Logging into adaPTprescribe

Double-click the adaPT*prescribe* icon and the ADAPT*prescribe* LOGIN SCREEN appears.

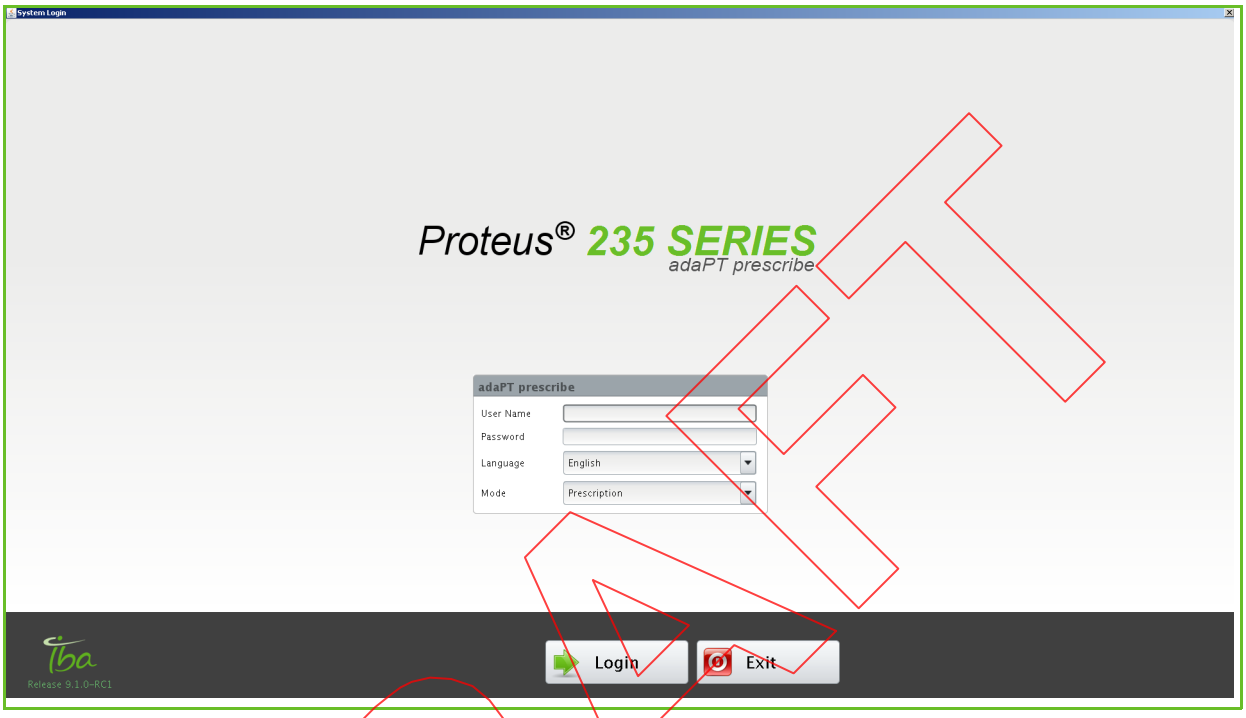

Figure 24-2. adaPTprescribe Login Screen

Enter your user name and password, as obtained from your administrator, and select your language and operating mode. User name and password are case sensitive. Should you want to change your password, please contact your administrator.

Note: *For detailed information on how user names and passwords are managed, refer to* **Appendix B**, *"Managing PTS Users".*

Two operating modes exist:

- **Prescription**: for clinical operations. For detailed information refer to Chapter 25, *"How adaPTprescribe* is Organized".
- **Administration**: to define and manage tolerances and MU clinical ranges. In addition, you can manage accessories.

  For detailed information refer to **Appendix C**, *"Managing adaPTprescribe* Settings".

Click **Login** and the ADAPT*prescribe* SCREEN appears (see Figure 24-3).

Note: *By default at login, adaPTprescribe displays active patients only.*

Logging out From adaPTprescribe

To logout from adaPT*prescribe* click **Logout** from the navigation bar of any adaPT*prescribe* screen. You are prompted to confirm that you want to proceed with logout, or to cancel.

You have the option to cancel or to proceed with your logout.

When you logout, the ADAPT*prescribe* LOGIN SCREEN reappears.

You or another user can login.

adaPTprescribe Screen Layout

The adaPT*prescribe* screens are intuitive to use and have a uniform layout.

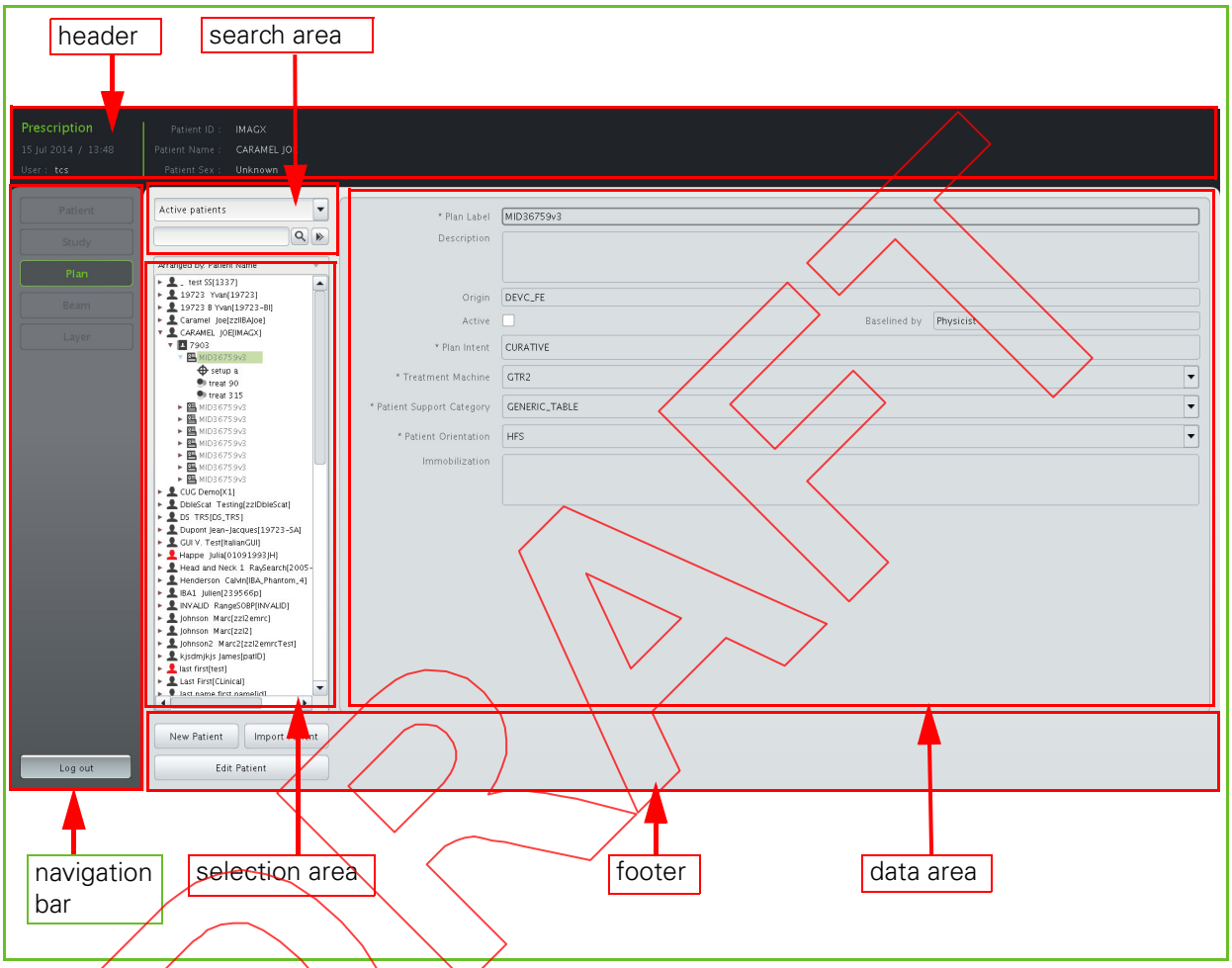

Figure 24-3. adaPT*prescribe Screen (Typical)*

Major screen components are:

- **Header**: this panel displays the name of the program module that you are currently using (i.e., Prescription) along with the current date and time, and the login ID of the user.

  In addition, the following patient specific data appears:

  - Patient ID
  - Patient Name
  - Patient Sex

- **Navigation bar**: indicates the entity that you have currently selected, if any. Possible entities are Patient, Study, Plan, Beam, and Layer. The currently selected entity is listed in Green.

  The **Logout** button at the bottom of the navigation bar enables you to logout from adaPT*prescribe*. For detailed information, refer to Section "*Logging out From adaPTprescribe*" on page 24-4.

- **Search area**: you can search for a patient. For detailed information, refer to Section "*Searching for a Patient*" on page 26-3.

- **Selection area**: displays the selection that you have made from the list area. This area can display information on the selected patient, study, plan, beam, and layer.

  Note: *By default at login, adaPTprescribe displays active patients only.*

- **Data area**: displays details on the selected patient, study, plan, beam, or layer and enables you to edit these details.

- **Footer area**: the buttons in this area enable you to perform functions such as creating a new patient, editing a patient, etc. The functions that are available depend on the entity (i.e., patient, study, etc.) that you have currently selected. These buttons only appear when you are working in editing mode.

Chapter 25
How adaPTprescribe is Organized

Treatment plans including the patient, study, plan, and beam definition are exported from the Treatment Planning System (TPS), imported into the PTS database and displayed in adaPT*prescribe*.

The adaPT*prescribe* application is used to review and **baseline plans** and **beams** in preparation for treatment. Those plans and beams that have been baselined become accessible using adaPT*deliver*. (For information on adaPT*deliver*, refer to Chapter 31, "*Introducing adaPTdeliver*".)

Also those plans that have been received via the OIS and that have already been irradiated at least once using adaPT*deliver* become visible in adaPT*prescribe*. This allows these plans to be irradiated again using standalone mode, if necessary.

A patient can have one or multiple studies. A study can consist of one or multiple plans; and each plan can comprise one or multiple beams. And in turn, a beam can comprise multiple layers.

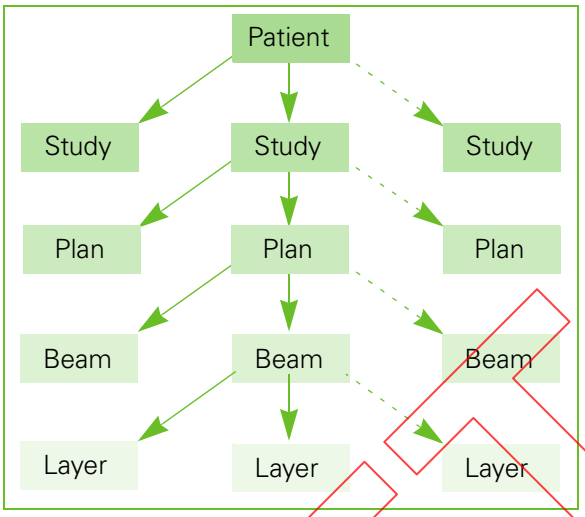

Figure 25-1. Treatment Data Organization

Note: *The* **layer** *entity is only applicable to Pencil Beam Scanning.*

Chapter 26
Managing Patients

From the PRESCRIPTION SCREEN you can:

- **View patient data**: for detailed information, refer to section "*Viewing a Patient*" on page 26-2.
- **Search for a patient**: for detailed information, refer to section "*Searching for a Patient*" on page 26-3.
- **Arrange patients**: for detailed information, refer to section "*Arranging Patients*" on page 26-7.
- **Select a patient**: for detailed information, refer to section "*Selecting a Patient*" on page 26-7.
- **Import a patient using DICOM**: for detailed information, refer to section "*Importing a Patient Using DICOM*" on page 26-9.
- **Edit a patient**: for detailed information, refer to section "*Editing a Patient*" on page 26-9.
- **Activate or deactivate a patient**: for detailed information, refer to section "*Activating or Deactivating a Patient*" on page 26-12.
- **Unlock a patient**: for detailed information, refer to section "*Unlocking a Patient*" on page 26-12.
- **Create a study**: for detailed information, refer to section "*Creating a Study*" on page 26-15.
- **Obtain irradiation reports**: for detailed information, refer to section "*Obtaining Irradiation History Reports*" on page 26-16.

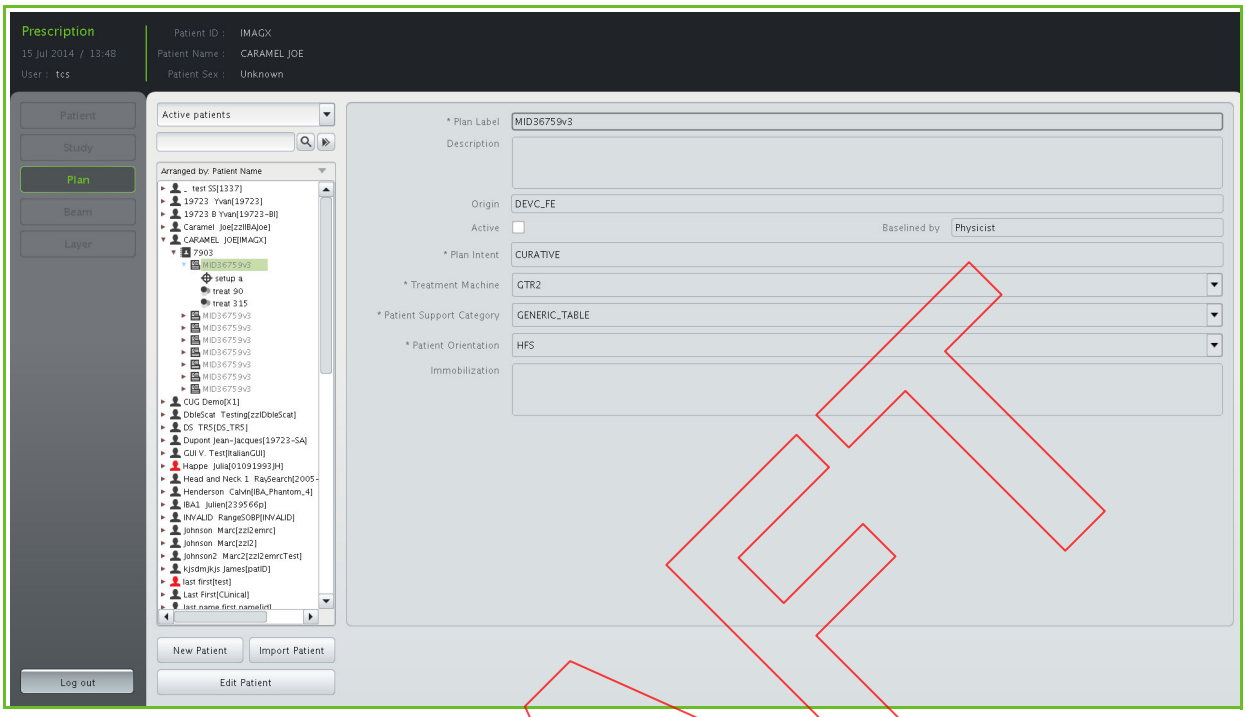

Figure 26-1. Prescription Screen (Typical)

Note: *The* **New patient** *button in the footer of the* PRESCRIPTION SCREEN *enables you to manually create a patient. If these are created with the correct IDs, the plans imported from the TPS will be attached to these IDs.*
Typically, however, a patient gets created automatically from the imported DICOM plan.

