next column;
- last column.

➢ Click the name of one of the parameters on the left of the table (Fig 69 **A**) to display two additional buttons (Fig 69 **B**).

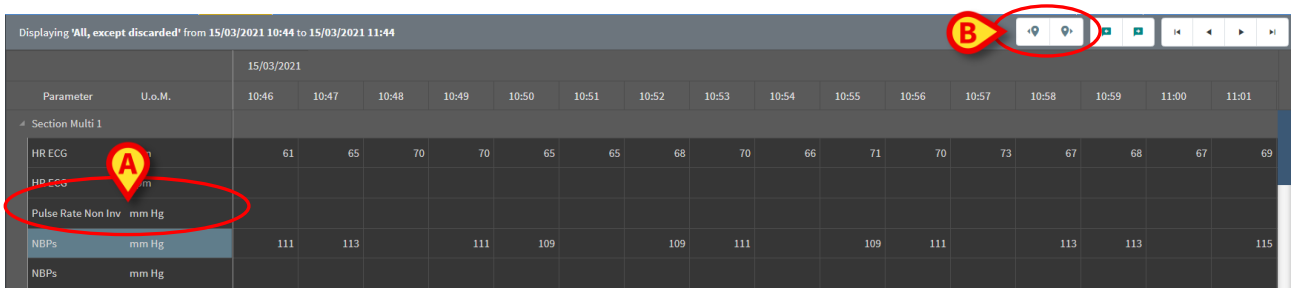
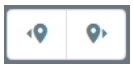


Fig 69

 - Use these buttons to select the previous/next value acquired for the selected parameter.

3.2. Data entry

It is possible to manually enter data, depending on user permissions.

User permissions define the actions that a user is or is not enabled to perform. Examples are: data entry; add/remove alarms; validate/remove validation etc... Refer to the system administrators for the user permissions configuration.

If a column is locked for editing to the currently logged user, the  *icon is displayed below the column.*

To enter data:

- Double click the cell in which the data must be entered.

The data entry window opens (Fig 70).

