

Therapy Web User Manual

Version 3.0

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Therapy 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 Therapy Web, described in this document.



The treatments displayed in the figures of this manual are examples created to better explain the procedures of Therapy Web. Their features (as, for example, dosages and names) are not intended to be in any way clinically relevant.

1. Introduction

Digistat® "Therapy Web is a web application that can be of help for the clinical staff for the documentation of the prescription and administration of treatments.

1.1. Module selection

Digistat® "Therapy Web" is formed of three modules: "Therapy Prescription" for the treatment prescription documentation, mainly used by physicians; "Therapy Execution" for the treatment administration documentation, mainly used by the nursing staff; "Therapy Central Station" to overview the orders status of all the patients in the current domain (it could be an intensive care unit, for example).

On the lateral bar:

- > Click the icon to launch "Therapy Prescription".
- Click the icon to launch "Therapy Execution".
- > Click the icon to launch "Therapy Central Station".

1.2. Patient selection

The "Therapy Prescription" and "Therapy Execution" modules require a patient selected. If no patient is selected the user is warned that patient selection is required.

"Therapy Central station" is not patient-related. Also, it is possible on "Therapy Central station" to directly select a patient. See paragraph 5.3 for more information.

To select a patient on the Digistat Suite:

> click the **Patient** button on the Control Bar (Fig 1 A).



The "Patient Explorer Web" module opens. See the "Patient Explorer Web" module user manual for the operating instructions (*USR ENG Patient Explorer Web*).



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

When a patient is selected the patient's name and main data are displayed on the **PATIENT** button instead of "**Select Patient**".

The "Therapy Prescription" and "Therapy Execution" modules display the data of the selected patient.

2. Basic concepts

This section explains some basic notions whose preliminary understanding is essential to the appropriate use of "Digistat Therapy".

2.1. Prescription status

The "Therapy Prescription" module (described in section 3) allows to create a treatment plan and keep it active in time after periodic confirmations. Possible variations can be recorded quickly while the general plan remains the same.

The patient's treatment plan is summarized and displayed in a table (Fig 2). Each row corresponds to a treatment prescription.



Fig 2

Each prescription generates a certain number of orders. The orders correspond to the single administrations of the treatment.

A prescription is terminated when all the orders that it generated are executed and no other order will be generated by it in the future.

The prescription status is displayed on the right (Fig 3).



There are four possible prescription statuses:

- 1. "Active" when a prescription is in "Active" status, the prescription values can be displayed and edited. Click the corresponding row to open the related "prescription specification" window.
- 2. "Terminated" a prescription is terminated when all the orders that it generated are executed and no other order will be generated by it in the future. Terminated prescriptions are still active. That means that the prescription values can be displayed and edited. Double-click the row corresponding to the prescription to expand the row and display the related "prescription specification" tools.
- 3. "Suspended" the prescription suspension, performed using the **Suspend** button (see section 3.5), deletes the prescription from the prescription plan and deletes all the related administration orders. The suspended prescriptions can be displayed again (in strikethrough text) by means of the available filter (see section 3.11 for the filters explanation). Suspended prescriptions can then be resumed (section 3.5). A suspended prescription does not generate administration orders.
- 4. "Removed" a prescription can be removed by means of the **Remove** button (see section 3.6). All the administration orders generated by it are deleted. The removed prescriptions can be displayed again (in strikethrough text) by means of the available filter (see section 3.11 for the filters explanation). Removed prescriptions do not generate administration orders and cannot be resumed.

2.2. Repeatable vs. Not Repeatable Prescriptions

Repeatable prescriptions

A prescription is "*Repeatable*" if it generates orders that must be administered at given intervals. For example: a prescription can state that a drug must be administered every day at a certain time. In this case the prescription is repeatable; it generates the corresponding orders placing each of them in the required days at the required time/s.

Non-repeatable prescriptions

Non-repeatable prescriptions generate only the administration orders explicitly specified in the prescription. When all the orders are executed, the prescription is "Terminated" (see section 2.1).

The repeatability of a prescription is set by a specific checkbox on the prescription specification window (see Fig 79 for an example).

The repeatability of a prescription is indicated by a specific icon - \Box - on the prescriptions table of the "Therapy Prescription" module (see, for example, Fig 4 **A**).





2.3. Punctual vs. Durative administrations

Punctual administrations start and end in one moment (it's the case of a tablet, for instance).

Durative administrations last a certain amount of time (it's the case of infusions and drips, for instance. Also, certain nursing actions can be configured to be durative).

Punctual and durative administrations are characterized by different graphic features and different management procedures on the Therapy Execution module. See section 4.3 for the description of the possible administration types on Therapy Execution.

2.3.1. The therapy cycle - treatment plan re-confirmation

The validity of the treatment plan created on "Digistat Therapy" is limited in time and needs to be re-confirmed by the medical staff. The treatment plan validity period is called "Therapy Cycle". The "Therapy Cycle" re-confirmation is a safety procedure that forces to check and verify the treatment plan at specified intervals. The "Therapy Cycle" duration is configurable. See section 3.19 for the therapy cycle update procedure.

2.3.2. Orders generation

This paragraph explains how the system generates the orders from a prescription specified in the treatment plan.

At prescription time, i.e. when the **Save** button on the "Summary" screen is clicked (Fig 101 **A**, see paragraph 3.15.5), the system generates the orders corresponding to the prescription specifications.

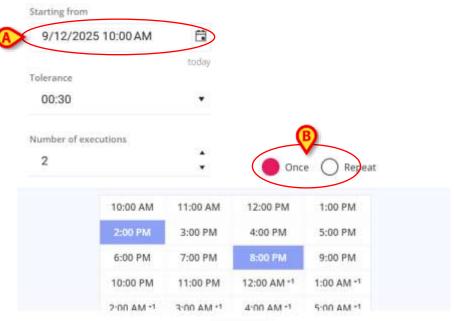


Fig 5

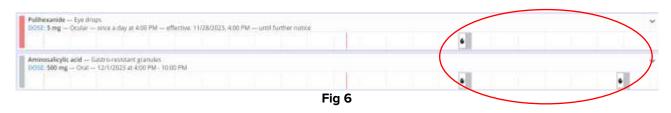
Conditional prescriptions (paragraph 3.15.3.2) do not generate orders. These prescriptions are executed only when certain specific conditions occur.

2.3.3. Orders validity

The order execution standard procedure requires the order validation before the execution. The orders that, when generated, are within the "Therapy Cycle" are automatically validated.

The other orders are validated every time the "Therapy Cycle" is updated when they are within this period (paragraph 3.19).

Non-validated orders are signaled by a specific icon - — - on the Therapy Execution module (Fig 6). They can be executed only after a specific procedure, described in paragraph 4.5.7.



See paragraph 2.3.1 for the explanation of the "Therapy Cycle" (or "treatment plan validity period").

See paragraph 3.19 for the treatment plan update procedure.

2.3.4. Order validity expiration

The validity of an order expires after a certain amount of time after the scheduled administration time has passed. That is: if a validated order is not administered at the scheduled time, it remains validated for a certain period. After this period the order goes back to non-validated state (it is named "expired" to differentiate it from future not-yet-validated orders). Expired orders can be deleted from the treatment plan through the "Therapy Cycle" update procedure. See paragraph 3.19. Expired orders can be executed only using a specific procedure. The procedure is described in paragraph 4.5.7.



The orders validity duration is defined by a specific configuration parameter. Refer to the system administrator for more information.



The validity of a conditional prescription expires when the "Therapy Cycle" expires. Thus, conditional prescriptions are automatically validated every time the "Therapy Cycle" is updated. See paragraph 3.15.3.2 for the explanation of "Conditional prescriptions".

3. The "Therapy Prescription" module

3.1. Module selection

To select the "Therapy Prescription" module:

> click on the icon on the lateral bar provided on the left:

When a module is selected the corresponding icon is highlighted.

When a patient is selected, it is possible to access to his or her prescription page and the "Therapy Prescription" module's main screen opens.

3.2. Prescription main page

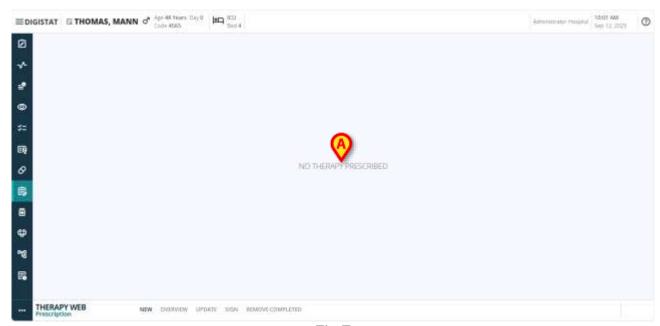


Fig 7

When a patient does not have any prescribed therapy, the page is empty and the message "**No Therapy Prescribed**" (Fig 7 **A**) is displayed in the central part of the page.

If some therapies have been prescribed, the patient's therapeutic plan is shown and the treatments listed in the central part of the page (Fig 8 $\bf A$), together with information on their modes of administration, dosages, schedule, and status.

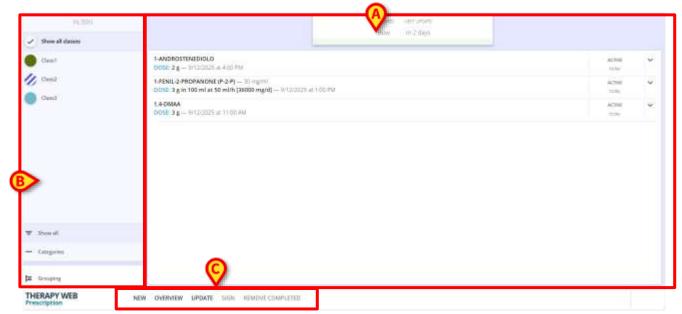


Fig 8

Each row in the list corresponds to a treatment prescription and the prescriptions are managed and displayed according to the user preferences.

The name of the administered drug/product name, together with information on its mode of administration, dosages (first element displayed on the second row of the prescription string) with solution speed/amount/volume information, routes of administration/infusion (if present) and scheduling (date and time) of prescribed order/s are displayed on each prescription row.



Fig 9

The **status** of each prescription is displayed on the right part of the prescription row (Fig 9 **A**).

The following statuses can be retrieved and shown:

- Active (enabled by default);
- Suspended;
- Removed;
- Terminated.



A down-arrow button (Fig 9 **B**) is available to expand a **detailed section** where a summary (Fig 10 **A**) of the treatment and its prescription values (amount, volume, speed, duration, patient weight), as well as information on the ongoing therapy and prescribed scheduling are shown (Fig 10 **B**). Information on the **user** who created and saved the prescription together with the **date-time** the prescription was last modified is also provided (Fig 10 **C**). Finally, several buttons are available depending on the current status of the prescriptions (Fig 10 **D**).

By default, on an active prescription, the following buttons are provided:

- **History**: to access the prescription history information;
- Edit: to edit the prescription;
- Suspend: to temporarily stop the prescription;
- Remove: to permanently remove the prescription (it cannot be resumed).



Clicking the **History** button, a modal window opens (Fig 11) and the prescription module in the background is dimmed.

The name of the treatment/drug is placed on the window header (Fig 11 A), then the prescription string (or prescription strings if the prescription has been modified) is shown (Fig 11 B).

Date and time of the prescription creation is retrieved together with the username of the user who created the prescription (Fig 11 **C**).

The button **Close** (Fig 11 **D**) is present in the right-bottom part of the window to close the History view.

Sections for each treatment day of the selected prescription are displayed and the actions performed on the prescription are recorded, listed, and grouped by the date on which they were performed (Fig 11 **E**).

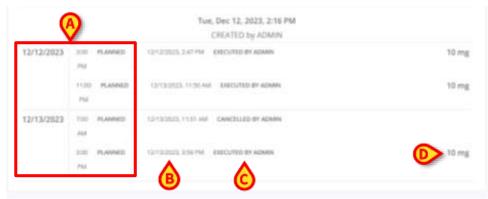


Fig 12

Each section contains:

- Date and time of originally planned administrations (Fig 12 A);
- Date and time of the performed actions on the prescription orders (Fig 12 B);
- The action performed and the name of the user who performed it (Fig 12 C);
- The dosage of the administrated prescription order (Fig 12 **D**).

3.4. Edit a prescribed treatment



Fig 13

Clicking on the **Edit** button (Fig 13 **A**), the **Edit window** of the selected prescription is displayed.



Fig 14

The Edit window opens on the **Quantity/Dose** step (Fig 15 **E**) that will be described later on in paragraph 3.15.1.

On the left, a lilac bar with a button is provided to expand a section (Fig 14 **A**), which is compressed by default, containing therapy information.

Click on the available button to expand the section.



On the left, the section opens, and it consists of two parts:

- The **Current Therapy** portion (Fig 15 **A**) containing all the prescriptions created and associated to the selected patient (including the selected to be edited one) and
- the **History** portion (Fig 15 **B**), containing a history summary of the actions performed on the selected prescription.

Both cannot be modified, and they appear in read only mode.

The originally **prescribed values**, **form** and **route of administration** are retrieved and shown. It is not possible to change the form and the route of administration, but only the prescribed values (Fig 15 **C**). It is not possible to change the units of measure originally set. To edit the values:

- Replace the values to be changed by overwriting the new value or by using the up and down arrows to increase or decrease the original value by one unit at a time.
- ➤ Click the **NEXT** button (Fig 15 **D**) to move to the **Schedule** step (Fig 15 **F**). Some modifications on the schedule settings can be performed but it is not possible to opt for a totally different schedule and change it. More information on prescription scheduling will be provided in paragraph 3.15.3.
- ➤ Click the **NEXT** button to move to the **Review/Confirm** final step (Fig 15 **G**). The summary is provided, and it shows the edited values. A note field is given to enter a note to the Editing procedure. More information on prescription Review step will be provided in paragraph 3.15.5.
- Click the **Update** button to save the edited prescription and update it accordingly or on **Cancel** button to abort the editing procedure.

It is also possible to click on **Back** button to go back to **Schedule** and **Quantity/Dose** step.

3.5. Suspend a prescribed treatment

To suspend a prescribed treatment:

Click the Suspend button.

A popup appears asking the user to confirm the action.



Fig 16

Once the prescription of the selected treatment is stopped, it disappears from the list displayed on the main page or, in case the suspended prescription are not filtered out (see paragraph 3.11.4), the entire prescription string appears in strikethrough font (Fig 16 **A**) and the **Status** is set to "**Suspended**" (Fig 16 **B**).



Exploding the suspended prescription row again, the **Resume** button (Fig 17 **A**) is present instead of the **Edit** and **Suspend** ones. To resume the administration of the prescribed treatment:

Click on the **Resume** button provided.

3.5.1. Prescribing a suspended treatment

When creating a new prescription, if the same treatment is already present as "Suspended" in the prescriptions list, a window is displayed suggesting to resume the already existing suspended prescription (Fig 18 **A**).



The "New Prescription" procedure is described in paragraph 3.15.

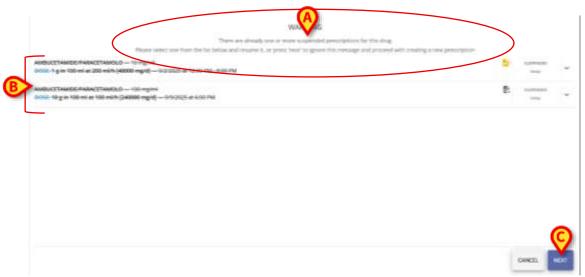


Fig 18

The existing suspended prescriptions for that treatment are listed on the window (Fig 18 B).

Click the row corresponding to the suspended prescription that must be prescribed again. The row will change as shown in Fig 19.



Fig 19

Click the Edit and Resume button Fig 19 A.

A pop-up message shows up, requiring further confirmation.

After user confirmation. The "Edit" window for the specific treatment opens, pre-filled with the values of the existing suspended prescription. It is possible to adjust the prescription values, if necessary, before prescribing the treatment again.

It is also possible to skip the opportunity to resume one of the suspended prescriptions and proceed to prescribe the new treatment from the beginning. To do that:

Click the Next button on the "Suspended treatments" window (Fig 18 C).

The following warning is displayed



Click Ok to access the "New prescription" window (Fig 39).

Prescribe the new treatment as described in paragraph 3.15.

3.6. Remove a prescribed treatment

To remove an administered treatment:

Click the Remove button.

A popup appears asking the user to confirm the action.



Once the prescription of the selected treatment is removed, it disappears from the list displayed on the main page or, in case the removed prescription are not filtered out (see paragraph 3.11.4), the entire prescription string appears crossed out and written in light grey characters (Fig 21 **A**), and the **Status** is set to "**Removed**" (Fig 21 **B**).

