

Stella 1.0 User Manual

October 19, 2022

Create a New Teaching File from Sectra PACS, or Launch Stella to see Existing Cases

1. Select study in Sectra PACS
2. Hit the STELLA button

Date and time	Name	Medical record...	Accession number	Description
6/1/2022, 4:25 PM	Stella, Demo052	STELLA052	19775998	MR BREAST W AND WO IV CONTR
5/31/2022, 12:44 PM	Stella, Demo053	STELLA053	19930040	CT ABDOMEN PELVIS W IV CONTR
5/31/2022, 2:01 PM	Stella, Demo054	STELLA054	19928810	NM HEPATOBIILIARY
5/1/2022, 11:36 PM	Stella, Demo055	STELLA055	19931727	XR HUMERUS 2 VIEWS LEFT
5/3/2022, 12:00 PM	Stella, Demo056	STELLA056	19927019	XR CHEST 1 VIEW
5/27/2022, 11:40 AM	Stella, Demo057	STELLA057	19825555	MR KNEE WO IV CONTRAST LEFT
5/25/2022, 1:54 PM	Stella, Demo058	STELLA058	19905796	US THYROID

To begin a teaching file, highlight the exam in Sectra and hit the STELLA button. This will launch STELLA in a new window on the *Edge* browser. Single sign-on will authenticate you as the STELLA case author. A logon will be created if you don't already have one. If a case was previously saved as a TF, you will be taken directly to the case in the Stella **Display** page.

This pop-up appears and asks for required minimum information

To create a robust, searchable resource, STELLA requires recording of "Core" or basic anatomy, findings and/or diagnosis, and radiology specialty. Notice that the checkmarks are red, indicating that these fields are required. If a term is missing, you can use "unlisted" and type in more information when editing the file later.

Create STELLA Teaching File

▼ Anatomy Core: ✓

Knee ✕

▼ Radiology Specialty: ✓

Musculoskeletal Radiology ✕

▼ Findings And Diagnosis: ✓

Anterior Cruciate Ligament Tear ✕

Fill in the text fields here
Use "unlisted" if needed for diagnosis

Please Select Up To 4 Series To Display:

Unnamed Study

☒ Sag PD FS ACL

☒ SAG T2 FS

☐ AX PD FS

☒ COR T1

☒ COR PD FS

☐ SAG PD

☐ LOC L

☐ LOC L

Studies with more than 4 series will
show the series list and you can
choose up to 4 "significant series"

1

Save Teaching File

2


Save Teaching File & Display

3

Discard

At least one term needs to be entered for each of the required fields. You will be able to add more terms later. The checkmark icons turn green, validating the term. You then have three basic options about the case: **(1) Save Teaching File** will save the TF without image display. Selecting significant series is optional for this choice. You will be taken to the **Search** page; **(2) Save Teaching File & Display** requires selection of up to 4 significant series, and once done, will save the TF and open the case in the **Display** page; **(3) Discard** will ignore the case and you can go back to PACS, PowerScribe, or any other application.

The Display Page - Image Viewing, Case Organization, and Annotation



The **Display** window shows up to four image viewports and enables image manipulation and annotation