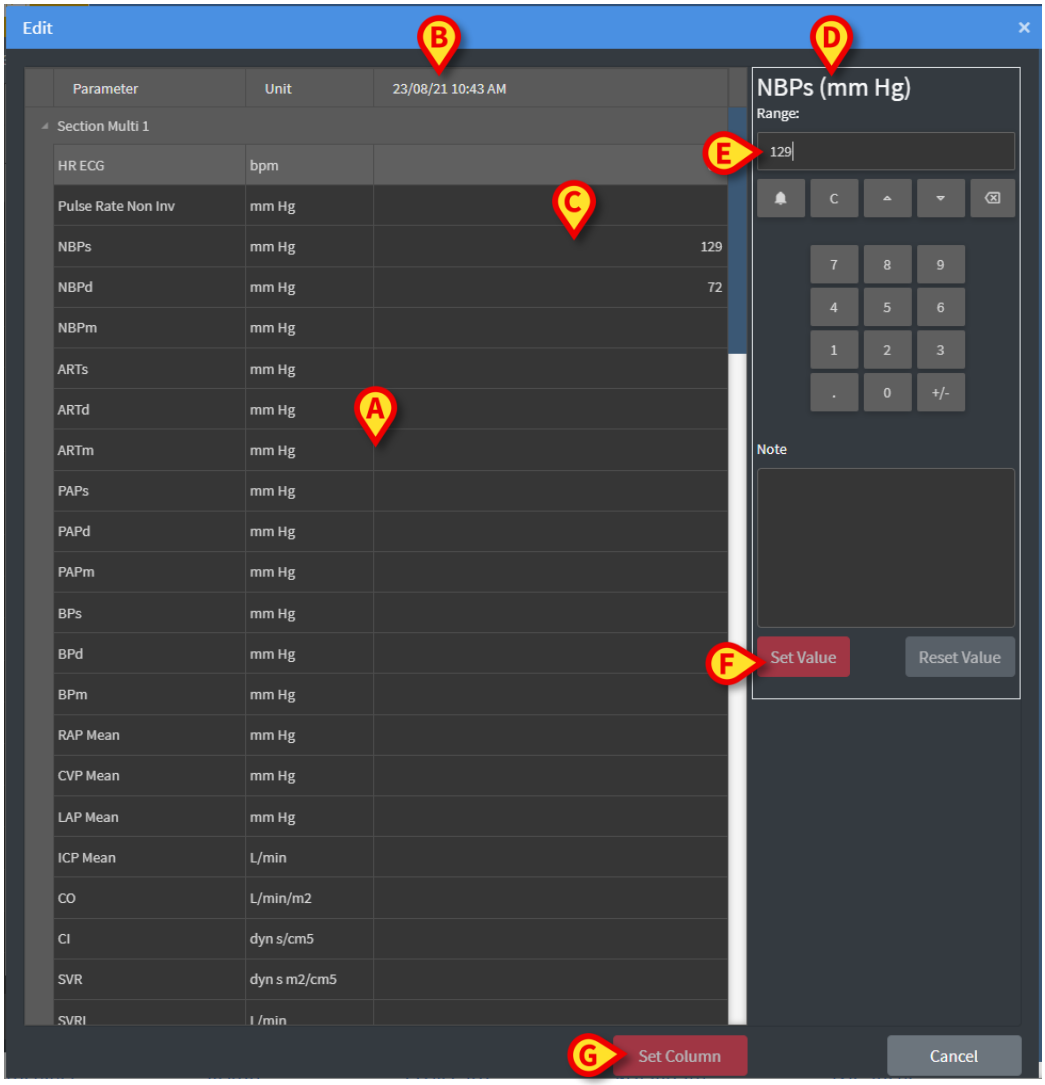


Fig 70

On the left, a table displays the parameters and values of the considered column (Fig 70 **A**). The acquisition date/time is displayed on top (Fig 70 **B**). The blue highlight in the table (Fig 70 **C**) indicates the parameter currently selected. The name of the currently selected parameter is also indicated above the data entry field (Fig 70 **D**). If a value is present for the selected parameter, it is displayed in the data entry field (Fig 70 **E**). Here the value can be edited if configured to be editable (values can be configured as read-only).

- Insert data in the data entry field (Fig 70 **E**).

Use, for data entry, either the virtual numeric keyboard or the physical workstation keyboard.

- Click the **Set Value** button (Fig 70 **F**).

The new value is displayed in the corresponding row. Data inserted by users are circled (Fig 71 **A**).

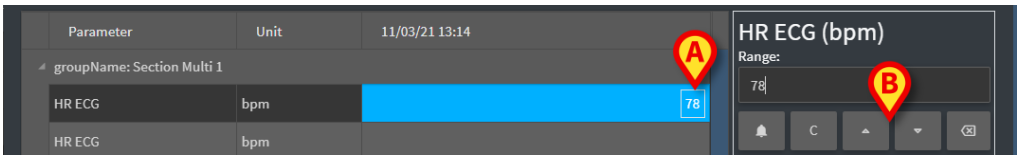


Fig 71

If required,

- Select another row to edit another parameter on the same column.

For rows selection either use the arrow buttons indicated in Fig 71 **B** or click the relevant row on the table (Fig 70 **A**).

Select the "Bell" button (Fig 72 **A**) to either indicate the value as "out-of-range" or to remove the notification from an "out-of-range" value. The "out-of-range" values are displayed on the table with a small red triangle in the corner of the cell (as shown in Fig 63).
The range indication (Fig 72 **B**) shows the range of normality for the selected parameter. The range of normality is defined during configuration. A value that is outside the range of normality is automatically notified on the table.
Also, a range of plausibility can be defined for a parameter during configuration. Values that are outside the range of plausibility cannot be entered.

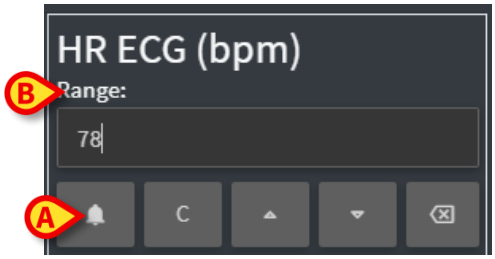


Fig 72

After editing all the required values on the same selected column,

- Click the **Set Column** button (Fig 70 **G**).

