As part of Varian Medical Systems' knowledge-based solutions, Smart Segmentation® knowledge-based contouring provides the clinician with the tools to improve the efficiency and consistency of contouring.
IMPROVE THE EFFICIENCY AND CONSISTENCY OF CONTOURING IN YOUR DEPARTMENT BY STREAMLINING YOUR WORKFLOW.

Smart Segmentation combines the ability of a model-based and an atlas-based approach for semi-automated segmentation of organs at risk (OAR) and target volumes.

**STEP 1**
**EXPERT CASE SELECTION**

The expert case browser allows fast and intuitive selection of the most appropriate expert case, based on pathology and staging.

The user may filter the search based on tumor site, structures, expert case similarity and stage.

**STEP 2**
**ALGORITHM SELECTION**

The user can decide which algorithm to use for segmentation and can use a mix of Smart Detection or propagate from the expert case library.

Smart Segmentation provides multiple educational resources and automation tools for immediate access to the user:

- All pre-contoured expert cases are accompanied by written rationales.
- Smart Segmentation provides tools for automated gross tumor volume (GTV) delineation in lung patients and delineation of metabolic target volume based on the standardized uptake value (SUV) threshold.
- Anatomy atlas is the full-body electronic equivalent of a human anatomy textbook, detailing both anatomical and physiological information for each structure. The atlas is available for the user when reviewing the deformed contours and creates an ideal teaching tool.
EXPERT CASE LIBRARY

The library includes contoured expert cases for many combinations of tumor sites and tumor classifications. The database covers lung, head and neck, breast, gastrointestinal, genitourinary and gynecological body sites.

STEP 3
DEFORMATION OF STRUCTURES FROM EXPERT CASE

Once the user selects “Start Segmentation,” selected structures are deformed from the expert case or segmented based on algorithm selected.

STEP 4
STRUCTURE REVIEW, EDIT AND APPROVAL

Once the segmentation process is complete, all delineated structures are automatically displayed on the patient CT dataset allowing for side-by-side comparison with the reference image. Users can review and edit the result of the segmentation in any of the orthogonal views.
KEY FEATURES:

- A library of cases contoured by experts, including:
  - Expert case browser
  - Tumor site and stage specific search filters
  - Similarity index
  - Free text search
- Create your own personalized expert case
- Modify and edit existing expert cases
- Clinical commentary on tumor volume for each expert case
- 2D and 3D contouring tools for quick GTV creation and contour editing
- Fully integrated option with the Eclipse™ treatment planning system

KEY BENEFITS

- Streamline your clinical workflow
- Reduce contouring time
- Consistency in target and OAR contouring process from one physician to the next
- Customizable expert library—add/edit cases to the expert library to expand knowledge base
- Anatomy atlas serves as a tool for both education and verification