3.7. Skip or Execute an expired prescribed order



Fig 22

When a prescription contains an expired order, which has not been administered according to the established treatment plan, the prescription is highlighted with a red colored bar (Fig 22 **A**). Exploding the prescription row, two buttons are provided:

- Skip button (Fig 22 B) to skip the administration of the expired treatment or
- Execute button (Fig 22 C) to execute the administration immediately.

For the administration to be successful, it is essential to enter a note justifying the delay in execution.



Fig 23

3.8. Prescribe changes to a running administration

It is possible to prescribe changes or to generate a "Stop" order to durative administrations while they are running (see sections 2.3 and 4.3 for the description of durative administrations).

To do that:

➤ Click the row of the prescription that generated the order for the running administration.

The prescription row enlarges to display the prescription buttons, summary, administration values and chart (Fig 24).



Two additional buttons are on the window (Fig 24 A).

"Change" order

ightharpoonup Click the $\hat{\ }$ button to prescribe a change to the current administration values.

The following window is displayed (Fig 25).

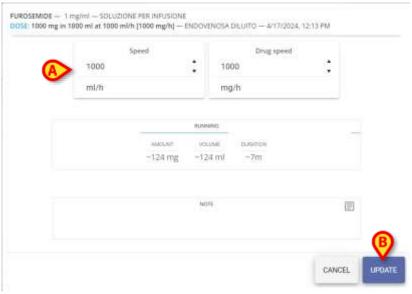


Fig 25

- Change the administration speed or drug speed (Fig 25 A).
- Click the Update button (Fig 25 B).

A "Change" order is generated on the Therapy Execution module. This case is described in paragraph 4.5.7.

"Stop" order

➤ Click the button to prescribe to stop the current administration.

The following window is displayed (Fig 26).

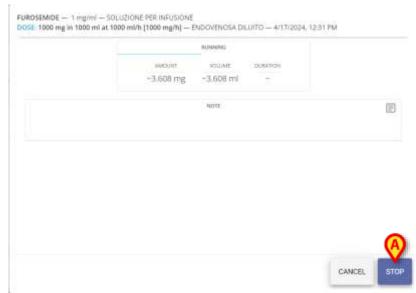


Fig 26

> Click the **Stop** button (Fig 26 **A**).

A "Stop" order is generated on the Therapy Execution module. This case is described in paragraph 4.5.7.



The buttons indicated in Fig 24 **A**, - and end ender a "Change" or "Stop" order that refers to the current running administration. The **EDIT** button, described in paragraph 3.4, changes the values of the overall prescription and generates a new set of orders aligned to the updated values.

3.9. Indicators on prescriptions

Finally, different icons/indicators can be displayed next to the status label, which can indicate:

- the current prescription **status** related to the prescription itself (like the **repeated** schedule ;), the orders, the active infusion (if any);
- if the prescribed drug has interactions with other drugs prescribed within the same treatment plan ;
- if the prescribed drug is allergic to the patient, as indicated in the patient's file $oldsymbol{\Delta}$;
- if the treatment was prescribed urgently and the chosen scheduling was "Emergency" (1);

- changes in the **patient weight** : if the patient weight set in the prescription does not match with the one retrieved from the system the **scale icon** is displayed;
- "Pharmacy's supply": specific documentation must be provided by the pharmacy when prescribing this treatment . When a treatment is configured as "Pharmacy's supply" an additional step is required during prescription, described in paragraph 3.15.4. When the document expires the icon changes to
- differences between:
 - time changed or administration time outside of the prescribed range or
 - o the **dose values administered** or the **infusion values administered** and the values originally prescribed.

3.10. Therapy Cycle

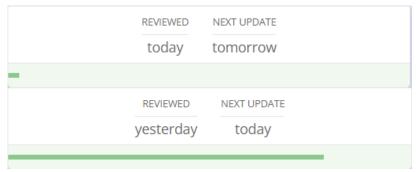


Fig 27

On the central part of the page, on top of the prescription list, the **therapy cycle status box** is provided, with updated information on the date of the last therapy review and on the next update due. A green horizontal bar is available indicating the progress of the current therapy. The size of the bar grows proportionally to the elapsed therapy time.



Once the therapy has expired, the completion tracking bar turns red.

3.11. Filters

The created prescriptions can be filtered using different provided filters and combinations of those available filters. On the left part of the page, the filters section is provided (Fig 8 **A**).



Fig 29

The "Show all classes" (Fig 29 A) and "Show all" (Fig 29 B) buttons are selected by default, and they can be also used to remove all the filters applied. This way, all prescriptions are displayed in the central part of the prescription view. When corresponding filters are selected, the "Show All" and "All ATC Groups" buttons are automatically deselected.

3.11.1. Filters - Categories

Each treatment can be associated to a single class (the therapies can be grouped under a customizable number of classes) and to one or multiple routes of administration and forms by configuration. So, it is possible to filter the treatments by their **Category**, **Routes** and **Forms**. Moreover, it is possible to filter the treatments by their **Status**.



A button is provided for each class. To filter the treatments according to their Class:

➤ Click on a colored button corresponding to a class (Fig 30 **A**) to display on the central screen only those treatments corresponding to that class (Fig 30 **B**).

It is possible to select one or more classes: the treatments associated to those classes will be all displayed. Once selected, the buttons are highlighted, and a check mark symbol appears in the radio button provided for each class.

- Click a second time to deselect the selected class.
- ➤ Click on the "Show all classes" button (Fig 30 **C**) to display all prescribed treatments belonging to all available classes.

Only the classes to which the actual prescribed treatments belong are displayed in the filter section and not all available and configured ones.

3.11.2. Filters - Routes



It is also possible to filter the prescribed treatments according to their **Routes** of administration:

- Click on Routes filter button (Fig 31 A) to open the menu where available routes (only those configured for the prescribed therapies) are collected and can be selected (Fig 31 B).
- Select one or more routes.

Prescribed treatments are filtered on the page according to the selected routes.

➤ Click on the **funnel** button provided (Fig 31 **C**) to remove the applied filter/s. The list of routes configured and present in all prescriptions associated with the selected patient and only those routes (not all possible routes) is displayed.

3.11.3. Filters - Forms



It is possible to filter the prescribed treatments according to their **Forms**:

- ➤ Click on **Forms** filter button (Fig 32 **A**) to open the menu where available forms (only those configured and selected for the prescribed therapies) are collected and can be selected (Fig 32 **B**).
- > Select one or more forms. Prescribed treatments are filtered on the page according to the selected forms.
- > Click on the **funnel** button provided (Fig 32 **C**) to remove all the applied filters.

The list of forms configured and present in all prescriptions associated with the selected patient and only those forms (not all possible forms) is displayed.

3.11.4. Filters - Status

It is possible to filter the prescribed treatments according to their changing **Status**:

- ➤ Click on **Status** filter to open the menu where available actual statuses can be selected. The following prescription statuses can be displayed:
 - Active, that is selected by default;
 - Suspended (only if there are suspended prescriptions in the treatment list/plan);
 - o **Removed** (only if there are removed prescriptions in the treatment list/plan);
- > Select one or more statuses.

Prescribed treatments are filtered on the page according to the selected statuses.

Click on the funnel button provided to remove all the applied filters.

3.12. Grouping

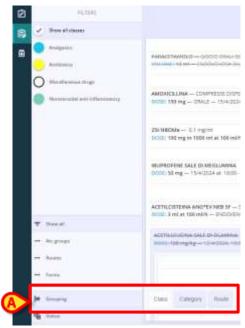


Fig 33

It is possible not only to filter but also to group the treatments on the main screen.

Click on the **Grouping** button (Fig 33 **A**) and then choose one of the three available options:



Fig 34

- Class: to group treatments according to their classes. Treatments are collected in different sections as numerous as the classes of treatments prescribed under colored labels (Fig 34 A) whose colors coincide with those assigned by configuration to the classes and which are also visible in the "Filters" section (Fig 34 B);
- Category: to group treatments according to their categories;
- Route: to group treatments according to their routes.



Fig 35

In the example provided in Fig 35 the Grouping option "**Route**" is chosen. As a result, the prescribed treatments are grouped according to their route of administration into three different lists, indicated by the name of the route configured for each of them (also missing or unspecified route options are available).

3.13. Command Bar – Action buttons



Fig 36

A command bar is available at the bottom part of the page (Fig 8 C). It contains five buttons:

- **NEW** (Fig 36 **A**): to create a new prescription for the selected patient (see paragraph 3.15 for more information);
- **OVERVIEW** (Fig 36 **B**): to open a calendar time plan or a summary view (see paragraph 3.18 for more information);
- **UPDATE** (Fig 36 **C**): to open a therapy review window and update the treatment plan (see paragraph 3.19 for more information);
- **SIGN** (Fig 36 **D**): to sign a treatment requiring double signature (see paragraph 3.16 for more information).
- **REMOVE COMPLETED** (Fig 36 **E**): to remove all the completed treatments from the prescriptions list (see paragraph 3.20 for more information).

3.14. External resources (Help)

If the "Info" icon is present on the top-right corner of the "Summary" area of the prescription row (Fig 37 **A**), a link is available to configured external resources (an external URL or a file - the drug leaflet, for example).



Fig 37

Click the icon to access the external resource.

The resource accessed is the same triggered by the same icon on the Therapy Execution module (see paragraph 4.5.10).

If the "Info" icon is present on the top-left corner of the prescription window (Fig 38 **A**), a link is also available to configured external resources but this link is a specific prescription help, different from that described above (prescription instructions, modalities and contraindications, for example).



Fig 38

3.15. Create a New Prescription

To create a new prescription for the selected patient:

Click on **NEW** button (Fig 36 A).

A modal window is opened (Fig 39). It contains two sections:

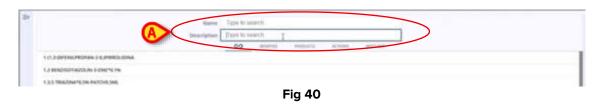


Fig 39

• On the central section of the window, a search bar is present (Fig 39 **A**) on top of the page to search for the treatments to be prescribed.

Each row on the list of treatments refers to a specific treatment. The row can contain, if properly configured, a treatment description below the treatment name. A system option allows to display an additional search field making it possible to search also by treatment description.





A **DONE** button (Fig 39 **B**) to close the window and five tabs are also provided:

- o **All** (Fig 39 **C**) tab;
- Moieties tab (Fig 39 D);
- o **Products** tab (Fig 39 **E**);
- o **Actions** tab (Fig 39 **F**);
- Mixtures (Fig 39 G).

Each tab refers to a specific subset of prescribable treatments.

Select a tab to search for a treatment belonging to the subset indicated by the tab's name. The **All** tab allows to search all the configured treatments.

The tab selected by default depends on a configuration option (*DefaultCatalogSearchLevel* System Option – See the document DSO ENG System Option for more information).

On the right side of the window (Fig 39 H) filters are given to select treatments moieties, products, and actions - by configured class. Select one or more filters to
display on the central page only treatments belonging to the selected classes. Click
on Categories to select additional configured filters.

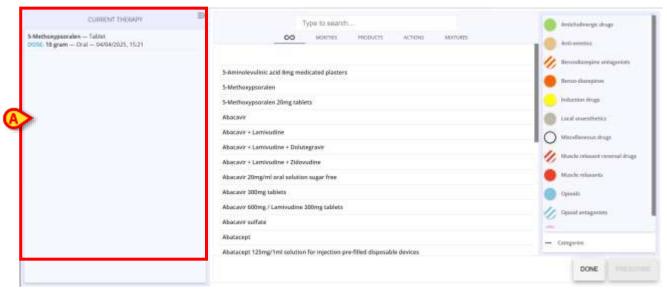


Fig 41

• On the left, the current therapy for the patient can be shown clicking on the provided button to expand the section (Fig 39 I) and it contains the list of already prescribed treatments for the selected patient, and all the information on their forms and routes of infusions, dosages, and schedule (Fig 41 A).

If no therapy has been prescribed yet, the section will be blank.



Fig 42

If a therapy has already been prescribed and it is selected a second time (because it needs to be re-prescribed by emergency or administered in an alternative way or with a different scheduling), the history tab, containing the history of prescription and administration of the therapy, will be displayed below the tab containing the current therapy. The possibility to prescribe the same therapy does not generate any warnings.

3.15.1. New Prescription – Active Moieties Quantity/Dose step

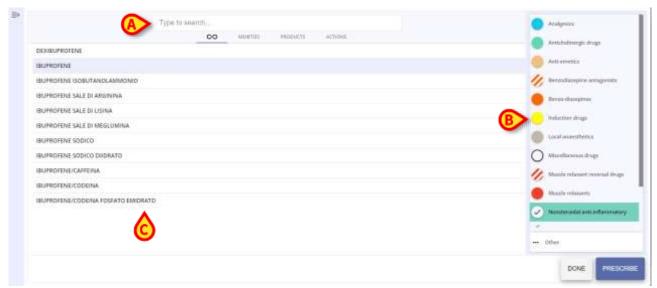


Fig 43

To create a new prescription with a single active **Moiety**:

- Search for an active Moiety by entering its name (partially or in full) in the search bar (Fig 43 **A**) or use the class filters on the right (Fig 43 **B**). The resulting active moiety/ies are displayed in the central results section (Fig 43 **C**). If only **Moieties** are to be prescribed and we want to avoid retrieving **Products** and **Actions**, select the **Moieties** tab and perform the searches within it.
- > Double-click on a treatment to be prescribed or select the treatment and then click on **Prescribe** button.
- > To abort the procedure click on **Done** button.



Fig 44

If allergies to certain drugs are listed in the patient's file and the source is correctly configured (the patient's file can be set as source file setting the **AllergySource** system option to 1), once the drug to be prescribed is chosen, the first screen displayed is the **Allergy** screen. A warning is displayed indicating that the patient is allergic to that medication and that a note must be entered to justify the choice. Entering the note is mandatory, otherwise the user cannot click the **Next** button - which remains disabled - and continue with the prescription.

Finter a note in the **Allergy** text field and click on **Next** button to complete the prescription.



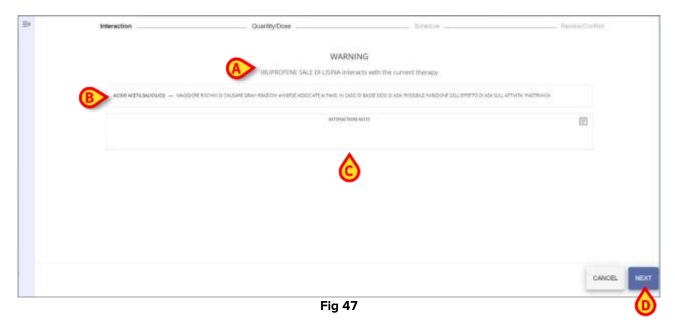
Fig 45

Thus, if a therapy containing an allergic medication is prescribed to the patient, a warning is displayed on the right of the central screen of the **Prescription** page. By hovering the cursor over it, the drug(s) to which the patient is allergic are displayed one above the other as in the example shown in Fig 45 **A**.



Fig 46

Allergies listed in the patient's file can be ignored if the system option **AllergyMode** is set to 0 – False. If it is set to 1 - True, it is mandatory that possible allergies be listed, otherwise, when landing on the first prescription page of a treatment, the message Warning: "Missing Allergies Information" is retrieved (Fig 46).



In case one drug or treatment interacts with others, the first step of the prescription opens to the **Interaction** view (Fig 47): a warning is displayed (Fig 47 **A**) indicating that the chosen drug interacts with the current therapy. A configured section also appears in the center of the page (Fig 47 **B**) where further information about the risks and unwanted effects or possible effects of the interaction are provided. Then, before the quantity dose is selected, interaction notes can be entered in the text field provided (Fig 47 **C**). The note entry is not mandatory.

Click on **Next** button (Fig 47 **D**) to proceed to the next step.



Fig 48

The **Quantity/Dose** step of the prescription workflow is shown (Fig 48), and the name of the selected active moiety is shown on top of the page (Fig 48 **A**). The **DOSE** is *null* by default, the unit of measure is displayed next to the label, and the default route is also displayed (Fig 48 **B**).

Two dropdown menus are provided to choose, respectively:

- The active moiety Form (Fig 48 C);
- The active moiety **Route** of administration (Fig 48 **D**).

Variable number of cards is available in the central part of the screen (Fig 48 **E**) according to the configuration properties and parameters set for each treatment/drug mode. Different properties are associated with the different prescription modes, that represent specific clinical flows and configurations related to a set of catalog items.



Fig 49

There can be moieties and products with a single mode of prescription (and then their properties and configuration sets are displayed directly on the treatment specification window) or with **multiple modes of prescription**. In the latter case, before configuring the properties, it is necessary to choose from the prescription modes, provided as clickable buttons (Fig 49 **A**).