The new values are displayed on the main validation table (Fig 56 **B**). Data inserted by users are circled.

The inserted data is actually applied only after validation of the corresponding column. See section 3.3 for the validation procedure.

3.3. Validation procedure

To validate one or more set of data (i.e. columns):

- Check the checkboxes corresponding to the relevant column(s).

The columns are highlighted on the table (Fig 73 **A**).

Fig 73

- Click **Validate** on the command bar (Fig 73 **B**).

A **Validation Completed** notification is provided. The validated columns are highlighted blue, as in Fig 74.

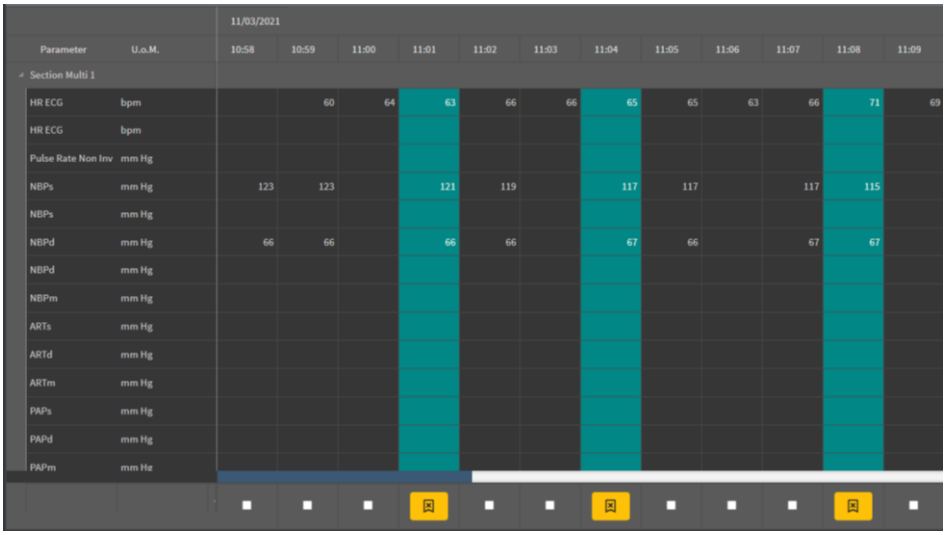


Fig 74

If the Online Web application is configured to only display the validated data, then the validated columns are the only ones displayed on the Online Web application (Fig 75).

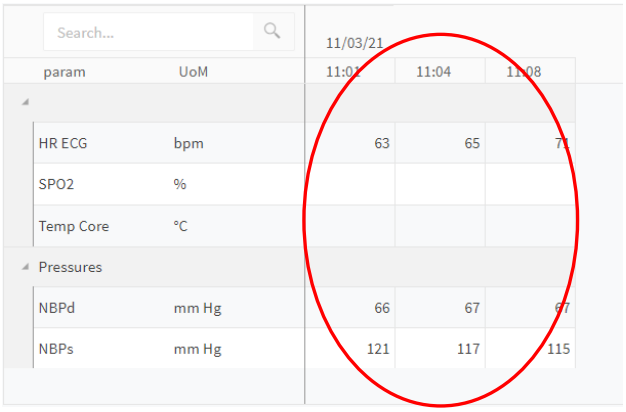


Fig 75

- Click the  icon placed below the validated columns (Fig 76) to "Undo" the validation.