Viewing a Patient

Any patient in the database can be viewed, regardless of whether or not a plan has been imported yet. You can also modify the patient's name and description, and add a study to it.

To view a patient, click the patient **icon** or the **name** of the patient in the selection area.

Note: *Clicking the ▶ or ▼ arrows in front of the patient icon or name does* **NOT** *display the patient information; it displays the list of studies in the* selection area *instead.*

Searching for a Patient

You can search for a patient from the Search area of the PRESCRIPTION SCREEN.

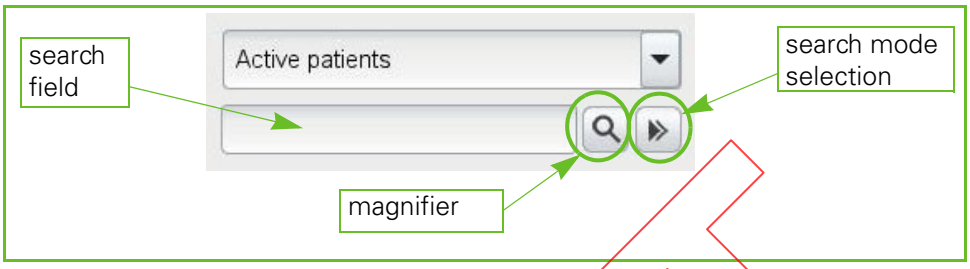

Figure 26-2. Search Area

The search mode options are:

- **Simple search**: indicated by the magnifier (see Figure 26-2).
- **Advanced search**: indicated by the search mode selector (see Figure 26-2).

Performing a Simple Search

To perform a simple search:

1. Make your selection from the Active and Inactive Patients dropdown list
2. Enter the name of the desired patient in the search fields.
3. Click the magnifier.

From the Search area you can select the type of patients that you want to search:

- Active patients: any patient who gets created by definition is **Active**, i.e., available for treatment.
- Inactive patients
- Active and inactive patients

For detailed information on how to deactivate a patient, refer to section "*Activating or Deactivating a Patient*" on page 26-12.

In the search field you can enter any of the following:

- **Last name**: enter the name in full or in part.
- **First name**: enter the name in full or in part.
- **Patient ID**: enter the ID in full or in part. The ID is case sensitive.

Click the button to the right of the search field and the patient(s) corresponding to the entered criteria appear(s) in the selection area.

Performing an Advanced Search

As an alternative to the simple search you can perform an advanced search to retrieve the desired patient.

To perform an advanced search, click the search mode selector so that it points to the right . The ADVANCED SEARCH PANEL appears.

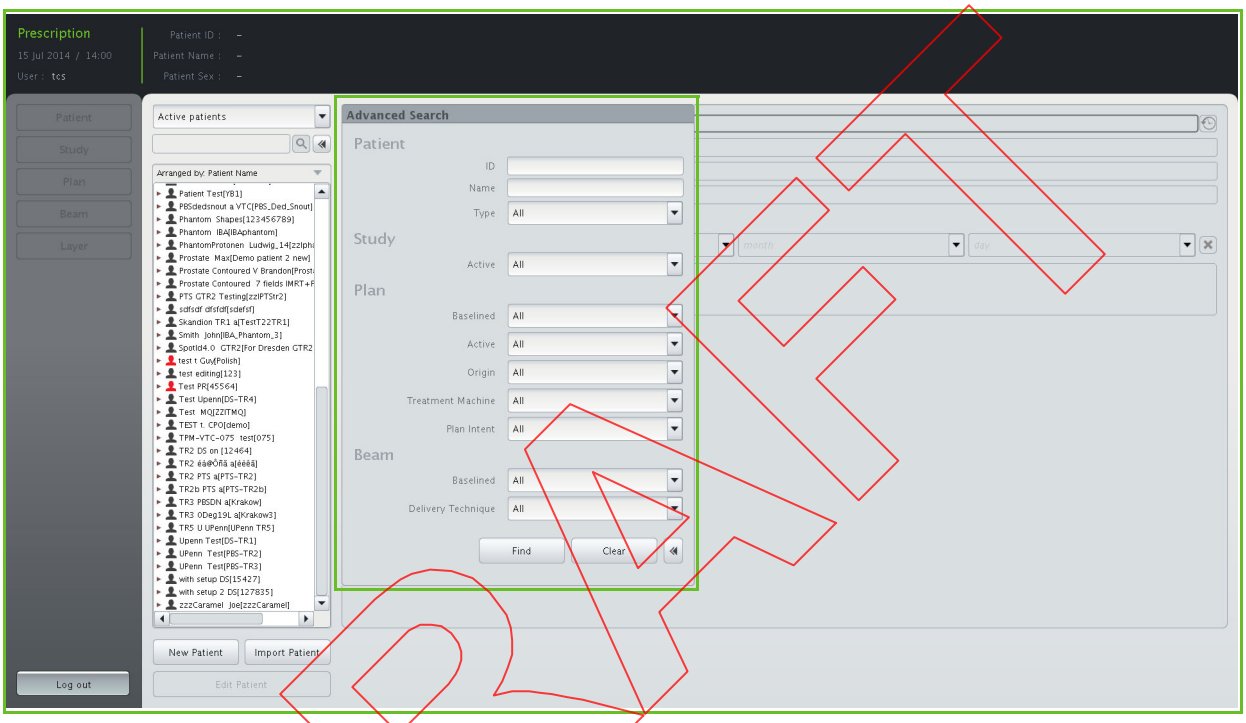

Figure 26-3. Advanced Search Panel

From the ADVANCED SEARCH PANEL you can enter any of the following:

- **Patient**
  - ID: the ID of the patient, in whole or in part.
  - Name: the first or last name of the patient, in whole or in part.
  - Type:
    - QA-patient: this is a virtual patient that is used for performing QA tests.
    - Clinical
    - All

- **Study**
  - Active:
    - Active
    - Inactive
    - All
- **Plan**
  - Baselined:
    - Baselined
    - Unbaselined
    - All
  - Active:
    - Active
    - Inactive
    - All
  - Origin:
    - Standalone
    - DEVC_FE
    - EMRC_FE
    - Batch_FE
    - All
  - Treatment Machine: the list of TR IDs
  - Plan Intent: this is an indication of the intended use of the plan. The options are:
    - Curative: an actual treatment plan.
    - Verification: a QA prescription for a patient.
    - Machine_QA: a dummy prescription for a QA patient (i.e., a virtual patient).
    - All

- **Beam**
  - Baselined:
    - Baselined
    - Unbaselined
    - All
  - Delivery Technique: the selected treatment mode (e.g., PBS).

From the ADVANCED SEARCH PANEL you can click any of the following buttons:

- **Find**: to perform a search based on the selected criteria. The searched patient appears in the Selection area.
- **Clear**: to clear all fields on the ADVANCED SEARCH PANEL.
-  : to cancel the advanced search.

Arranging Patients

To facilitate the selection of the desired patient you can arrange the patients that are on display in the selection area.

Whenever there are several patients listed in the selection area, you can right-click in the selection area and a pop-up menu appears (see Figure 26-4).

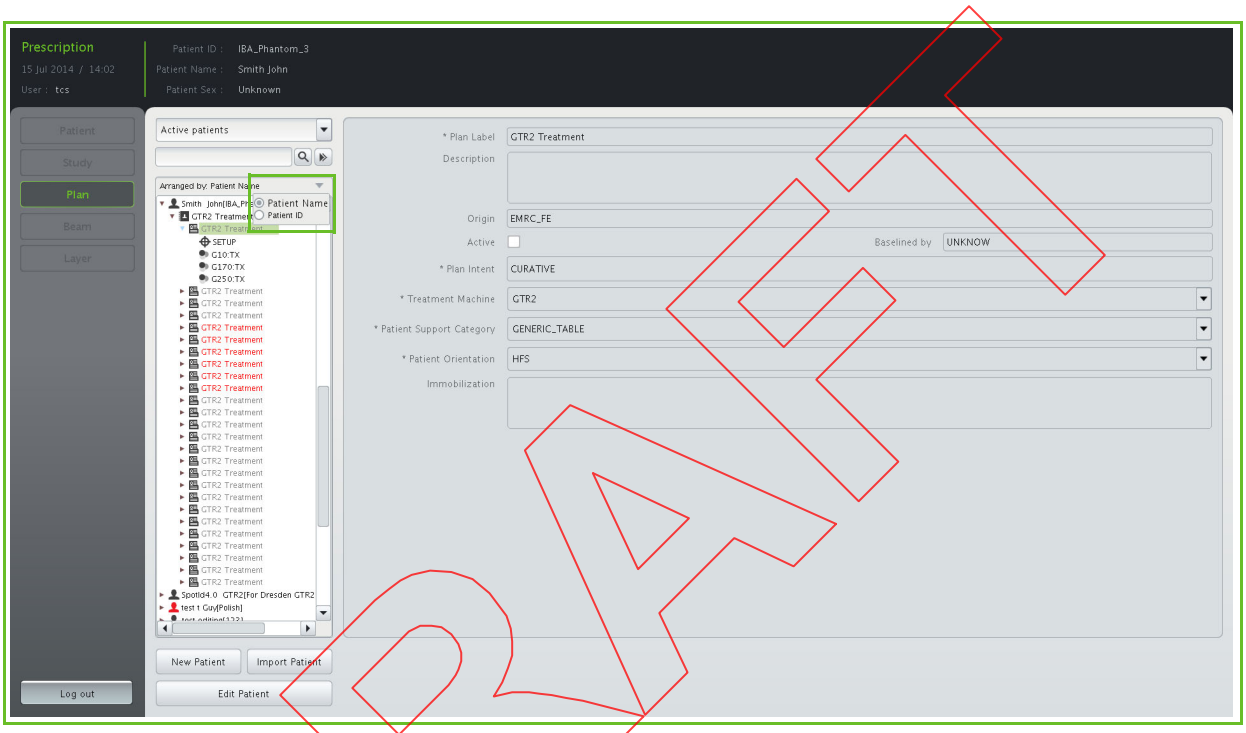

Figure 26-4. adaPTprescribe Arrange Options

The options in the menu are:

- Patient Name
- Patient Id

Click the desired option from the menu and the listed patients will reappear in the requested order in the selection area.

Selecting a Patient

To select a patient, click that patient from the selection area. The PATIENT PANEL (TYPICAL) appears.

When you select a patient in Read-only mode, the patient is not locked. However, if you select the patient in Editing mode, you **lock** that patient. For detailed information, refer to section "*Unlocking a Patient*" on page 26-12.

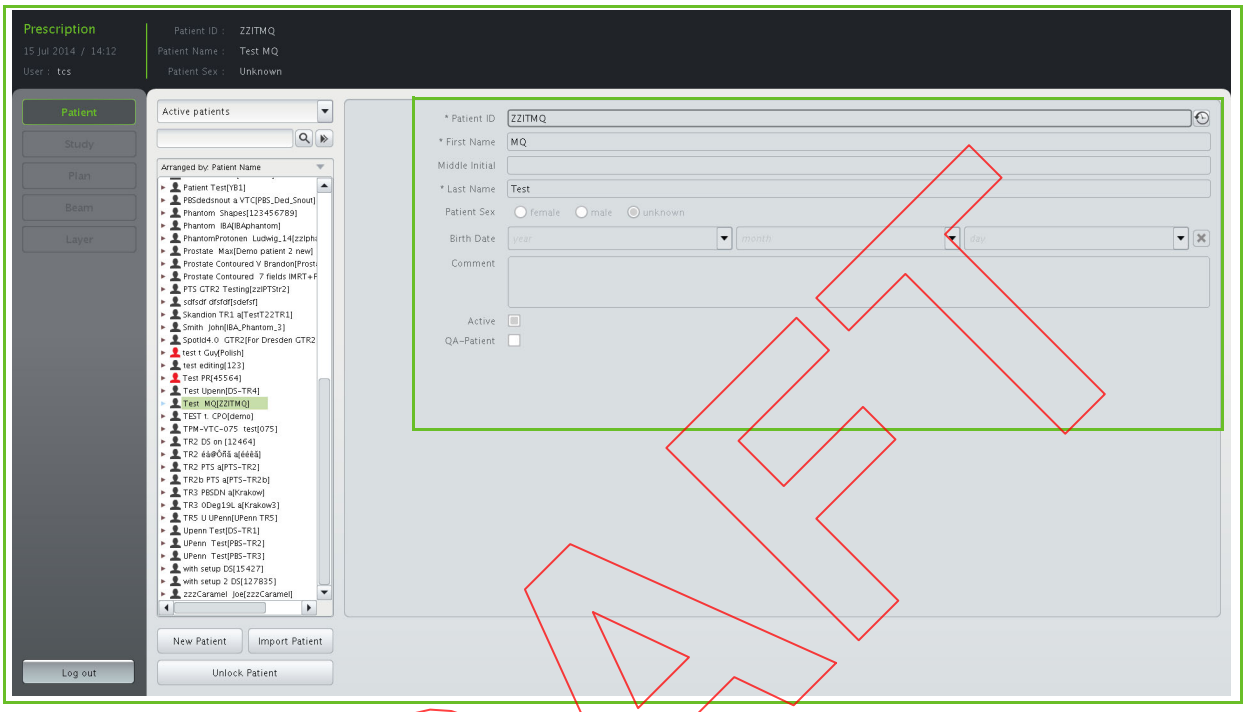

Figure 26-5. Patient Panel (typical)

From the PATIENT PANEL (TYPICAL) you can view essential patient details.

To view the **irradiation history** of the patient, if existing, click the button next to the patient ID. For detailed information, refer to section "*Obtaining Irradiation History Reports*" on page 26-16.

From the footer area you can click any of the following buttons:

- **New patient**: to create a new patient.
- **Import patient**: to import a patient using DICOM. For detailed information, refer to section '*Importing a Patient Using DICOM*' on page 26-9.
- **Edit patient**: you can edit various elements of the patient data, depending on the fact whether or not a beam has been defined for the patient already. For detailed information, refer to section '*Editing a Patient*' on page 26-9.
- **Unlock patient**: if the selected patient is currently locked in adaPT*deliver* to proceed to irradiation, or if the patient is being edited in adaPT*prescribe*, you can unlock that patient (provided you have sufficient rights to do so in the user rights manager). For detailed information, refer to section "*Unlocking a Patient*"' on page 26-12.

