01 - Drugs Used in Psychiatry

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Drugs Used in Psychiatry This guide contains color reproductions of some commonly prescribed psychotherapeutic drugs. This guide mainly illustrates proprietary tablets and capsules. A † preceding the name of a drug indicates that other doses are available. Check directly with the manufacturer. (Although the photos are intended as accurate reproductions of the drug, this guide should be used only as a quick identification aid.)

COLOR PLATE 1.2-3 Emotional facial expressions.1 In the 1960s, Paul Ekman demonstrated that facial expressions of emotion are universal and thus, presumably, biological in origin as Charles Darwin once theorized (Ekman & Friesen, 1975). Since Ekman's discovery, photographs of emotional expressions have been widely used in psychological research to understand how people recognize another's emotions. Neuroimaging research has focused on two areas that are involved in emotion recognition: (A) The amygdala, known to be involved in fear conditioning, is most active when recognizing fear compared to other facial expressions (Whalen, 1998). (B) The anterior insula, associated with taste processing, subserves the recognition of another's disgust (Calder, Lawrence, & Young, 2001). (From Sadock BJ, Sadock VA, Ruiz P. Kaplan & Sadock's Comprehensive Textbook of Psychiatry. 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2009.) 1Development of the MacBrain Face Stimulus Set was overseen by Nim Tottenham and supported by the John D. and Catherine T. MacArthur Foundation Research Network on Early Experience and Brain Development.

COLOR PLATE 1.2-6 Map of quantitative blood flow obtained in a healthy individual with arterial spin labeling magnetic resonance imaging. (From Sadock BJ, Sadock VA, Ruiz P. Kaplan & Sadock's Comprehen sive Textbook of Psychiatry. 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2009.) COLOR PLATE 1.2-7 Three-dimensional reconstruction based on diffusion data acquired on a 3-T General Electric scanner, Department of Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA. Diffusion tensor imaging (DTI) image shows major long fiber tracts of the brain. (Courtesy of Hae-Jeong Park, Ph.D., at the Laboratory of Molecular Neuroimaging, Department of Diagnostic Radiology, Yonsei University College of Medicine, Seoul, South Korea.) COLOR PLATE 1.2-8 Three-dimensional image reconstructed based on diffusion data acquired on a 3-T General Electric scanner, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, which shows several major white matter fiber bundles identified through diffusion tensor imaging: Fornix (magenta), right cingulum (green), right inferior longitudinal fasciculus (yellow), right uncinate fasciculus (blue), corpus callosum (orange). (Courtesy of Sylvain Bouix, Ph.D., Psychiatry Neuroimaging Laboratory, Department of Psychiatry, Brigham and Women's Hospital, Harvard Medical School, Boston, MA.) COLOR PLATE 1.4-16 This figure from the Human Connectome Project is a resting-state functional magnetic resonance (rfMRI) spatial map of functional connectivity of cortical signals, which show strong and distinct patterns of activation. The term "connectome" refers to the mapping of connectivity throughout the brain using imaging modalities such as rfMRI and diffusion MRI. rfMRI is used to study connectivity in the brain by acquiring fMRI data from a subject lying "at rest" in the scanner, and utilizing the fact that the spontaneous time series from functionally related brain regions are correlated. (Courtesy of Stephen M. Smith, M.D.) COLOR PLATE 1.7-5 The Human Karyotype. The normal human genetic material contains two copies of the 3,000,000,000 DNA-base genomic sequence packaged into 22 matched pairs of autosomes and X and Y sex chromosomes. Here the human karyotype has been stained using different colored chromosome-specific probes. Identical twins share identical

copies of genomic DNA. (Adapted from Bentley D. The Geography of Our Genome. Supplement to Nature, 2001, with permission.) COLOR PLATE 5.8-4 Functional MRI during rhyming tasks in normal people and people with dyslexia. The left hemisphere is depicted in green. Normal (top) and dyslexic (bottom) subjects were shown two letters and asked to determine whether the letters rhymed (B-T) or not (B-K). To perform the task, the subjects had to translate the letters into sounds, or phonemes, (/bee/,/lee/), then compare only the rhyming part of the phonemes (/ee/). In normals, three contiguous areas were activated, including Broca's area, Wernicke's area, and the intervening insula. In those with dyslexia, only Broca's area was activated. Dyslexic patients required much more time to complete the task and were more prone to make errors. (Reprinted with permission from Frith C, Frith U. A biological marker for dyslexia. Nature. 1996;382:19.)

COLOR PLATE 1.8-5 Topographic quantitative electroencephalography map of theta absolute power (z score departures from normative database mean). The patient is a male 24 years of age with a closed head injury. The focus of increased theta voltage is at the locus of an earlier head injury that occurred approximately 2 years before the recording. After recording and quantification, the color bar scale was adjusted to maximize the bull's-eye localization effect. Theta voltage was also elevated to a lesser extent over a wide, right frontal area and even spread somewhat across the midline. Theta relative power (not shown) was also elevated over the right frontal region, but mapping did not produce a sharp relative power focus at the locus of injury. Important note: A very sharply defined bull's eye can also be produced by artifact from a faulty electrode, and it is imperative to monitor electrical impedance and check the integrity of the electrode in the event that deviant activity appears confined to only one lead with no spread to adjoining electrodes. (From Sadock BJ, Sadock VA, Ruiz P. Kaplan & Sadock's Comprehensive Textbook of Psychiatry. 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2009.)

COLOR PLATE 5.8-5 Stages of the superimposition of a single photon emission computed tomography cerebral blood flow image (A), which has been redefined (B), and a magnetic resonance T1-weighted image (C), to produce a combination (D). (Reprinted from Besson JAO. Magnetic resonance imaging and its application in neuropsychiatry. Br J Psy chiatry. 1990;(9 Suppl):25–37, with permission.) COLOR PLATE 9.1-1 Statistical map of functional magnetic resonance imaging (fMRI) blood oxygenation level–dependent signal intensity differences demonstrating significantly increased activity in the right amygdale in subjects with posttraumatic stress disorder (PTSD) compared with traumatized subjects without PTSD. The response to masked, fearful faces in PTSD and non-PTSD groups were compared after normalizing to masked, happy faces. fMRI data are displayed in Talairach template space and are co-registered with structural magnetic resonance imaging data.

COLOR PLATE 13.5-1 Exophthalmos. This patient has Graves' disease. Note the lid retraction and proptosis. COLOR PLATE 13.6-2 Factitial ulcerations. These were created by the patient. Note their geometric appearance. COLOR PLATE 29.18-1 Erythema multiforme minor caused by hypersensitivity to certain antiepileptic drugs in psychiatry (e.g. lamotrigine).

Revision #1
Created 2026-01-04 19:52:35 UTC by Omar Ayman
Updated 2026-01-04 19:52:35 UTC by Omar Ayman