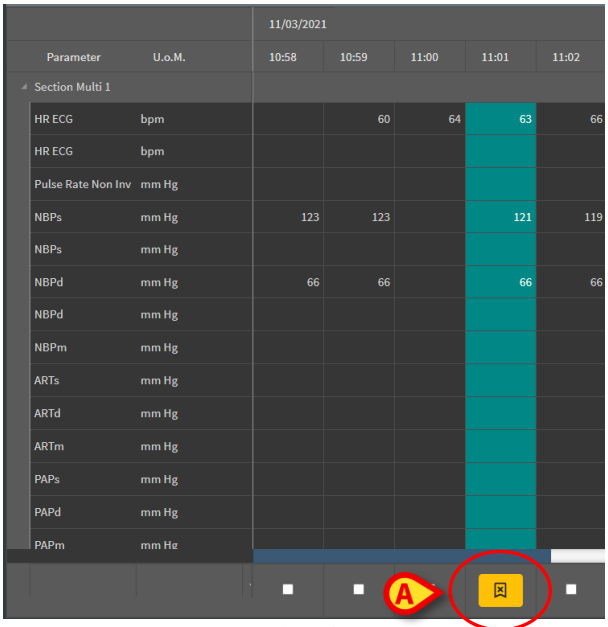


Fig 76

A validation timeout can be set during configuration, i.e. a time span after which a validated column cannot be edited or removed anymore.

In these cases the  *icon is displayed below the column.*

3.3.1. Validation history

To display the history of validations for a specific parameter:

- Right-click, on a validated column, the cell corresponding to the required parameter.

A **History** option is displayed (Fig 77 **A**).

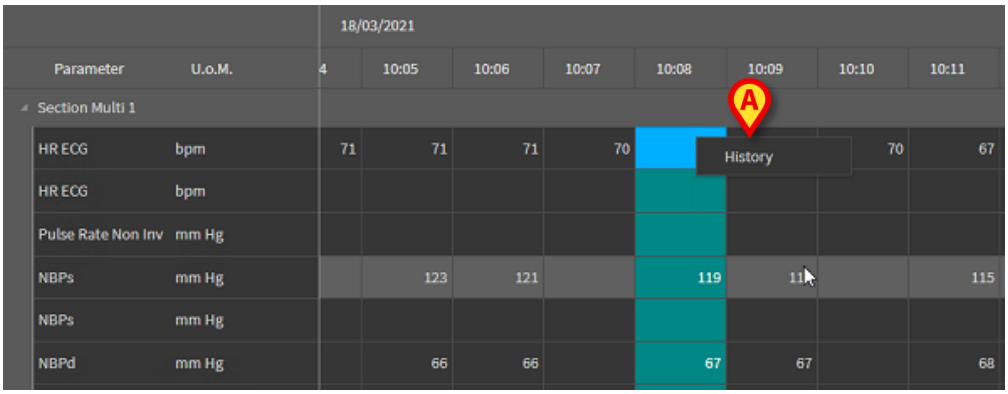


Fig 77

- Click **History**.

A window opens, showing the validation history for the selected parameter (Fig 78).

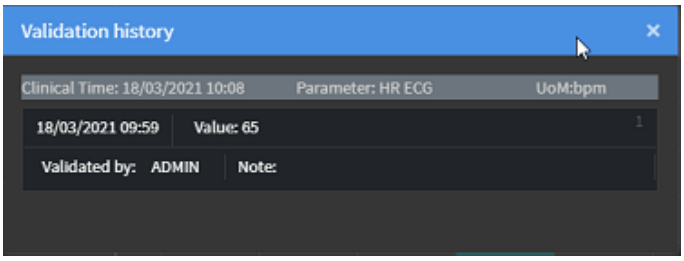


Fig 78

3.4. The command bar

Use the buttons on the command bar (Fig 79) to trigger different procedures.

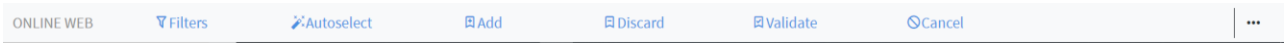


Fig 79

3.4.1. Filters

The **Filters** button allows to decide the type and acquisition time of the data displayed in the validation table.

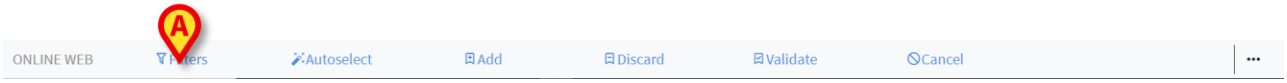


Fig 80

- Click **Filters** (Fig 80 **A**).

