



Free yourself from hours of tedious contouring

Philips Pinnacle³ Auto-Segmentation with SPICE

Tired of spending hours manually contouring for each treatment plan? Philips Pinnacle³ Auto-Segmentation with SPICE (Smart Probabilistic Image Contouring Engine) streamlines the process to just a few fast clicks, providing consistent contours in minutes that require little or no editing. SPICE automatically identifies challenging structures such as nodes in the head and neck region.

Auto-Segmentation is easy to use for daily contouring and comes with a selection of structures within atlases that can be tailored to suit individual operators. Based on probabilistic segmentation, SPICE is especially useful in situations where the contrast between neighboring structures is small, making it difficult to identify the edges between them to produce acceptable contours.

Key advantages

- Reduces hours of manual contouring down to just a few clicks
- Improves contouring consistency and usability by requiring little to no editing on auto-contoured plans
- Offers ease of operation through complete integration into Pinnacle³

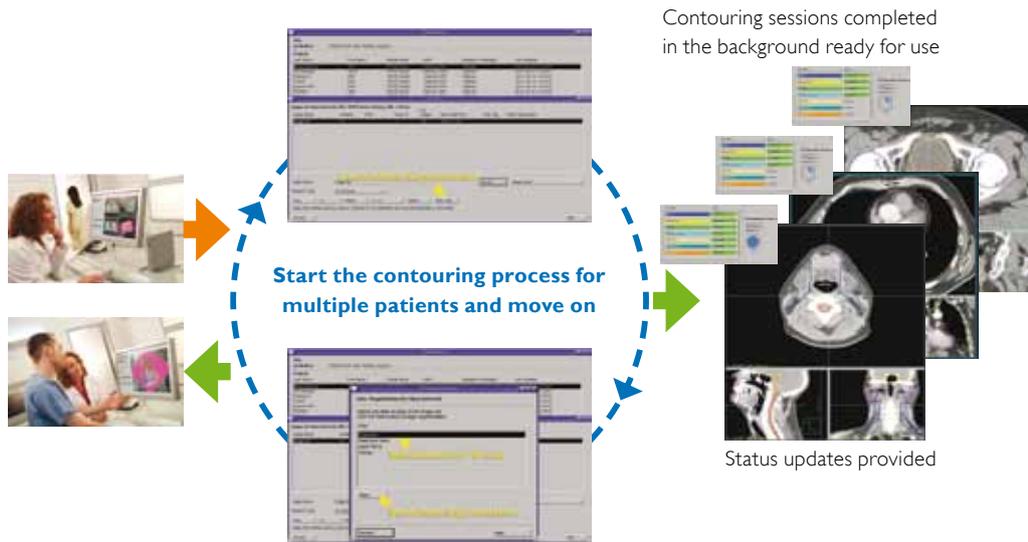
PHILIPS
sense and simplicity

Discover a new level of freedom

Until now, contouring has been a time-consuming and inconsistent process, taking anywhere from 30 minutes to three hours, depending on the anatomy of the case and on the operator. Auto-Segmentation with SPICE, created by Philips, uses a proprietary set of algorithms for probabilistic segmentation to reduce hours of manual contouring down to a few clicks.

Designed for confidence, SPICE provides:

- Simultaneous auto-contouring for multiple patients and multiple organs
- High-quality contours through probabilistic segmentation
- Simplicity of implementation, allowing the majority of tasks to run in the background



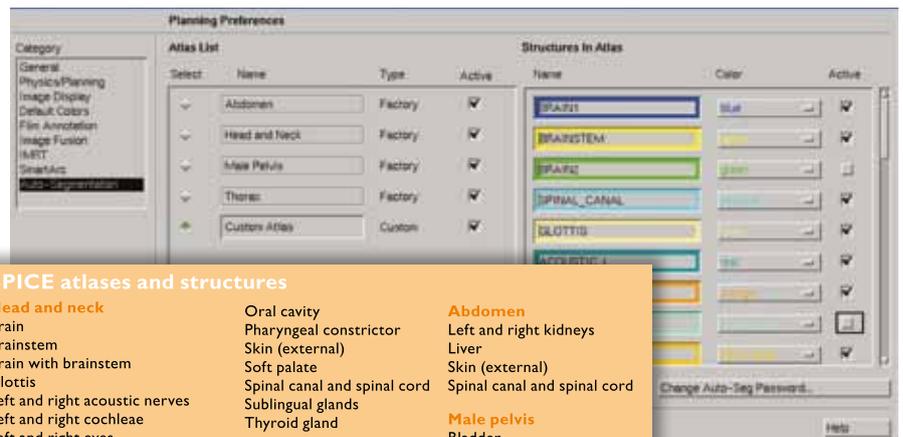
Designed to be completely integrated and to reduce interoperator variability

Improve contouring consistency

- Atlases and structures can be standardized
- High quality of contours through probabilistic segmentation based on expert atlases

