



# Psychiatry

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POSTGRADUATE EDUCATION  
NEWSLETTER

OCTOBER 2003

## Upcoming Courses

Upcoming continuing education courses for the remainder of 2003, and for 2004, offered by the Department of Psychiatry at the Massachusetts General Hospital, are as follows:

### Psychopharmacology

Thursday-Saturday, October 16-18, 2003  
The Westin Hotel, Copley Place, Boston

### Child & Adolescent Psychopharmacology

Friday-Sunday, March 5-7, 2004  
The Westin Hotel, Copley Place, Boston

### Psychiatric Care of the Medically Ill: A Review of Psychosomatic Medicine

Friday-Sunday, June 4-6, 2004  
The Westin Hotel, Copley Place, Boston

### Psychiatry: A Comprehensive Update & Board Preparation

Monday-Saturday, September 27-October 2, 2004  
The Westin Hotel, Copley Place, Boston

### Psychopharmacology

Thursday-Saturday, October 21-23, 2004  
The Westin Hotel, Copley Place, Boston

### Aggressive, Resistant & Delinquent Youths

Friday-Sunday, November 12-14, 2004  
The Fairmont Copley Plaza Hotel, Boston

### Home Study on Audio Cassettes

Psychiatric Neuroscience: A Primer for Clinicians  
Child and Adolescent Psychopharmacology

## FOR MORE INFORMATION:

For more information about this and other courses presented by the Department of Psychiatry at MGH, please visit our web site, call, write, or email our administrative staff, at:

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or [www.mgh.harvard.edu/depts/allpsych/ced.html](http://www.mgh.harvard.edu/depts/allpsych/ced.html)

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## Psychiatry: A Comprehensive Update and Board Preparation

September 15-20, 2003

### COURSE DIRECTORS:

Jerrold F. Rosenbaum, M.D., Robert S. Abernethy, III, M.D., Eugene V. Beresin, M.D., Paula K. Rauch, M.D., Kathy M. Sanders, M.D., John B. Herman, M.D.

### COURSE ADMINISTRATIVE STAFF:

Gail E. Dickson, M.P.A., Stephanie Lipka Hackett, Katherine Pike, L.C.S.W., and Arlene Lietz.

The Massachusetts General Hospital's Department of Psychiatry, headed by Dr. Jerrold F. Rosenbaum, presented this 28th annual course for Psychiatry Board preparation. Constantly refined in response to the needs of over 11,000 course graduates, our seasoned faculty blended their expert knowledge with a plain-talking lecturing style and a detailed syllabus. Fourteen hours of neurology review and eight hours of oral board preparation for part II contributed to a total of 49.5 hours, preparing those studying for psychiatry board preparation and updating practitioners on current standards. The course reviewed nomenclature, clinical manifestations of Axis I, II, and III disorders, and the pathophysiologic underpinnings of psychiatric and neurological conditions.

Each of the approximately 400 attendees of this of this week-long continuing education course (held at the Westin Hotel, Copley Place, Boston, MA, 02116) received a comprehensive syllabus, which contained an outline of each lecture, a printout of slides presented, and reprints of key references, as well as a nearly 700-page text, Massachusetts General Hospital Psychiatry Update and Board Preparation, 2nd edition (Stern TA, Herman JB, eds. McGraw-Hill, 2004). This well organized, multi-authored, text, based on the continuing education course (Psychiatry: A Comprehensive Update and Board Preparation) sponsored by the Department of Psychiatry at the Massachusetts General Hospital, offers a user-friendly, comprehensive review of psychiatry. It includes chapters on the diagnosis and treatment of psychiatric disorders in children and adults, provides chapters on test-taking strategies for board examinations, and reviews neurological and neuropsychiatric conditions. In addition, 400 board-style questions and annotated answers were included. Certificates were provided for physicians, psychologists, social workers, and nurses for course attendees.



## ANXIETY DISORDERS (AND POST-TRAUMATIC STRESS DISORDER)

Mark H. Pollack, M.D.

Dr. Pollack provided a well-rounded overview of anxiety disorders (covering diagnostic criteria, prevalence, and treatment) and punctuated his discussion with examples of his dry sense of humor. Dr. Pollack also delivered a separate talk on Post-Traumatic Stress Disorder (PTSD) and its treatment.