Note: *Never unlock a patient that is locked during irradiation!*

Importing a Patient Using DICOM

You can opt to import DICOM data on an existing patient using the DICOM interface. To do so, click **Import Patient**.

Select the desired folder and DICOM file and click Open to import this data into adaPT*prescribe*.

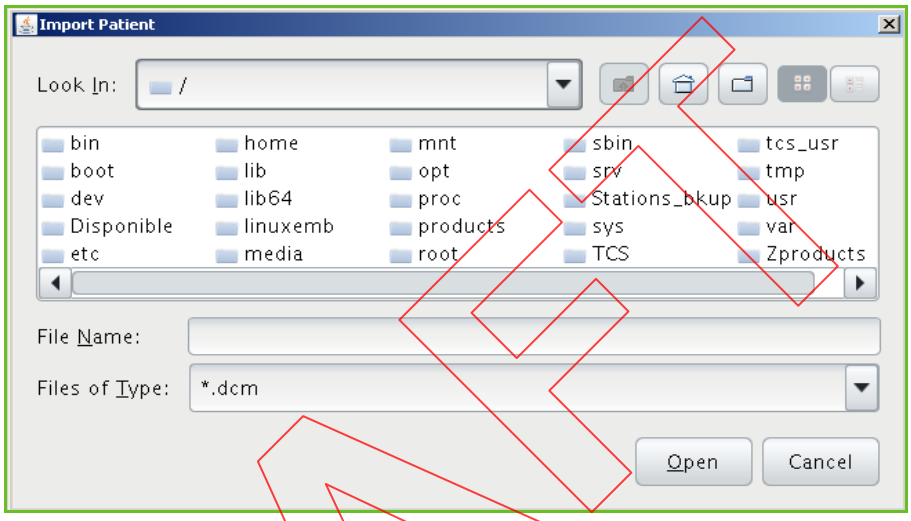

Figure 26-6. Patient Data File Selection

The imported patient data is added into the selection area.

Editing a Patient

The degree of patient data that can be edited depends on whether the patient is internal or external, and whether or not the beams are baselined.

'**Internal**' means that the patient data did not get imported using the batch importer, the **Import Patient** button, nor the OIS interface, or that it has been made internal by a specific user action. Only beams that are not baselined can be edited.

- The patient is internal and none of the beams are baselined: you can edit all data.
- At least one beam is baselined: you can edit the **comments** for internal and external patients.

For detailed information on the effect of patient editing, refer to section "*Impact of Editing Activities on an External Plan*" on page 26-10.

In addition to editing patient data, you can also create a study (refer to section "*Creating a Study*" on page 26-15).

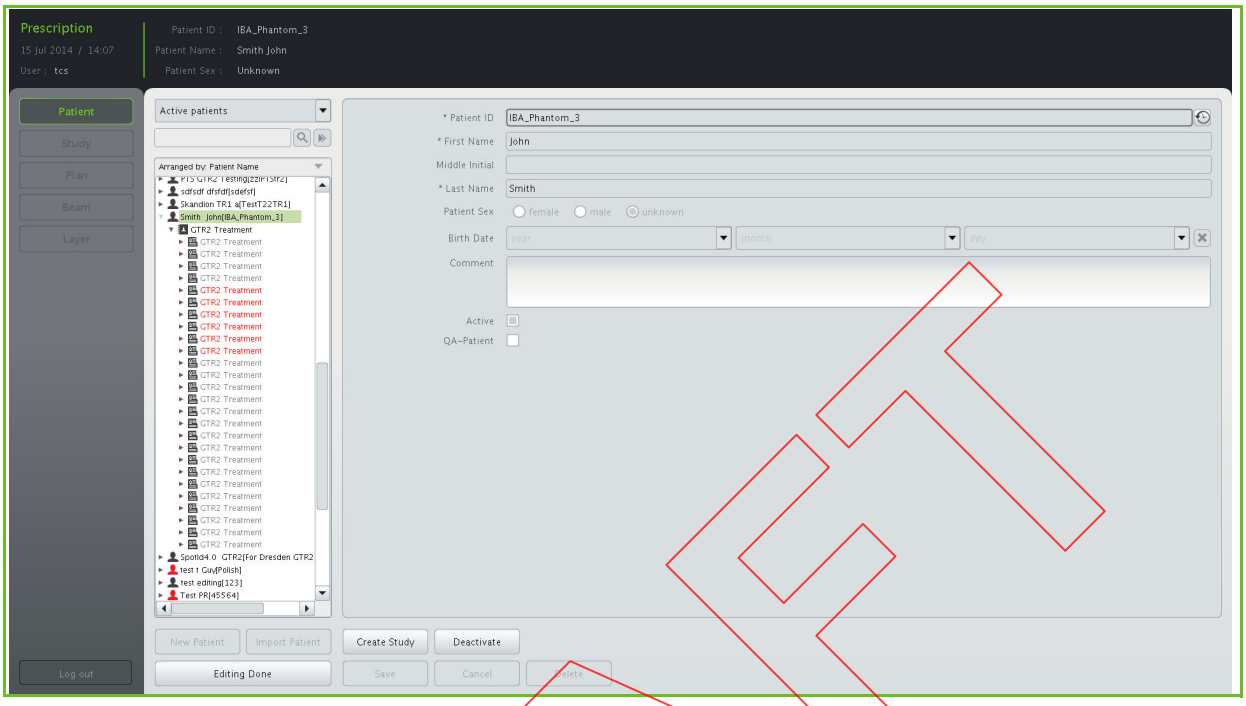

Figure 26-7. Patient Edit Screen

To edit a patient:

1. Click **Edit Patient** from the PRESCRIPTION SCREEN (see Figure 26-1). The PATIENT EDIT SCREEN appears.
2. Edit the information, as required.
3. Click **Save**.
4. Click **Editing Done**.

Impact of Editing Activities on an External Plan

A plan is called '**External**' when it got imported using the batch importer, the **Import Patient** button, or the OIS interface. 'External' thereby means that the plan is linked into the PTS using DICOM.

Certain editing activities turn an external plan into an internal plan, i.e., the link to the original DICOM prescription is disconnected and from that moment on the plan that will be used by adaPT*prescribe* and adaPT*deliver* resides internally in the PTS.

The editing activities, for the PBS treatment mode, are as follows:

- **PBS**: Table 26-1 lists the activities that turn or do not turn an external plan into an internal plan, for the Pencil Beam Scanning treatment mode.

Table 26-1. Internal/External Plans (for PBS)

When you perform this activity, the EXTERNAL plan:			Remains External	Becomes Internal
Patient	Edit	Comment	Yes	No
Study	Edit	Comment	Yes	No
Plan	Copy/Paste		No	Yes
	Edit	Description	Yes	No
		Immobilization	Yes	No
Beam - Setup	Edit	Tolerance Table	Yes	No
Beam - Treatment	Edit	Tolerance Table	Yes	No

Activating or Deactivating a Patient

Any patient who gets created is, by definition, **Active**. Active patients are available for treatment. Patients may be deactivated because the treatment following that plan has been discontinued. Deactivated (or 'Inactive') patients can still be accessed from adaPT*prescribe* as their data remains present in the database, but you will no longer be able to select them for further treatment.

An inactive patient can be activated anytime from adaPT*prescribe*.

Deactivating a Patient

To deactivate a patient, click **Deactivate** from the footer of the PRESCRIPTION SCREEN.

Activating a Patient

To activate a deactivated patient, proceed as follows:

1. Search for the desired inactive patient.
2. Click **Edit Patient** from the footer of the PRESCRIPTION SCREEN.
3. Click **Activate**.
4. Click **Editing Done**.

Unlocking a Patient

A patient gets locked automatically when:

- the patient, or a study, plan, or beam is being edited using adaPT*prescribe*.
- the patient enters the beam selection step using adaPT*deliver*.

You are informed of the **Locked** status of a patient by the presence of the **Unlock Patient** button in the footer of the PATIENT PANEL (TYPICAL) SCREEN.

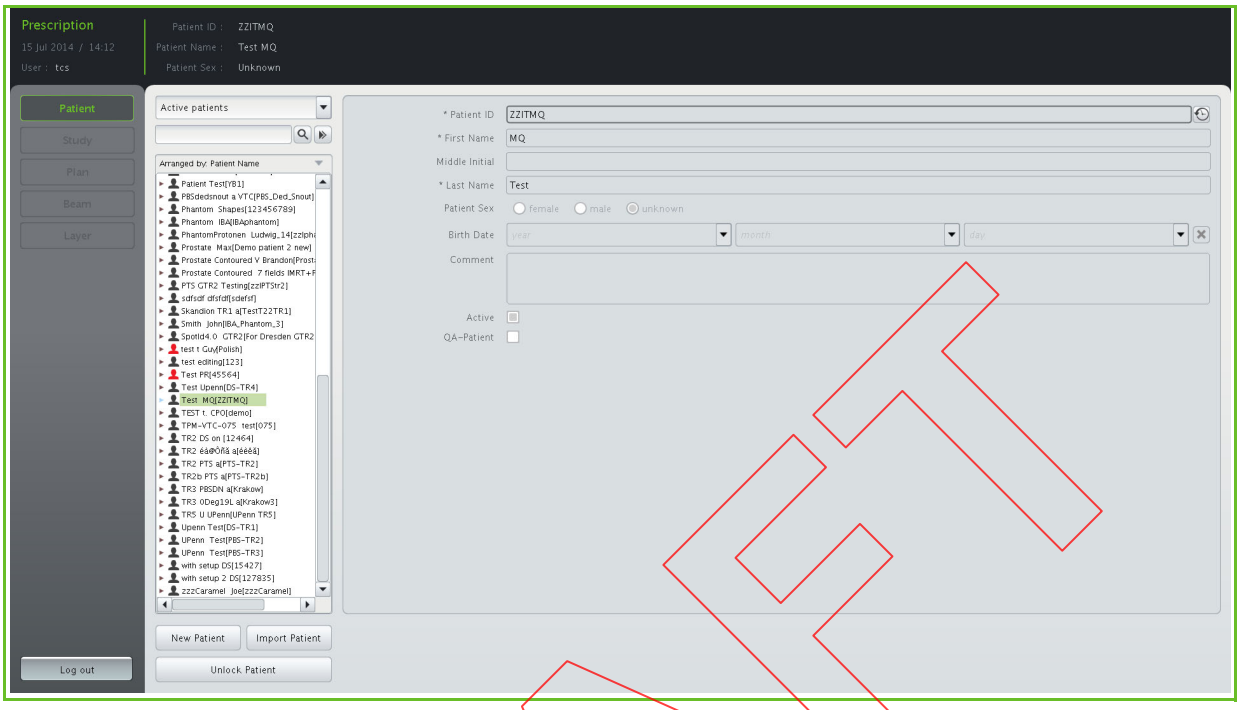

Figure 26-8. Locked Patient

Depending on your user rights, you may have the right to unlock a patient.

Purpose of the Unlock function is to unlock the patient in case of a system abort, i.e., for recovery purposes only. The Unlock function must never be used to unlock a patient who is being treated in another TR.

To unlock that patient, click **Unlock patient**. The UNLOCK CONFIRMATION PROMPT appears.

Figure 26-9. Unlock Confirmation Prompt

Note: *Never unlock a patient that is locked during irradiation!*

The UNLOCK CONFIRMATION PROMPT informs you of the user who is currently locking the patient, along with the relevant TR (if locked by adaPT*deliver*) and the date and time.

If you want to proceed with unlocking this patient:

- Verify that the patient is not in the TR anymore.
- Enter your name and password.
- Click **OK** to unlock that patient.

Creating a Study

You can create a new study for any existing internal or external patient.

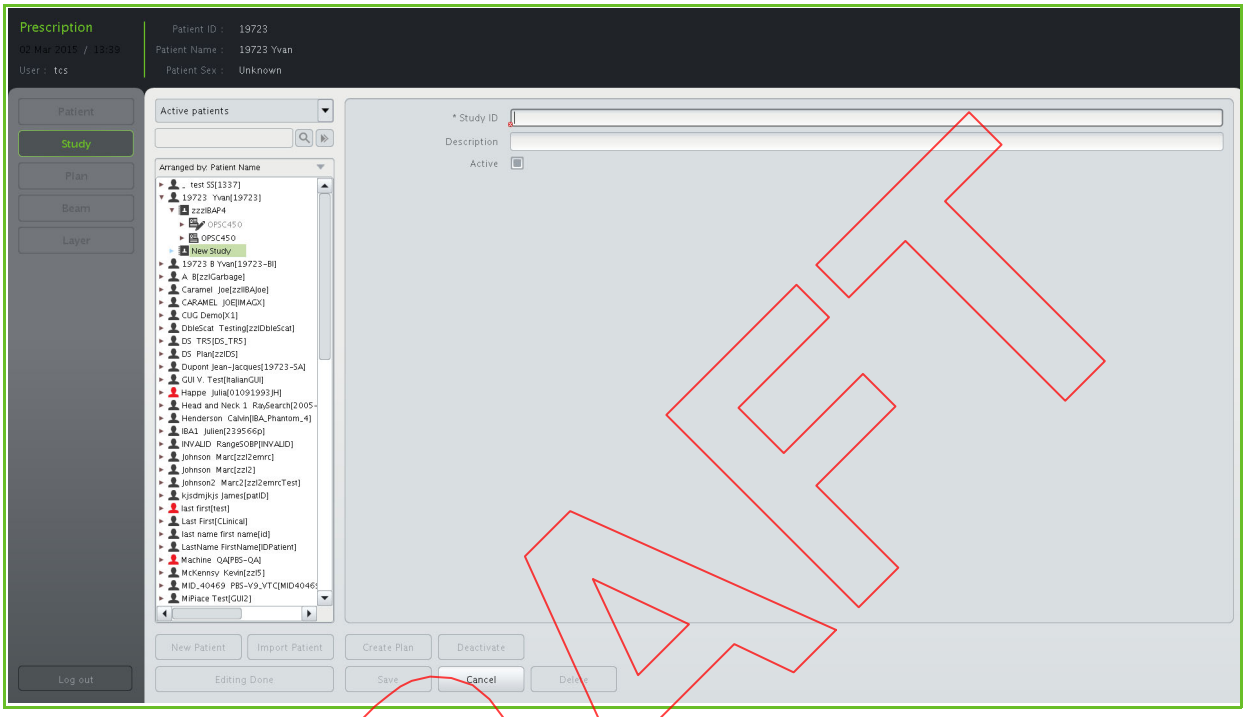

Figure 26-10. Create Study Screen

To create a study, proceed as follows:

1. Search for the desired patient.
2. Click **Edit Patient** from the footer of the PRESCRIPTION SCREEN.
3. Click **Create Study**. The CREATE STUDY SCREEN appears.
4. Enter the required study details. For information, refer to Chapter 27, "Managing Studies".
5. Click **Editing Done**.

Obtaining Irradiation History Reports

Click the button next to the patient ID on the PATIENT PANEL (TYPICAL) and the IRRADIATION HISTORY appears.