Any active moiety or product can be configured as a prescribable treatment and has its own default parameters and values. Therefore, the appearance and features of the treatment specification window depend on the prescribed treatment.



The treatment can be configured to enable only one possible prescription mode. If this is the case the selection buttons shown in Fig 49 are not displayed and the specification window (Fig 48) is instead directly displayed.

The button **Cancel** (Fig 48 **F**) is provided and enabled while the **Next** button (Fig 48 **G**) is disabled and will be enabled once the Quantity/Dose section is filled and completed.



Fig 50

Finter the desired values in the fields provided, either manually or by using the up and down arrows to increase or decrease the amount of value added by a unit.

When forms or routes are selected or the first values are entered into the available fields within the different cards, a blue **Change** button (Fig 50 **A**) appears. The **prescription script** (Fig 50 **B**) is filled in progressively with each choice and entry made.

Some configured fields are dependent on each other (e.g. Concentration, Amount and Volume or Volume, Speed and Duration). As a result, once a value is entered in two related fields, the corresponding value in the dependent field is automatically calculated.

By clicking **Change** button, the partial prescription string is reset, and the list of modes associated with the selected active moiety is displayed.



Fig 51

> Choose a **mode** or, if only one mode is available, select a **form** from the provided dropdown menu (Fig 51 A);



Fig 52

- Select a route of administration from the provided dropdown menu (Fig 52 A);
- Fill in the fields of all the available Quantity/Dose prescription properties cards;



For some parameters, such as **Amount** in the examples shown above, **lower** (Fig 53 **A**) and upper (Fig 53 B) limits are given, indicated with the exact dosages and specific symbols. When the value entered in the provided field is greater or less than the configured limits, the value of the exceeded limit is highlighted in yellow (Fig 53 C). When the value entered is correctly within the given limits, no highlighting occurs. Entering a dose outside the suggested limits does not stop the prescription creation process, but a note must be entered at the Review/Confirmation stage to justify prescribing values outside the configured range.



Fig 54

If an unexpected value is entered in some field, or the unit of measure is changed from the originally selected one (or from the default one), a Verify button (Fig 54 A) appears to confirm the inserted value. In addition, a yellow warning (Fig 54 $\bf B$) is displayed at the bottom right of the card containing the value to be verified. Moving the cursor over the icon, a tooltip (Fig 54 $\bf C$) appears warning the user about the "unexpected input, verification of the value is required".

To verify or validate the inserted value:

Just click on the Verify button. The warning icon disappears.

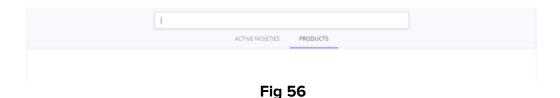
In particular, if a value has been entered with a specific unit of measure, if that unit of measure is changed, the value originally entered is recalculated and modified according to the new unit of measure (e.g., if the value entered is 1 and the unit of measure is changed from g to mg, the new value will be 1000).



Fig 55

It is also possible to enter the weight of the patient (Fig 55).

Click on **Next** button (Fig 50 **C**) to proceed to the **Schedule** step.



The procedure just described for creating a prescription from an active moiety can also be replicated for **Products** and **Actions**.

- > Click on the "Products" or "Actions" Tab and search for the product by entering the name (partially or in full) in the search bar provided;
- > Double click on the desired product/action;
- > Proceed to configure and customize the treatment as previously described.
- Click on Next button to proceed to the Schedule step.



Fig 57

Regarding **Products**, the Quantity/Dose section shows the parameters (Fig 57 **A**) to customize (their values may be present by default, but they can be edited) but also a **Components** section (Fig 57 **B**) with some concentration values already set by default (these values are not editable). They can also be sorted alphabetically by name by clicking on the **Name** button (Fig 57 **C**) or by decreasing concentration values, clicking on **Concentration** button (Fig 57 **D**).

The workflow required to prescribe mixtures is slightly different. See next paragraph (3.15.1.1) for the description.

3.15.1.1. New prescription – Mixtures

To prescribe a mixture.

Select the "Mixtures tab" (Fig 58 A).

All the configured mixtures will be listed on the left (Fig 58 \mathbf{B} – in the figure only "Mixture test" is present). It is still possible to use the search functionalities and the filters on the right to find the required mixture.



Fig 58

Select the required mixture. The corresponding row will be highlighted (Fig 59 A).

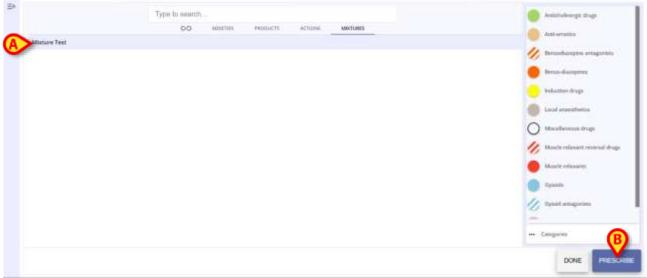


Fig 59

> Click the **Prescribe** button (Fig 59 **B**).

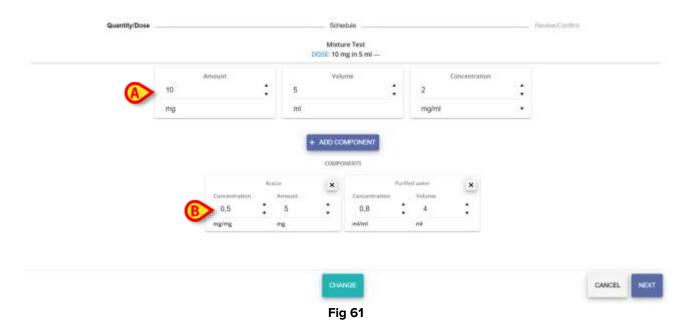
The screen listing the possible administration modes is displayed (Fig 60 A).



Fig 60

Click the required administration mode.

The Quantity/Dose selection screen will open (Fig 61).



The default administration values are indicated on top (editable - Fig 61 A).

The components of the mixture and their values are indicated in the middle of the screen (Fig 61 **B**, Fig 62).



Fig 62

The values of the components can be changed.

Either use the arrows placed on the right of each value to increase/decrease the Concentration/Amount (one unit per click) or select the value and then type the new Concentration/Amount to indicate the new value.

The components can be removed or added.

To remove a component:

Click the X button indicated in Fig 62 A.

User confirmation is required (Fig 63)

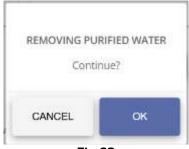


Fig 63

Click **OK** to remove.

To add a component

➤ Click the **Add Component** button indicated in Fig 62 **B**.

The following window, listing all the configured components, will be displayed.

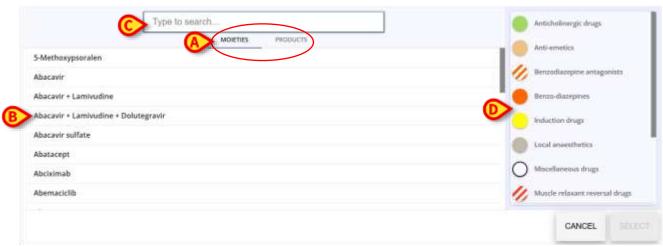


Fig 64

Components can be either Moieties or Products. Click the tab corresponding to one or the other to display the required list (Fig 64 **A**).

The components are listed on the left (Fig 64 $\bf B$). It is possible to use the available search tool (Fig 64 $\bf C$) or the filters on the right (Fig 64 $\bf D$) to find the required component.

Click the required component. The corresponding row will be highlighted (Fig 65 A).

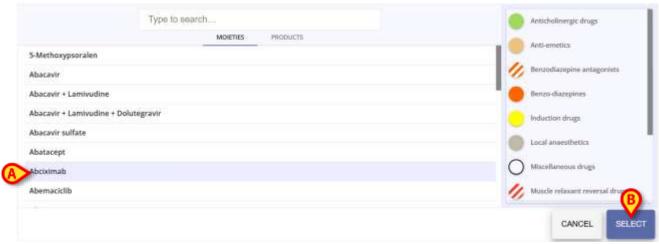


Fig 65

Click the Select button (Fig 65 B).

A window making it possible to indicate the component values will open (Fig 66).

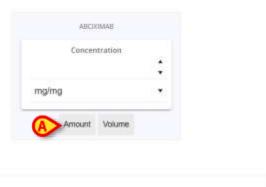


Fig 66

> Select the appropriate terminology for the specific type of administration. That is: select "Amount" or "Volume" according to the specific administration type (Fig 66 A).

If "Amount" is selected, the window changes as shown in Fig 67.



Fig 67

If "Volume" is selected, the window changes as shown in Fig 68.

ADD COMPONENT

CANCEL



Fig 68

- Insert the required values (Concentration, Amount/Volume).
- > Select the appropriate unit of measure on the available drop-down menu (Fig 69 A).

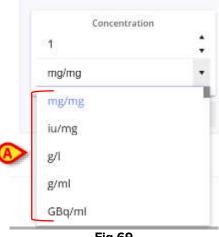


Fig 69

When all the required data is specified (Fig 70 A),

Click the Add Component button (Fig 70 B).

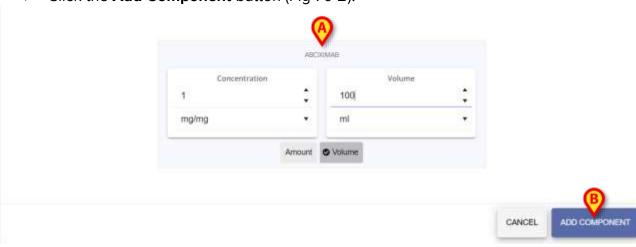
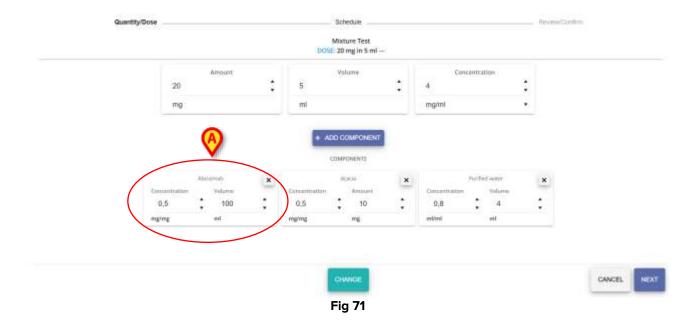


Fig 70

The new component will be added to the mixture and displayed on the Quantity/Dose selection screen (Fig 71 A).



Click the Next button to proceed to the Scheduling section, described in paragraph 3.15.3.



If the values specified for the new component are not coherent with the already existing values, the **Next** button is disabled and a specific warning is displayed.

3.15.2. New Prescription – Range specification for Quantity/Dose

Some treatments can be configured to allow the user to prescribe a range of Quantity/Doses instead of a specific value. That is, for example, prescribing a dose that is between 4 and 6 mg instead of prescribing 5 mg. The actual quantity will be decided at execution time, depending on patient's parameters and condition.

If, for a treatment, the "Range" option is enabled, the following screen is displayed after clicking on the **Prescribe** button (Fig 72).



Fig 72

The screen offers the possibility to prescribe using the "Range" option.

Click Yes to select the "Range" option (Fig 72 A).

The Quantity/Dose selection screen opens (Fig 73).



Fig 73

The parameters for which the "Range" option is enabled are characterized by the "From" and "To" fields, where the minimum and maximum range values can be specified. See for example Fig 73 $\bf A$ and Fig 74.

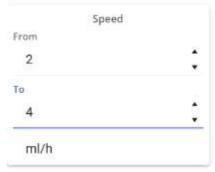


Fig 74



If the "From" field is filled with a value that is bigger than the one specified in the "To" field, then the "From" value is automatically brought back to the preceding logically possible value.

In the case of mixtures prescription, if a range is specified for the mixture; then the range is automatically calculated for the related components.

A treatment prescribed as "Range" can be configured to have only part of its parameters defined as "Range", keeping the choice whether to prescribe as "Range" or not for other parameters. In Fig 75, for example, "Speed" must be prescribed as "Range", while for "Duration" the choice is open.

- Click the None button to specify the parameter without range (Fig 75 A).
- Click the **Range** button to specify the parameter with range (Fig 75 **B**).



Fig 75

After Quantity/Dose specification:

Click the **Next** button to proceed to the Scheduling section, described in paragraph 3.15.3.

3.15.3. New Prescription – Scheduling step



Fig 76

The page lands on the **Schedule** page and the blue **Back** button (Fig 76 **A**) is provided to go back to the previous step.

The list of six scheduling options presented as individual buttons is displayed (Fig 76 **B**). The following options are provided:

- **Immediate**: to immediately administer the prescribed treatment;
- Conditional: to administer the prescribed treatment only if certain conditions occur;
- **Daily**: to administer the prescribed treatment in one day, one or more times, at given times;
- Weekly: to administer the prescribed treatment on different days during a week, at given times;
- Schema: to administer treatment according to a fixed, user-defined pattern;
- **Custom**: to administer treatment according to a fully customizable schedule.
- **Emergency**: to administer an emergency executed treatment.



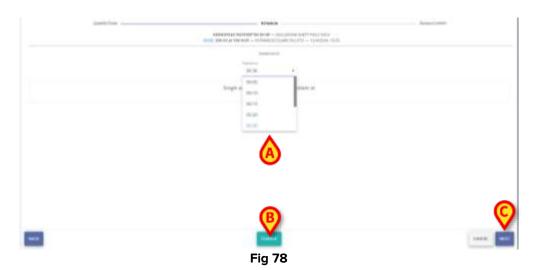
It is possible to set the automatic plan type selection (conditional, weekly, daily, schema etc...) by configuration. Once a treatment is selected, the corresponding window will automatically be displayed.

3.15.3.1. Schedule - Immediate



Fig 77

If the **Immediate** schedule is chosen, the treatment is immediately administered. The message "Single administration and immediate at" followed by the administration time (the current time when the **Immediate** scheduling option was selected) is displayed (Fig 77 **A**). No further configuration is required.



It is possible to only set the **tolerance time** i.e., the time interval before and after the specified administration time - in the case of prescriptions with immediate schedules – within which the administration is considered "on time", by choosing one of the options available in the dropdown menu provided (Fig 78 **A**). If a tolerance of 15 minutes is specified for an administration prescribed for 11:00 a.m., the administration is on time if it is performed between 10:45 a.m. and 11:15 a.m.

The following options are given:

- 00:05
- 00:10
- 00:15 (the default tolerance value is set to 00:15 minutes)
- 00:20
- 00:30
- 00:45
- 01:00
- 01:30
- 02:00
- Set the tolerance time.

The blue button **Change** (Fig 78 **B**) is enabled, and it is possible to change the selected scheduling, going back to the selection window shown on Fig 76, to opt for another schedule.

The blue **Next** button (Fig 78 **C**) is enabled, and it is possible to proceed to the **Review/Confirmation** stage.

3.15.3.2. Schedule - Conditional



If the conditional administration is chosen, the prescribed treatment will be administered only if certain conditions, that must be specified in the textbox provided, are met.

- > Set the condition or conditions to be met in the textbox available (Fig 79 A);
- ➤ Choose between the **Once** or **Repeat** options (Fig 79 **B**), selecting the corresponding radio button to indicate whether the treatment is to be administered only once or whether, after being administered the first time, it is to be retained in the treatment plan in order to be repeated in the future.

The red button **Change** (Fig 78 **B**) is enabled, and it is possible to change the selected scheduling, going back to the selection window shown on Fig 76, to opt for another schedule.

The blue **Next** button (Fig 78 **C**) is enabled, and it is possible to proceed to the **Review/Confirmation** stage.

3.15.3.3. Schedule - Daily

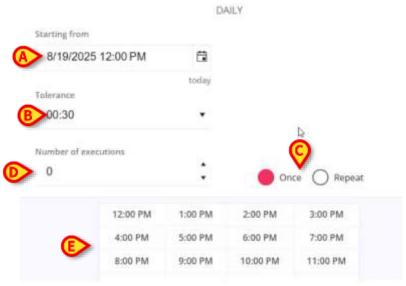


Fig 80

If daily administration is chosen, the prescribed treatment can be administered once or several times a day at set times. To schedule the treatment administration times, multiple fields are provided:

- The **Starting from** field (Fig 80 **A**) to set the date and time of the first administration of the prescribed treatment;
- The **tolerance** field (Fig 80 **B**), to set the tolerance time (the default value is 00:15 minutes);
- Once and Repeat radio buttons (Fig 80 C);
- The **Number of executions** field (Fig 80 **D**), to specify the number of daily administrations of a treatment. See Fig 85 for an example.
- A card grid with 24 full-hour-buttons to be selected (Fig 80 E). The 24 buttons correspond to the 24 hours of a day. The first hour is the one set in Starting from field or, if the set hour is not a full hour, the first hour will be the nearest full hour. The indication "+1" means that those hours are relative to the next day. It is possible to set and configure the timetable on 24 hours as well as 12 hours am/pm.