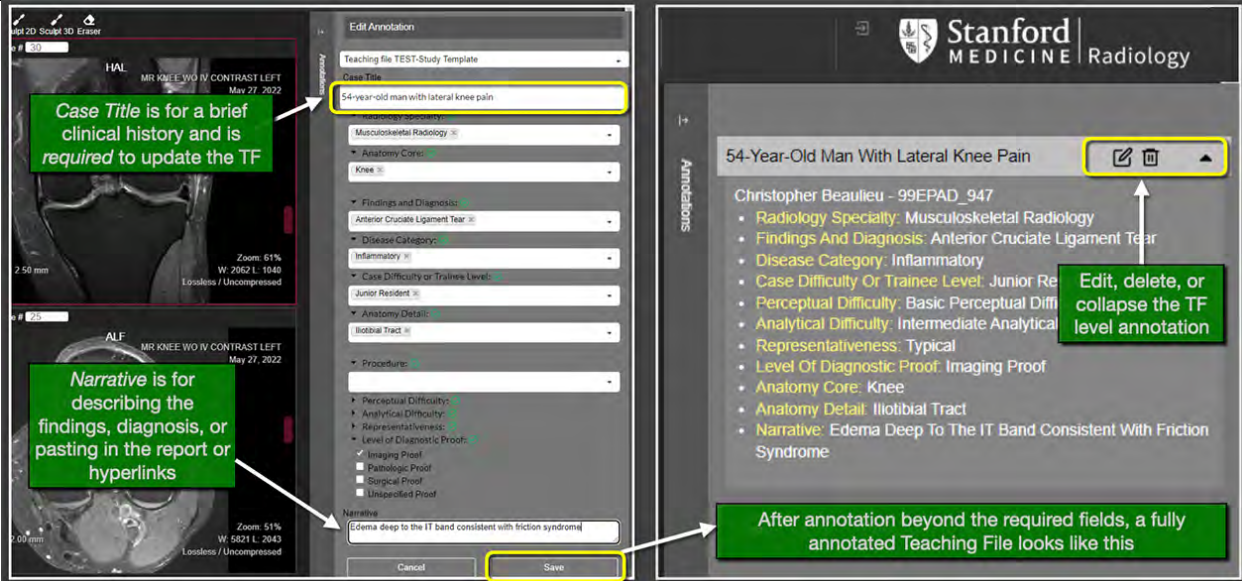
This is the **Projects** drawer which can be open or closed

open or close drawer

This is the **Annotation** drawer which can be open or closed

The **Display** Page shows up to four image viewports. Workflow related to organization of cases is on the left in the *Projects* drawer (more later) and on the right in the *Annotation* drawer (more later). The drawers can be open or closed (yellow boxes).

Editing the Main Teaching File



Case Title is for a brief clinical history and is required to update the TF

Narrative is for describing the findings, diagnosis, or pasting in the report or hyperlinks

Edit, delete, or collapse the TF level annotation

After annotation beyond the required fields, a fully annotated Teaching File looks like this