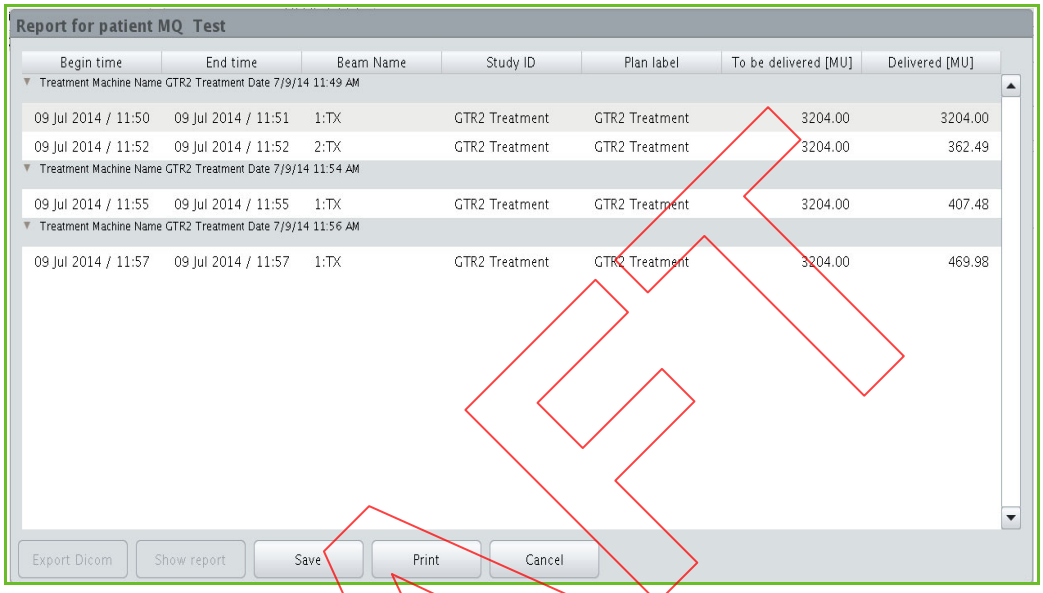

Figure 26-11. Irradiation History

The IRRADIATION HISTORY displays the list of all irradiations that the patient has received so far. The irradiations are organized at two levels, by plan and beam.

To display or hide the beams in a plan, click the ▶ or ▼ arrow in front of the plan, respectively.

From the IRRADIATION HISTORY you can perform the following functions:

- **View the irradiation history of a beam**: To view the irradiation history, click the beam. For detailed information, refer to section "*Displaying the Irradiation History of a Beam*" on page 26-19.
- **Save**: to save the history in a location agreed by your organization. For detailed information, refer to section "*Saving the Irradiation History Report*" on page 26-17.
- **Print**
- **Cancel**

In addition, you can perform one of the following functions, depending on your plan or beam selection:

- **Export DICOM**: click a plan and the **Export DICOM** button becomes enabled in the footer of the screen.

  Note: *The export in DICOM format is only available for external prescriptions.*

  For detailed information, refer to section "*Exporting the Irradiation History of a Plan in DICOM Format*" on page 26-18.

- **Show Report**: click a beam and the **Show Report** button becomes enabled in the footer of the screen. For detailed information, refer to section "*Displaying the Irradiation History of a Beam*" on page 26-19.

Saving the Irradiation History Report

To save the history report of a patient, click **Save** from the IRRADIATION HISTORY. The SAVE SCREEN appears, from which you can select the proper location where you want to store the history report.

Note: *The history report is saved in PDF format.*

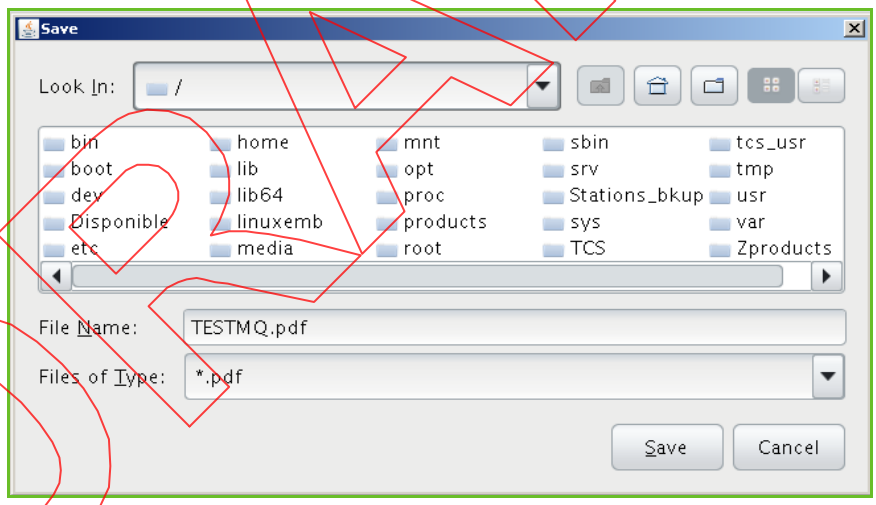

Figure 26-12. Save Screen

Exporting the Irradiation History of a Plan in DICOM Format

To export the irradiation history of a plan in DICOM format:

- Click the plan from the IRRADIATION HISTORY. The **Export DICOM** button becomes enabled.
- Click **Export DICOM** at the bottom of the history. The SAVE SCREEN (DICOM FORMAT) appears, from which you can select the proper location where you want to store the history record.
- Click **Save** to save the plan.

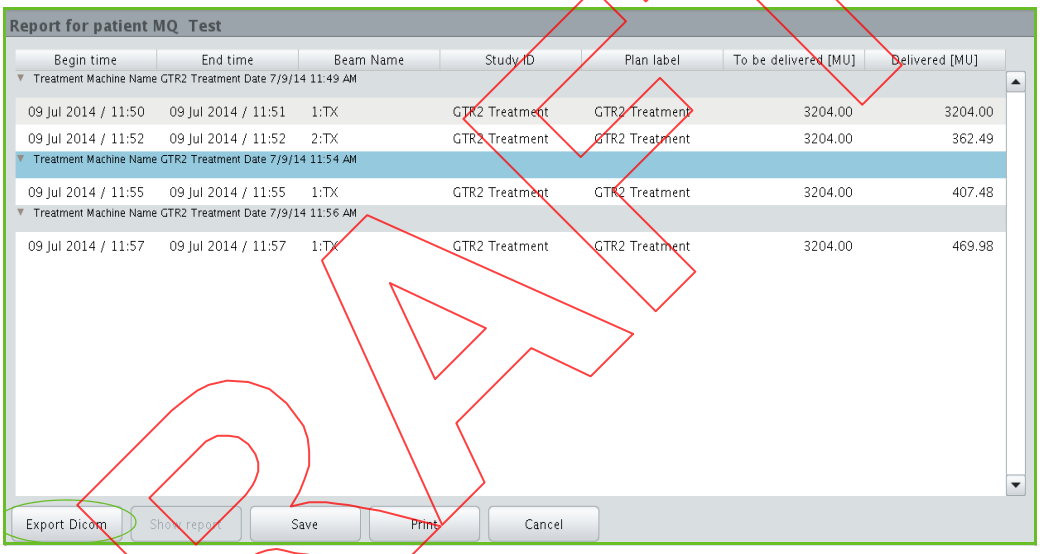

Figure 26-13. Irradiation History - Plan Selected

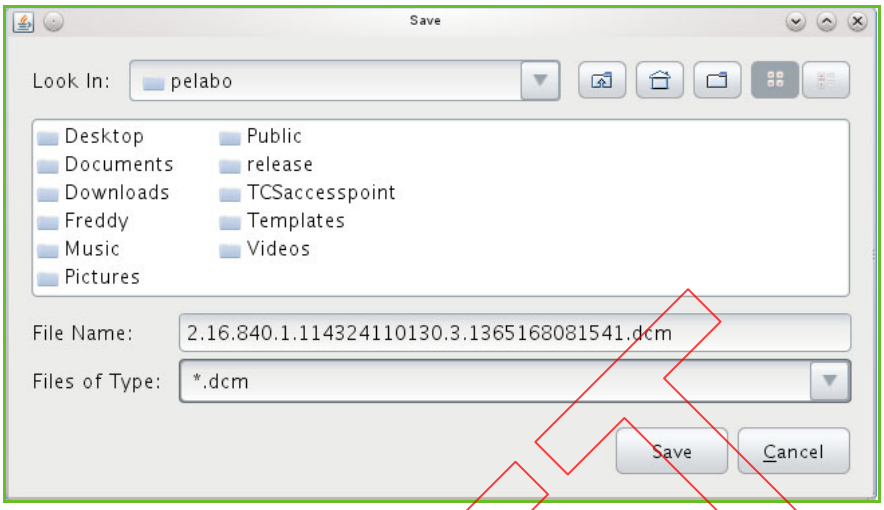

Figure 26-14. Save Screen (DICOM format)

Note: *The history record is saved in DCM (DICOM) format.*

Displaying the Irradiation History of a Beam

To display the irradiation history of a beam:

Click that beam from the IRRADIATION HISTORY. The IRRADIATION REPORT appears (see Figure 26-16).

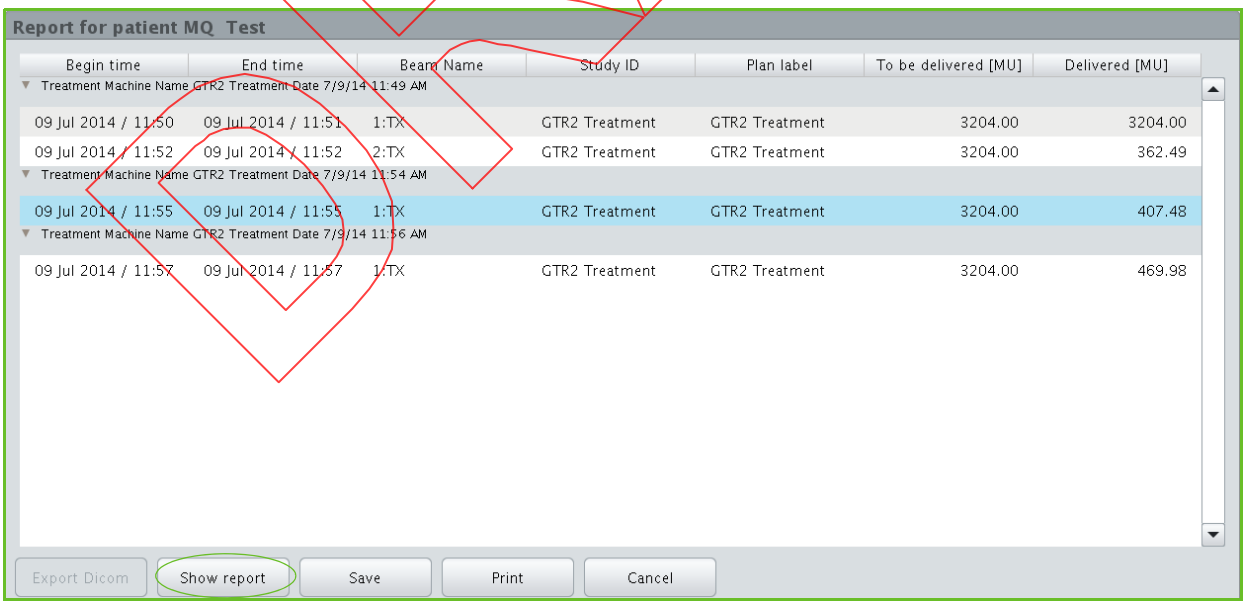

Figure 26-15. Irradiation History - Beam Selected

The IRRADIATION REPORT is spread over three pages, or more; to scroll to another page of the report, click the corresponding arrow button at the top of the screen. You can also opt to save or print the report.