To prescribe a daily schedule:



- > Click on the field itself or on the calendar button (Fig 81 **A**) provided in the **Starting from** field to open a dropdown calendar view; current date/time is the default.
- ➤ Select the date in the **Date** tab (Fig 81 **B**) and the time in the **Time** tab (Fig 81 **C**), then click the **Set** button (Fig 81 **D**). It is possible to specify the start of treatment on a future day and/or at a future time, but not in the past;

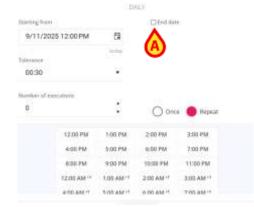


Fig 82

> Set the **tolerance** time and select the desired options on the available radio buttons. If **repeated** prescription is selected, then the **End date** checkbox (Fig 82 **A**) appears.

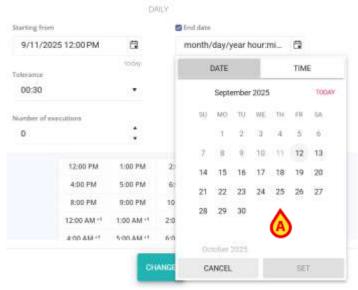


Fig 83

Checking this box, it is possible to set the end date for the repetition of the treatment on a calendar view (Fig 83 **A**);

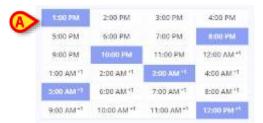


Fig 84

Select the hours on the hour-cards grid by simply clicking on them (double-click the selected hours to deselect them). The selected hours are colored blue (Fig 84 **A**).

Otherwise, use the "Number of executions" field to set the number and times of the administrations.

The "Number of executions" field makes it possible to specify the number of daily administrations of the treatment. The time of each administration will be automatically calculated and indicated in the grid.

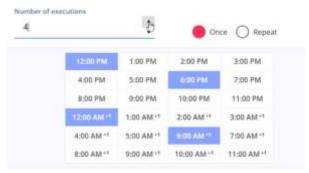


Fig 85

In Fig 85, for example, the user specified that the treatment must be administered four times. The first administration is scheduled for the first available time (12:00 PM in the figure). The other administrations are distributed at even distances from the first one (when possible, otherwise the distances are approximated). It is still possible for the user to adjust the administration times by selecting/deselecting the cells in the grid (click a cell to select/deselect it).

The red button **Change** (Fig 78 **B**) is enabled, and it is possible to change the selected scheduling, going back to the selection window shown on Fig 76, to opt for another schedule. The blue **Next** button (Fig 78 **C**) is enabled, and it is possible to proceed to the **Review/Confirmation** stage.

3.15.3.4. Schedule – Weekly

Fig 86

If **weekly** administration is chosen, the prescribed treatment can be administered once or several times a day at set times for one week. To schedule the treatment administration times, multiple fields are provided and most of them have already been described for the **daily** prescription plan. The previously described functionalities are integrated with a **button/card grid with the 7 weekdays** (Fig 86 **A**) to be selected. The 7 buttons correspond to the 7 days of a week. The first day is the weekday of the one set in **Starting from** field. To prescribe a weekly schedule:

- Click on the field itself or on the calendar button provided in the Starting from field to open a dropdown calendar view;
- Select the date in the Date tab and the time in the Time tab, then click on Next button;
- > Set the **tolerance** time and select the desired options from the available radio buttons. If repeated prescription is selected, then the **End date** checkbox appears;
- Checking this box, it is possible to set the end date for the weekly treatment (which can then be administered on multiple weeks according to the fixed days and times set) on a calendar view;
- Select the hours on the hour-cards grid by simply clicking on them;



Fig 87

> Select the days on the day-cards grid (Fig 87) clicking on them (double-click the selected days to deselect them). The selected days are colored in blue.

When prescribing a weekly treatment plan, it is necessary to specify both the times of administration and the days of administration. The red button **Change** (Fig 78 **B**) is enabled, and it is possible to change the selected scheduling, going back to the selection window shown on Fig 76, to opt for another schedule.

The blue **Next** button (Fig 78 **C**) is enabled, and it is possible to proceed to the **Review/Confirmation** stage.

3.15.3.5. Schedule - Schema



Fig 88

If schema administration is chosen, the prescribed treatment can be administered according to a fixed, generic pattern, like "Execute this treatment N times in X days". The system calculates the appropriate time intervals and enters administration orders from the time indicated in the **Starting From** field. To schedule the treatment administration times, multiple fields are provided and most of them have already been described for the **daily** prescription plan.

To prescribe a schema schedule:

- Click on the field itself or on the calendar button provided in the Starting from field to open a dropdown calendar view;
- > Select the date in the **Date** tab and the time in the **Time** tab, then click on **Next** button;
- > Set the **tolerance** time and select the desired options from the available radio buttons. If repeated prescription is selected, then the **End date** checkbox appears;
- Checking this box, it is possible to set the end date for the schema treatment on a calendar view;



Fig 89

To define a schema,

- ➤ Use the buttons shown in Fig 89 (**A**, **B** or **C**) to select the appropriate option for the desired schema to be composed. Three buttons are available:
 - Number of executions, to specify the number of administrations. If selected, the Execute field (Fig 89 D) is provided to enter the desired number of administrations;
 - **Interval between executions**, to specify the time interval between one administration and the next. If selected, the **At interval of** field (Fig 89 **E**) is provided to enter the desired time interval. The unit of measurement (Minutes, Hours or Days) can be chosen from a dropdown menu provided;
 - Duration, to specify the period of time (how long) within which to perform therapy administrations. If selected, the In field (Fig 89 F) is provided to enter the desired period of time. The unit of measurement (Minutes, Hours or Days) can be chosen from the dropdown menu provided (Fig 90 A);



Fig 90

Two buttons must be selected at a time in order to establish a pattern. If **Number of executions** and **Interval between executions** are selected, like in the example shown in Fig 90, values can be entered in the **Execute** and **At interval of** fields. The **In** field is populated accordingly, since the system automatically calculates the total time period by multiplying the set number of administrations by the chosen time interval.



Fig 91

Similarly, if the selected fields are **Number of executions** and **Duration**, the user can enter the desired values in the **Execution** and **In** fields, and the value in the **At the interval of** field is automatically calculated.



Fig 92

Finally, if the selected fields are **Interval between executions** and **Duration**, the user can enter the desired values in the **At interval of** and **In** fields and the number of executions is automatically calculated.

- Choose the schema, selecting the desired fields to be filled in;
- Enter the desired values in the fields provided, either manually or by using the up and down arrows to increase or decrease the amount of value.

The red button **Change** (Fig 78 **B**) is enabled, and it is possible to change the selected scheduling, going back to the selection window shown on Fig 76, to opt for another schedule.

The blue **Next** button (Fig 78 **C**) is enabled, and it is possible to proceed to the **Review/Confirmation** stage.

3.15.3.6. Schedule - Custom



Fig 93

If custom administration is chosen, the prescribed treatment can be administered according to a fully customizable schedule. In this case, the orders that will be generated are all explicitly specified, one by one.

To prescribe a custom treatment:

> Set the **tolerance** choosing one option from those provided in the provided dropdown menu;



Fig 94

- Click on + Add Event blue button (Fig 93 A) to set the schedule of the first "event" from the provided calendar;
- > Set the date in the **Date** tab and the time in the **Time** tab, then click on **Next** button;



➤ Enter all desired event orders by clicking the button and completing the customization of the schedule for each administration;

For each order, a card with the date and time of administration of the customized treatment is displayed (Fig 95 $\bf A$). The events are displayed and listed in chronological order (even if they've been created in non-chronological order). To cancel an incorrect or no longer needed order, a **bin** button is available (Fig 95 $\bf B$).

To cancel the order,

Just click on the bin button and confirm the deletion.

The red button **Change** (Fig 78 **B**) is enabled, and it is possible to change the selected scheduling, going back to the selection window shown on Fig 76, to opt for another schedule.

The blue **Next** button (Fig 78 **C**) is enabled, and it is possible to proceed to the **Review/Confirmation** stage.

3.15.3.7. Schedule – Emergency

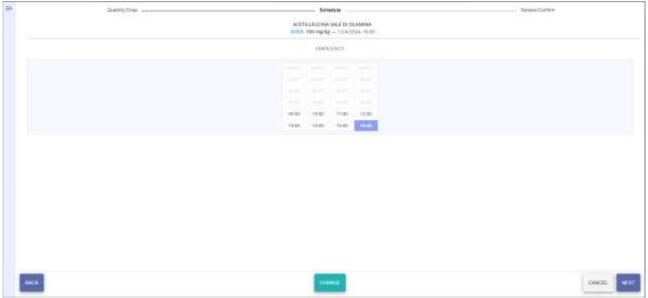


Fig 96

In case the emergency option is chosen, only one administration with the same or previous time can be prescribed. In the example provided in Fig 96, the prescription was registered at 16:45. Eight previous full hours are selectable.

- Select an hour from the clickable ones provided in the grid and then
- > click on the **Next** button.



The number of selectable hours in the past is configurable, depending on the EmergencyHoursLimit System Option. See the document DSO ENG System Options for more information.

3.15.4. New Prescription – Pharmacy's supply step

Some treatments require specific additional documentation issued by the pharmacy (for example, it can be a physical document accompanying a certain drug). For these treatments, the "Pharmacy's supply" step is part of the prescription procedure. For other treatments, the "Schedule" step (paragraph 3.15.3) is immediately followed by the "Review/Confirm" step (paragraph 3.15.5).



The Pharmacy's supply step exists only for a subset of specifically configured treatments.



Fig 97

After prescription, these treatments are characterized by the icon on the prescriptions table (Fig 98 A).



AMBUCETAMIDE/PARACETAMOLO - 10 mg/m/i DOSE: 1 g in 100 ml at 200 ml/h [48000 mg/d] — 9/2/2025 at 12:00 PM - 8:00 PM



Fig 98

When the document expires the icon changes to 🖹. See below for the document validity explanation.

If the treatment is not already a product, it is necessary to select the product. To do that

Click the **Product** button (Fig 97 **A**).

The following window opens (Fig 99).



The available products are listed on the window.

- Click the relevant product to select it (Fig 99 A).
- Click the **Select** button (Fig 99 **B**).

A textual search tool is available on the window (Fig 99 C).

The name of the product will be displayed on the "Pharmacy's supply" window (Fig 100 **A**). The product code will be also automatically displayed (Fig 100 **B**).

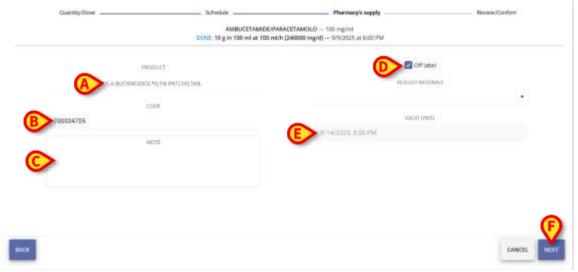


Fig 100

- Insert a textual note if necessary (Fig 100 C).
- Flag the "Off label" checkbox if that is the case (Fig 100 D).

The "Request Rationale" field allows you to insert a more detailed explanation for the request. The "Rationale" can be selected on a drop-down list that opens when clicking the field.

The "Valid Until" field is a read only field indicating the validity limit of the document. The number of validity days is defined during the configuration of the treatment. The expiration date/time is calculated starting from the scheduled date/time of the first order generated by the prescription (Fig 100 **E**).

When the document expires, the icon on the Therapy Prescription module changes to the system option *LockCycleUpdateWithoutPharmacySupply* is set to 1, the Therapy cycle cannot be updated if there is at least one document expired. See paragraph 3.10.

To re-enable the Therapy cycle update procedure, it is necessary to access again the "Pharmacy's supply" step for the treatment requiring the updated document.



That is:

- Click the relevant row on the Therapy Prescription main page.
- > Click the **Edit** button on the command bar.
- Access the "Pharmacy's supply" step.

The new expiration date will be automatically calculated.

When the "Pharmacy's supply" step is completed,

Click Next to proceed to the Review/Confirm step (Fig 100 F).

3.15.5. New Prescription – Review/Confirm step



After clicking the **Next** button, the user can review and complete the prescription in the last available window, under the **Review/Confirmation** tab, where the summary of the prescription can be read.

Three sections are provided:

- The full prescription string (Fig 101 **B**) is displayed on top of the page, with the set dosages, unit of measures, form and route of administration and the full scheduling plan for the prescription. The prescription field is not editable;
- A summary section (Fig 101 **C**) shows the prescribed values with their unit of measure. The summary is also not editable;
- An additional field (Fig 101 **D**) is also available to enter a **note** to the prescription. It is not necessary to fill in this field, but to do so:
 - Manually enter the note inside the textbox provided.

To save the prescription:

Click the blue **Save** button (Fig 101 **A**).



Fig 102

The prescription is added to the current therapy of the selected patient on the Prescription main page (Fig 102).



If prescribing a treatment that already exists as "Suspended" prescription, the prescription procedure changes. See paragraph 3.5.1 for this specific case.

3.16. Prescription with double signature

A treatment can be configured to require a double signature at prescription time and/or at administration time. For prescriptions, it is necessary that a second user, different from the one that prescribed the treatment, validates the prescription. The prescription procedure is the same described in paragraph 3.15 but, if a double signature is required for the prescription, a specific icon - ② - is displayed on the corresponding row on the prescriptions table (Fig 103 A).



Before signature, the rectangle representing the order can be characterized by two icons (Fig 104).





The \P icon indicates that the prescription requires a signature.

The icon indicates that the execution requires a signature.

For the signature procedure at execution time see paragraph 4.7.

Two different procedures can be configured to allow a second user to sign the prescription, depending on the *PrescriptionSignMode* system option.

If *PrescriptionSignMode* = 0 the signature must be performed on another Digistat session. That means that the prescription must be signed by another user logged on a different Digistat session.

If *PrescriptionSignMode* = 1 the signature must be performed within the same Digistat session, where the credentials of a different user are requested.

Both cases are described below.

3.16.1. Signature on a different Digistat session

In Fig 105 the Abacavir treatment is prescribed. In the current configuration, Abacavir requires a double signature (Fig 105 $\bf A$).

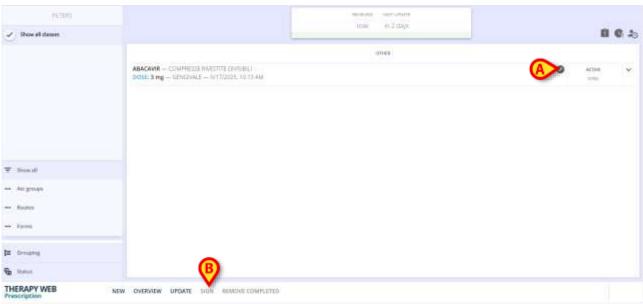


Fig 105

If the *PrescriptionSignMode* system option is set to 0, the **SIGN** button on the command bar is disabled (Fig 105 **B**).

To sign the prescription, it is necessary to log in with different credentials on a different Digistat session and select the same patient.

The **SIGN** button will be enabled for the second user. See Fig 106 A.



Fig 106

> Click the **SIGN** button (Fig 106 **A**).

The following window opens (Fig 107).

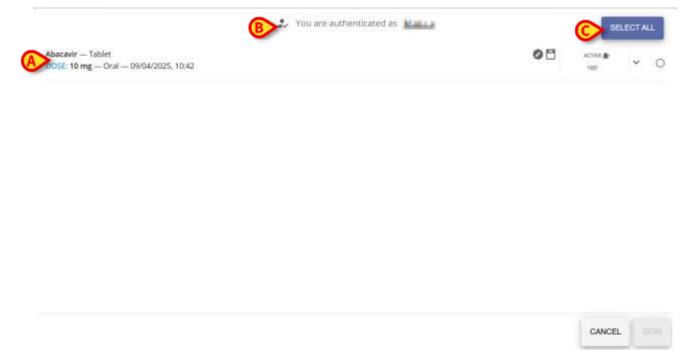


Fig 107

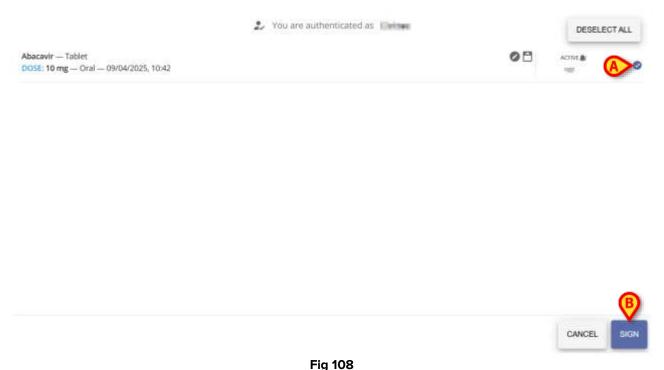
The window lists all the prescriptions requiring a signature. In the figure only the Abacavir prescription is present (Fig 107 **A**).