- \* Shy, inhibited children often have panic disorder as adults.
- \* Panic disorder has a familial transmission.
- \* Anxiety disorders are among the most prevalent psychiatric disorders in the general population.
- \* First-degree relatives of patients with anxiety disorders have a significantly increased risk for anxiety disorders compared to those in the general population.
- \* The lifetime prevalence of any anxiety disorder in the US is 24.9%; for panic disorder it is 1.5%-3.5%, with a female: male ratio of 3:1.
- \* Panic disorder is a syndrome characterized by recurrent unexpected panic attacks about which there is persistent concern.
- \* Patients with social phobia fear being exposed to public scrutiny; they fear that they will behave in a manner that will be humiliating or embarrassing.
- \* The lifetime prevalence of social phobia has been estimated to be 3%-13%.
- \* Selective serotonin reuptake inhibitors (SSRIs) are more efficacious than tricyclic antidepressants (TCAs) in the treatment of social phobia.
- \* Patients with post-traumatic stress disorder (PTSD) have experienced an event that involved the threat of death, injury, or severe harm to themselves or others; their response involves intense fear, helplessness, or horror.
- \* Patients with PTSD frequently re-experience the traumatic event with nightmares, flashbacks, or marked arousal, when exposed to situations reminiscent of the event.
- \* The prevalence of generalized anxiety disorder (GAD) in community samples is 5%, with a female: male ratio of 2:1; it typically begins in childhood or adolescence.
- \* GAD is often treated with antidepressants.
- \* Anticonvulsants (e.g., gabapentin) have demonstrated efficacy for social anxiety disorder.
- \* Potential drawbacks of benzodiazepines include sedation, cognitive impairment, an interaction with alcohol, physiologic dependence, discontinuation-related difficulties, and a potential for abuse.
- \* Symptoms of GAD include persistent anxiety and worry, occurring more days than not for at least six months, about a number of events or activities.
- \* Ninety percent of patients with GAD have a co-morbid psychiatric disorder; most commonly this disorder is depression.
- \* Right and total amygdala volumes are significantly larger in those with GAD than in controls.
- \* Social phobia seems to be correlated with reduced striatal dopamine reuptake binding and a reduced D2 receptor binding density.
- \* Pharmacotherapy of anxiety disorders includes use of TCAs, SSRIs, benzodiazepines, monoamine oxidase inhibitors (MAOIs), buspirone, and beta-blockers.
- \* Cognitive-behavioral therapy (CBT) has been found useful alone or in combination with medication for refractory anxiety, as well as social phobia and PTSD; it can also facilitate medication discontinuation.
- \* Clonazepam is thought to be twice as potent as is alprazolam.
- \* Risk factors for PTSD include prolonged or repeated exposure to trauma, female gender, a psychiatric history, and an increased heart rate at the time of trauma.
- \* Only one-third of those with PTSD recover within the first year; more than a third have persistent symptoms after 10 years.
- \* Psychological debriefing after trauma has not been proven to prevent manifestations of PTSD.



## NEUROANATOMY: A CONCISE REVIEW

Martin Samuels, M.D.

Dr. Samuels presented an amazing and visually targeted tour of neuroanatomy. He illuminated our understanding by use of a series of schematics, involving the structures and blood supply of the brain and spinal cord, as well as the nature of cerebrospinal fluid circulation. In addition, selected neuroanatomical structures were labeled and defined.

- \* Coverings of the brain include the skull, the epidural space, the dura mater, the subdural space, the arachnoid mater, the subarachnoid space, and the pia mater.
- \* The posterior circulation of the brain involves the vertebral arteries, the posterior inferior cerebellar artery, the basilar artery, and the posterior cerebral arteries.
- \* A ganglion is a group of nerve cell bodies outside the CNS.
- \* Grey matter consists of regions of brain and spinal cord containing aggregates of nerve cell bodies.
- \* White matter involves areas other than grey matter, which contains myelinated nerve fibers.
- \* Nodes of Ranvier are circumferential gaps that occur in the myelin sheath. Action potentials travel by jumping from node to node.
- \* Afferent fibers (dendrites) conduct impulses toward the cell body.
- \* Efferent fibers conduct impulses away from the cell body.

## DEMENTIA

Martin Samuels, M.D.

Dr. Samuels delivered a clinically useful and practical presentation on the assessment and management of dementia. He defined terms, elaborated on an approach to the demented patient, and discussed a differential diagnosis.

- \* Major dementia syndromes include Alzheimer's disease, Pick's disease, multi-infarct dementia, spongiform encephalopathies (prion diseases), neuronal storage diseases, encephalitis, and neurosyphilis.
- \* Subcortical dementias include Parkinson's disease, Huntington's disease, multi-infarct dementia, demyelinating diseases, and post-traumatic encephalopathies.

- \* Haloperidol and risperidone are often helpful in the management of agitated states in dementia.
- \* Cholinergic therapies offer a slight benefit to those with cognitive impairment.
- \* Preparation of the family is crucial in the management of dementia.