Integrated into Pinnacle³

- Available from any Pinnacle³ terminal: no import/export needed
- All the workflow benefits of Pinnacle³
- Complementary functionality with Model-Based Segmentation



SPICE atlases and structures

Head and neck

Brain
Brainstem
Brain with brainstem
Glottis
Left and right acoustic nerves
Left and right cochleae
Left and right eyes
Left and right eye lens
Left and right neck nodes
Left and right optic nerves
Left and right parotids
Left and right parotids with ducts
Left and right submandibular glands
Mandible
Optic chiasm

Oral cavity

Oral cavity
Pharyngeal constrictor
Skin (external)
Soft palate
Spinal canal and spinal cord
Sublingual glands
Thyroid gland

Lung/thorax

Carina
Heart
Left and right lungs
Skin (external)
Spinal canal and spinal cord
Trachea

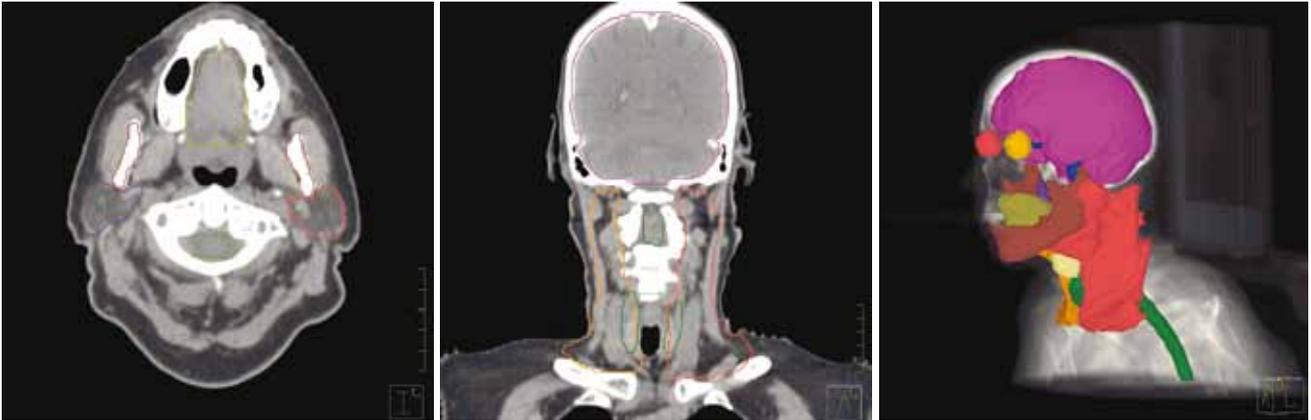
Abdomen

Left and right kidneys
Liver
Skin (external)
Spinal canal and spinal cord

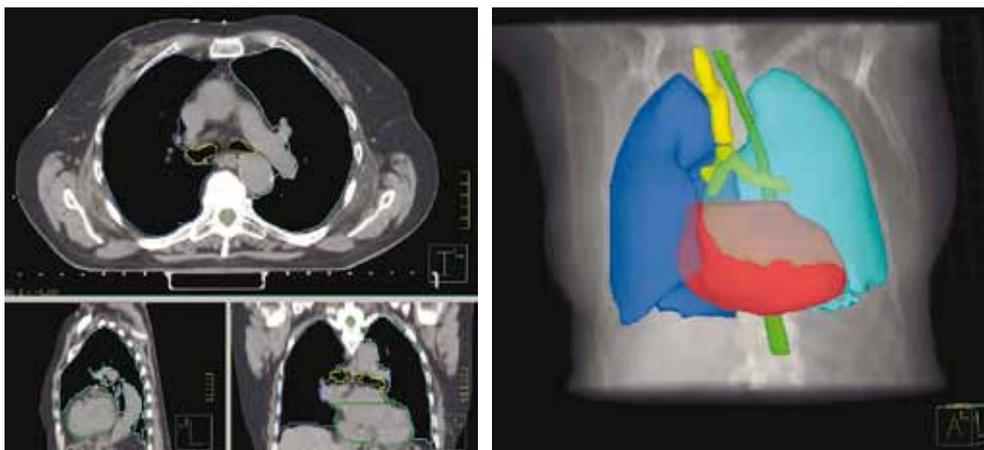
Male pelvis

Bladder
Prostate
Rectum
Left and right femoral heads
Seminal vesicles
Skin (external)