The user currently logged is indicated on top (Fig 107 **B**).

The **Select All** button (Fig 107 **C**) allows you to select all the items listed on the window.

➤ Check the button placed on the right of the rows corresponding to the items to be selected (Fig 108 **A**).

The **SIGN** button will be this way enabled (Fig 108 A).



•

Click the SIGN button (Fig 108 B).

The selected prescriptions will be this way double-signed.

3.16.2. Signature on the same Digistat session

In Fig 109 the Abacavir treatment is prescribed. In the current configuration, Abacavir requires a double signature (Fig 109 $\bf A$).



Fig 109

If the *PrescriptionSignMode* system option is set to 1, the **SIGN** button on the command bar is enabled (Fig 109 **B**).

> Click the **SIGN** button (Fig 109 **B**).

The following window opens (Fig 110).

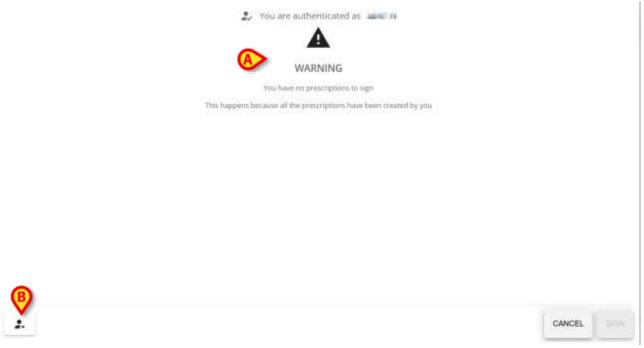


Fig 110

The window warns the logged user that the prescriptions requiring a double signature must be signed by a different user (Fig 110). To insert the credentials of a different user:

Click the icon indicated in Fig 110 **B**.

The screen changes in the following way (Fig 111).

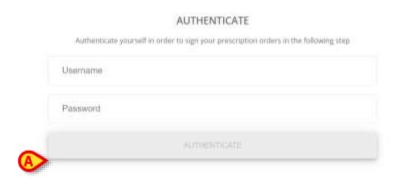
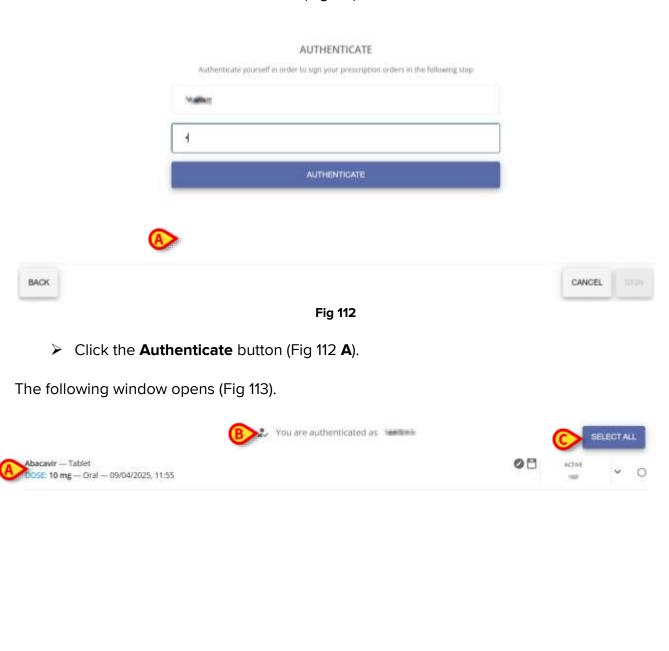




Fig 111

➤ Insert the credentials of the second user in the "Username" and "Password" fields (Fig 111 **A**).

The **Authenticate** button will be enabled (Fig 112).



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The window lists all the prescriptions requiring a signature. In the figure only the Abacavir prescription is present (Fig 113 **A**).

Fig 113

The user currently logged is indicated on top (Fig 113 B).

The **Select All** button (Fig 113 **C**) allows to select all the items listed on the window.

BACK

➤ Check the button placed on the right of the rows corresponding to the items to be selected (Fig 114 **A**).

The SIGN button will be enabled (Fig 114 B).

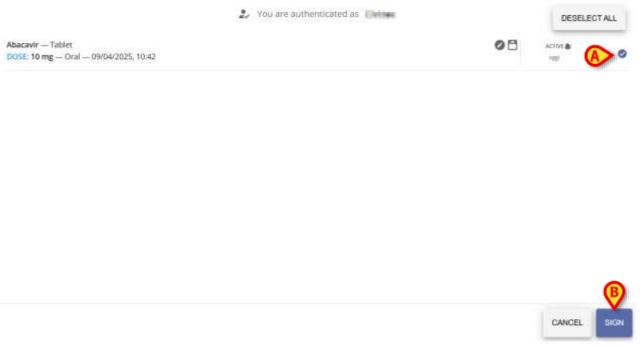


Fig 114

Click the SIGN button (Fig 114 B).

The selected prescriptions will be this way double-signed.

3.17. Protocols prescription

It is possible to prescribe configured "protocols", i.e. a set of pre-defined treatments that can be prescribed all at once.

To prescribe a protocol:

Click the **New** button on the command bar (Fig 115 **A**).



Fig 115

The prescription window opens (Fig 116).

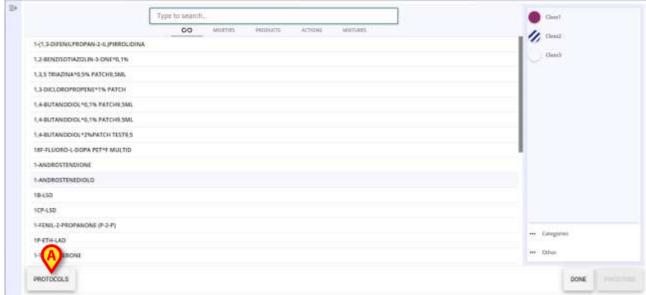


Fig 116

Click the **Protocols** button (Fig 116 A).



The prescription of protocols is allowed only to users having specific permission. The **Protocols** button is only present if the logged user has the permission required to prescribe protocols.

A window listing the existing protocols is displayed (Fig 117).



Fig 117

The protocols are listed on the left (Fig 117 **A**). A search field is available, making it possible to search a required protocol by name (Fig 117 **B**).

On the right, a list of tags allows to display only the sub-set of protocols that are tagged in a certain way. Click one of the tags on the right (Fig 117 **C**) to do that. Each protocol can be tagged during configuration.

The **Catalog** button (Fig 117 **D**) allows to go back to the prescription window (the one shown in Fig 116).

To prescribe a protocol:

- Click the row corresponding to the required protocol (Fig 117 **A**).
- Click the Prescribe button (Fig 117 E).

The list of treatments composing the protocol is displayed on a window (Fig 118).

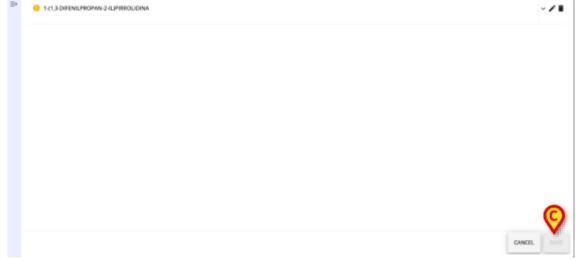


Fig 118

Each row corresponds to a treatment (Fig 119).





Edit

To edit one of the treatments:

Click the button placed on the right of the corresponding row (Fig 119 A).

The "Edit treatment" window is displayed. Proceed then as described in paragraph 3.4.

After saving the changes, the protocol treatments list (Fig 118) is displayed again.

Remove

To remove one of the treatments from the protocol:

➤ Click the ■button placed on the right of the corresponding row (Fig 119 B).

User confirmation is required. Click **Ok** to remove the treatment from the protocol.

Show summary

> Click a row to display a summary of the prescription (i.e. dose, quantities, schedule etc...)

Prescribe

To prescribe the protocol, after the possible required changes are made,

Click the Save button (Fig 118 C).

The treatments that are part of the protocol are prescribed all at once. The corresponding orders are generated according to what prescribed for each treatment.

3.18. Overview the created Prescriptions

The second button provided on the command bar is the **Overview** one (Fig 120 A).



Clicking on it, a window opens containing a **summary** of all the active prescribed treatments and the **statuses** of the corresponding orders on a calendar view.

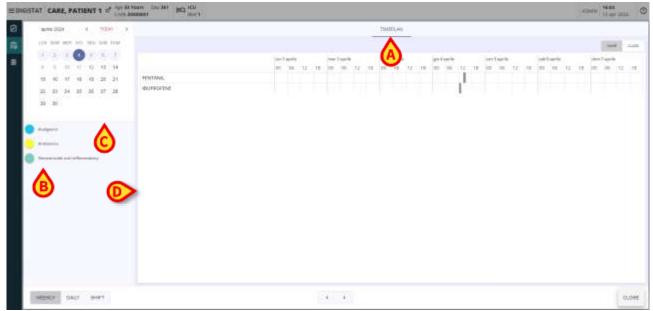


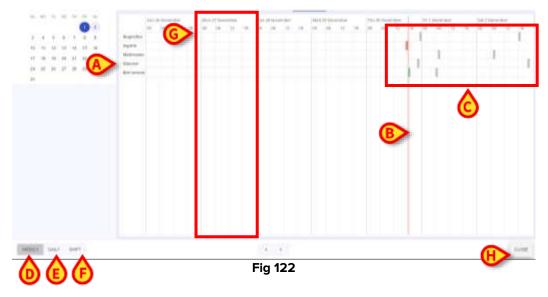
Fig 121

The page opens to the TimePlan tab (Fig 121 A).

Filters related to the classes of drugs prescribed in the therapy are displayed on the left (Fig 121 **A**). By clicking on one or more button filters, only the timeplan related to the prescription drugs belonging to that class will be displayed (Fig 121 **D**).

A calendar (Fig 121 **C**) is provided on the left part of the page. The current date is highlighted, but it is possible to scroll through the calendar to select days in the past and future directly by clicking on them. As a day is selected, the corresponding time plan (Fig 121 **D**) for that day is displayed in the central part of the screen.

3.18.1. Overview – Timeplan view



In the **timeplan** view, the schedule of administered orders or to be administered orders for each prescribed treatment is shown in a grid. Treatments are listed as individual rows in the grid (Fig 122 **A**). A **red vertical bar** (Fig 122 **B**) marks the "now" moment, and the orders

scheduled for each treatment are represented as **cells** (Fig 122 **C**) that can display different colors:

- **Gray**, if it is an order to be administered in the future;
- **Green**, if it is a "ready" order, an order to be executed at the present time, i.e., within the time frame configured as the "tolerance interval";
- Red, in case of an unexecuted and overdue order;
- Black, in case of a correctly executed order;
- Cyan, in case of running administrations.

Durative administrations are displayed as a cyan bar connecting a starting point and an end point. See Fig 123 for an example.





Fig 123

It is possible to change the time plan display using the three buttons available at the bottom left part of the Overview page. Those same buttons are also provided in case the **Summary** view is selected and they are:

Weekly button (Fig 122 D), to show the entire week from Sunday to Saturday (days when no orders are prescribed are also shown). Each day is divided into 4 time slots (00-06, 06-12, 12-18, 18-00), represented as separate cells (Fig 122 G) within which the orders are represented as colored portions of the cell placed at the corresponding time;

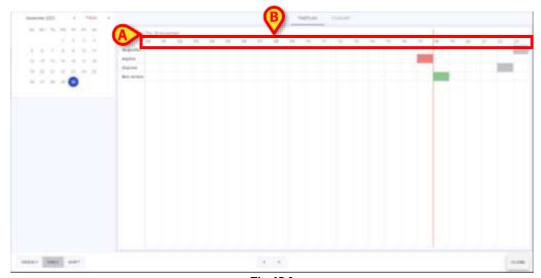


Fig 124

• **Daily** button (Fig 122 **E**), to show the full day in detail: the day is shown at the top left of the grid (Fig 124 **A**), while 24 cells are provided (Fig 124 **B**), one for each full hour;

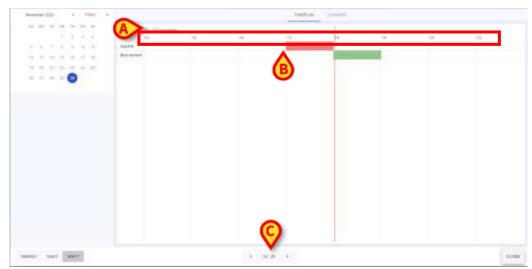


Fig 125

• **Shift** button (Fig 122 **F**), to show administered or to be administered orders within an 8-hour shift. The day is shown at the top left of the grid (Fig 125 **A**), while 8 cells are provided (Fig 125 **B**), one for each full hour of the displayed shift.

Two arrows (left and right arrows) are provided in the command bar, to move between **time slots** and **days** of the week, **hours** of the day, and **shifts** (they can be configured, in the example the programmed shifts are as follows: 14-22, 22-06, 06-14), respectively. Finally, a **Close** button (Fig 122 **H**) is provided to exit the Overview page.

3.18.2. Overview – Summary view

Click the "Summary" tab (Fig 126 A) to display the **Summary** view (Fig 126).



Fig 126

The Summary view displays all the treatments administered in a given time span. Two modes are available. Use the buttons indicated in Fig 126 **B** to switch from one mode to another.

1 - Aggregated mode (left button -).

In aggregated mode the amounts for the same treatment are considered all together, as global amounts. Different prescriptions of the same treatment are calculated all together.

- ➤ Select the period using the options available on the bottom-left corner (Fig 126 C Weekly/Daily/Shift). The selected period is highlighted on the calendar (Fig 126 D).
- Click the row corresponding to a treatment to display the administration values in the specified period (Fig 126 **E**).

The following view is displayed (Fig 127).

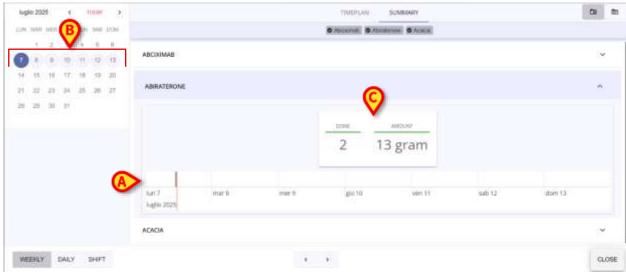


Fig 127

The timeline indicated in Fig 127 **A** shows, for the specific treatment, all the orders in time span selected on the calendar (Fig 127 **B**). The red bar corresponds to the present moment. The orders are placed on the timeline in the position corresponding to their time of administration (scheduled time for future orders, actual time for past orders). They are colored according to the general color code within "Digistat Therapy Web" (see above, paragraph 3.18.1).

The squares indicated in Fig 127 **C** and enlarged in Fig 128 display in an aggregate way the number of administrations of the same treatment and the administered volumes. "Aggregate" means that different prescriptions of the same treatment are here considered all together.



The squares shown in Fig 128 can refer to

- Total administerd orders and administered volume
- Administerd volume of (possible) current ongoing administration.
- Cancelled orders and corresponding total amount.
- Planned orders and corresponding total amount.

In "Single prescription mode" the different prescriptions are separated, and the displayed amounts refer to a single prescription (Fig 129 **A**).

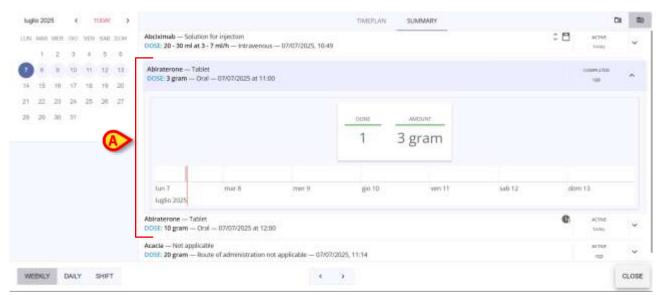


Fig 129

The screen layout and working procedures are the same described for the aggregated mode (see above).