The following window opens (Fig 81).

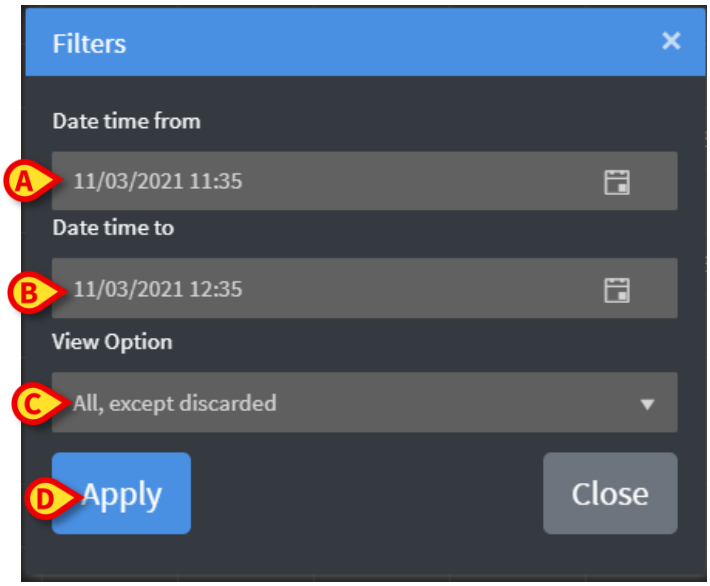


Fig 81

- Select the start and end date/time of the data to be displayed (Fig 81 **A** - **B**).
- Select the type of data to be displayed (Fig 81 **C**).

The available options are displayed in Fig 82.

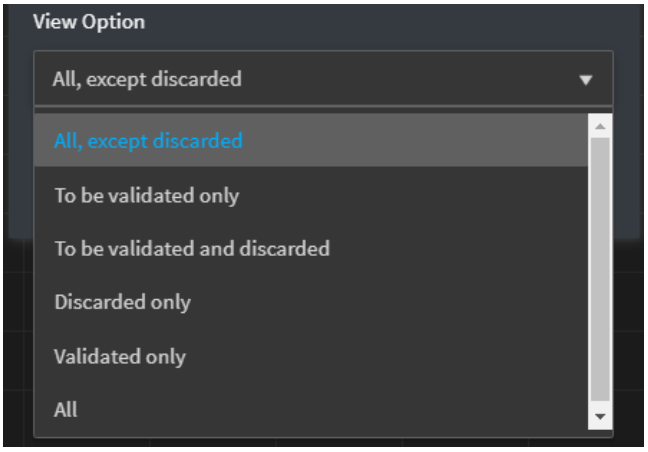


Fig 82

- Click **Apply** (Fig 81 **D**).

The selected options (time span and data type) are indicated on the top-left corner of the validation table (Fig 83 **A**).

Fig 83

3.4.2. Autoselect

The **Autoselect** button allows to automatically select a defined sub-set of columns.

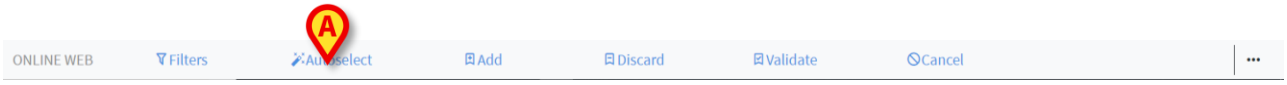


Fig 84

- Click the check box placed below the starting column to select it.

The selected column is highlighted.

- Click **Autoselect** (Fig 84 **A**).

The following window opens (Fig 85).