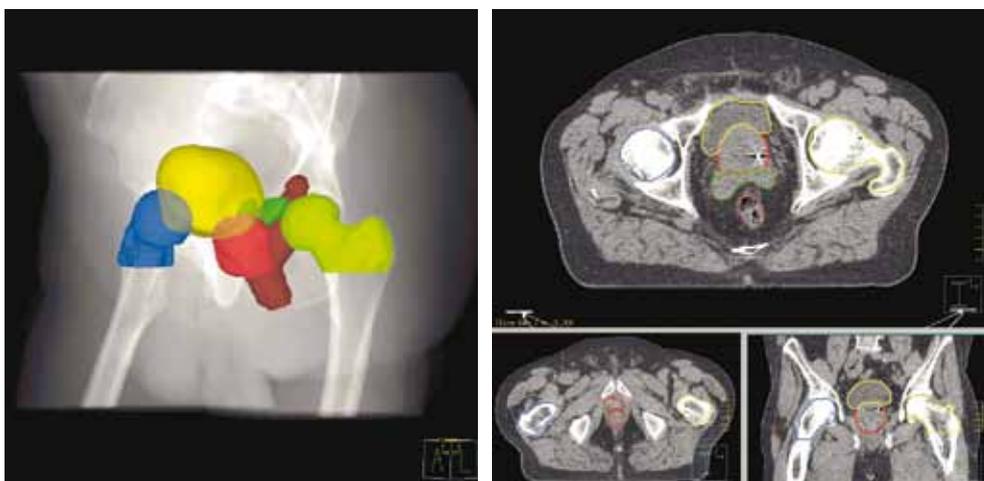
Atlases and structures that can be tailored to suit individual operators.



SPICE automatically identifies and contours challenging structures like head-and-neck. Sample contours are shown without edits.



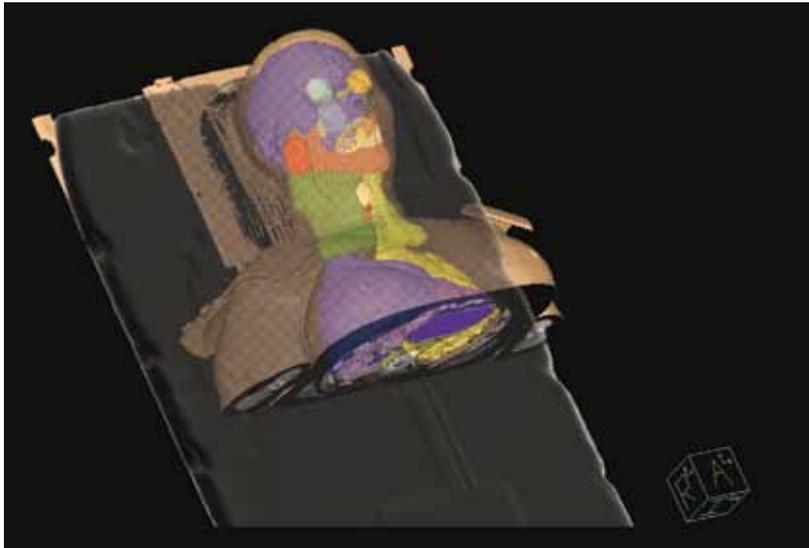
Thoracic structures as contoured by Auto-Segmentation with SPICE (contours displayed with no additional edits).



Male pelvic structures as contoured by Auto-Segmentation with SPICE (contours displayed with no additional edits).

Fast. Consistent. Confident.

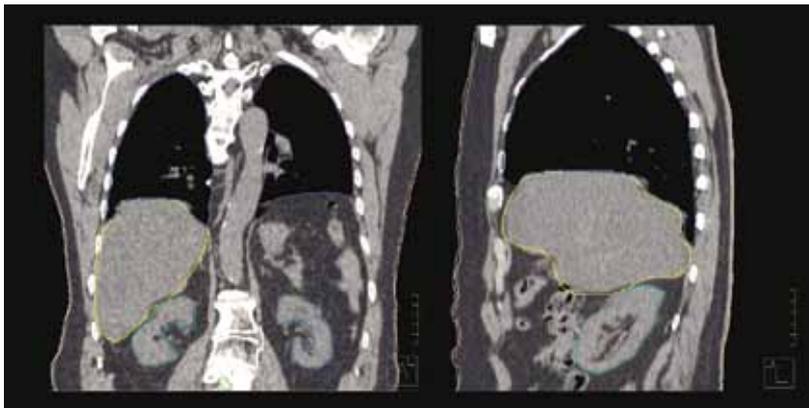
Pinnacle³ pioneered the use of mesh based delineation for 3D and 4D applications using Model-Based Segmentation and now can be used with SPICE.



Combining Auto-Segmentation and Model-Based Segmentation enables auto-contouring of anatomic and non-anatomic structures (for example: couch, masks, etc.)

Winner of Philips 2011 Innovation Award

Upon its introduction SPICE won a coveted Innovation Award, competing against 30 other technology breakthroughs across Philips. Previous Philips company-wide breakthroughs include the Rotalix X-ray tube, compact cassette, CD, DVD, Brilliance 40-slice CT scanner, and Model-Based Segmentation.



Abdominal structures as contoured by SPICE (contours displayed with no additional edits).

“The liver model is spot on... I've never seen such results. Auto-Segmentation with SPICE is a time saver.”

*James P. Nunn, Medical Physicist/RSO
LewisGale Hospital Pulaski, LewisGale Regional
Cancer Center, Pulaski, VA*

Please visit www.philips.com/SPICE



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www.philips.com/healthcare
healthcare@philips.com

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