## MOOD DISORDERS AND THEIR TREATMENTS

Gary Sachs, M.D.

Dr. Sachs provided a vibrant, graphically intense, several hour overview of mood disorders, covering prevalence, clinical manifestations, and current treatments.

- \* Mood disorders are common, deadly, and treatable.
- \* The lifetime prevalence of bipolar I disorder is 1%; when the rates of bipolar I, bipolar II, and cyclothymia are combined, the prevalence reaches 3%.
- \* The chief complaint for most patients with a manic episode (mixed) is depression.
- \* If the first presentation of a mood disorder is mania, there is a 95% chance of recurrence.
- \* The acute phase of psychotic mania typically requires treatment with an antipsychotic plus divalproex or lithium.
- \* Once an individual has had three or more episodes, the chance of subsequent recurrence is 99%.
- \* The risk of suicide in untreated individuals with bipolar disorder is 30 times that of those in the general population.
- \* Peak times for suicide in those with bipolar disorder are in May and October.
- \* Only 27% of those diagnosed with bipolar disorder receive treatment.
- \* On average the euthymic interval after the first episode of bipolar disorder is 4.5 years; it is only 2.8 years after the second episode, and 1.5 years after the fifth episode.
- \* It takes only one episode of mania for a bipolar disorder to be diagnosed, no matter how many times a person has been depressed.



- \* One should not rely on a patient's denial of manic symptoms; it is important to get reliable information from other sources.
- \* Lithium is equivalent to valproic acid for treatment of mania.
- \* Standard mood stabilizers include lithium, valproic acid, carbamazepine, and possibly lamotrigine.
- \* In bipolar disorder, antidepressants can induce mania.
- \* Mania with psychotic episodes has a worse prognosis than mania without psychosis.
- \* Triggers for mood switches in bipolar patients include sleep loss, alcohol and substance abuse, rapid discontinuation of lithium, antidepressant use, interpersonal conflicts, loss of a support system, east to west travel, and change of seasons.
- \* Roughly 40% of those with Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD) develop bipolar disorder within four years of their diagnosis.
- \* Approximately 10% of individuals with ADHD develop bipolar disorder.
- \* Secondary mania can be produced by several medical conditions, including CVA, central nervous system (CNS) tumors, AIDS, systemic lupus erythematosus (SLE), B 12 deficiency, seizures, multiple sclerosis (MS), uremia, hyperthyroidism, and use of steroids, L-dopa, thyroxine, and antidepressants.
- \* Compliance with medication treatment increases with the half-life of the drug employed (e.g., TID dosing << BID dosing < QD dosing).
- \* The switch rate is 30%-70% for bipolar patients receiving TCAs or MAOIs.
- \* Dysphoric mania predicts better anti-manic response to valproic acid than to lithium.
- \* Relative contraindications to use of lithium include renal impairment, acute myocardial infarction, myasthenia gravis, pregnancy, and complicated fluid and salt balances.

## ELECTROCONVULSIVE THERAPY

Charles A. Welch, M.D.

Dr. Welch nicely blended a review of the theories behind the workings of electroconvulsive therapy (ECT) with the current standards of practice.

- \* ECT has superior efficacy in the treatment of affective illness when compared to drug treatments.
- \* ECT is a primary treatment for delusional depression, catatonia, starvation, or a history of medication non-response (for depressive diagnoses).
- \* There are no absolute contraindications for the use of ECT.
- \* With careful anesthesiologic management, ECT has been used safely in patients with a variety of conditions once thought to prohibit ECT.
- \* The Italians, Ugo Cerletti and Lucio Bini first used ECT (electricity to induce a therapeutic seizure) in 1937.
- \* Relative contraindications to ECT include coronary artery disease (CAD), hypertension (HTN), vascular aneurysms, cardiac arrhythmias, space-occupying lesions, and recent cerebral vascular accidents (CVAs).
- \* Risks associated with ECT and digitalis toxicity, critical aortic stenosis, theophylline use, and increased intracranial pressure, are severe bradycardia, left ventricular injury, post-treatment status epilepticus, and brain stem injury, respectively.
- \* Seizure threshold rises with age.
- \* In general, a patient should be kept NPO for 6-8 hours prior to ECT.
- \* Two standard electrode placements are currently employed for the delivery of ECT to the brain.
- \* In unilateral placement (the d'Elia placement) both electrodes are placed over the same hemisphere.
- \* In bilateral placement, the electrodes are placed over the fronto-temporal areas.
- \* Non-dominant unilateral ECT always produces significantly less cognitive side effects than bi-temporal treatment.
- \* Seizures greater than two minutes should be abbreviated since they are no more effective and are likely to cause severe confusion.