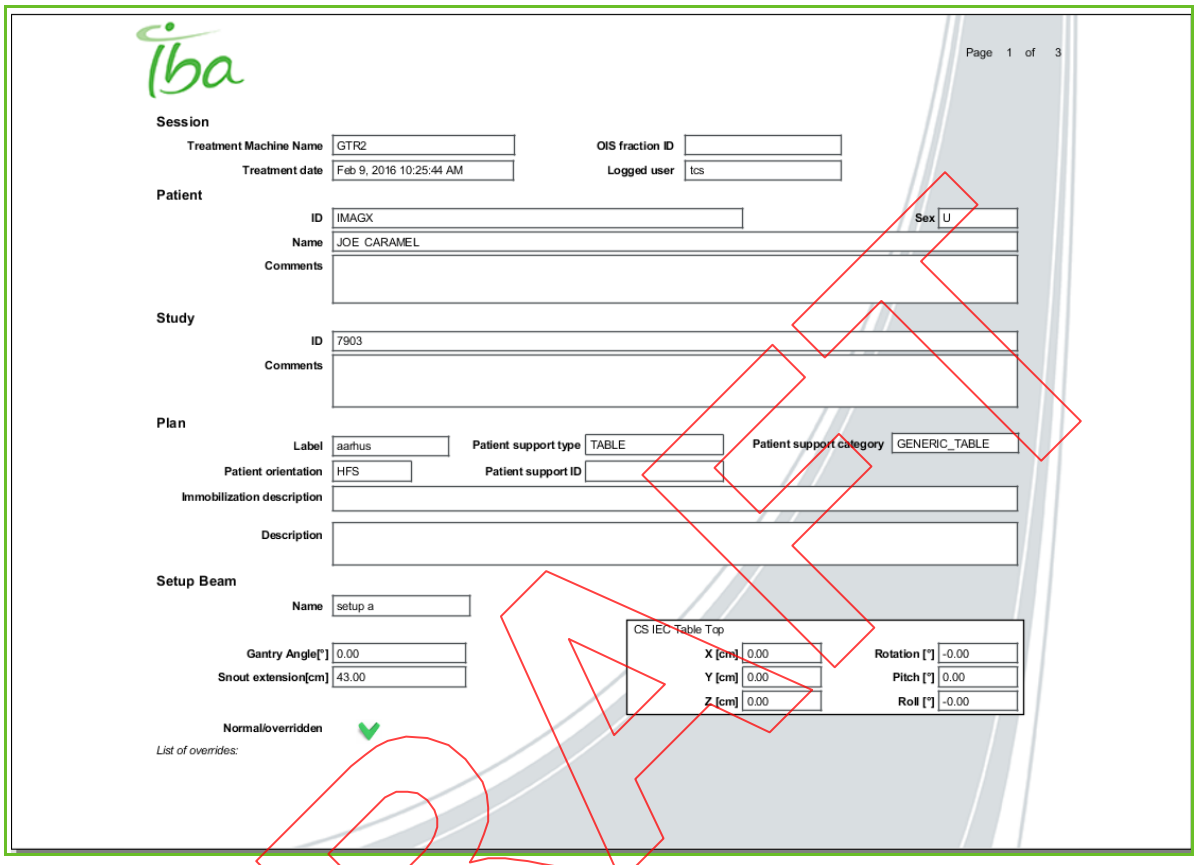

Figure 26-16. Irradiation Report Page 1

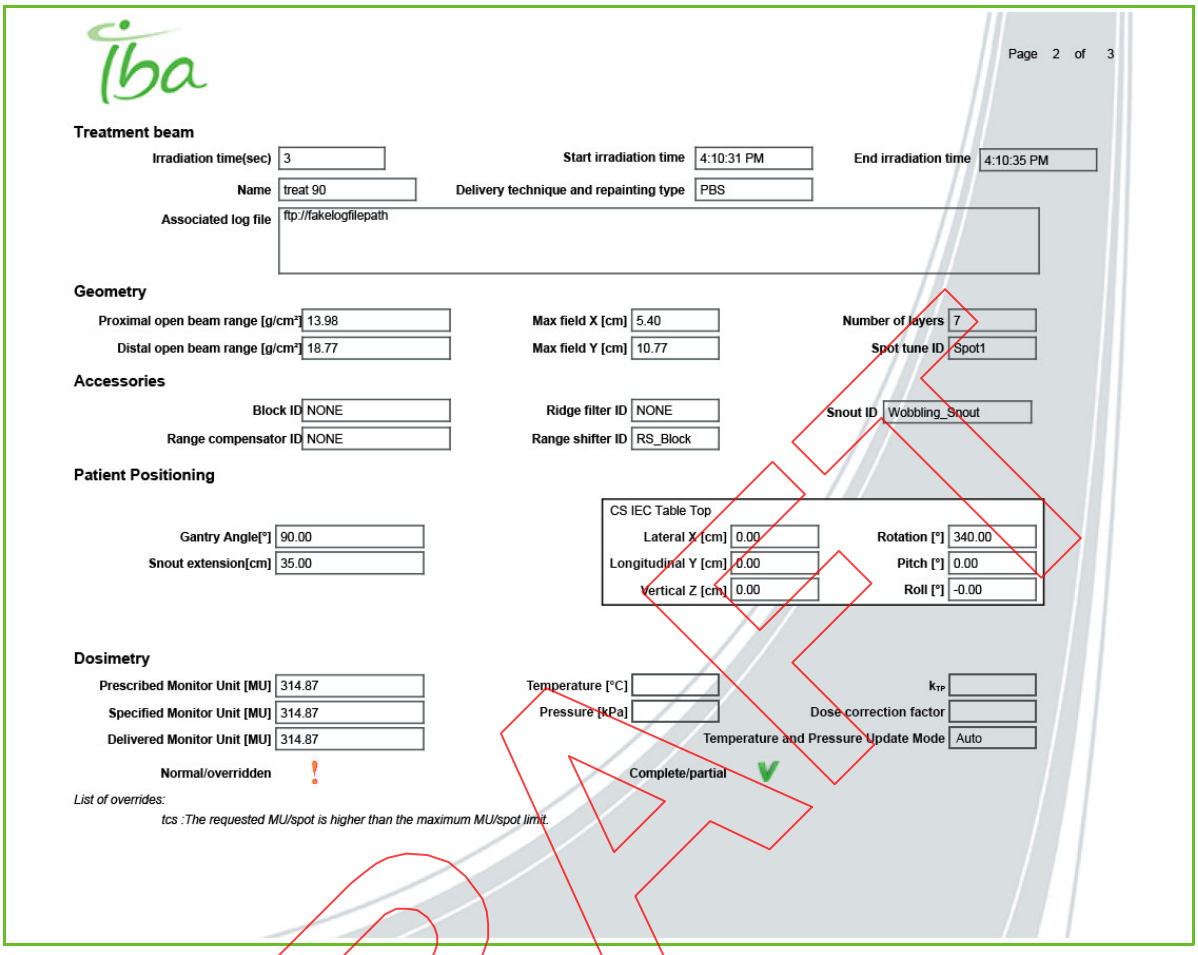

Figure 26-17: Irradiation Report Page 2

Page 3 of 3

Layers of beam **treat 90**

Layer	Open Beam Range [g/cm²]	Irradiation time [sec]	Specified MU [MU]	Delivered MU [MU]	Spot Tune ID	Scanning Spot size X [cm]	Scanning Spot size Y [cm]
0	18.77	4.06	80.36	80.36	3.0	0.35	0.35
1	17.96	25.78	91.51	91.51	3.0	0.35	0.35
2	17.16	15.88	55.25	55.25	3.0	0.36	0.36
3	16.37	10.51	35.98	35.98	3.0	0.37	0.37
4	15.57	10.83	27.59	27.59	3.0	0.37	0.37
5	14.77	8.55	20.19	20.19	3.0	0.38	0.38
6	13.98	3.94	4.00	4.00	3.0	0.39	0.39

Figure 26-18. Irradiation Report Page 3

Chapter 27
Managing Studies

Click the ▶ arrow next to the desired patient in the selection area and the list of studies of that patient appears.

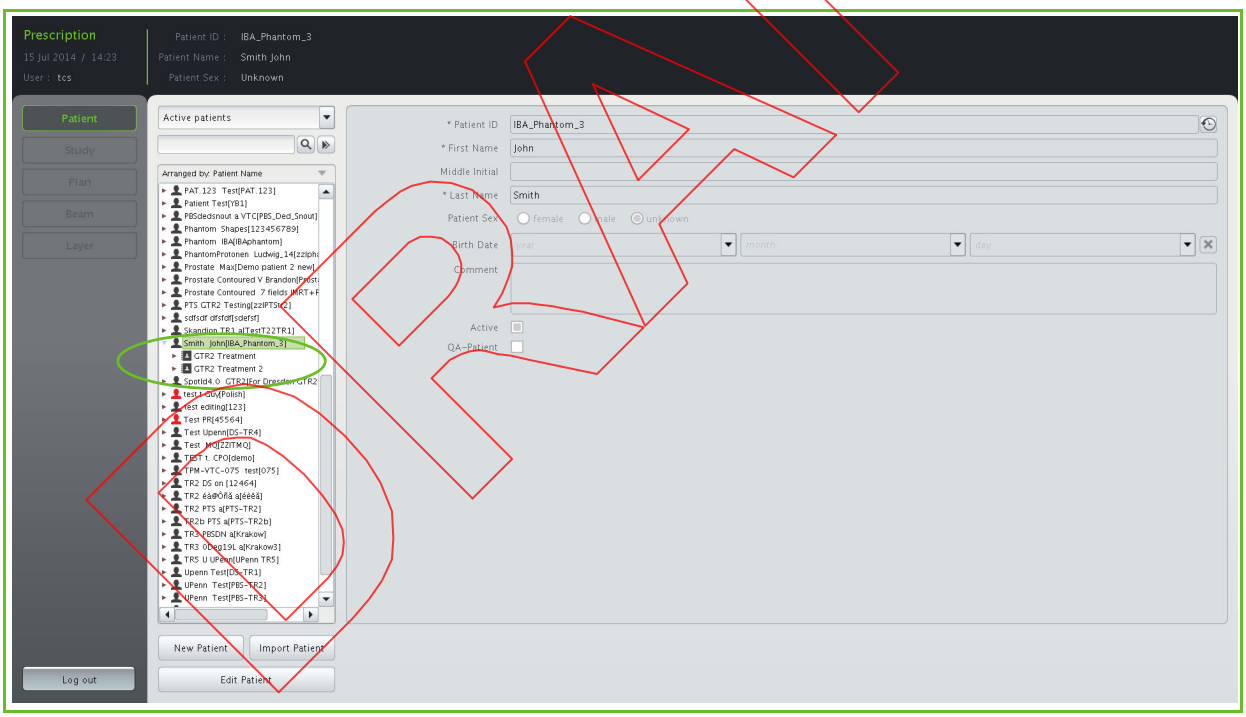

Figure 27-1. Study List

Searching for a Study

You can search for a study of a given patient, or among multiple patients, using the ADVANCED SEARCH PANEL (see Figure 26-3). For detailed information on how to perform an advanced search, refer to section "*Performing an Advanced Search*" on page 26-4.

The options for searching a study are:

- Active
- Inactive
- All

Enter your search option and click **Find** and the list of patients with a study corresponding to your selection criteria appears in the selection area.

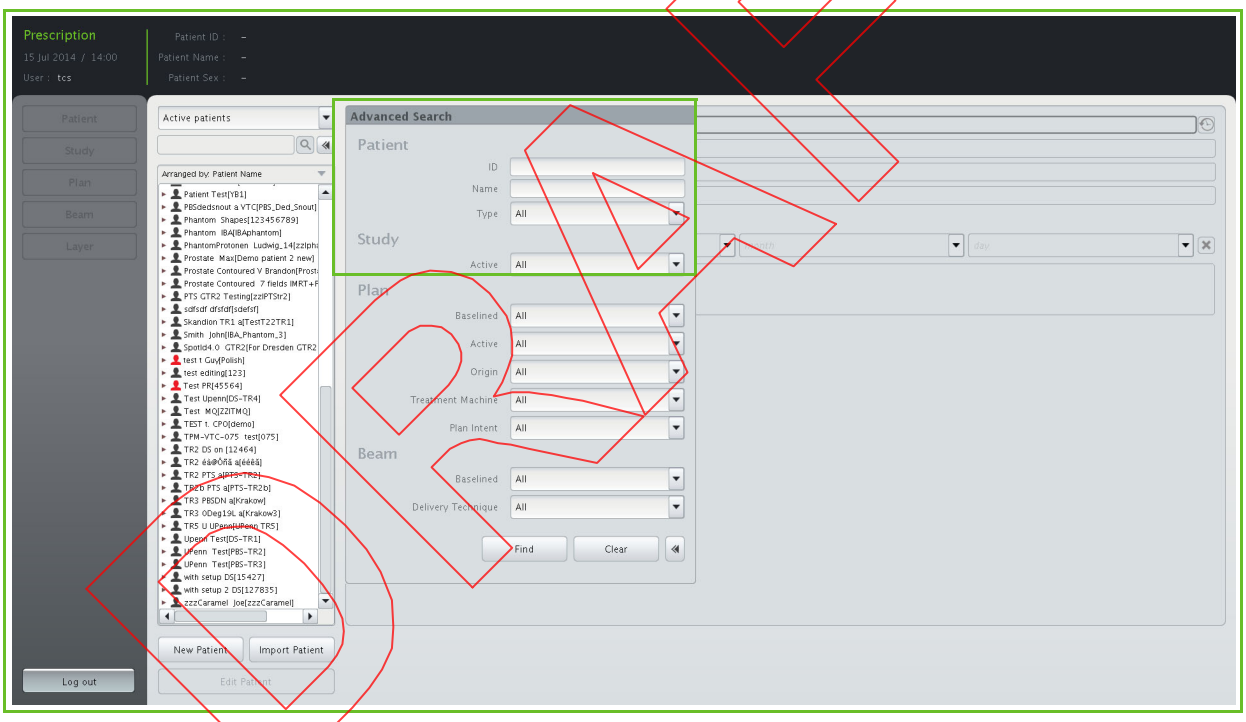

Figure 27-2. Study Search Results

Viewing a Study

To view a study, click that study from the selection area.

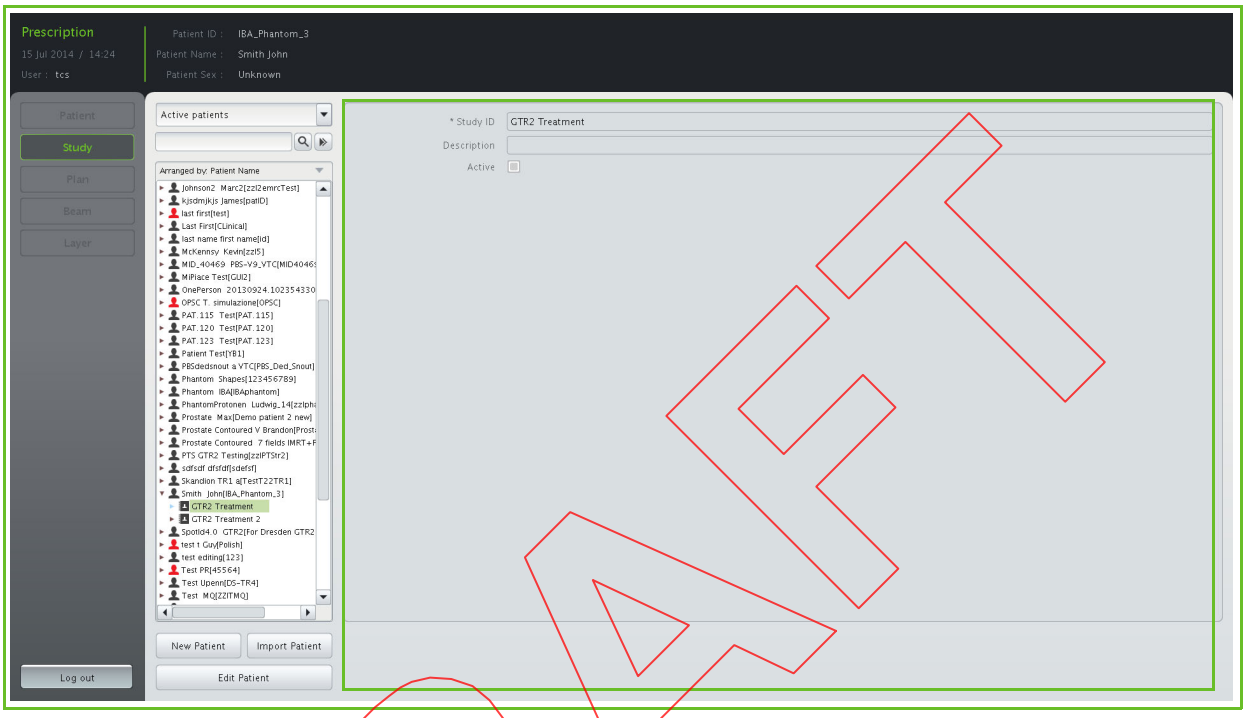

Figure 27-3. Study Panel

The fields on the STUDY PANEL are as follows:

- **Study ID**
- **Description**
- **Active**: an indication whether or not this study is activated for treatment. Any newly imported study is **Active**. For detailed information on how you can deactivate a study, refer to *section "Activating or Deactivating a Study" on page 27-3*.

Activating or Deactivating a Study

Any study that gets imported is by definition **Active**. Active studies are available for treatment. Studies may be deactivated because the treatment following that study has been discontinued. Deactivated (or 'Inactive') studies can still be accessed from adaPT*prescribe* as their data remains present in the PTS database, but you will no longer be able to select them for further treatment.

An inactive study can be activated again.

Deactivating a Study

To deactivate a study:

1. Click **Edit Patient**.
2. Click **Deactivate**.
3. Click **Editing Done**.

Activating a Study

To activate a study:

1. Click **Edit Patient**.
2. Click **Activate**.
3. Click **Editing Done**.

Note: *Activating an inactive study that belongs to an inactive patient automatically activates the patient as well.*

Chapter 28
Managing Plans

Click the ▶ arrow next to the desired study in the selection area and the list of plans of that study appears.