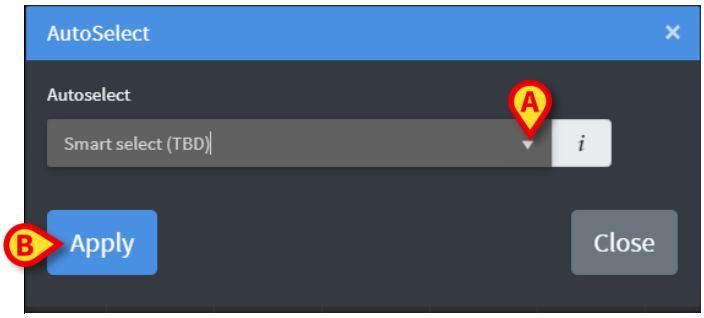


Fig 85

- Open the drop-down menu (Fig 85 **A**) to display the available options (Fig 86).

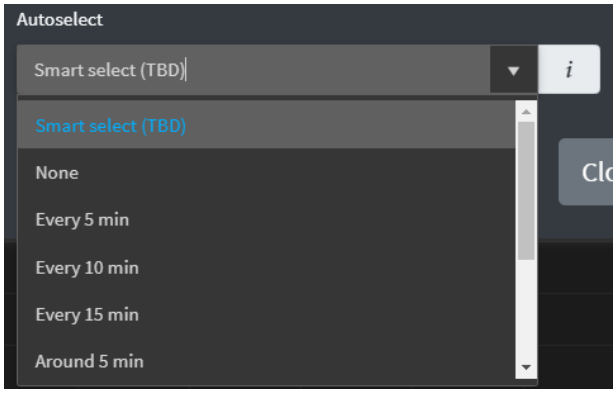


Fig 86

- Select the required option.
- Click **Apply** (Fig 85 **B**).

The corresponding columns are selected on the table.

Example: if the selected starting column is the one created at 10:00 and the selected option is “Every 5 minutes”, then the columns at 10:00, 10:05, 10:10, 10:15 etc… are selected.

3.4.3. Add

The **Add** button allows to add a set of data (i.e. a new column).

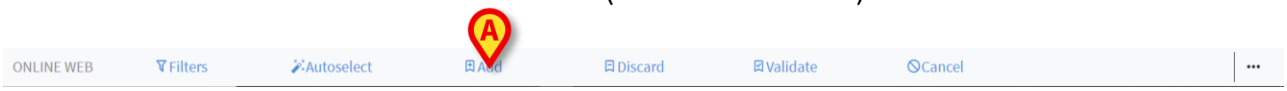


Fig 87

- Click **Add** (Fig 87 **A**).

The following window opens (Fig 88).

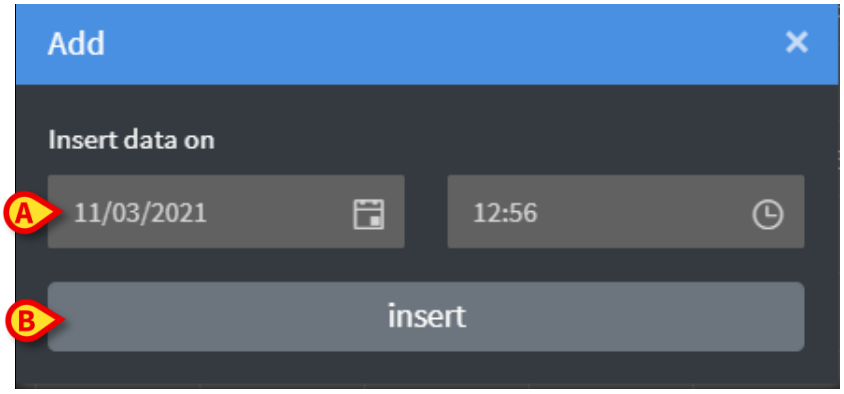


Fig 88

- Use the date and time fields indicated in Fig 88 **A** to set the date/time of the data to be added.
- Click **Insert** (Fig 88 **B**).

A new, empty column is added to the table, at the date/time indicated (Fig 89 **A**).