- \* Post-treatment confusion is often driven by complex partial seizures.
- \* Newer ECT devices deliver a constant current brief-pulse stimulus of electricity.
- \* Sine wave and brief pulse stimulation are equally effective at inducing seizures but brief pulse treatment is associated with less cognitive disturbance.
- \* The drug of choice for attenuation of ictal sympathetic response to ECT is a short-acting injectable beta-blocker (either labetalol or esmolol)
- \* Regardless of electrode placement, virtually all patients experience anterograde memory deficits (difficulty remembering new information) that typically resolves within a month after the last treatment.
- \* Improvement after one treatment is common, but most depressed patients require 7-8 treatments to achieve a full remission of illness.
- \* Relapse develops in about 50% of ECT-treated patients at 12 months; most of these occur in the first six months.
- \* Risk factors for early relapse following ECT include history of medication resistance prior to ECT, "double depression," delusional depression, post-stroke depression, and dexamethasone non-suppression after ECT.
- \* Our circadian rhythm typically functions on a 25-hour cycle.
- \* Lesions of noradrenergic neurons (as in the locus coeruleus) result in decreased EEG signs of wakefulness and decreased REM.
- \* Lesions of serotonergic neurons (raphe nuclei) result in insomnia relieved by treatment with serotonin precursors (e.g., L-tryptophan).
- \* Narcolepsy involves a clinical tetrad, with irresistible sleep attacks, cataplexy (i.e., the loss of muscle tone) often triggered by emotions, sleep paralysis, and hypnagogic hallucinations.
- \* Narcolepsy is a disorder of immediate REM onset.
- \* Sleep apnea is diagnosed by having > 30 apneic episodes during seven hours of REM and NREM sleep.
- \* Depression is associated with early morning awakening and reduction in REM latency (which normalizes with effective treatment of depression).
- \* Examples of parasomnias include somnambulism (sleepwalking), night terrors, enuresis, and nocturnal bruxism (teeth grinding).
- \* Those afflicted with parasomnias, e.g., sleepwalking, are difficult to arouse during the episode, and are usually amnesic for these behaviors.
- \* Narcolepsy, sleep apnea, or the Klein-Levin syndrome may cause EDS (excessive daytime somnolence).

## SLEEP DISTURBANCES

Theodore A. Stern, M.D.

Dr. Stern provided a comprehensive overview of sleep architecture and sleep disorders. He covered diagnostic considerations and treatment approaches and highlighted the talk with questions likely to be asked on the board exam.

- \* Sleep disorders are often categorized into the: DIMS (disorders of initiation and maintenance of sleep), DOES (disorders of excessive sleep), disorders of the sleep-wake cycle, and parasomnias.
- \* REM (rapid eye movement) sleep alternates with NREM (non-REM) sleep at 90-minute intervals. It is associated with a decrease in muscle tone, a high incidence of dream recall if awakened, low voltage random fast activity (with saw-tooth waves) on the EEG, and the potential for penile turgidity.
- \* Delta (comprising stages 3 and 4) sleep is the deepest stage of sleep.

## NEUROMUSCULAR DISEASE

Shahram Khoshbin, M.D.

Dr. Khoshbin described in an elegant fashion the organization of components responsible for neuromuscular disease. He identified motor neuron disease as originating from problems in anterior horn cells, radiculopathies from the dysfunction of nerve roots, generalized neuropathies and mononeuropathies from disorders of peripheral nerves, neuromuscular diseases from the neuromuscular junction, and myopathies from diseases of muscle fibers.

- \* The motor unit is comprised of the anterior horn cell, the axon, the neuromuscular junction, and the muscle fiber.
- \* The peripheral nervous system is composed of sensory receptors, sensory axons, dorsal root ganglion cells, the



dorsal root, the spinothalamic tract, the dorsal columns, and the motor unit.

- \* Amyotrophic lateral sclerosis (Lou Gehrig's disease) is an example of a motor neuron disease.
- \* Guillain-Barre syndrome is an acute inflammatory demyelinating polyradiculoneuropathy (an ascending sensori-motor neuropathy) that typically follows a viral infection.
- \* Disorders of the neuromuscular junction include myasthenia gravis (a post-synaptic disorder), Eaton-Lambert syndrome (a pre-synaptic disorder), botulism, and may result from toxic-metabolic conditions (e.g., organophosphates and spider bites).
- \* Duchenne's Muscular Dystrophy is a sex-linked disorder that begins at roughly four years of age, and progresses rapidly; myocardium is usually involved.