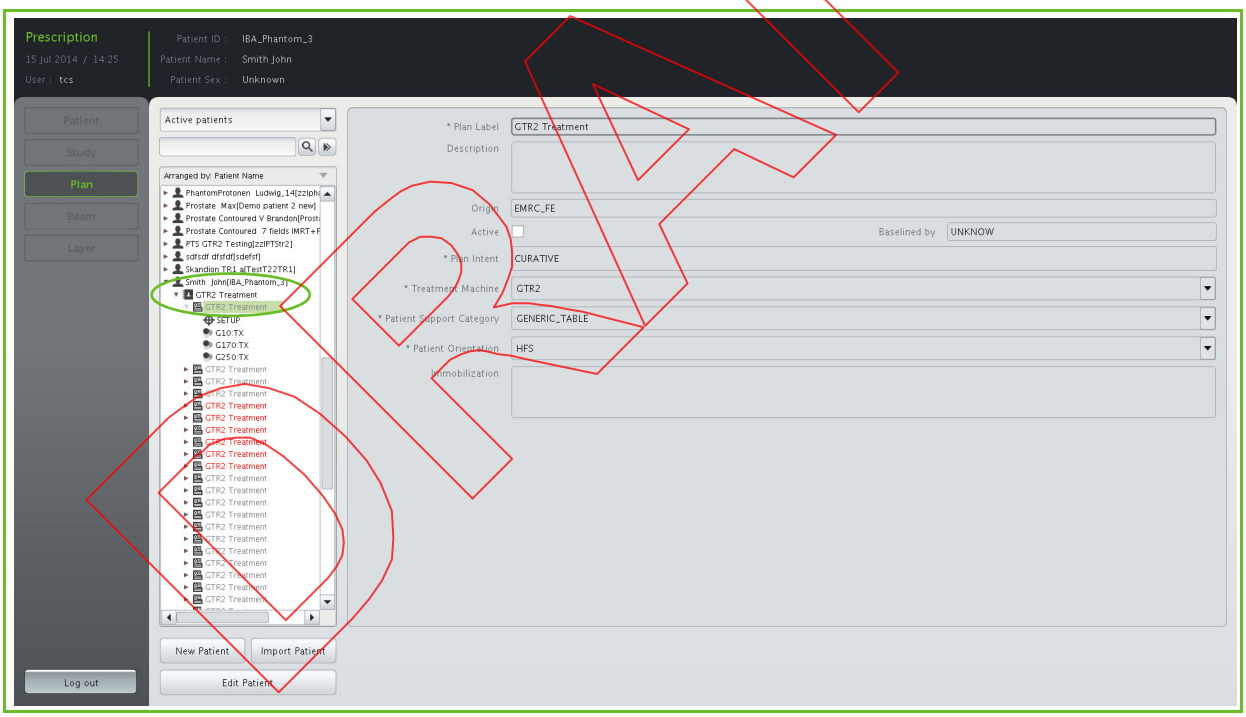

Figure 28-1. Plan List

Searching for a Plan

You can search for a plan, of a given patient or study, or among multiple patients and studies, using the ADVANCED SEARCH PANEL (see Figure 26-3). For detailed information on how to perform an advanced search, refer to section "*Performing an Advanced Search*" on page 26-4.

The options for searching a plan are:

- Baselined
- Active
- Origin:
  - Standalone
  - DEVC_FE
  - EMRC_FE
  - Batch_FE
  - All
- Treatment Machine: the list of TR IDs
- Plan Intent: this is an indication of the intended use of the plan. The options are:
  - Curative
  - Verification
  - Palliative
  - Prophylactic
  - Machine_QA
  - All

Enter your search option and click **Find** and the list of plans corresponding to your selection criteria appears in the selection area.

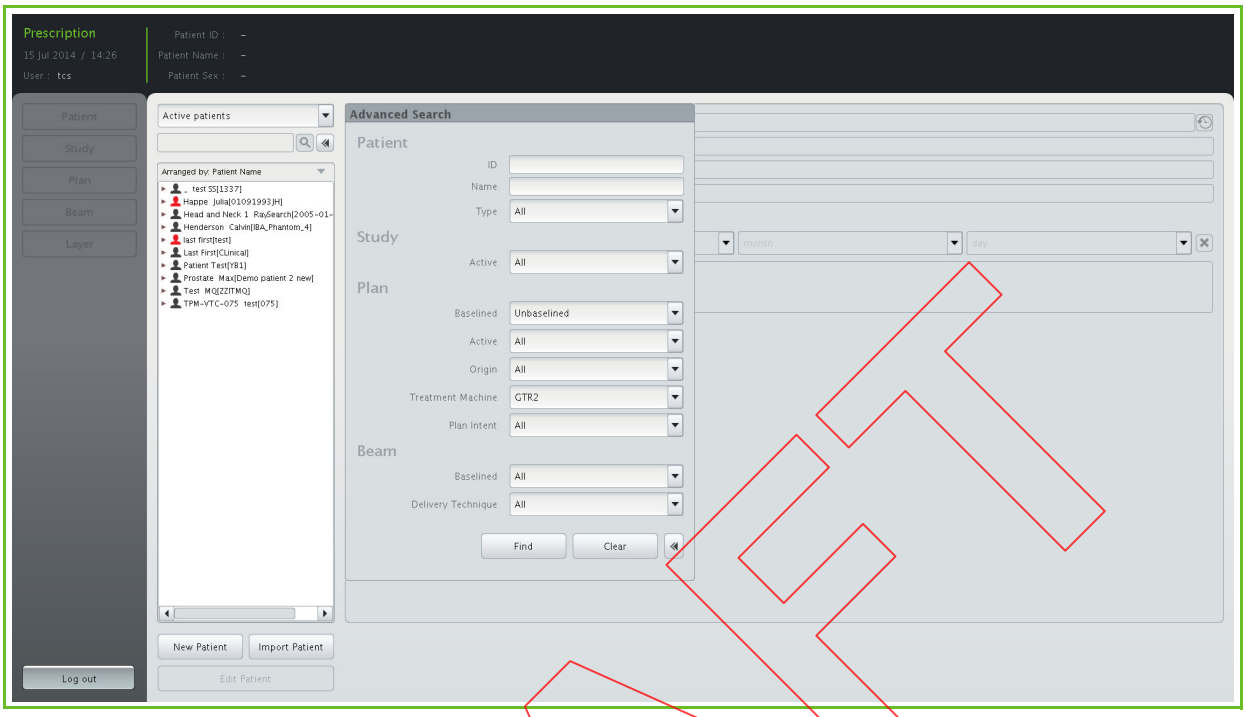

Figure 28-2. Plan Search Results

Viewing a Plan

To view a plan, click that plan from the selection area.

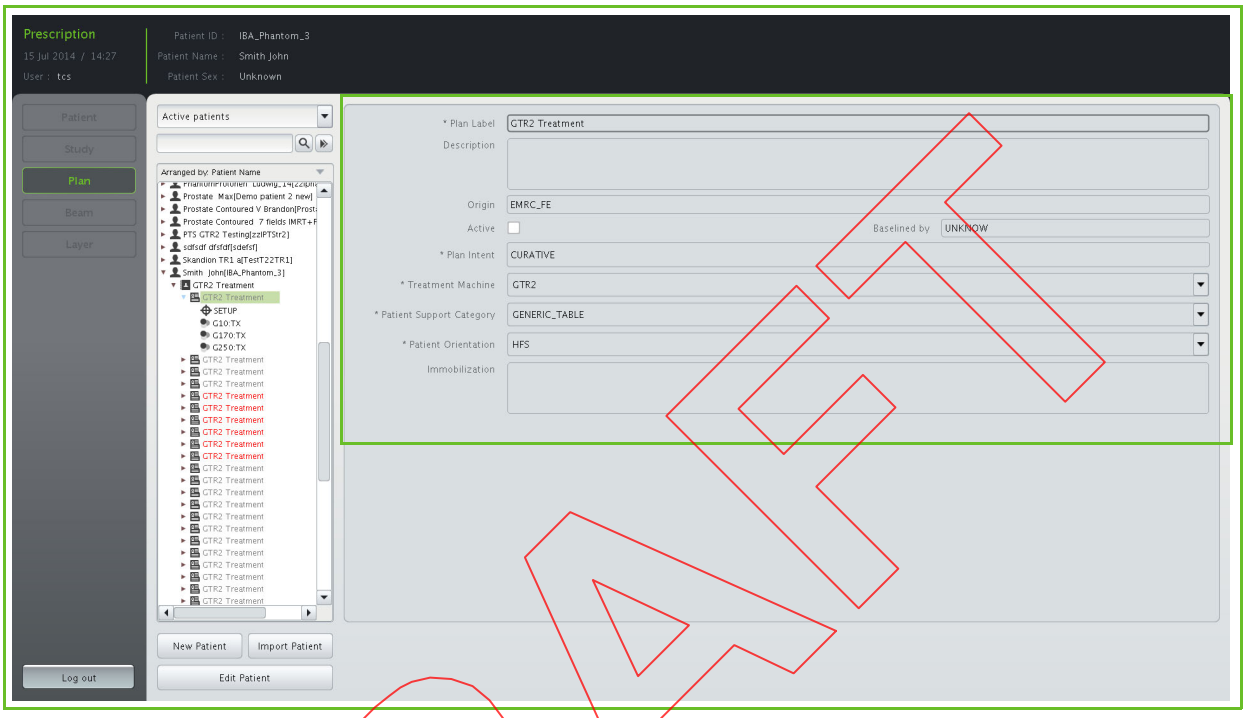

Figure 28-3. Plan Panel

The fields on the plan panel are as follows:

- **Plan Label**: the plan ID
- **Description**
- **Origin**
- **Active**: an indication whether or not this plan is activated for treatment. Any newly imported plan is **Active**. Plans imported through the OIS interface are automatically deactivated at the end of the OIS treatment session.

  Note: *Whenever a new plan is imported for an existing patient, and this patient already includes a plan with the same name as the new plan being imported, the old plan is set as Inactive while the newly imported plan is set as Active.*

  For detailed information on how you can deactivate a plan, refer to section *"Activating or Deactivating a Plan" on page 28-9*.
- **Baselined by**: the name of the user who baselined the plan.
- Plan Intent

- Treatment Machine
- Patient Support Category
- Patient Orientation
- Immobilization

Baselining a Plan

'*Baselining*' means giving approval for treatment.

Note: *A plan can only be baselined if all of its beams have been baselined before, including the Setup beam.*

A plan that is not baselined is identified by the ( ) icon.

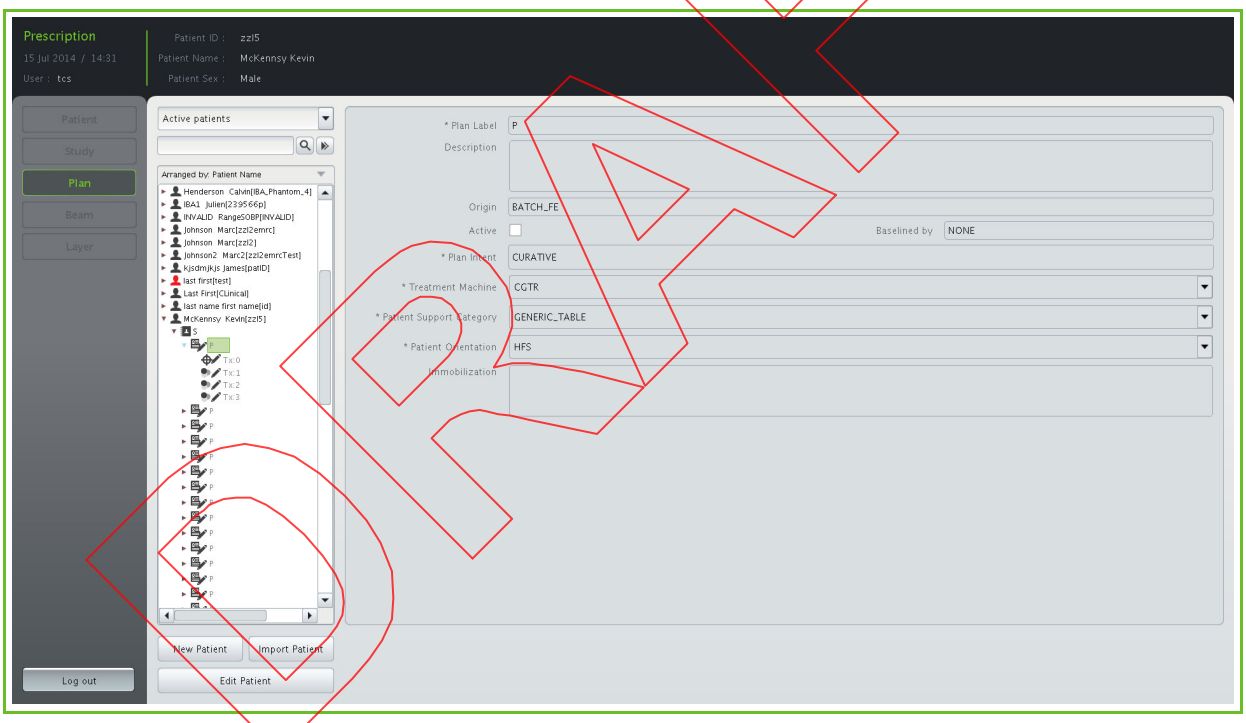

Figure 28-4. Unbaselined Plan

To baseline a plan:

1. Click **Edit Patient**.
2. Verify all plan data.
3. If the entire plan is OK, click **Baseline**.

4. If the plan contains more than one isocenter, the system will trigger a consistency check between the isocenters positions and the PPS positions. If there are inconsistencies (i.e. for at least one pair of isocenters, distance between PPS positions is different than distance between isocenters), the system displays a detailed message featuring the pair(s) of positions of the PPS and the isocenters that are inconsistent, for the user to decide whether to continue with the workflow or not.

   Two scenarios are possible:

   a. The system cannot perform the consistency check on a multiple isocenter plan because some beams contain pitch and roll PPS positions. A pop-up message prompts you for continuation.

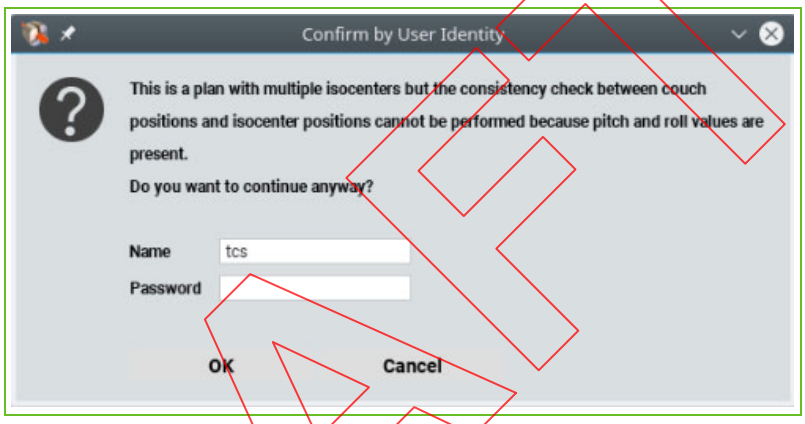

Figure 28-5. Consistency Check Pitch/Roll PPS Positions Pop-Up Message

Click **OK** if you want to proceed with your selection, else click **Cancel**.

