

**BRAIN ATLAS FOR FUNCTIONAL IMAGING: CLINICAL AND RESEARCH APPLICATIONS (CD-ROM, VERSION 1.0).** Wieslaw L. Nowinski, A. Thirunavuukarasuu, and David N. Kennedy. Singapore: Thieme, 2001, illus. ISBN 0-86577-927-9. Price: \$299.00.

Functional imaging has undergone unprecedented use in neurosurgery both to facilitate surgery and to develop new insights into functions of the brain in both normal and diseased states. The identification of speech sensorimotor areas and the relation of these areas to structural lesions is routinely performed using functional magnetic resonance (fMR) imaging in many centers. Further, neuroscientists are using fMR imaging to map the neuroanatomical and physiological substrates of a number of phenomena, including emotion, perception, memory, pain, and motor planning, and to study brain plasticity, how the brain recovers, and how brain areas can change their allegiance and function with learning or after injury.

To this end, it is important to be able to collect information on brain function and assign an address and a neuroanatomical designation to that address. This is what the authors of the *Brain Atlas for Functional Imaging* have accomplished. On this CD-ROM, images are acquired, formatted, and subsequently analyzed. The analysis can include enhancement, segmentation, labeling, morphometric analysis, and localization assessment, but this atlas specifically helps in the localization assessment.

In this construct, image data sets, whether they be from a variety of sources, are translated and made to fit onto a Talairach recording system, and structural metabolic functional perfusion data sets are then mapped onto this atlas. Thus, this CD provides a valuable service.

Nonetheless, there are some modifications that could make the CD more user friendly. For example, the atlas can only be installed to a specific directory. This should probably be more flexible. The user guide is not accessible while actually using the program; one must exit the program to access the guide. Ideally, the user guide could be minimized within the program for rapid reference. Perhaps the most significant problem is the necessity to acquire data in specific anatomical planes. That is, the Talairach atlas is designed along the axis of the anterior and posterior commissures (AC and PC, respectively) and this atlas is programmed to handle data acquired in those planes. Researchers who are acquiring data in planes other than the AC-PC may find it difficult to use this atlas.

The title adequately reflects the content of this CD. The quality of the Talairach electronic templates is outstanding. The adjustability of the intensity of the colors is a useful tool to overlay data sets. The overall quality of the assembly of the project is high. For such an effort to be priced at less than \$300.00 is remarkable.

This CD will be of most use to people directly involved in the translation of imaging data onto an anatomical atlas. As such, it would be useful in the clinical arena for those involved in fMR image localization in surgical planning. It would also provide an important research tool to translate imaging-based research data onto a common identified and labeled neuroanatomical template of the brain.

ANDRES LOZANO, M.D.  
University of Toronto  
Toronto, Canada