

THE CEREFY CLINICAL BRAIN ATLAS: ENHANCED EDITION WITH SURGICAL PLANNING AND INTRAOPERATIVE SUPPORT. *New York: Thieme Medical Publishers, Inc., 2005, illus. ISBN 1588902102. Price: \$1999.95.*

This CD-ROM is the premier upgraded edition of the best-selling, classic, electronic Cerefy brain atlases. The newly added capabilities in this edition, including the novel surgical planning module, have elevated medical software development to a new level. The *CCBA-Plan*, as it is abbreviated, integrates the three classic brain atlases: *Atlas for Stereotaxy of the Human Brain*, *Co-Planar Stereotaxic Atlas of the Human Brain*, and *Referentially Oriented Cerebral MRI Anatomy*, as well as the newly developed electrophysiology-based probabilistic functional atlas. The structural interrelationships and measurements of the brain appear to provide unparalleled precision through the authors' painstaking attempts to base the data on a large set of human brain samples and repeated testing of the software for assured reliability. The triplanar functionality allows the user to electronically navigate the integrated, spatially co-registered atlases simultaneously on axial, coronal, and sagittal planes. The user-friendly interface allows the user to access quickly 210 high-quality, fully segmented, labeled atlas images with corresponding contours. The *CCBA-Plan* displays five different zoom levels, and offers advanced searching, coordinate acquiring, and save and print features. The atlas emphasizes the localization of cortical and subcortical spaces in addition to the localization of deep central nuclei traditionally featured in stereotaxic atlases.

The surgical planning module can be used preoperatively as well as intraoperatively. This highly advanced yet economically priced brain atlas displays many features found in the more expensive surgical planning workstations. Although it allows for the simulation of stereotactic procedures such as subthalamic stimulation using patient-specific

data, it does not support a specific stereotactic frame system, a feature found in surgical planning workstations. On the other hand, *CCBA-Plan* features several capabilities not even found in its expensive software counterparts, including a probabilistic functional atlas and probability readout, on-line individualized structure labeling and highlighting, and intraoperative archiving. The neurosurgeon can blend the integrated atlases with patient-specific images, retrieve the names of the structures from the individualized brain atlases, plan for target and entry points with up to five stereotactic electrode tracks, display and manipulate the probabilistic functional atlas of the subthalamic nucleus, allowing for enhanced target point coordinates, simulate electrode insertion, and print and save the surgery plan along with the electrode track annotations.

These advanced features arguably make *CCBA-Plan* the most comprehensive brain atlas for electronic navigation of the brain and planning for stereotactic targeting. Neurosurgeons, neuroradiologists, neurologists, and neuroscientists, as well as residents and students, will undoubtedly find this software an invaluable practical and educational tool. The surgical planning module will prove to be a unique contribution to the rapidly advancing field of stereotactic and functional neurosurgery. Its precision and extensive features in combination with its ease of use and reasonable price make *CCBA-Plan* a gold standard in clinical neuroanatomy.

SEAN ARMIN, M.D.

FRANK P.K. HSU, M.D., PH.D.

Loma Linda University Medical Center

Loma Linda, California