## ALCOHOLISM

John A. Renner Jr., M.D.

Dr. Renner demonstrated his vast clinical experience with alcoholism and presented a fact-filled presentation on the epidemiology, diagnosis, and neurobiology of alcohol abuse and alcohol-related syndromes. He also discussed the medical management of substance abuse at length.

- \* Alcohol (and drug) problems are the second most common mental disorders, affecting 7% of adults.
- \* Twenty-five to 50% of suicides involve alcohol.
- \* The Michigan Alcoholism Screening Test (MAST) is a 25-question, true-false, practical screening test for alcoholism.
- \* The CAGE screening test for alcoholism asks the questions:
  - \* Have you ever thought you should cut down?
  - \* Have you ever been annoyed by others' complaints?
  - \* Have you ever felt guilty over drinking?
  - \* Have you ever had a morning eye-opener?
- \* When three responses to the CAGE test are "yes," alcoholism is always present.
- \* A Blood Alcohol Concentration (BAC) >150 mg % in a person who does not appear very intoxicated, or >300

mg % in any awake person is evidence of physical addiction (tolerance) to alcohol.

- \* Delirium tremens (DTs) typically involves a triad of symptoms: confusion, tremor (with hyperactivity), and elevated vital signs; it usually lasts 3-10 days.
- \* Fetal Alcohol Syndrome (FAS) usually involves an infant who shows signs of alcohol withdrawal, an early stage of liver disease, mental retardation, retarded weight and height, as well as wide set eyes, a short, broad-bridged nose, and congenital heart disease.
- \* Stages of change in the psychiatric management of alcoholism involve pre-contemplation, contemplation, preparation, action, and maintenance.
- \* Long-acting benzodiazepines are the drugs of choice for most uncomplicated alcohol detoxification programs.
- \* Use of disulfiram (Antabuse) may exacerbate psychosis as it inhibits dopamine beta-hydroxylase and increases CNS dopamine.
- \* Use of naltrexone (ReVia) reduces the frequency of serious alcohol relapse; it also reduces alcohol craving and euphoria.
- \* Dysphoria and depression in alcoholics may continue for months or years after detoxification.

## DRUG ABUSE

David R. Gastfriend, M.D.

Dr. Gastfriend discussed current epidemiological trends of drug (e.g., narcotics, stimulants, and hallucinogens) use and abuse and reviewed the diagnostic criteria for each of these disorders. Treatment strategies and models of change were also reviewed.

- \* The prevalence of heroin use is increasing as the purity of the drug has improved and as its cost has decreased.
- \* Marijuana is the most common illicit drug of abuse.
- \* After use of phenobarbital, phencyclidine (PCP), and marijuana (delta 9-THC), positive results can be detected on urine toxicology screening tests for more than 3 days.
- \* Opiate withdrawal may present with diaphoresis, yawning, lacrimation, tremor, rhinorrhea, irritability, dilated



pupils, insomnia, tachycardia, hypertension, nausea, vomiting, and abdominal cramps.

Heroin, methadone, and morphine tend to affect Mu opioid receptors, rather than either delta or kappa receptors.

Dopamine agonists include bromocriptine, amantadine, pergolide, and mazindol.

Management of acute PCP intoxication involves verbal reassurance, low environmental stimulation, acidification of the urine (pH < 5.0) to enhance excretion, and when severe, airway protection, IV diazepam, and use of neuroleptics.

Acute effects of opiates may include analgesia, euphoria, lethargy, smooth muscle inhibition (constipation, urinary hesitancy, miosis), orthostatic hypotension, nausea, and vomiting.

- \* Stages of change for substance abuse have been thought to include pre-contemplation, contemplation, determination, action, maintenance, and relapse.
- \* Binges of cocaine use may be associated with paranoia, delusions, assaultiveness, or delirium.
- \* Medical complications associated with cocaine abuse include hypertension, acute myocardial infarction, cardiac arrhythmia, pulmonary edema, stroke, seizures, abruptio placentae, anosmia, nasal septum perforation, HIV infection, and sexual dysfunction.
- \* Chronic use of cocaine decreases the threshold for CNS neuron firing, which may lead to spontaneous depolarization (manifest by seizures and paranoia), as a consequence of a process known as kindling.
- \* Naloxone (Narcan) is a pure opiate antagonist with a duration of action of 1-4 hours; its use may precipitate withdrawal in narcotic-dependent individuals.
- \* Clinical manifestations of alcohol withdrawal include tremor, paroxysmal sweats, anxiety, agitation, sensory illusions and hallucinations, and disorientation.
- \* Long-acting benzodiazepines (e.g., chlorthalidone and diazepam) are the drugs of choice for most cases of alcohol detoxification.
- \* Lorazepam may be best for patients withdrawing from alcohol with moderate to severe liver disease because it requires a simpler metabolic degradation pathway.
- \* Disulfiram (Antabuse) works best for alcohol-abusing patients who are stable, employed, and well supervised.