3.19. Update the Therapy Cycle



Fig 130

The treatment plan update procedure allows to update the prescriptions' orders and to delete the expired orders or the orders to be removed.

To update the treatment plan:

Click the **Update** button on the command bar (Fig 130 **A**).





Fig 131

The **Therapy Review** window opens on the **Prescription** tab (Fig 131 **A**) showing all the created prescriptions' orders grouped by prescription names. Clicking on the **Date** tab (Fig 131 **B**), the prescriptions' orders will be displayed by prescription order date and time and their status (**In progress** orders first, then **Ready**, then **Future**, then **Expired**).

The prescription orders window contains the following information:

- Full prescription strings (Fig 131 C);
- **Scheduled date-time** (Fig 131 **D**) for each order;
- Status (Future, Expired or Ready) (Fig 131 E);
- Colored cells (Fig 131 F) depending on the status of the order (gray for Future, red for Expired, green for Ready, cyan for "In progress");
- **Buttons** (Fig 131 **G**) to select/deselect the prescriptions' orders.



Fig 132

To delete expired orders:

Manually select the expired orders one by one or click on **Select Expired** blue button (Fig 131 **H**) provided to select all the expired orders at a time;

All the expired orders are automatically selected and marked with a **bin** icon (Fig 132 **A**).

Click the Update button (Fig 131 L). The Therapy Review window is automatically closed.



Fig 133

It is also possible to delete not-expired orders (Fig 133 A):

- Manually select the orders to be removed;
- Click the Update button. The Therapy Review window is automatically closed.

Orders "In progress" cannot be removed (i.e. they are not selectable).

The orders selected in the **Therapy Review** window for removal won't be present anymore in the patient's prescriptions list.

A Cancel button (Fig 131 I) is provided to close the window without performing any update.



If the system option LockCycleUpdateWithoutPharmacySupply is set to 1, the therapy cycle cannot be updated if there is at least one "Pharmacy's supply" document expired. See paragraph 3.15.4. To re-enable the Therapy cycle update procedure, it is necessary to access again the "Pharmacy's supply" step for the treatment requiring the updated document.

3.20. Remove completed

The **Remove Completed** button (Fig 134 **A**) on the command bar allows you to remove the completed prescriptions from the prescriptions list.



Fig 134

To do that:

Click the Remove Completed button (Fig 134 A).

A window listing all the terminated prescriptions will be displayed (Fig 135).

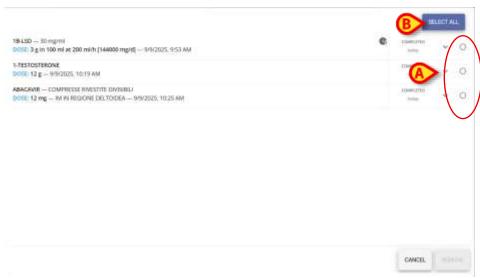


Fig 135

Select the prescriptions to be deleted by flagging the checkboxes on the right (Fig 135 A)

The **Select All** button (Fig 135 **B**) makes it possible to select all the listed prescriptions at once.

After selection, the **Remove** button is enabled (Fig 136 A).



Fig 136

> Click the **Remove** button (Fig 136 **A**).

The selected prescriptions are removed from the prescriptions list.

3.21. Closed Therapy

If the Therapy is closed, a "lock" icon - • is displayed on top of the Prescription module. See Fig 137 **A** for an example.



Fig 137

For closed therapies it is only possible to display the History (3.3) or the Overview (3.18). No action is allowed.



The therapy is closed outside of the Therapy Web application, on other modules.

3.22. QR code display

A system option enables the possibility to generate a QR code for a treatment. If the functionality is enabled, a **Show QRcode** button is present on the prescription window (Fig 138 **A**).

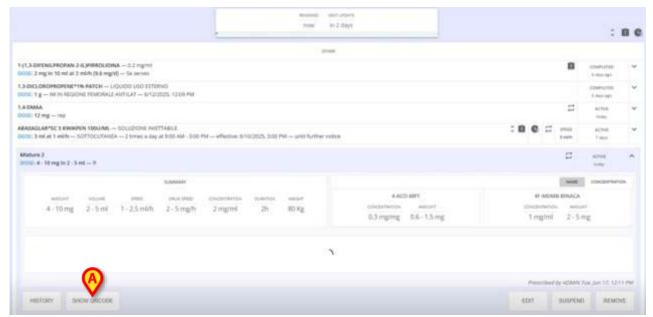


Fig 138

Click the **Show QRcode** button (Fig 138 **A**) to display the following window (Fig 139).



- ➤ Click the button indicated in Fig 139 **A** to download the QR code.
- Click the Close button (Fig 139 **B**) to close the window.

4. The "Therapy Execution" module

"Therapy Execution" is an application aimed at assisting the nursing staff in the tasks related to the documentation of the administration of the prescribed treatments.

The administration orders are generated according to the treatment plan specified by the physician on the "Therapy Prescription" module (see section 3). The generated orders are displayed as rectangles and placed on the "Therapy Execution" module's main screen, on a "treatment schedule" table. The nursing staff can use the available tools to document the administration of the prescribed treatments.

4.1. "Therapy Execution" module selection

To select the "Therapy Execution" module

Click the corresponding button on the lateral bar.

4.2. Main screen

The module's main screen is displayed. See Fig 140 for an example.

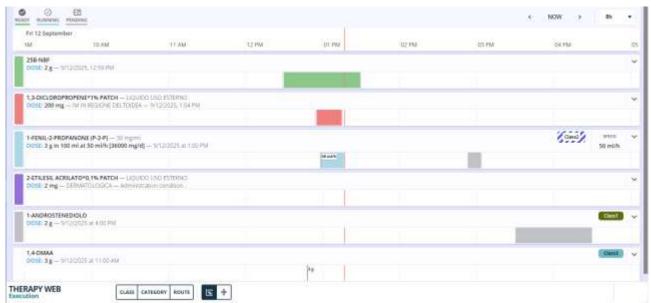


Fig 140

4.3. Prescribed orders representation



The color on the left of the row provides information on the prescription status and/or type. See section 4.3.1 for the colors legenda.

On the left of the row the available information for the prescription is specified. In Fig 141 **A**, for example, the information available is: treatment name and type, dose, administration route, administration schedule).

The rectangles on the route represent the single administration orders (Fig 141 **B**). See section 4.4 for the description of the administration chart.

The upper half of the row - $\stackrel{\checkmark}{}$ - can be clicked to open the administration details and commands.

For the treatments that belong to a specified class, the class is indicated in the upper-right corner of the row (Fig 141 D – "Paracetamol" belongs to the "Analgesic" class. The class of a treatment is specified during configuration.

4.3.1. Colors legenda

The different colors provide information on the prescription status and/or type.

There are 6 possible colors:

Purosemide — Oral suspension DOSE: 700 mg — Oral — 12/4/2023 at 12:50 PM	Grey characterizes active prescriptions whose orders must be administered in the future.
Brilliant green — Fairs 0:05E 1000 mg — Cutaneous — 12/4/2023, 10:19 AM	White characterizes completed prescriptions.
Paracetamol — Soluble toblet DOSE: 1000 mg — Oral — 12/4/2023 at 11:00 AM - 5:00 PM	Green characterizes prescriptions having an order "ready to be administered".
Polithexanide — Eye drops DOSE: 500 mg — Coular — 12/4/2023, 10:12 AM	Red characterizes prescriptions having at least one "late" order.
Albiguode — Powder and solvent for solution for injection DOSE: 20 ml at 10 mWh — Subcutaneous — 12/4/2023; 10:15 AM	Cyan characterizes durative prescriptions having one order in progress (see paragraph 2.3 for a description of durative prescriptions).
Aminosalicylic acid — Gastro-resistant granules DOSE: 500 mg — Orai — Administer in case of	Purple characterizes conditional prescriptions; these are treatments to be administered only if specific conditions occur.

The boxes are displayed "by urgency" on the "Administration" screen. The "late" orders are on top, then the "ready" ones, then the "durative" orders in progress, then the "conditional" ones, then those to be executed in the future. In the end are the boxes corresponding to completed prescriptions.

Therefore, the colors appear in this order, from the top of the screen:

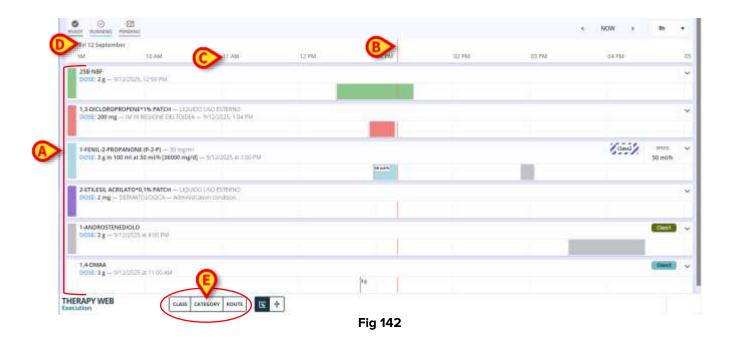


- 1. red
- 2. green
- 3. cyan
- 4. purple
- 5. light grey
- 6. white

The treatments can be sorted otherwise using the buttons on the bottom-right corner (Fig 142 **E**, described in paragraph 4.11).

4.4. The orders chart

The administration screen displays on a chart all the orders already generated (the already executed ones, the future ones and the "in progress" ones - Fig 142).



The orders are positioned in a grid, made of rows and columns. The orders corresponding to the same treatment are on the same row (in Fig 142 there are six prescribed treatments on the left - Fig 142 **A**); the columns correspond to the hours of the day.

The red bar (Fig 142 **B**) indicates the present time. The screen scrolls left as time goes by, thus the bar indicates the present moment on each row. In Fig 142 it is 2:30 PM approximately. The time can be read on top (Fig 142 **C**). The date is displayed in the top left corner (Fig 142 **D**).

4.4.1. Graphic representation of the orders

The colored rectangles represent the different orders, positioned in the place corresponding to their prescribed administration time (or execution time if already executed).

4.4.1.1. Administration tolerance period

The length of the rectangles is proportional to the period that was indicated as "tolerance period for the administration" when the order was prescribed (see section 3.15).

For instance: if the treatment is prescribed at 13:00 and the administration tolerance period is set to 30 minutes, the administration time indicated on the chart is a period going from 12:30 to 13:30.

The position of the rectangles corresponds to the prescribed administration times. The rectangles length is proportional to the tolerance period.

4.4.1.2. Order status

The rectangle color indicates the status of the order.

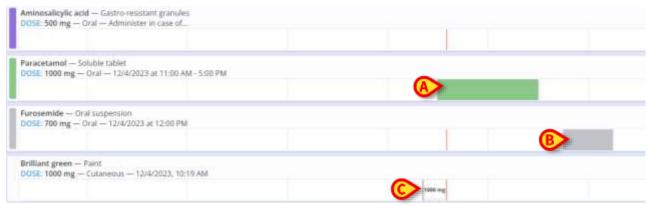


Fig 143

Green means that the order is to be administered immediately, i.e.: it means that it is within the administration tolerance period. When the rectangle is green the vertical time bar intersects the rectangle (Fig $143 \, \text{A}$).

Light grey means that the order is to be executed in the future. When the rectangle is light grey the vertical time bar is on the left of the rectangle (Fig 143 **B**).

When a treatment is administered, a vertical grey bar is positioned on the prescription row, in the place corresponding to the exact administration time. The administered dose is specified nearby. The vertical time bar is on the right (Fig 143 **C**).



The length of the boxes corresponding to an executed order is reduced to indicate the exact administration time. The tolerance period is not displayed anymore. When the prescription is durative (a drip, for instance) the administration duration is fully displayed in grey. See paragraph 4.5.2 for the durative orders administration procedure.

Red means that the administration of the order is late, i.e.: the tolerance period is over (Fig 144 **A**). When the rectangle is red the vertical time bar is on the right of the rectangle.

Cyan characterizes durative administrations in progress (Fig 144 **B**). The vertical time bar in these cases coincides with the rectangle right side. The administered dose is specified inside the rectangle, on the left. A "Stop" order can be generated for durative administration if the administration duration is specified at prescription time. The "Stop" order is positioned according to the scheduled duration of the administration (Fig 144 **C**).



Fig 144

The duration of an administration is displayed in cyan. When the administration is stopped the duration becomes grey (Fig 145). Possible changes in the administration dose are specified inside the rectangle.



When the icon is displayed on the left of a rectangle (Fig 146), it means that the order has not been validated yet or is expired. See section 2.3.3 for the explanation of the "order validation" concept. The non-validated orders can be administered using a specific procedure. This procedure is described in section 4.5.7.





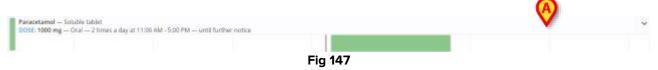
"Late" orders (the red ones) expire after a time that is defined by the ExpiredOrderTimeoutHours system option (see the document DSO ENG System Options for more information).

4.5. How to record the treatment administration

4.5.1. Punctual treatment administration

To record the administration of a treatment,

Click the upper half of the row corresponding to the treatment to be administered (Fig 147 A).



The row enlarges to show the prescription summary and the administration commands (Fig 148).



Fig 148

Click the Execute button (Fig 148 A).



The "summary" indicated in Fig 148 **B** refers to the prescription values, not to the values of a specific administration. Therefore, if the values of an administration change, the summary values remain the same.

The following window is displayed, making it possible to confirm or change the administration values. The window is described in section 4.8.

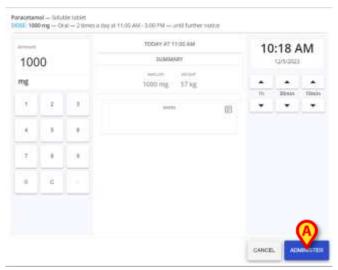


Fig 149

Click the **Administer** button to record the administration of the treatment (Fig 149 **A**).

The rectangle corresponding to the specific order changes in the following way (Fig 150 \mathbf{A} – a vertical grey bar remains in the position corresponding to the administration time; a label indicates the administered amount).



The treatment administration is this way recorded.



The order does not need to be in "Ready" status (green color) to be administered. The administration can be recorded before (or after) the prescribed administration time (light grey or red). Specific user permissions are required to perform these tasks. The reason for anticipating or delaying the administration must be explained in a note (see section 4.5.7).

4.5.2. Durative treatment administration

For durative treatments, it is necessary to record the beginning and the end of the administration.

To record the administration of a durative treatment:

Click the upper half of the row corresponding to the treatment to be administered (Fig 151 A).



The row enlarges to show the prescription summary and the administration commands (Fig 152).

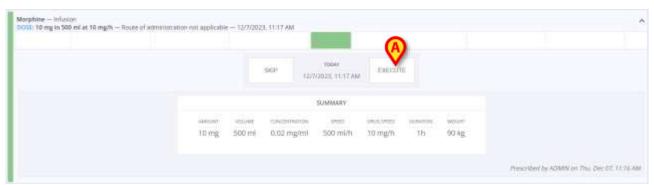


Fig 152

Click the Execute button (Fig 152 A).

The following window is displayed, making it possible to confirm or change the administration values. The window is described in paragraph 4.8.

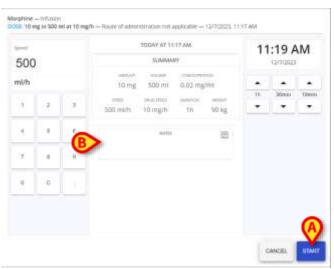


Fig 153

Click the **Start** button to record the beginning of the administration (Fig 153 **A**).

The rectangle corresponding to the specific order becomes cyan. A cyan bar is drawn on the chart while the administration goes on; a label indicates the infusion rate (Fig 154 **A**).

If, at prescription time, a duration is indicated for the administration, a stop indication is created on the row according to the indicated values. The "Stop" rectangle, if present, is positioned according to the infusion total duration (Fig 154 **B**). If the exact duration of the administration is not indicated, then the "Stop" rectangle is not present. The administration procedure remains the same.

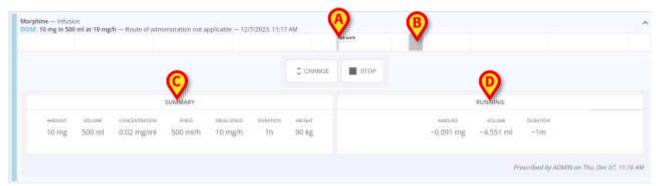


Fig 154

The prescribed administration values are displayed on the left (Fig 154 $\bf C$ - Summary). The administered values are displayed on the right (Fig 154 $\bf D$ – Amount, Volume, Duration – these values are updated in real time).



The "summary" indicated in Fig 154 **C** refers to the prescription values, not to the values of a specific administration. Therefore, if the values of an administration change, the summary values remain the same.