WARNING

If pitch and roll positions are defined for all or some of the beams in a multiple isocenters plan, the system will not perform the consistency check of the Patient Positioning System (PPS) positions with respect to the different isocenters.

As a user, it is your responsibility to check that the PPS positions in the plan are correct ant to decide whether to continue with the workflow or not under these circumstances.

   b. There is a system message in case of failure of the check between inter-isocenter and inter-PPS positions, with an interface for override with credentials by an authorized user if the user decides to continue with the workflow.

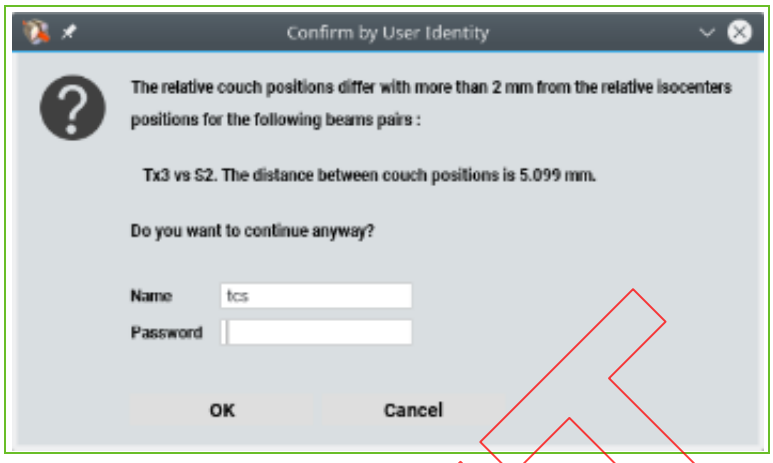

Figure 28-6. Couch Positions Check - Pop-Up Message

There is a configurable tolerance for the check (default value 2 mm), which can be modified by IBA following a user request.

Click **OK** if you want to proceed with your selection, else click **Cancel**.

There is a user right: ISOCENTER_CHECK_OVERRIDE to authorize users to continue with the workflow despite the consistency check finding an inconsistency.

For the configuration of the user rights in ada*PTprescribe*, refer to **Appendix B** "*Managing PTS Users*" on page B-1.

Confirming Baselining in PBS

Confirm the baseline action by entering your name and password.

Receiving the Baseline Notification

Once you have confirmed the baseline action by entering your name and password, as it is the case with beam baselining, you receive a notification that the baseline action has been performed successfully (see Figure 29-10).

You can only unbaseline a plan if none of the beams it contains has been irradiated. To unbaseline a plan, click **Unbaseline**.

Copying and Pasting a Plan

Both a baselined or an unbaselined plan can be copied and pasted to another study of the same patient or QA patient.

To be able to copy and paste a plan, click **Edit Patient** to enter editing mode.

The plan and its beam(s) are unbaselined after pasting.

You can edit the plan and/or its beam(s) after pasting

Copying a Plan

To copy a plan:

1. Right-click that plan. A pop-up menu appears.
2. Select **Copy**.

Pasting a Plan

To paste a plan:

1. Select the study where you want to paste the plan.
2. Click **Edit Patient** to enter edit mode.
3. Right-click the study. A pop-up menu appears.
4. Select **Paste**.

The message "`The plan has been successfully copied`" appears.

The copied plan appears with the name of the original plan, appended with "_copy". Optionally, you can rename this plan.

Activating or Deactivating a Plan

Any plan that gets imported is by definition **Active**. Active plans are available for treatment. Plans may be deactivated because the treatment following that plan has been discontinued. OIS prescriptions are always deactivated at the end of the OIS treatment session.

Deactivated (or 'Inactive') plans can still be accessed from adaPT*prescribe* as their data remains present in the PTS database, but you will no longer be able to select them for further treatment.

An inactive plan can be activated again.

Deactivating a Plan

To deactivate a plan:

1. Click **Edit Patient**.
2. Click **Deactivate**.
3. Click **Editing Done**.

Activating a Plan

To activate a plan:

1. Click **Edit Patient**.
2. Click **Activate**.
3. Click **Editing Done**.

Note: *Activating an inactive plan that belongs to an inactive study and/or patient automatically activates the study and/or patient as well.*

Intentionally left blank

Chapter 29
Managing Beams

Click the ▶ arrow next to the desired plan in the selection area and the list of beams of that plan appears.

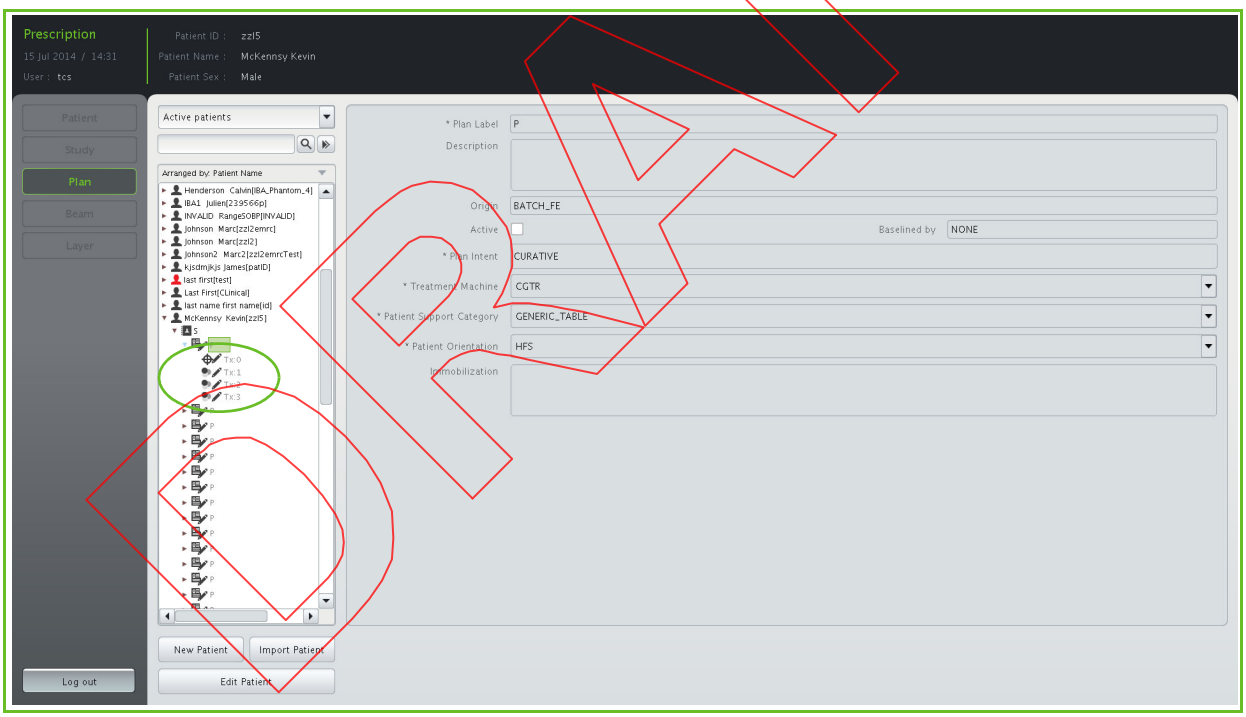

Figure 29-1. Beam List Screen

From the BEAM LIST SCREEN you can perform the following functions:

- **View a setup beam**: for detailed information, refer to section "*Viewing a Setup Beam*" on page 29-3.

- **View a treatment beam**: for detailed information, refer to section "*Viewing a Treatment Beam*" on page 29-5.
- **Copy and paste a beam**: for detailed information, refer to section "*Copying and Pasting a Treatment Beam*" on page 29-6.
- **Access layer details**: for detailed information, refer to section "*Accessing Layer Details*" on page 29-8.
- **View layer details**: for detailed information, refer to section "*Viewing Layer Details*" on page 29-8.
- **Baseline a setup or treatment beam**: for detailed information, refer to section "*Baselining a Beam*" on page 29-11.

Viewing a Setup Beam

To view a setup beam, click that beam in the list of beams. The SETUP BEAM DISPLAY SCREEN appears.

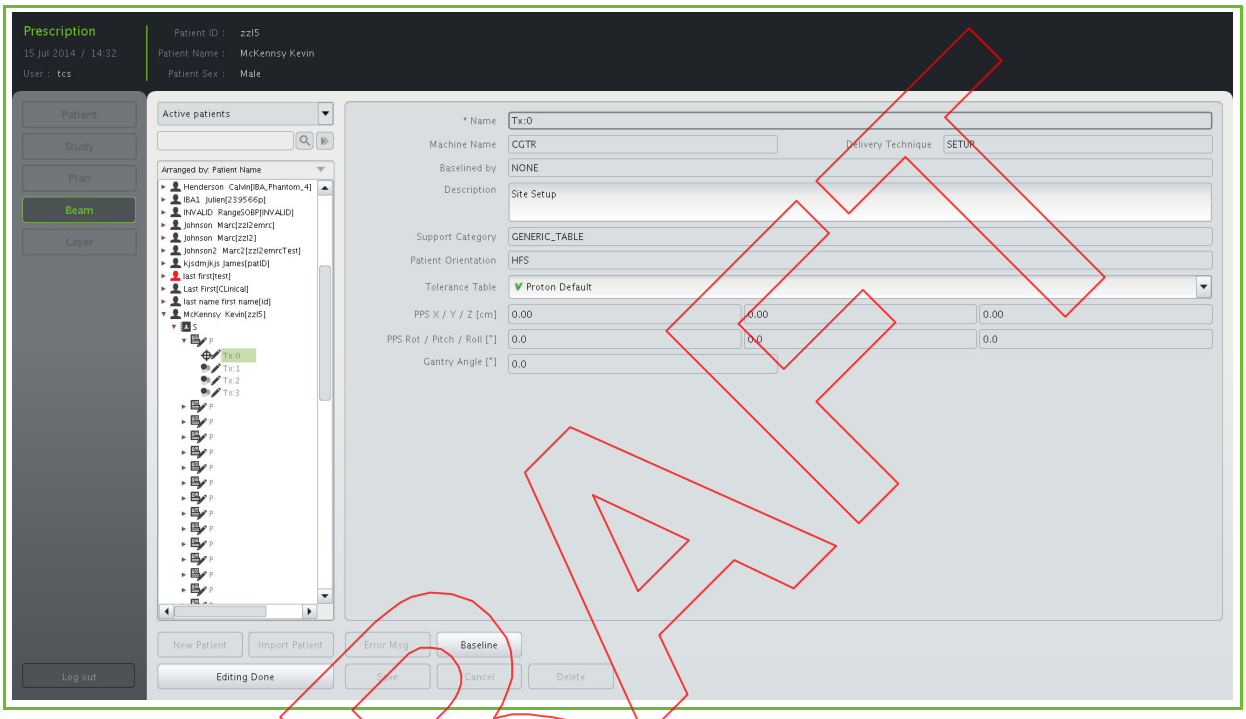

Figure 29-2. Setup Beam Display Screen

Apart from the beam description, which can always be edited, any imported **setup** beam can only be viewed. A setup beam provides positioning information only.

Note: *The 'Baselined by' field displays the name of the user who baselined the beam.*

If the tolerance table linked to the setup beam is not complete, or if there is no tolerance table associated to the beam, the user can select a tolerance table.

Note: *It is mandatory to select a tolerance table before being allowed to baseline.*

An external tolerance table is preceded by a green checkmark ( ); if the tolerance table is not preceded by such a checkmark, it is an internal tolerance table.

Viewing the Tolerance Table

To view the selected tolerances, hover the mouse pointer over the Tolerance table field. A pop-up appears with the complete details of that tolerance table.

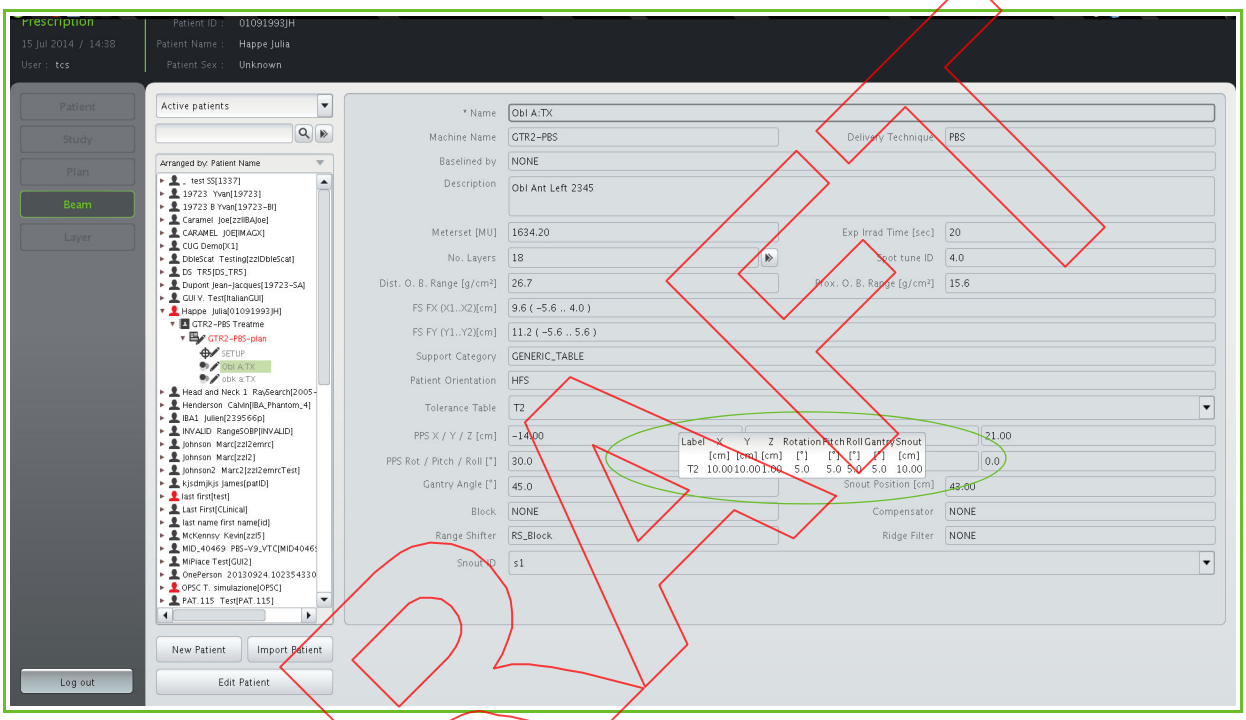

Figure 29-3. Tolerance Table Pop-up

Viewing a Treatment Beam

To view a treatment beam, click that beam in the list of beams. The TREATMENT BEAM DISPLAY SCREEN appears.

