Learning From the Past: Features and Functionality of a Software Designed to Search Peer-Reviewed Cases of Treatments Plans.

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Problem

We are lacking a tool to search patients in a clinical database. By driving inspiration from approaches that worked on similar cases, this can be an aid in the managing complex cases.

Purpose

Create educational software to search patient database to aid in segmentation and treatment planning.

Search

By keywords

- ✓ Patient information
- ✓ Prescription details
- ✓ Treatment management

Can review

- ✓ Images
- ✓ Segmentations
- ✓ Treatment plans

Software- Customized Viewer

Touch–screen: Browsing images on a touch screen is more efficient than using a mouse.

Loading large datasets: Image sets are cropped to relevant dose regions for fast browsing.

Understanding Plan Challenges: Selecting a DVH will automatically position the images at the minimum PTV-OAR clearance.

Bookmarks: of maximum doses or minimum OAR-PTV clearances are automatically created.

Software to search peer-reviewed cases as a guidance for managing complicated cases

Results

Database

Consists of 12074 patients treated in the past 3 years in our institution. All cases has been peer-reviewed in chart rounds.

Search terms

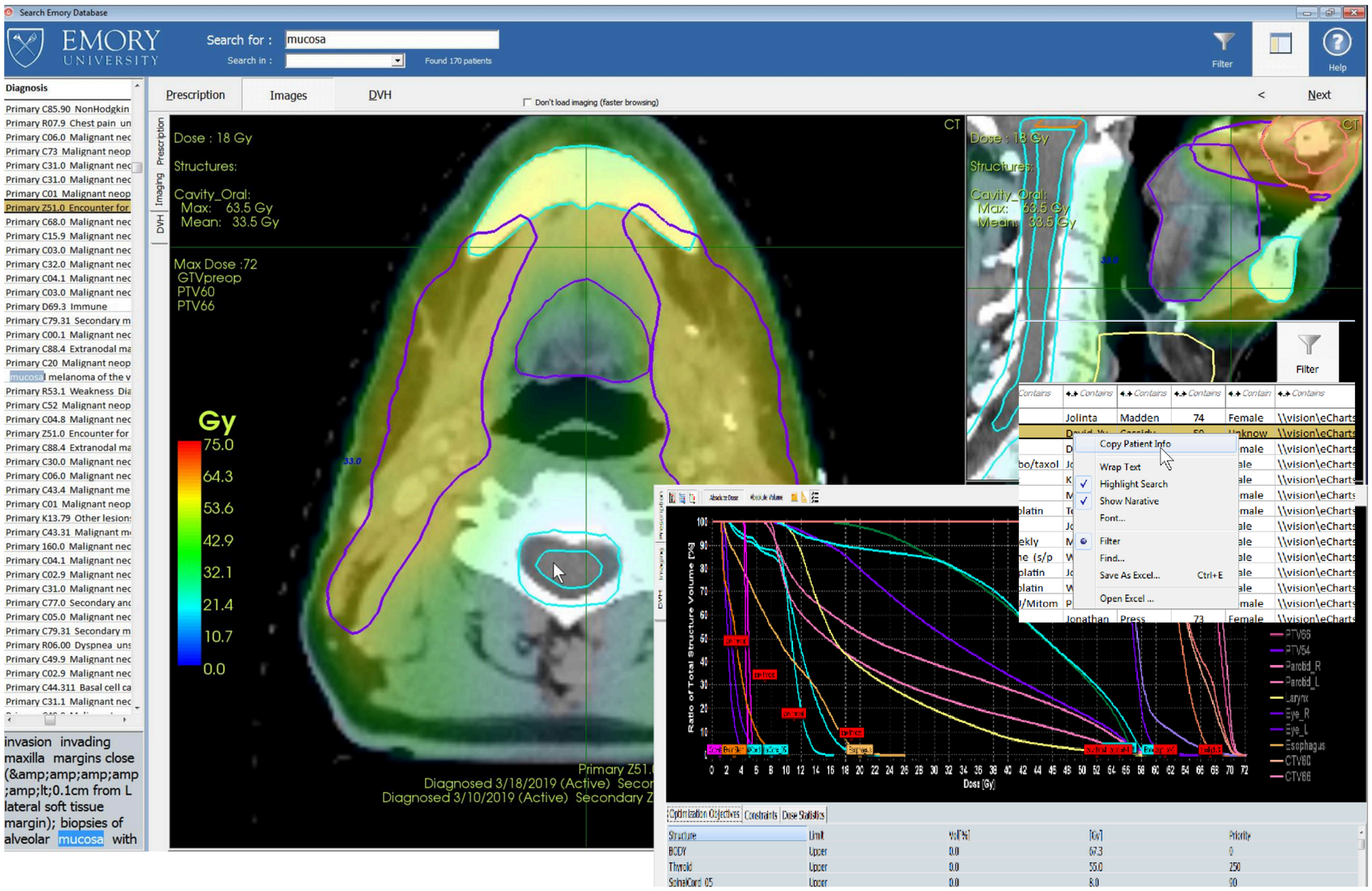
Created by analyzing the prescription document into structured data of 16 searchable indicators that includes patient information but also treatment history and clinical management. This information is presented in a customized software allowing clinicians to search by keywords, filter the results by user-defined criteria and review plan details.

Customized plan viewer

Designed for understanding treatment features at a glance. Technically, the software uses C++ and VTK to visualize most aspects of a treatment plan while clinical data is extracted from Eclipse using scripting.

Usage

Online since December 2019, used mainly by residents when managing complex clinical cases.



User can search by keyword information extracted from the prescription, such as diagnosis, patient history, or clinical protocol plans approved in chart rounds. A viewer was created for the search procedure, that allows user to browse plan details. Options for searching include advanced options, filtering and sorting results, exporting to Excel.