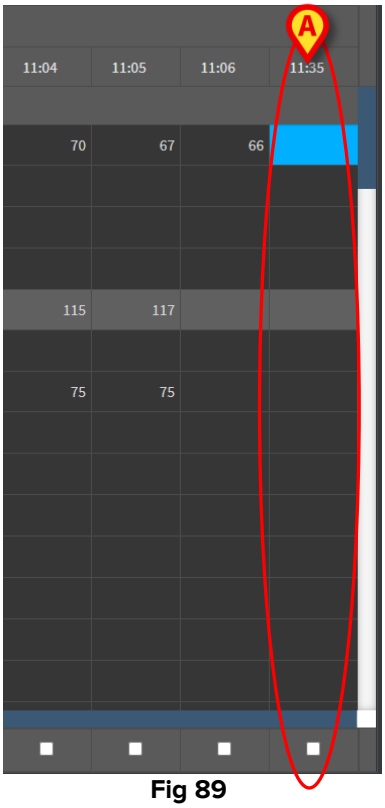


Fig 89

- Use the data entry functionalities described in section 3.2 to specify the data in the column.

3.4.4. Discard

The **Discard** button allows to discard one or more sets of data.

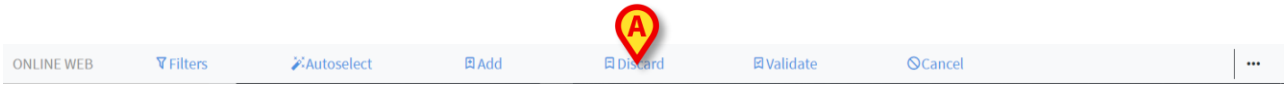


Fig 90

- Select the column/s containing the data to be discarded.

The selected columns are highlighted.

- Click **Discard** (Fig 90 **A**).

User confirmation is required. After confirmation the data displayed in the selected columns disappear. The empty columns remain. If necessary, use the data entry functionalities described in section 3.2 to insert new data in the empty column.

3.4.5. Validate

The **Validate** button (Fig 91 **A**) allows to validate one or more sets of data.

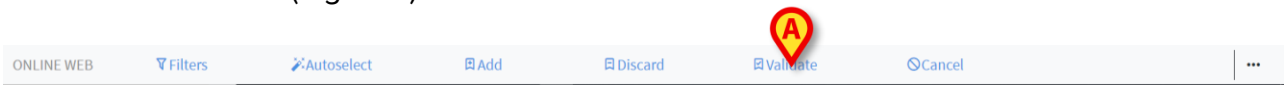


Fig 91

- See section 3.3 for the validation procedure.

3.4.6. Cancel

Use the **Cancel** button (Fig 92 **A**) to go back to the original data after data editing.

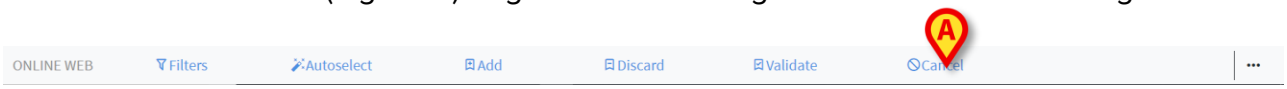


Fig 92

NOTE: The **Cancel** button applies to procedures that are not yet completed to bring the screen back to the original state. After validation, for example, the **Cancel** button does not apply. To remove the validation it is instead necessary to perform a specific procedure.

3.4.7. Other options

Use the button indicated in Fig 93 **A** to display a menu providing additional options (Fig 94).

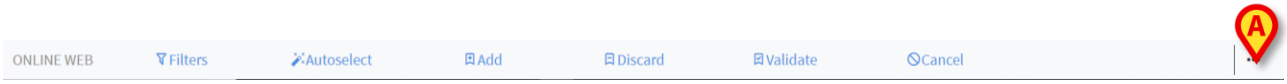


Fig 93

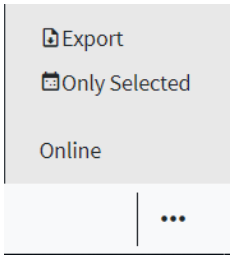


Fig 94

Use the **Export** option to export the available data to an Excel file.
Use the **Only selected** option to export a sub-set of (previously) selected data to an Excel file.

Use the **Online** option to open the Online Web module, described in section “Online Web”.