Annotations

54-Year-Old Man With Lateral Knee Pain

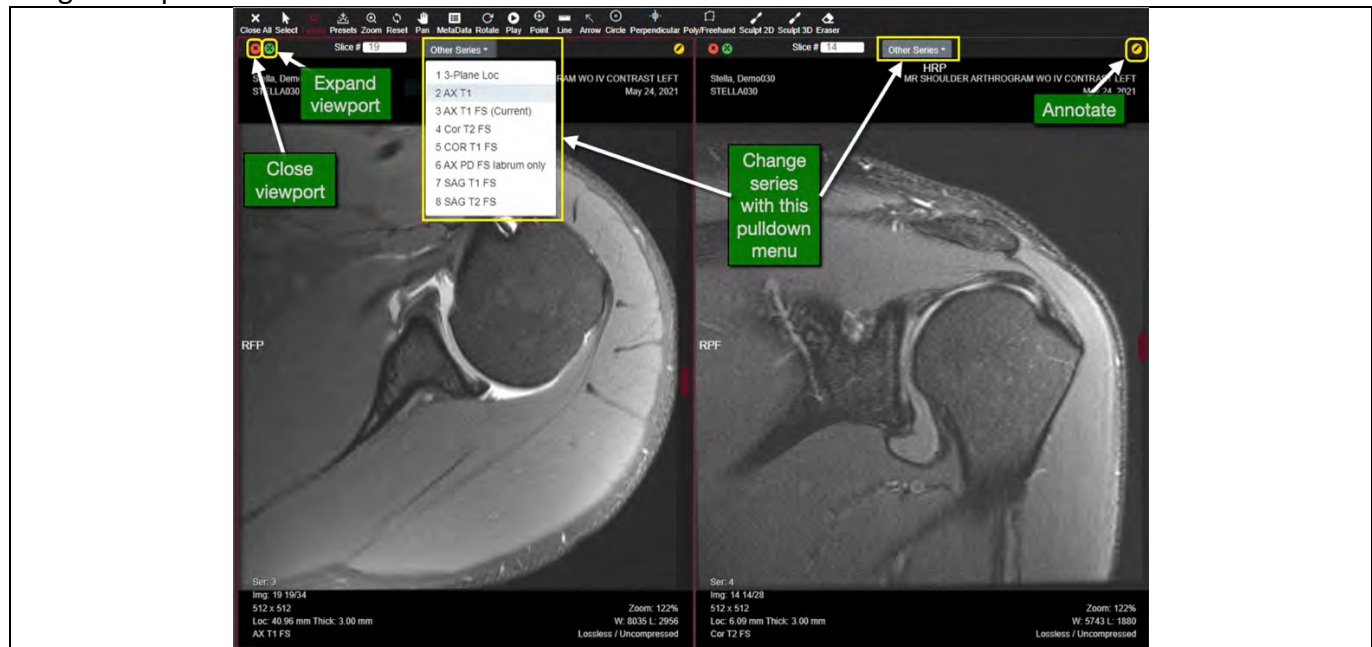
Christopher Beaulieu - 99EPAD_947

- Radiology Specialty: Musculoskeletal Radiology
- Findings And Diagnosis: Anterior Cruciate Ligament Tear
- Disease Category: Inflammatory
- Case Difficulty Or Trainee Level: Junior Resident
- Perceptual Difficulty: Basic Perceptual Diff
- Analytical Difficulty: Intermediate Analytical
- Representativeness: Typical
- Level Of Diagnostic Proof: Imaging Proof
- Anatomy Core: Knee
- Anatomy Detail: Iliotibial Tract
- Narrative: Edema Deep To The IT Band Consistent With Friction Syndrome

Save

Annotations are template-based, and templates are fully customizable regarding categories and structured terms within each category. The main TF template contains fields pertinent to teaching, but the majority of these are *optional*. Only the three initial required terms - Anatomy Core, Findings and Diagnosis, and Specialty, as well as "Case Title" are required to validate and update a TF.

Image Viewports



Up to four viewports can be displayed. **X Close All** will close all viewports and take you to the **Search** page. Viewports can also be individually closed or expanded to full screen and shrunk back using the icons. Scroll through images with the middle mouse wheel or the scrollbar on the right of each viewport. Series can be changed with the dropdown menu (all viewports will reload). On the right, the yellow *annotate* icon allows you to create *image level* annotations with or without graphics (more later). (This icon also lets you create a new *case level* Teaching File but this will result in more than one TF for the case and is not recommended). More about image manipulation and annotation tools in the next panel. The series dropdown menu now shows "1 Ann" for example, to indicate that a series has significant image or graphic annotation.

Image Manipulation and Annotation



Standard tools for image viewing are on the left. The most useful graphic annotation tools are point, line, arrow and circle. Clicking one of these will open the Significant Image annotation panel, allowing association of the graphic with an optional text description. Segmentation tools on the right are for more advanced image measurement and segmentation.

The **Search** Page is the "Home" Page for Stella

The screenshot shows the Stella! Search interface. On the left is a sidebar with a 'Teaching Files' list (101 items) and a 'Projects' list. The main area has a search bar with the text 'Enter Search Terms and/or Use Filters at Right'. Below the search bar are filters for Subspecialty, Modality, Anatomy, and Diagnosis. A table of results is displayed with columns: Patient Name, MRN, Accession, Case Title, Age, Sex, Modality, Study Date, Anatomy, Observation, Created, Template, User, and Comment. Annotations in green boxes point to various features: 'Search tab is STELLA's "home page"' points to the Search tab; 'Search the entire database' points to the search bar; 'Clear all search and filters' points to the 'Clear All Filters' button; 'Filter by category(s)' points to the filter dropdowns; 'Sort or filter in any sub field' points to the 'Created' column header; 'Show or hide significant image annotations, and show all cases or only your own' points to the 'Inc Significant Images' and 'Only My Cases' checkboxes; and 'Click on Patient Name to DISPLAY the case' points to a patient name in the table.