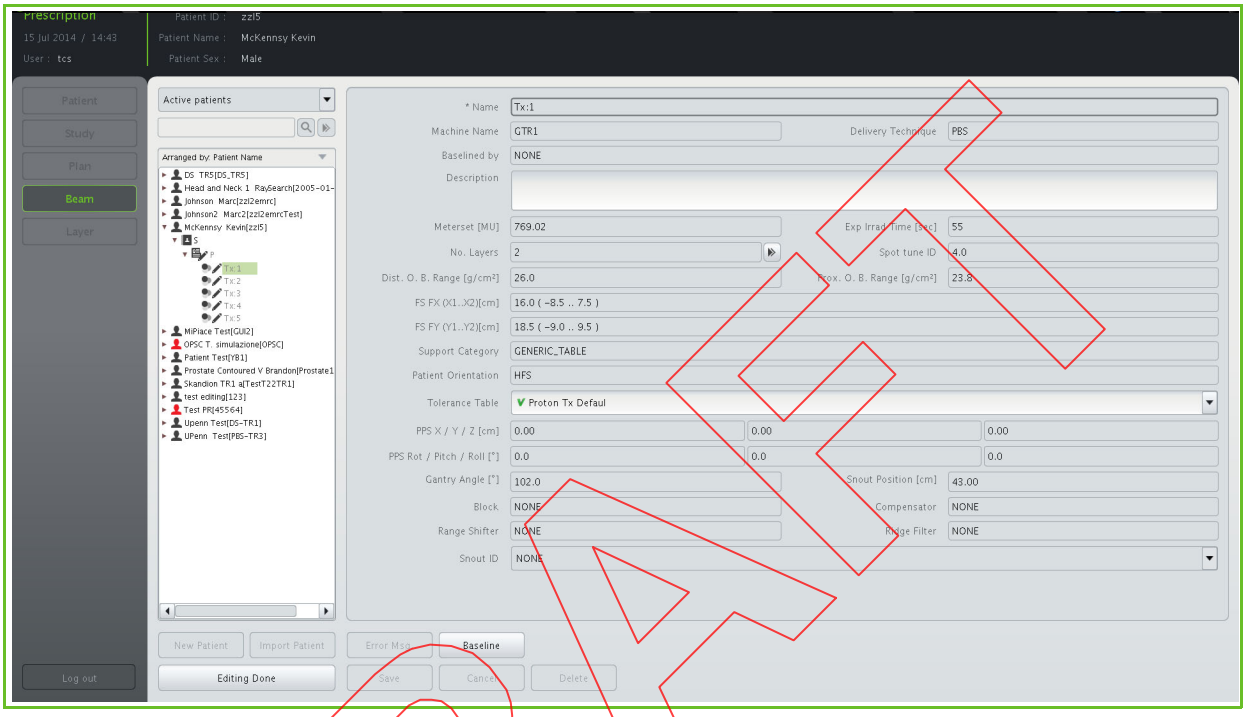

Figure 29-4. Treatment Beam Display Screen (Pencil Beam Scanning)

Some specifics:

- The **Delivery Technique** field displays the treatment mode.
- The **Baselined by** field displays the name of the user who baselined the beam.
- The **beam description** and the **tolerance table** associated to the beam can be edited, even for an imported **treatment** beam.
- The **Distal Open Beam range** and **Proximal Open Beam range** values are defined according to ICRU49 (International Commission on Radiation Units and Measurements - Report 49).
- An external **tolerance table** is preceded by a green checkmark (✔); if the tolerance table is not preceded by such a checkmark, it is an internal tolerance table.

Copying and Pasting a Treatment Beam

The copy and paste conditions of a treatment beam depend on the **intent** of the plan to which the origin beam belongs, as follows:

- Copy a beam from a **clinical** plan and paste it into:
  - A plan of the **same patient**; this plan:
    - must be non-baselined
    - must have the same treatment machine, patient orientation and patient support category as the plan of origin.
  - A plan of a **QA-patient**; this plan:
    - must be internal
    - must be non-baselined
    - must have the same patient orientation and patient support category as the plan of origin
    - can have another TR
- Copy a beam from a **verification** plan and paste it into:
  - A plan of the **same patient**; this plan:
    - must be a verification plan
    - must be non-baselined
    - must have the same treatment machine, patient orientation and patient support category as the plan of origin.
  - A plan of a **QA-patient**; this plan:
    - must be internal
    - must be non-baselined
    - must have the same patient orientation and patient support category as the plan of origin
    - can have another TR

- Copy a beam from a **Machine_QA** plan and paste it into:
  - A plan of a **QA-patient**; this plan:
    - must be internal
    - must be non-baselined
    - must have the same patient orientation and patient support category as the plan of origin
    - can have another TR

After pasting:

- the beam is unbaselined
- the beam can be edited

Copying a Beam

To copy a beam:

1. Right-click that beam. A pop-up menu appears.
2. Select **Copy**.

Pasting a Beam

To paste a beam:

1. Select the plan where you want to paste the beam.
2. Click **Edit Patient** to enter edit mode.
1. Right-click the plan. A pop-up menu appears.
2. Select **Paste**.

The message "`The beam has been successfully copied`" appears.

The copied beam appears with the name of the original beam, appended with "_copy". Optionally, you can rename this beam.

Saving a PBS Beam

When saving a PBS beam after editing and the requested amount of Monitor Units (MU) per spot exceeds the configured clinical range for the maximum dose, adaPT*prescribe* notifies you that a confirmation will be requested at the time of baselining and treatment.

The clinical range is configured using adaPT*prescribe* in **Administration** mode (refer to section "*Managing MU Clinical Ranges*" on page C-5).

Accessing Layer Details

Note: *Layer details are specific to the Pencil Beam Scanning and Uniform Scanning treatment modes.*

To access layer details, click the button next to the No. Layers field. The LAYER LIST SCREEN appears.

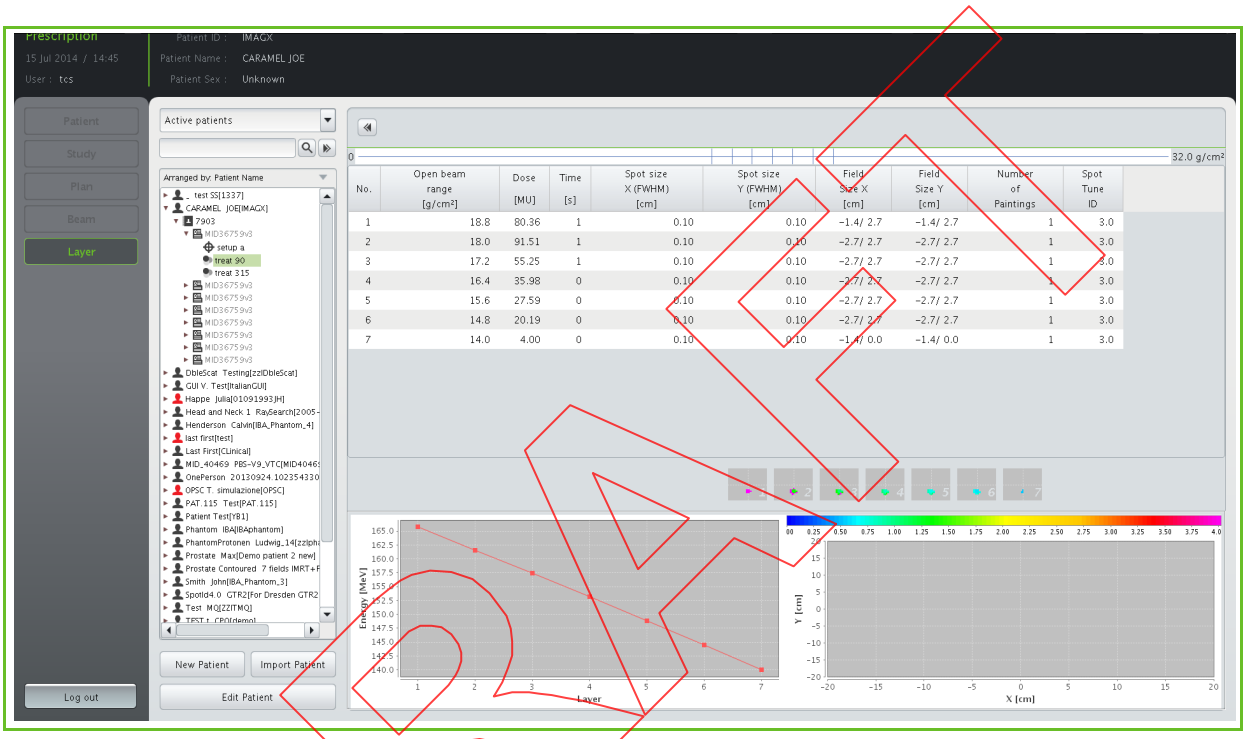

Figure 29-5. Layer List Screen

Viewing Layer Details

Click any of the listed layers and a visual representation of that layer appears in the spot map.

Note: *You can also click the desired layer from the range scale.*

In addition, the position of the layer in the entire beam is represented by the thick vertical green bar in the range scale. The most distal layer is positioned at the right.

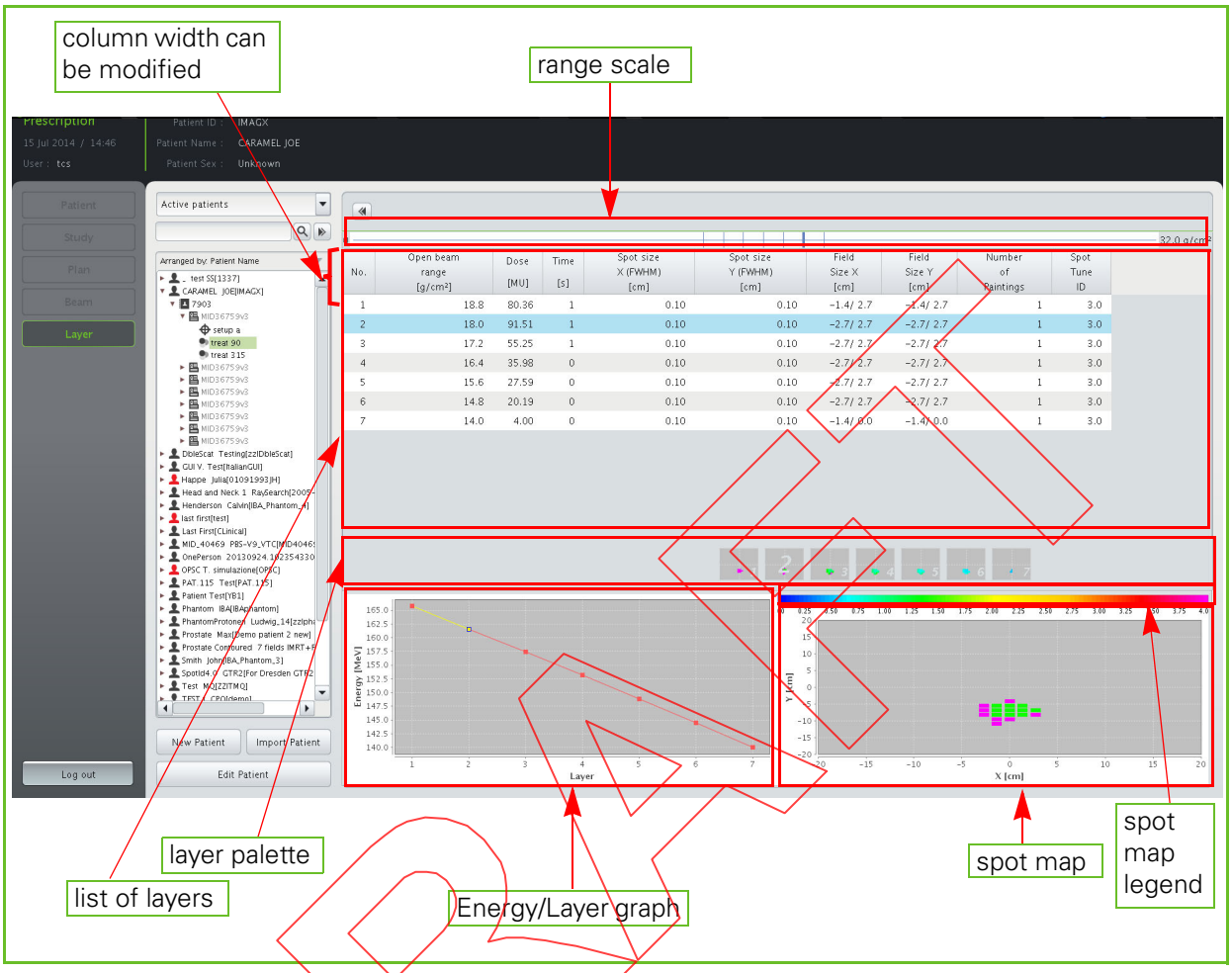

Figure 29-6: Layer Details Screen

The Layer Details panel contains the following elements:

- **Range scale**: this is a graphic representation of the listed layers. Layers are possible in the 0 to 32 g/cm^2 range.

  Note: *If a value of 0 g/cm^2 is desired, a range shifter must be used.*

- **List of all layers**: this is the list of all layers, from the most distal layer (#1) till the most proximal layer (e.g., in the sample illustrated by Figure 29-6: #7).

  For each layer, the following information is listed:

  - Range (g/cm^2) [1]

1. The Distal range and Proximal range values are defined according to ICRU49 (International Commission on Radiation Units and Measurements - Report 49).

- Dose (MU): in addition to the value of the dose, a graphic representation is also given in the form of a colored bar.
- Time (s)
- Spot Size X (FWHM) (cm): this is a parameter that defines the width of the Gaussian distribution of the beam along the X-axis, at Full Width at Half Maximum.
- Spot Size Y (FWHM) (cm): this is a parameter that defines the width of the Gaussian distribution of the beam along the Y-axis, at Full Width at Half Maximum.

  Note: *The Spot Size X and Spot Size Y fields remain empty if the TPS does not communicate the correct values.*

- Field Size X (cm)
- Field Size Y (cm)
- Number of paintings: for detailed information, refer to section "*Repainting Modes*" on page 20-5.

- **Layer palette**: a visual representation of all layers, in sequential order. Each layer is identified by its sequence number; the layer also displays a miniature version of the spot map.

  The sequence number of the current layer is enlarged (layer 2 in Figure 29-6).

- **Energy/Layer graph**: this graph illustrates the energy of the particles of each layer.

  The sequence number of the current layer is represented by a white square (layer 2 in Figure 29-6).

- **Spot map**: a visual representation of the selected layer, along with the dose and the spot map legend.

Some characteristics of the layer list panel:

- You can modify the width of the columns in the panel, if desired.
- If a column is not wide enough to display all data, four dots appear to indicate that more precise data is available. Extend the width of the column to view the complete data.