DICOM Patient Import

In order to begin planning in the decimal ElectronRT App you must first have patient imaging captured and structure geometries defined. This information is brought in the ElectronRT App by importing DICOM CT and Structure Set files.

Note: DICOM patient import will be disabled until the organization configuration has been completed.

Default Import Directory

The default import directory can be set in the app settings by navigating to View → Settings. This directory will always be the default directory when importing a patient. Users can then further refine the import folder as needed starting from this default level.

Importing a New Patient

Local File Import

If you have a set of Ct Images and structures you can import them directly into a new patient through the “Import Patients” menu.

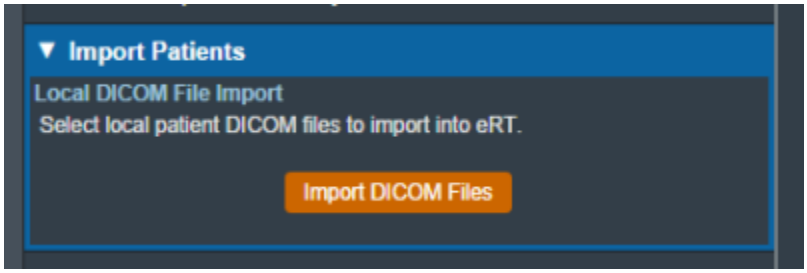

Fig. 1: Import in the Main App Page

Selecting the “Import New Patient” option will open the Importing UI.

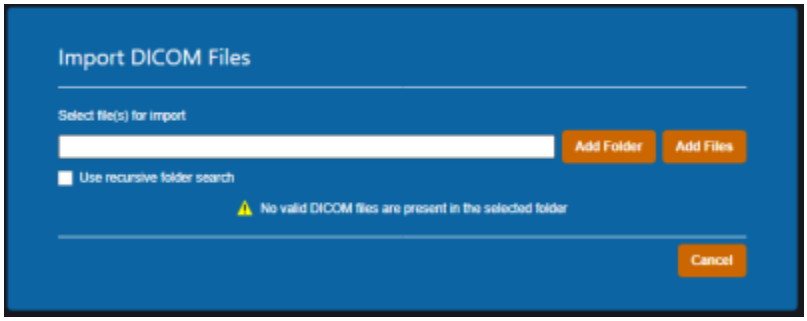

Fig. 2: Import Directory Input

Here you may either browse your computer or copy the path to the folder that contains the CT images and structures you wish to import. Fix Me!: 0.0.3 Add in new DICOM browser options. Refer to the Processing Imports section once files have been selected to import.

DICOM Receiver Imports

Users can install and configure the ElectronRT DICOM Receiver to receive and save patients for seamless importing into the ElectronRT application.

Users can then specify a DICOM Monitoring Directory within the Site Configuration's DICOM Settings block that corresponds to the `storage_location` field set for the ElectronRT DICOM Receiver. Once the receiver and monitoring directory have been setup and configured, and DICOM patients sent to the ElectronRT DICOM Receiver will automatically show up within the Import Patients display as shown in figure 3.

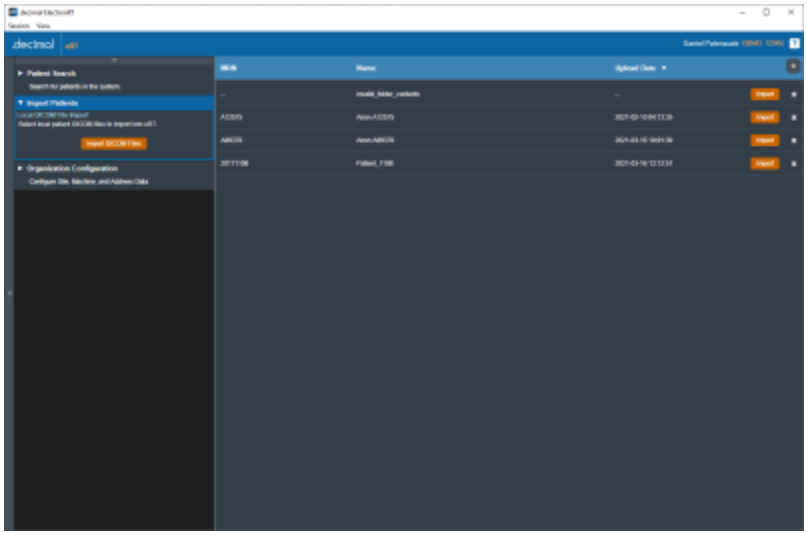

Fig. 3: DICOM Receiver Patients

Each patient received from the ElectronRT DICOM Receiver can be imported or removed from within the eRT Import Patient block.

Refer to the Processing Imports section once a patient has been selected to import.

Processing Imports

Then the import will process:

Fig. 4: Import Loading screen

If there are no Errors while importing you will be taken to a confirmation page for your import.

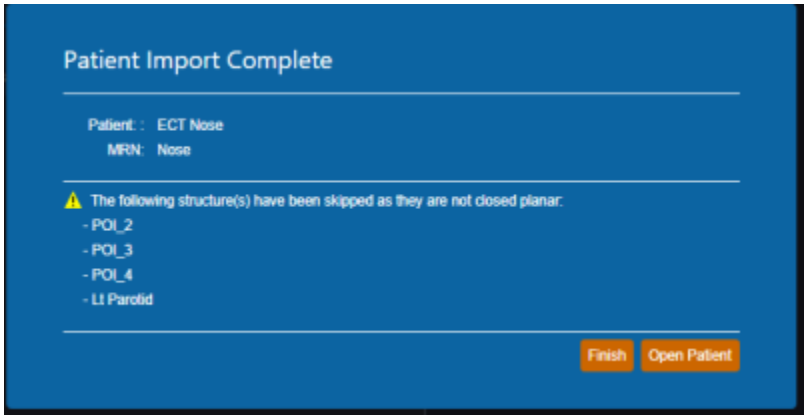

Fig. 5: Import Finalized

If there are errors please refer to the Common Errors section below.

Common Errors

Missing/Undefined External Structure

If the imported DICOM Structure Set does not have a structure flagged as *RT ROI Interpreted Type (3006,00A4) EXTERNAL* you will be directed to specify the external patient structure before the import resumes. The patient external structure must be set to the defining boundary of the patient's outer surface, and not a rind skin structure.

Note: You will be warned if the selected external structure is not the structure with the largest volume. This is to prevent incorrect structure selection. For example, when a 'External' and 'Skin' structure both exist, and the 'Skin' structure is a rind, if the user selects the 'Skin' structure, the warning will state the

'External' structure has a larger volume, since that's the correct representation of the patient structure needed for the ElectronRT App.

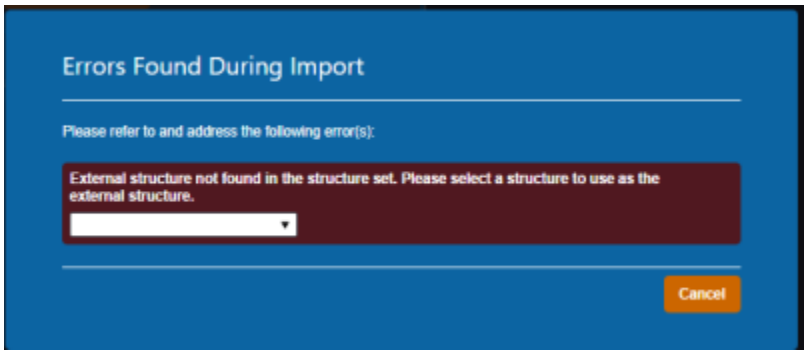

Fig. 6: Missing External Error

The drop down menu will have a list of the structures in the imported set. You will be able to select one as the external for this course then confirm your choice by pressing “Set External”.

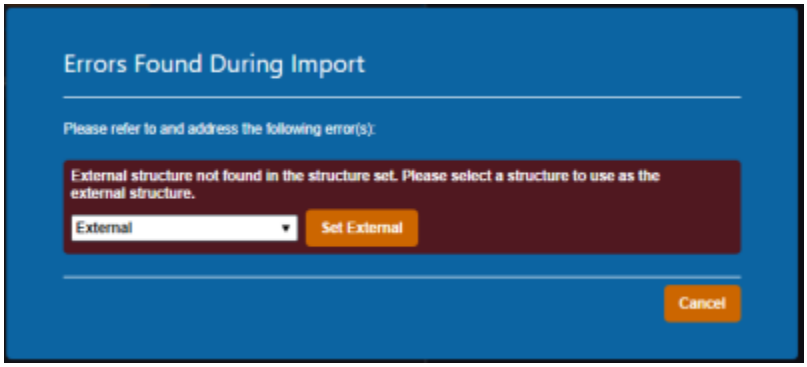

Fig. 7: Set External Dialog

Structures Skipped During Import

Structures can be skipped during Structure Set import if the structures meet the following criteria:

- Non closed planar (e.g.: points or structures where slices are not fully closed)

Structures that are skipped will be denoted at the end of the DICOM import as shown in figure 8.

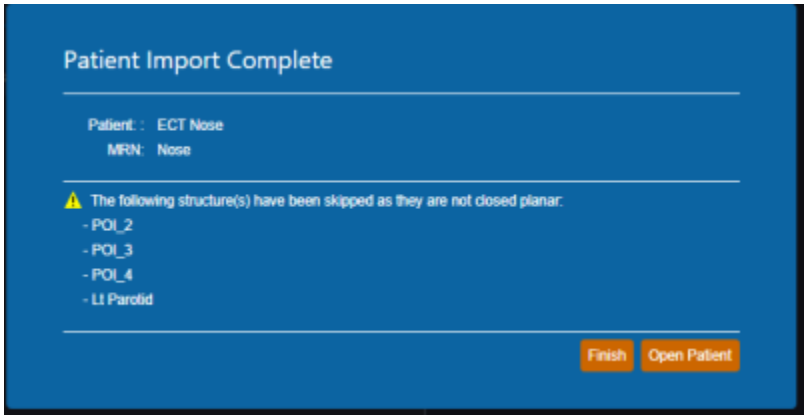

Fig. 8: Import Finalized

Importing an Existing Patient

If the files you have selected to import coincide with the MRN of a patient that already exists in the app you will receive this error.

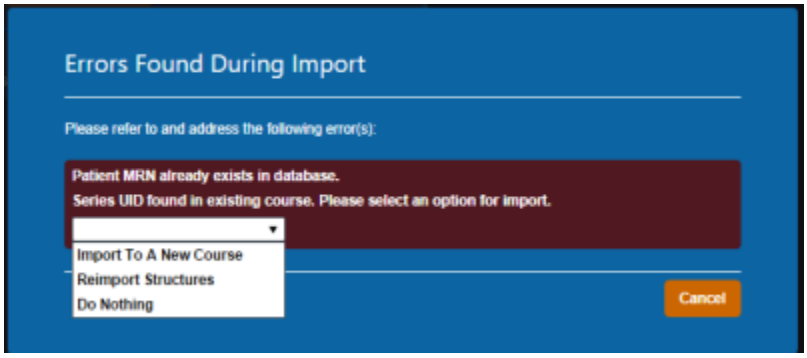

Fig. 9: Existing Patient Error

You have three options provided to resolve the error:

- **Import to a New Course**
- **Re-Import Structures**
- **Do Nothing**

Import to a New Course

Importing to a new course will simply complete the import with the app creating a new course for this patient using the new imported files (note this option will not affect any existing courses or plans for the patient).

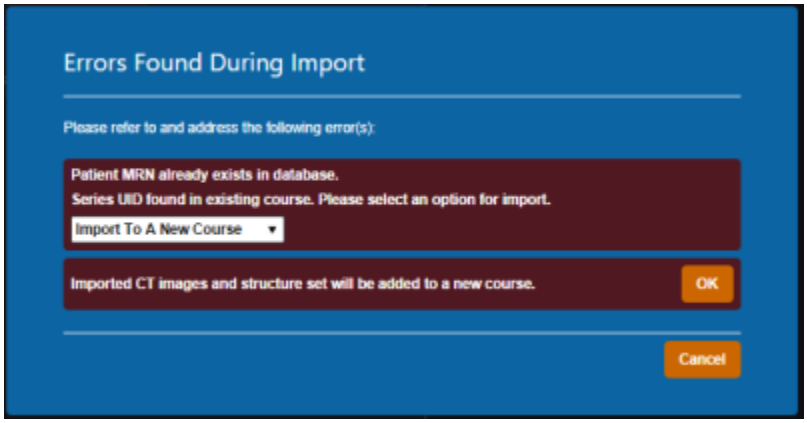

Fig. 10: Importing as a New Course

Re-import Structures

Re-Importing structures can be used if your goal is to update or add structures to an existing patient Course.

Fig. 11: Re-Import Structures

After selecting this option, you will be presented with a list of the structures in the import.

For each you may select one of three options:

- **Do not Re-import**: Skips this structure for the re import.
- **Replace existing geometry**: Replaces the existing structure in the current Course with the imported one.
- **Import as new structure**: Imports the structure to the Course as a new structure while not affecting the existing one and allows the user to specify a new name for the new structure. If the structure does not exist currently it creates it as normal.

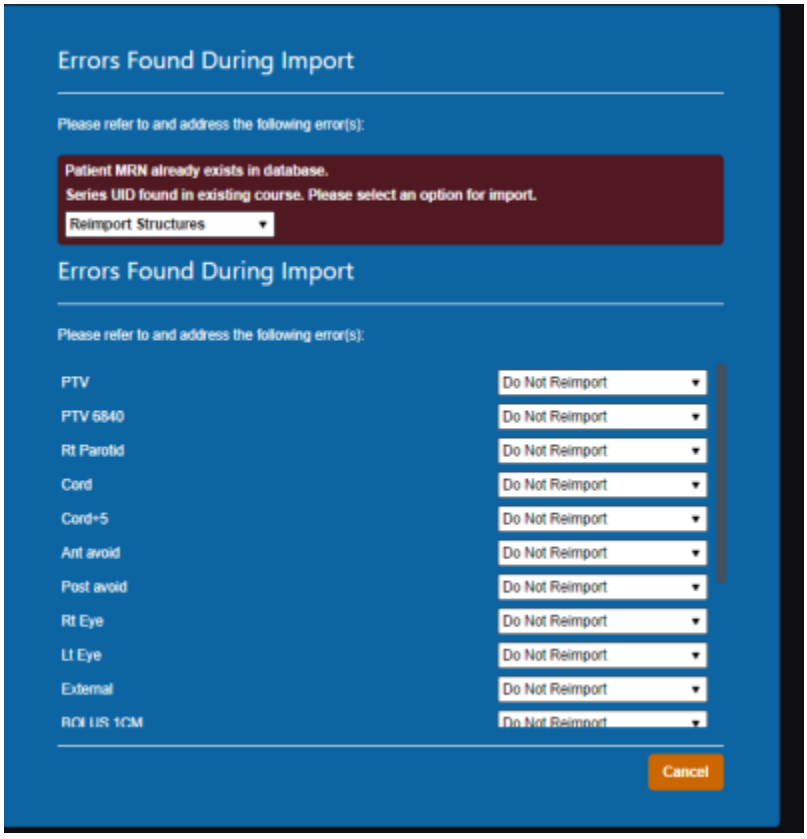

Fig. 12: Re-Importing Structure List

Once you have made your decision for each structure you must select “Re-Import Structures” to finalize your changes.

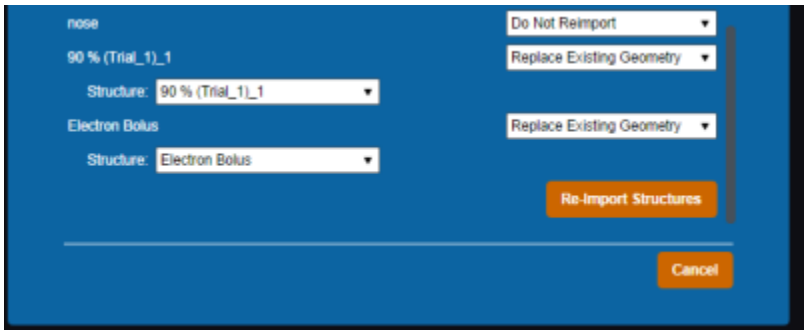

Fig. 13: Finalize Re-Import

Do Nothing

This is the simplest action, selecting “Do Nothing” will cancel your import and return you to the main menu.

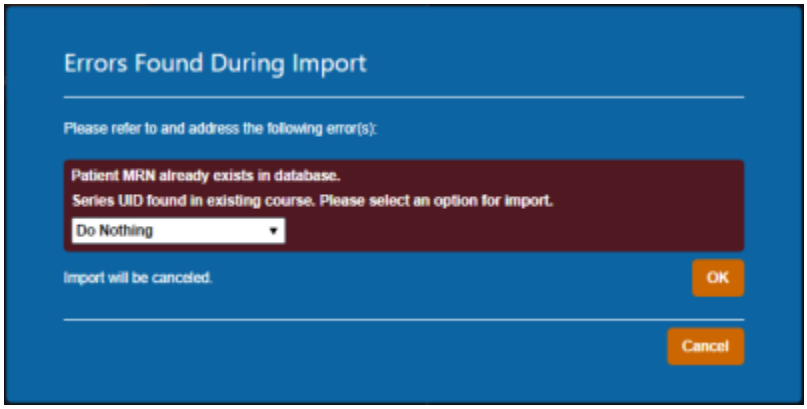

Fig. 14: Do Nothing