On the Search Page, click on a patient name to open any case. This will either display the images in the Display Page or ask you to select series to open (up to 4). There are multiple ways to discover cases in Stella, including broad-based search, filtering by specialty, modality, anatomy and diagnosis, as well as sorting and further filtering of columns by alphabetical or temporal order. All search fields can be easily cancelled if needed (see the icon to the right of the main search box).

Organize Cases into Projects (Folders)

The screenshot shows the Stella! Search interface with filters applied. The 'Filters Applied' section shows 'Abdominal Radiology', 'Oncologic Imaging', and 'Gastrointestinal Radiology'. The 'Select from results to filter' dropdown is set to 'liver'. The table of results is filtered accordingly. Annotations in green boxes point to various features: 'Case list filtered by subspecialty and sub searched by "liver"' points to the filter section; 'Select individual cases or select all' points to the selection checkboxes in the table; and 'Download annotations, copy to Worklist, Project or Delete annotations' points to the 'Download', 'Add To Worklist', 'Copy To Project', and 'Delete' icons in the table header.

Explore the master list called "Teaching Files" using search, filter, and sort. After discovering cases of interest, they can be selected and organized further into other Projects (analogous to folders on your personal computer). Use the selection boxes at the left or the top box to select all (or deselect all). Then you can "Copy to Project" with the icon as highlighted.

Stella! Search Study List Display

Enter Search Terms and/or Use Filters at Right

Subspecialty Modality Anatomy Diagnosis

Inc Significant Images Only My Cases

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Teaching Files (10)

All users' Teaching Files and public Projects show here, as well as your own private projects

Add new project after clicking the Gear icon

The GEAR icon lets you create Projects (like case folders) and Worklists (task assignments)

Ongoing creation of a new Project, which is public by default but can also be private

Create Project

Name: MRI Knee Cases

Users: Template

500328473, 500336072, 50184046, 50028539

500336072 99EPAD_948

Basic MRI cases of knee pathology for residents

Private

Submit Cancel

Create a new Project by clicking the GEAR Icon and filling in the fields. Projects can be either public (viewable by all) or private. Once a project is created, you can click on the "users" list and add or remove users for either public or private projects. In the project drawer, as a user you will only see projects that are your own private projects or ones that are assigned to you.

Creating Task Worklists for Trainees

Stella! Search Study List Display

Enter Search Terms and/or Use Filters at Right

Subspecialty Modality Anatomy Diagnosis

Inc Significant Images Only My Cases

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Worklist Tab

Add new Worklist after clicking the Gear icon

GEAR icon ALSO lets you create Worklists (task assignments)

Ongoing creation of a new Worklist

Create Worklist

Name: MSK first year radiography

11/01/2022

Required cases for all first year residents on MSK

Back Next Cancel

Worklists represent a set of links to cases that can be assigned to individual learners that are tasked with operations like annotating a finding on the case or answering a text-based question.

After clicking the GEAR icon to open the Worklist window, you can edit the "Assignees" to add or delete users and you can edit the "Requirement" column to add or change tasks, which can be at the patient, study, or series level.

The Study List Page

The Study List page is a basic listing of all cases in Stella at the DICOM exam level. You can open a case by clicking on the Patient Name (or any other entry in the row). Columns can be selected or deselected, re-ordered and resized. Sort the columns by clicking the title. Filter using the white boxes.