- \* When disulfiram-induced hepatitis develops the drug should be stopped promptly.
- \* Naltrexone (ReVia) reduces the frequency of serious alcohol relapse.
- \* Alprazolam is not completely cross tolerant with other benzodiazepines.
- \* Acute withdrawal from cocaine requires no specific treatment.
- \* Naloxone (Narcan) can reverse the signs and symptoms of narcotic overdose.
- \* Clonidine, an alpha-2-adrenergic agonist suppresses firing in the locus coeruleus and reduces symptoms of narcotic withdrawal.

## FORENSIC PSYCHIATRY

Ronald Schouten, M.D., J.D.

Dr. Schouten, trained both as a psychiatrist and an attorney, succinctly defined and explained commonly used terms related to forensic psychiatry, and guided the audience to the role of psychiatrists in the legal system.

- \* A tort is a civil wrong giving rise to the right to sue for damages.
- \* Assault is an intentional, unlawful threat of physical injury directed to another person where that person has a well-founded belief that injury may occur.
- \* Battery is the intentional touching of another without their consent and without justification; contact has to occur
- \* In the professional standard of informed consent, the amount of information provided is that which the reasonable medical practitioner would provide under the same circumstances.
- \* For malpractice to be found, the "4 D's" must be present: a Dereliction of a Duty, which Directly causes Damages.
- \* The most common allegations of psychiatric malpractice are improper diagnosis and/or treatment; violation of rights; inadequate monitoring; sexual misconduct; medication-related adverse outcomes; and failure to ensure safety.



- Abandonment is the unilateral and unjustified termination of a doctor-patient relationship by the physician without reasonable notice, which leaves the patient without treatment; this becomes actionable if injury results.
- The materiality standard of informed consent provides the information that the average patient would require when making a decision under the same circumstances.
- When determining competency, one should establish if the patient evidences a choice, is able to understand the relevant information, is able to appreciate the seriousness of the condition and the consequences of accepting or rejecting treatment, and is able to manipulate the information provided in a rational fashion.
- Exceptions to requiring informed consent include emergency situations, where a waiver is present, and when there is therapeutic privilege.
- Informed consent is a process by which one individual agrees to allow another individual to intrude upon their bodily integrity or other rights where the agreeing party is competent to consent and the consent is given voluntarily and with a reasonable degree of knowledge of the factual situation.
- Abandonment is the unilateral and unjustified termination of a doctor-patient relationship by the physician without reasonable notice, which leaves the patient without treatment; this becomes actionable if injury results.
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- Exceptions to requiring informed consent include emergency situations, where a waiver is present, and when there is therapeutic privilege.
- Confidentiality is the duty of a professional to keep matters revealed in confidence from third parties.
- Exceptions to confidentiality include emergencies, waivers, incompetence, commitment, statutory reporting requirements, statutory exceptions (e.g., malpractice allegations), and the duty to protect third parties.
- All competent individuals have a right to make decisions concerning their own medical treatment even though the decision may be at odds with the decision of their physician or with what a majority of others might choose under the same circumstances.
- The Tarasoff legacy provides psychiatrists with a basic duty to warn if a therapist knows or should know of a patient's potential for substantial harm to an identified or readily identifiable individual.
- The M'Naghten test says that to establish a defense on grounds of insanity, it must be clearly proved that at the time the act was committed the party accused was laboring under such a defect of reason (from disease of the mind) as not to know the nature and quality of the act he was doing, or if he did know it, that he did not know what he was doing was wrong.
- In a forensic evaluation the client is the attorney, court or agency, and the patient is not; confidentiality is absent.

## FAMILY THERAPY

Anne K. Fishel, Ph.D.

Dr. Fishel delivered a scintillating presentation on the theory and practice of family therapy; she used vibrant clinical vignettes to illustrate her points.

- Psychodynamic family therapy is based upon object relations and Freudian theory. Present interpersonal functioning is tied to attachments to past figures, transference objects are in the room, and change occurs serially through insights.
- Experiential family therapy relies on change that occurs in growth experiences in the context of the relationship



between family and therapist; the focus is on the here and now.

