

# CERR

## Computational Environment for Radiotherapy Research (developed by Joe Deasy et al)

### Advantages and Drawbacks

- Useful features (orthogonal views, image registration, etc)
- Easily customizable
- Import can be time-consuming (up to ½ hour for a large study)
- Need to incorporate import and display of DRR's

# CERR Modifications

- Command line to link CERR study to patient's record
- Separate function for Dicom imaging import
- Import of Dicom imaging to an existing study
- Window/level presets for MR and PET
- Changes to image registration GUI

## **CERR Modifications (cont.)**

- Import of multiple structure files for Dicom RT (omitting duplicate structures)
- Import of additional plans to an existing study (both Dicom RT and RTOG)
- Beam geometry display (both RTOG and Dicom RT)
- DVH import for Dicom RT
- Export function to export DVH data to delimited text file

# CERR Consistency Checks

Consistency checks applied to:

- Completeness of RTOG dataset during import
- Matching of dose files with plan files during Dicom RT import
- Matching of dose files with CT during Dicom RT import
- Matching of structure files with CT during Dicom RT import

# **CERR Consistency Checks (cont.)**

Consistency checks applied to:

- Renaming of plans
- Renaming of structures
- Deleting plans
- Checking dose units when summing 2 plans
- Checking dose units when plotting DVH's  
(imported vs. calculated)

# Potential ATC Efforts

- Import and display of DRR's in CERR
- Standardizing proton beam data required for case reviews
- Global list of structure names for DVH's