If the "Stop" rectangle is present, when the red "now" bar intersects it, it turns green, meaning that user action is required (Fig 155 **A**). From this moment on, the "Change" button is not available anymore. Only the **Stop** button is available (Fig 155 **B**). The tolerance period for stopping the infusion "in time" is 15 minutes (configurable).

If the "Stop" rectangle is not present, the "Change" option remains present.



Fig 155

In both cases:

Click the STOP button to stop the durative administration.

An administration window is displayed (Fig 156). If required, it is here possible to insert notes or operate on the recorded administration time (see paragraph 4.8).

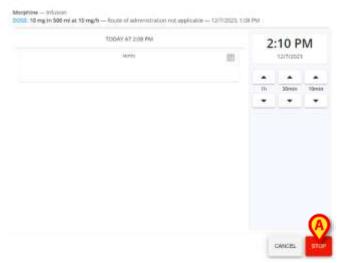


Fig 156

Click the Stop button on the administration window (Fig 156 A).

The administered order remains as a dark grey rectangle on the chart, its length corresponding to the actual duration (Fig $157 \, \text{A}$).



Fig 157

4.5.3. Drugs interactions

If there are interactions between the current administration and other prescribed treatments, a warning is displayed below the summary, indicating the involved treatments and the interaction type. See, for example, Fig 158 **A**. Drug interactions are defined during configuration.



Fig 158

4.5.4. Allergies

If allergies are indicated for the patient, a flag is present on top of the Execution page (Fig 159 **A**). If a treatment which the patient is allergic to is administered, the "Allergy" is notified before the administration (Fig 159 **B**). It is here possible, not mandatory, to add a note. Patient allergies are indicated outside of the Therapy Web application, on other modules.



Fig 159

4.5.5. End a durative administration before or after the scheduled time

If there is not a "Stop" rectangle, the system does not provide any indication on the administration stop. If there is a "Stop" rectangle, there are cases in which the administration is stopped before or after the scheduled time.

If the administration is stopped before the scheduled time (i.e. when the "Stop" rectangle is grey, positioned on the right of the red "now" bar - see for an instance Fig 156 $\bf A$ and $\bf B$), then, after clicking on **STOP**, the user is required to specify in a note the reason for anticipating the end of the administration. The note is then displayed in the administration window (Fig 156).

The tolerance period for stopping the durative administration "in time" is 15 minutes (configurable). After 15 minutes, the "Stop order" is late and the "Stop rectangle" turns red (Fig 160 **A**). The administration goes on.



Fig 160

To stop an administration after the scheduled time, also, the user is required to specify in a note the reason for delaying the end of the administration. The note is then displayed in the administration window (Fig 156).

In both cases, the administered orders remain as a dark grey rectangle on the chart, their length corresponding to their actual duration.

4.5.6. Changing the administration values

It is possible to change the administration values of a durative administration while the administration is in progress. To do that:

Click the upper half of the row (Fig 161 A).

The administration details and commands are displayed (Fig 161 B).

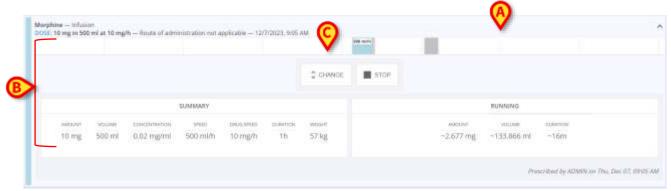


Fig 161

Click the CHANGE button (Fig 161 C).

The administration details window is displayed (Fig 162).



Fig 162

➤ Use either the virtual keyboard or the workstation keyboard to insert the new value in the field indicated in Fig 162 **A**.

The window changes as shown in Fig 163. The user is required to indicate in a note the reason for changing the administration values (Fig 163 **A**).



Fig 163

> Click the **CHANGE** button (Fig 163 **B**).

The administration chart changes as follows. The new speed is indicated in a label (Fig 164 **A**).



Fig 164



The change is signaled on the "Prescription" module by the icon $\hat{\mathbf{v}}$ on the prescription table.

4.5.7. Prescribed changes of a running administration

The necessity to either change the values of a running durative administration or to stop it can be prescribed on the Prescription module (see paragraph 3.8). In these cases, a "Change" or "Stop" order is created on Execution, on the administration row.

"Change" order

See, for example, Fig 165.



In Fig 165 the administration of Furosemide is running with a speed of 250 mL/h. On Prescription, the physician prescribes to change the speed to 300 mL/h. A green rectangle, with 15 minutes tolerance, is displayed on Execution, informing the nursing staff that an action is required for that treatment. The treatment status turns to "ready" again (green). See Fig 166 $\bf A$.



To document the administration change:

Click the upper half of the row (Fig 167 A).

The administration details and commands are displayed (Fig 167 B).



Fig 167

Click the **UPDATE** button (Fig 167 **C**).

The administration details window is displayed (Fig 179).



Fig 168

The new administration values are read-only (Fig 179 **A**). It is possible to adjust the execution time and to add a note, if necessary (Fig 179 **B** - **C**).

Click the CHANGE button (Fig 179 D).

The administration chart changes as follows. The new speed is indicated in a label (Fig 180 **A**).

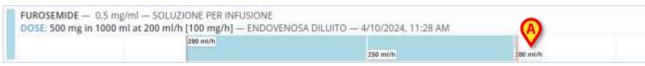


Fig 169

If the prescribed change is not performed in time (i.e. within the tolerance period), the green "change rectangle" turns red, meaning that there is a prescribed action that is late (Fig 170 **A**). The treatment status turns to "late" (red); the infusion goes on with the current values. Then, when the change is made, it is mandatory to specify in a note the reasons for not performing the action when prescribed.



If the prescribed change in the administration value is not performed, the user can document the fact that the action was skipped.

To do that:

Click SKIP instead of UPDATE on the administration chart (Fig 167 D).

It is then mandatory to specify in a note the reasons for not performing the prescribed action (Fig $171 \, \text{A}$).



Fig 171

➤ Click **NEXT** (Fig 171 **B**).

Further confirmation is required. The window changes in the following way (Fig 172).



Fig 172

Click **DO NOT UPDATE** (Fig 172 **A**).

The prescribed update is not performed, the reason for not updating is recorded. The administration chart returns to the original state (Fig 165).

"Stop" order

See, for example, Fig 173.



Fig 173

In Fig 173 the administration of Furosemide is running with a speed of 1000 mL/h. On Prescription, the physician prescribes to stop the administration. A green rectangle is displayed on Execution, informing the nursing staff that an action is required for that treatment. The treatment status turns to "ready" again (green). See Fig 174.



To document the administration stop:

Click the upper half of the row (Fig 175 A).

The administration details and commands are displayed (Fig 175 $\bf B$). Only the "Stop" button is available (Fig 175 $\bf C$).



Fig 175

Click the STOP button (Fig 175 C).

The administration details window is displayed (Fig 176).



Fig 176

It is possible to adjust the stop time and to add a note, if necessary (Fig 176 $\mathbf{A} - \mathbf{B}$).

Click the STOP button (Fig 176 D).

The administration chart changes as follows. The length of the grey rectangle corresponds to the actual duration of the administration (Fig 177 **C**).



4.5.8. Administration of an order either expired or not-yet-validated

The order validity expires after a certain time (see paragraph 2.3.4 for more information). An expired order can be administered anyway but requires specific user permissions and a specific procedure. Expired orders are characterized by the witcon (Fig 178).



To administer an expired order (or not yet validated):

Click the upper half of the row. The administration details and commands are displayed (Fig 179).



Fig 179

> Click the **Execute** button (Fig 179 **A**).

A window opens, requiring the user to insert the reason why an expired order is administered.

- Specify, in a note, the reason for administering an expired order.
- Click Next.

The administration detail window is then displayed. The note is displayed on the window (Fig 180 **A**).

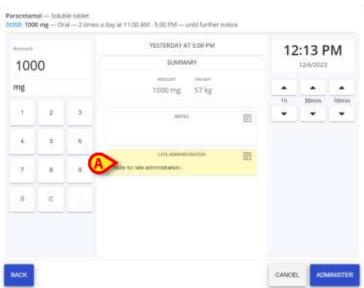


Fig 180

> Click **Administer** to administer the order.



The same procedure can be used to record the administration of a future not-yet-validated order.

4.5.9. Skip administration

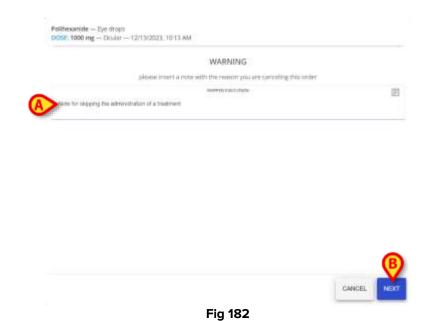
To document the fact that a certain treatment was not administered:

Click the upper half of the row. The administration details and commands are displayed (Fig 181).



Fig 181

- Click the Skip button (Fig 181 A).
- > Specify, in a note, the reason for not administering the treatment (Fig 182 A).



Click **Next** (Fig 182 **B**).

The administration detail window is displayed. The note is displayed on the window (Fig 183 **A**).



Fig 183

Click Do Not Administer to skip the administration (Fig 183).

4.5.10. External resources (Help)

If the "Info" icon is present on the top-right corner of the "Summary" area of the treatment administration row (Fig 184 A), a link is available to configured external resources (an external URL or a file - the drug leaflet, for example).).



Fig 184

Click the icon to access the external resource.

The resource accessed is the same triggered by the same icon on the Therapy Prescription module (see paragraph 3.14).

4.6. "Range" administration

If the treatment was prescribed using the "Range" option (see paragraph 3.15.2), the prescribed ranges are indicated on the administration row.



Fig 185

The global ranges are indicated in Fig 185 **A**. In case of mixtures, the ranges of every component are displayed on the right (that is the case indicated in Fig 185 **B**).

Click Execute to administer the treatment (Fig 185 C).

The administration detail window opens (Fig 186). The range is indicated in Fig 186 A.

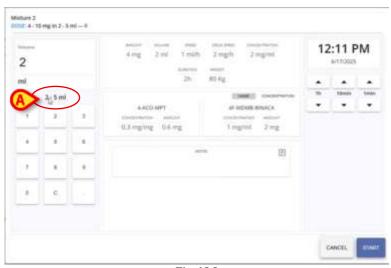


Fig 186

Use the administration procedure as described in the previous paragraphs to administer the treatment. If the administration values are changed within the prescribed range, the "Value changed" note is not required (if it was, according to configuration).

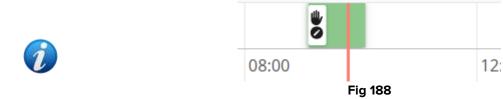
4.7. Administration with double signature

A treatment can be configured to require a double signature at prescription time and/or at administration time. For administrations, it is necessary that a second user, different from the one that is administering the treatment, validates the administration. The administration procedure is the same described in paragraph 4.5 but, if a double signature is required for

the administration, a specific icon - • is displayed on the rectangle representing the order on the Execution plan (Fig 187 A).



Before signature, the rectangle representing the order can be characterized by two icons (Fig 188).



The \P icon indicates that the prescription requires a signature.

The icon indicates that the execution requires a signature.

For the signature procedure at prescription time see paragraph 3.16.

Two different procedures can be configured to allow a second user to sign the administration, depending on the *ExecutionSignMode* system option.

If *ExecutionSignMode* = 0 the signature must be performed on another Digistat session. That means that the administration must be signed by another user logged on a different Digistat session.

If *ExecutionSignMode* = 1 the signature must be performed within the same Digistat session, where the credentials of a different user are requested.

Both cases are described below.

4.7.1. Signature on a different Digistat session

In Fig 189 the Abacavir administration is indicated. In this configuration, Abacavir requires a double signature (Fig 189 **A**).



If the *ExecutionSignMode* system option is set to 0, use the usual administration procedure, described in paragraph 4.5.

The double-signature mandatory requirement is indicated on top of the administration window (Fig 190 **A**).



Fig 190

> Click the **Administer** button (Fig 190 **B**).

The following window opens, warning that a second signature is required (Fig 191).



Fig 191

To sign the administration it is necessary to log in with different credentials on a different Digistat session and select the same patient.

On the row corresponding to the administration to be signed, the **SIGN** button will be displayed for the second user. See Fig 192 $\bf A$.

On the bottom-right corner, are displayed the details of both the prescription and the related signature (if a signature is required at prescription time, if not, only the prescription details are displayed - Fig 192 **B**).



Fig 192

> Click the **SIGN** button (Fig 192 **A**).

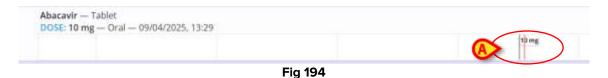
An administration summary window is displayed (Fig 193).



Fig 193

Click the SIGN button (Fig 193 A).

The order will be this way signed and displayed as administered on the Therapy Execution plan (Fig 194 **A**).



4.7.2. Signature on the same Digistat session

In Fig 195 an Abacavir order is indicated. In this configuration, the administration of Abacavir requires a double signature (Fig 195 **A**).



If the *ExecutionSignMode* system option is set to 1, use the usual administration procedure, described in paragraph 4.5.

The double-signature mandatory requirement is indicated on top of the administration window (Fig 196 **A**).

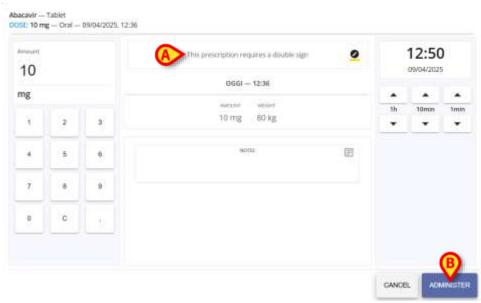


Fig 196

Click the Administer button (Fig 196 B).

The following window opens, containing a "Sign" area that makes it possible to double-sign the administration (Fig 197 **A**).

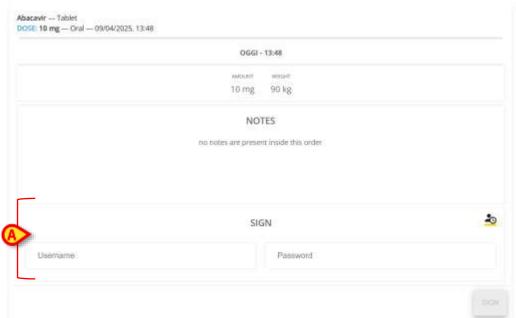


Fig 197

Insert the credential of a second user (different from the one currently logged) in the Username and Password fields (Fig 198 **A**). The **SIGN** button will be enabled (Fig 198 **B**).

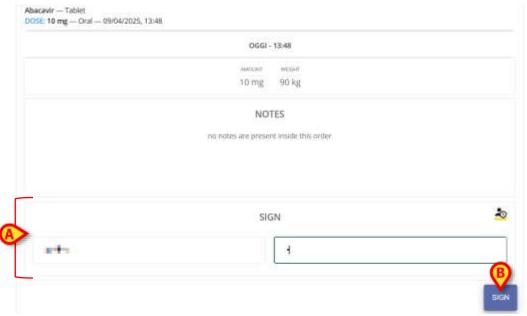


Fig 198

> Click the **SIGN** button (Fig 198 **B**).

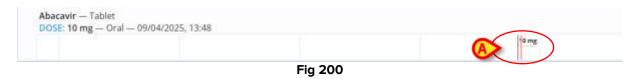
A confirmation window is displayed (Fig 199).



Fig 199

Click the CLOSE button to close the window (Fig 199 A).

The order will be displayed as administered on the Therapy Execution plan (Fig 200 A).



4.8. The administration window

The treatment administration window (Fig 201) allows to edit some of the values of the administration on the "Therapy Execution" module.

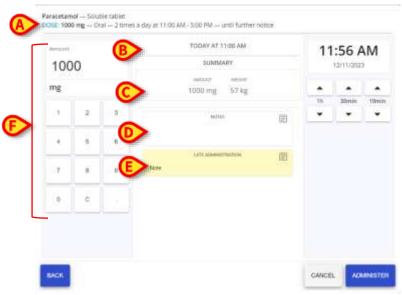


Fig 201

The prescribed values are indicated on top (Fig 201 A).

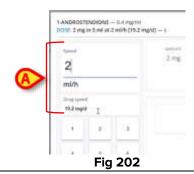
In the central area of the window the following information is displayed:

- Administration scheduled time (Fig 201 B).
- Administration summary (Fig 201 C Note: the values specified in this area depend on the treatment type).
- Generic user notes (Fig 201 **D**).
- Notes related to: late/early administrations; changes in the administration values; changes in the administration time (Fig 201 **E**).