- \* Structural family therapy says that structure, not content, is the focus of change; change occurs when structure shifts and the focus is on the present family situation. Salvador Minuchin is a member of this school of thought.
- \* Strategic family therapy notes that change occurs when maladaptive behavioral sequences are interrupted; small changes in behavior set off other changes.
- \* Systemic family therapy says that change occurs when beliefs change. Solutions as well as the power to change lie within the family.
- \* Narrative family therapy emphasizes the power of stories that can lend therapeutic meaning; change is effected through making shifts in conversation.

## MOVEMENT DISORDERS

Martin A. Samuels, M.D.

Dr. Samuels delivered an eloquent presentation on the nomenclature of movement disorders; he also presented a detailed summary of the clinical manifestations of common syndromes having abnormal movements. Treatment of tremors, chorea, myoclonus, tics, and dystonia were also reviewed.

- \* Movement disorders may include too little movement (e.g., paresis, rigidity, or akinesia) or too much movement (e.g., tremor, fibrillation, fasciculation, myoclonus, asterixis, chorea, dystonia, athetosis, hemiballismus, akathisia, or tics).
- \* Tardive dyskinesia refers to the delayed onset of a movement disorder after initiation of a neuroleptic.
- \* Acute dystonia is reversed by use of anticholinergic drugs.
- \* Tremors may be enhanced by use of drugs (e.g., amphetamines, lithium, caffeine, antidepressants, adrenergic agents, and cocaine) and by drug withdrawal.
- \* Essential tremors may be alleviated by use of beta-blockers (e.g., propranolol).
- \* Tics are often alleviated by use of haloperidol or clonidine.

## DIZZINESS

Martin A. Samuels, M.D.

Dr. Samuels provided another stellar discussion, this time about the examination, the differential diagnosis, the laboratory work-up, and the treatment for the patient with dizziness.

- \* When interviewing the dizzy patient one should take an open-ended history and not suggest symptoms to the patient.
- \* Physical examination should include examination of the ear; one should test gait, and determine if there are extrapyramidal signs, a Romberg sign, or changes in orthostatic vital signs changes.
- \* Treatment of dizziness may involve antihistamines (e.g., meclizine), phenothiazines (e.g., promethazine), Belladonna alkaloids (e.g., scopolamine), stimulants (e.g., methylphenidate), and benzodiazepines.

## STROKE

Martin A. Samuels, M.D.

Dr. Samuels delivered a dynamic presentation of the clinical manifestations and diagnostic classification of stroke. In addition, he reviewed the principles of treatment. He noted:

- \* Stroke is the sudden or rapid onset of a neurological deficit in a vascular territory due to a cerebrovascular embolism or hypercoagulable state that lasts > 24 hours; in contrast, a transient ischemic attack (TIA) lasts < 24 hours.
- \* Hypercoagulable states may result from protein S/protein C deficiencies, antithrombin III deficiency, fibrinolytic disorders, antiphospholipid antibody syndrome, paraneoplastic syndrome, or rheological problems (e.g., immobility or obesity).
- \* General measures for treatment of stroke include moderate control of blood pressure, and minimization of fluid intake for 24-48 hours.
- \* Anticoagulation, e.g., with warfarin (Coumadin), keeping the INR between 2 and 3 in reliable patients with significant risks for cerebral embolus (e.g., AF, patent foramen ovale, MI with a dyskinetic left ventricle, and cardiomyopathy) is reasonable.
- \* Aspirin (an antiplatelet drug) and ticlopidine (a drug which blocks the adenosine diphosphate pathway of platelet aggregation) are effective in preventing TIA or stroke.



## SCHIZOPHRENIA

Donald C. Goff, M.D.

Dr. Goff gave a dynamic and fact-filled talk on the historical aspects of schizophrenia before providing information on the current diagnostic criteria, the onset and course, the patterns of inheritance, biological abnormalities, theories of etiology, and treatment approaches.

- \* In 1896 Kraepelin identified dementia praecox (identifying its chronic and deteriorating course) and distinguished it from manic-depressive psychosis.
- \* Bleuler, in 1911, labeled the disorder schizophrenia and emphasized the "4 A's" (autism, ambivalence, associations, and affect) and negative symptoms.
- \* Schneider, in the 1970s, emphasized "first rank" symptoms, i.e., positive symptoms, e.g., hallucinations, delusions, thought insertion.
- \* The prevalence of schizophrenia worldwide is 1%; it typically develops between the ages of 18-25 years in males, and 26-45 years in females.
- \* Stress appears to be a predisposing factor to schizophrenia.
- \* Negative symptoms (e.g., anhedonia, asociality, affective flattening, alogia [poverty of speech], inattentiveness, and apathy) of schizophrenia tend to worsen over time.
- \* Outcome of schizophrenia best correlates with an initial response to medications.
- \* Biological abnormalities of schizophrenia include enlargement of the third and lateral ventricles, decreased size of the anteromedial lobe, reduced neuronal density in the prefrontal cortex, thalamus, and cingulate gyrus.
- \* Smooth pursuit eye movements (SPEM) are abnormal in 50-85% of schizophrenic patients, and in 45% of their first-degree-relatives.

## DELIRIUM

Eugene V. Beresin, M.D.

Dr. Beresin delivered a fact-filled discourse on the etiology, manifestations, course, and treatment of delirium; extensive lists of medical causes and diagnostic tests were also provided.

- \* Delirium is one of the most common (10%-40% of hospitalized individuals) and most serious of mental disorders; hospital mortality ranges from 10%-65%.
- \* Delirium involves decreased attention and memory, disorientation, and disturbances in perception, consciousness, and the sleep-wake cycle.
- \* A variety of drugs (e.g., anticholinergics, TCAs, lithium, digitalis, narcotics, corticosteroids), withdrawal states (e.g., secondary to sedative-hypnotics, alcohol), and medical conditions (e.g., hypoglycemia, hypertension, hyponatremia, cardio-respiratory failure, thiamine deficiency, intracranial hemorrhage, head trauma, partial seizures, infections) can induce delirium.
- \* Management of delirium relies on identification and treatment of underlying medical causes and general management of symptoms (with psychotherapeutic, environmental, and pharmacological interventions).
- \* Haloperidol is the high-potency neuroleptic most studied for the management of agitated, delirious states.
- \* A rare complication associated with use of haloperidol and other neuroleptics is QTc prolongation and torsades de pointes arrhythmia.
- \* Delirium can be distinguished from dementia by its acute onset, brief duration, fluctuating course, impaired attention, lucid intervals, and abnormal EEG pattern.

## ASSESSMENT AND TREATMENT OF SEXUAL DYSFUNCTION

Derek C. Polonsky, M.D.

Dr. Polonsky presented a comprehensive overview of sexual disorders and sexual dysfunction. The history of the field and a detailed description of manifestations and causes of specific sexual disorders in men and women were included. In addition, therapeutic techniques were discussed.

- \* Survey data reveals that 35%-45% of the population is affected by serious sexual problems.
- \* The four-phase theory of Masters and Johnson involves desire, arousal, orgasm, and resolution.
- \* Premature ejaculation is the most common sexual dysfunction in males, occurring in 25%-40% of men.
- \* Paraphilias are a group of disorders whose essential features are recurrent, intense urges and sexually arousing fantasies generally involving non-human



objects, suffering, humiliation of one's self or partner, or children or other non-consenting adults.

- \* Causes of erectile dysfunction include performance anxiety, vascular disease, diabetes, thyroid dysfunction, cigarette smoking, multiple sclerosis, and prostate surgery.
- \* The physiological basis for an erection involves the production of nitric oxide (a neurotransmitter that results in production of cyclic guanosine monophosphate [cyclic GMP]) that leads to relaxation of smooth muscle in penile arteries. Cyclic GMP is broken down by phosphodiesterase.
- \* Viagra inhibits phosphodiesterase; it is efficacious in 70% of cases of erectile dysfunction (ED).
- \* Use of Viagra is contraindicated with co-administered nitrites.
- \* As aging occurs, more direct genital stimulation may be required for sexual arousal.
- \* SSRIs decrease sexual desire in about 80% in individuals, with inhibited orgasm in both men and women.

## ANTIPSYCHOTIC PHARMACOLOGY I AND II

Donald C. Goff, M.D.

Dr. Goff presented the audience with a solid foundation regarding the use of antipsychotic agents, and supported the discussion with details about their basic pharmacology and side-effect profiles.

- \* Conventional (typical) antipsychotics or neuroleptics are dopamine D2 blockers, which produce extrapyramidal symptoms (EPS), and elevate prolactin levels.
- \* Atypical antipsychotics share D2 and 5HT2 antagonism, and a reduced tendency to induce EPS.
- \* Atypical antipsychotics are more effective than typical agents for negative symptoms.
- \* Thioridazine is associated with a pigmentary retinopathy at doses > 800 mg/day.
- \* Neuroleptics impair heat regulation.
- \* Dystonic reactions induced by antipsychotic agents can be treated with benzotropine, diphenhydramine, or diazepam.

- \* Akathisia may be treated with lowering the neuroleptic dose, or addition of a beta-blocker, an anticholinergic agent, or a benzodiazepine.
- \* