# **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.

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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  $\rightarrow$  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

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.

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.

Patient : ECT Nose		
MRN: Nose		
-POL2 -POL3 -POL4		
- LI Parolid		

## 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".

Please refer to and	ddress the following error(s):		
External structure external structure	not found in the structure set. Plea:	e select a structure to t	use as the
External	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.

Patient : ECT Nose				
MRN: Nose				
A The following structure	/s) have been skinned	as they are not close	ad planar	
- POL 2	(s) nave been skipped	as they are not dose	eu planar.	
- POL 3				
- POL4				
- Lt Parolid				

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.

Errors Found During Import	
lease refer to and address th	le following error(s):
Patient MRN already exists	in database.
unsen men un couj carata	
	g course. Please select an option for import.
Series UID found in existing	

### 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 but instead of affecting existing courses or plans for the patient the app will create a new course for this patient using the new import.

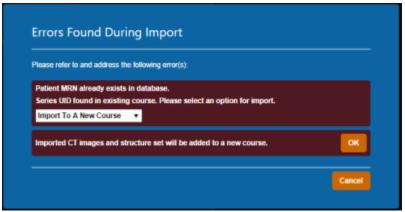


Fig. 10: Importing as a New Course

### **Re-import Structures**

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

Please refer to and address	the following error(s):	
Patient MRN already exist Series UID found in exist Reimport Structures	ts in database. ng course. Please select an option for ir v	nport.
Errors Found Du	ring Import	
Please refer to and address	the following error(s):	
Structures will be re-importe	d into the existing course.	OK

#### 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.

Please refer to and address the following error(s): Patient MRN already exists in database. Series UID found in existing course. Please select an option for import. Reimport Structures  Frors Found During Import					
			lease refer to and address the following error(s):		
			ντν	Do Not Reimport	•
PTV 6840	Do Not Reimport	•			
Rt Parotid	Do Not Reimport	•			
Cord	Do Not Reimport	•			
Cord+5	Do Not Reimport	•			
Ant avoid	Do Not Reimport	•			
Post avoid	Do Not Reimport	•			
Rt Eye	Do Not Reimport	•			
t Eye	Do Not Reimport	•			
External	Do Not Reimport	•			
IOLUS 1CM	Do Not Reimport				

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.

nose	Do Not Reimport 🔹
90 % (Trial_1)_1	Replace Existing Geometry 🔹
Structure: 90 % (Trial_1)_1	•
Electron Bolus	Replace Existing Geometry •
Structure: Electron Bolus	•
	Re-Import Structures
	Cancel

Fig. 13: Finalize Re-Import

## **Do Nothing**

This is the simplest action, selecting to do nothing will cancel your import and return you to the main menu.



### Fig. 14: Do Nothing

From: https://apps.dotdecimal.com/ - **decimal App Documentation** 

Permanent link: https://apps.dotdecimal.com/doku.php?id=electronrt:userguide:tutorials:dicom\_import&rev=1607093537

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