On the left, a numeric keyboard allows to change the administered quantities (Fig 201 F).

Which parameter is displayed on the treatment administration window depends on the configuration of the treatment (for infusions, for example, it could be volume, speed, drug speed etc.). If "Speed" is chosen as main parameter, then the "Drug speed" value is also displayed below. If "Drug speed" is chosen as main parameter, then the "Speed" value is also displayed below (Fig 202 **A**).





To change the administration amounts:

- ➤ Use the virtual keyboard to specify the new amount. The window changes as shown in Fig 203.
- > Type a note explaining the reason for the changes, if required (Fig 203 B).



The treatment administration mode can be configured to require a mandatory note, an optional note or to not allow the amount change.

Click the Administer button (Fig 203 C).

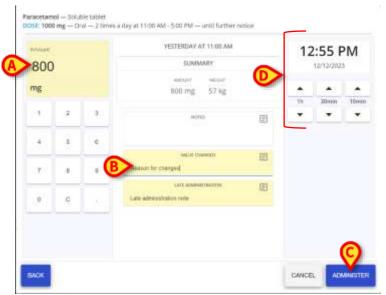


Fig 203

The time display on the right (Fig 203 **D**) should indicate the time at which the treatment is actually administered. The time displayed by default is the time at which the administration window opens. If the administration of an order is documented at a time that is different from the time of the actual administration, it is possible to change the displayed time and indicate the correct administration time. To do that:

➤ Use the arrow buttons placed below the time display (Fig 203 **D**).

The upward arrows add 1 hour (left arrow), 30 minute (center), 10 minutes (right) to the time displayed.

The downward arrows subtract 1 hour (left arrow), 30 minute (center), 10 minutes (right) to the time displayed. The window changes in the following way (Fig 204).



Fig 204

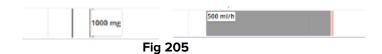
> Type a note, if required, explaining the reason for the time changes (Fig 204 B).



The treatment administration mode can be configured to require a mandatory note, an optional note or to not allow the time change.

Click the Administer button (Fig 204 C).

The administered order bar or rectangle (in case of durative administration) is placed in the chart according to the time and values specified on the administration window (Fig 205).



A configuration option allows to display, for infusions, a "Delivered by a connected pump" flag. If the flag is checked, it means that the treatment is administered by a pump that is already connected to the "Digistat Fluid Balance Web" application and, therefore, the administered quantities will not be exported for the fluid balance calculation. If not checked, the pump is not connected to the "Digistat Fluid Balance Web" application and the administered quantities will be exported for the fluid balance calculation (Fig 206 **A**).

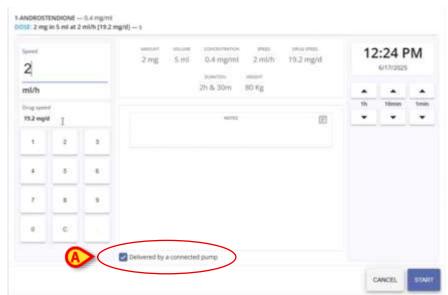


Fig 206

4.9. "Execution" module prompts

On the upper left corner of the "Execution" screen different icons can be displayed as prompts for the user relating to the overall status of the treatment plan (Fig 207 **A**).

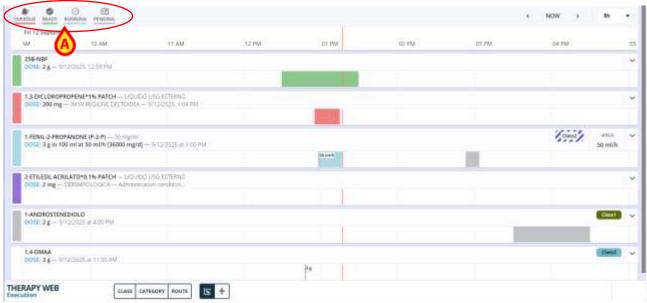


Fig 207

In Fig 207 **A**, for example, the icons indicate that on the treatment plan there are:

- at least one order overdue (red)
- at least one order ready (green)
- at least one order running (cyan)
- at least one order pending (grey)

See, in Fig 208, an enlarged view.

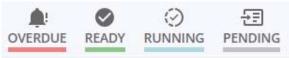


Fig 208

4.10. "Execution" time range display

The commands available in the top-right corner of the "Execution" screen allow to change the time range displayed (Fig 209 $\bf A$).

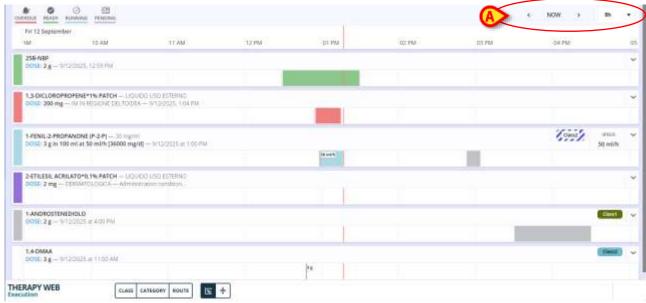
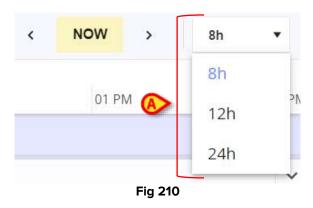


Fig 209

Use the drop-down menu indicated in Fig 210 **A** to change the display mode.



The default display range is 8 hours. Click 12h or 24h to display the corresponding range. Fig 211 shows, as example, a detail of a 24 hours display.

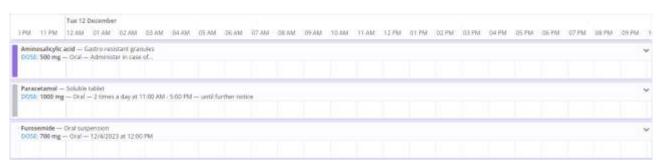
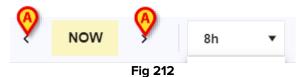


Fig 211

Use the left and right arrows (Fig 212 **A**) to scroll the screen contents back (left) and forward (right).



One click on the arrow button moves the screen for the time range specified in the field (i.e. if 8h is selected - as in the figure -, click the left arrow once to display the previous 8 hours, click the right arrow once to display the following 8 hours; if 12h is selected, the screen moves 12 hours per click).

Use the **NOW** button to display the current time again.



The "ExecutionTimelineTimeout" system option makes it possible to set a time limit after which, after having moved on the timeline, the view is brought back to "Now" if the user interface is not touched.

4.11. Treatment sorting buttons

The buttons indicated in Fig 213 **A** allow to sort and group the existing treatments by class, category or administration route.



The class, category and route of a treatment are defined during the configuration of the treatment.

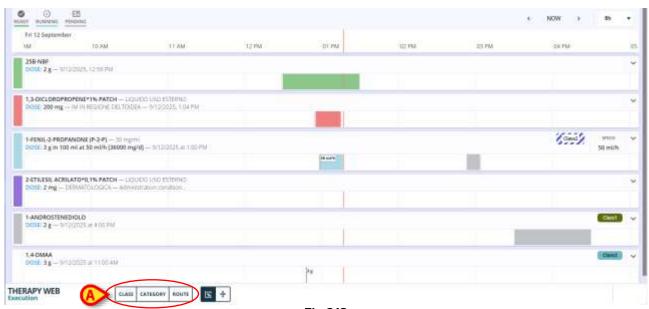


Fig 213

Click a button to sort the treatments according to the related sorting criterion. See, for example, in Fig 214, the treatments sorted by category (in the figure: Category 1, Category 2, Category 3, Other).

Click the button again to go back to the original sorting.

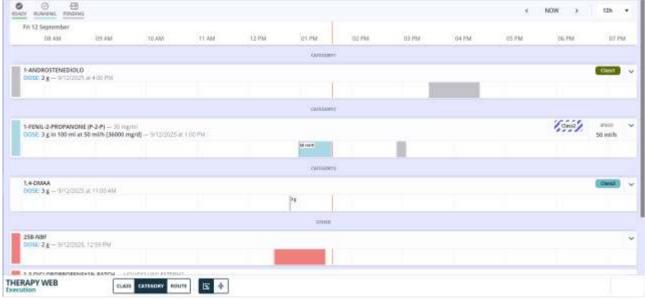


Fig 214

4.12. Compact view

Use the buttons indicated in Fig 215 $\bf A$ to switch to a more compact display mode (and back to normal). Fig 215 shows the normal view.



•

Fig 216 shows the compact view.

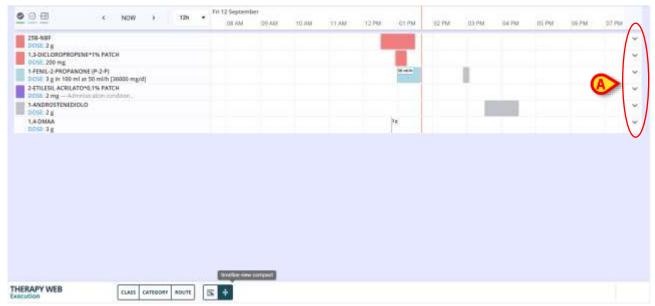


Fig 216

Use the arrows on the right to enlarge the treatment rows and display the administration details and commands (see, for example, Fig 217).

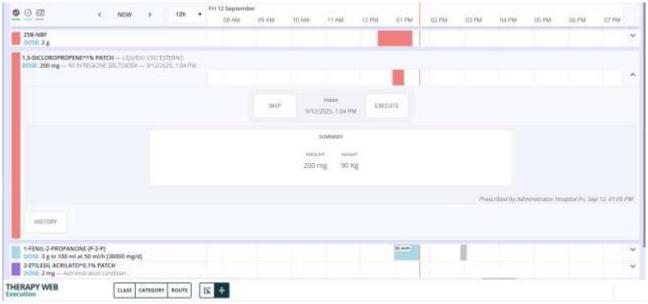


Fig 217

4.13. Closed Therapy

If the Therapy is closed, a "lock" icon - - is displayed on top of the Prescription module. See Fig 137 for an example.

On the Execution module, the only actions allowed on closed therapies are "Stop" and "Update" of running continuative administrations.

5. Therapy "Central Station"

The "Central Station" module displays on the same screen the list of orders existing for the patients, providing real time information on each patient's treatment plan and on the related schedule.

5.1. Module selection

To access the module



The "Central Station" screen opens (Fig 218).

5.2. "Central Station"

Fig 218 shows the Therapy "Central Station".



The screen contains several boxes, named patient cards; each card corresponds to a bed (Fig 220). The button indicated in Fig 218 $\bf A$ allows you to display the beds of a specific location.

To select a location

Click the button indicated in Fig 218 A.

A menu listing all the available locations will open (Fig 219).



Fig 219

Click the name of the required location.

The beds belonging to the selected location will be displayed. If the "No location" option is selected, the beds belonging the domain of the current user are displayed.

The "Patient name" and "Bed name" text fields (Fig 218 **B**) are filters making it possible to only display the patients/beds whose names match the strings here specified.

The other buttons, indicated in Fig 218 **C** sort the order of the cards according to the state of the orders. For example: click the **Pending** button to display first the patients having at least one pending order; click the **Running** button to display first the patients having at least one running durative order; click the **Default** button to go back to the default display mode.

Each box represents a bed (Fig 220).



The bed and location names/numbers are displayed on the top-left corner of the box (Fig 220 **A**).

If there is a patient in bed, the patient name and code are also displayed (Fig 220 B).

The icon placed between the bed number and the patient name indicates the state of the most urgent order for that bed (red is "late"; green is "ready"; purple? is "conditional"; grey is "future"; cyan represents an ongoing durative treatment).

The list of the patient's active orders is displayed in the central area of the patient-box (Fig 220 **C**). The orders are displayed by urgency: on top the alarmed ones, then the ongoing therapies, then the "ready" ones, then the conditional ones, then the orders to be executed in the future.



Fig 221

The treatment name and the scheduled administration time are displayed for each order. The color of the flag on the left indicates the order state.

When the icon appears beside an order it means that the order is not validated (there are two possibilities: either the order is not yet validated or the order validity expired).

When the \triangle icon appears beside the patient name, it means that there are allergies for that patient.



The bar indicated in Fig 222 **A** indicates approximately the time remaining before the expiration of the validity of the patient's treatment plan. The green portion grows with time. When the bar reaches the right end, the treatment plan is expired and needs to be validated again. The bar turns red. (see paragraph 3.19 for more information).

5.3. Overview

Click the patient boxes to access a detailed overview of the patient prescriptions with the corresponding orders.

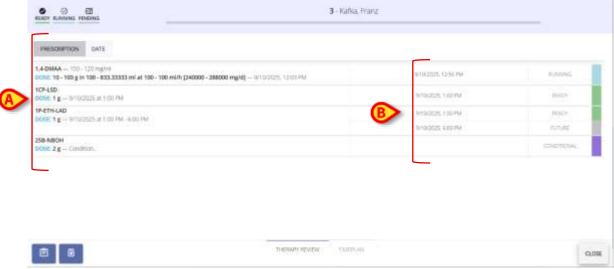


Fig 223

The prescriptions are on the left (Fig 223 **A**). The orders related to the prescription are listed on the right. For each order the due date/time and status are specified.

The prescriptions can be sorted by name or by the scheduled administration date/time. Fig 224 shows the "Sort by date" modality. Use the buttons indicated in Fig 224 **A** to select the sorting modality. Conditional orders, not having a scheduled date/time, are listed last (Fig 224 **B**).



Fig 224

The buttons indicated in Fig 224 **B** are direct links to the "Therapy Prescription" and "Therapy Execution" modules.

- Click the button to open the "Therapy Prescription" main page (Fig 8). The related patient will be selected.
- Click the button to open the "Therapy Execution" main page (Fig 140). The related patient will be selected.
- Click the **Close** button (Fig 224 **D**) to close the "Overview" window.

5.3.1. Timeplan view

The TIMEPLAN button Fig 224 C allows the orders to show in a timeline (Fig 225).

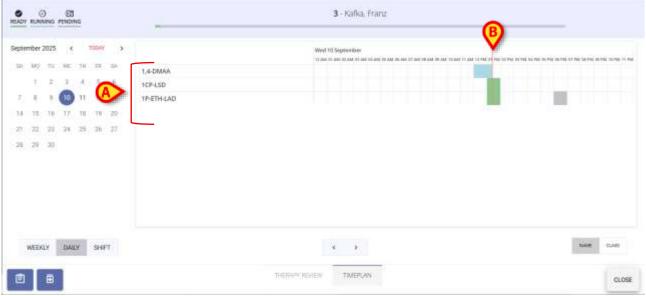


Fig 225

In the **timeplan** view, the schedule of the existing orders for each prescribed treatment is shown in a grid. Prescribed treatments are listed as individual rows in the grid (Fig 225 **A**). A **red vertical bar** (Fig 225 **B**) marks the "now" moment. The orders are represented as rectangles, as in the "Therapy Execution" module, and positioned on the timeline in the place corresponding to their administration scheduled time. The length of the rectangles is proportional to the tolerance period, The color coding is the same described earlier:

- **Gray**, if it is an order to be administered in the future;
- **Green**, if it is a "ready" order, an order to be executed at the present time, i.e., within the time frame configured as the "tolerance interval";
- **Red**, in case of an unexecuted and overdue order;
- Black, in case of a correctly executed order;
- Cyan, in case of running administrations.

It is possible to change the time plan display using the three buttons indicated in Fig 226 ${\bf A}$.

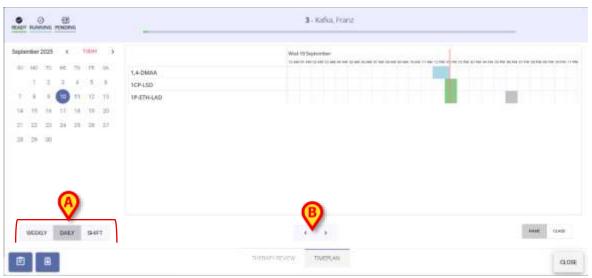


Fig 226

These buttons are are:

- **Weekly** button, to show the entire week from Sunday to Saturday (days when no orders are prescribed are also shown). Each day is divided into 4 time slots (00-06, 06-12, 12-18, 18-00), represented as separate cells within which the orders are represented as colored portions of the cell placed at the corresponding time;
- **Daily** button, to show the full day in detail: the day is shown at the top left of the grid. There are 24 cells, one for each full hour;
- **Shift** button, to show the orders within an 8-hour shift. The day is shown at the top left of the grid, while 8 cells are provided, one for each full hour of the displayed shift.

Two arrows (left and right arrows) are provided (Fig 226 **B**), to move forward and backward on the timeline.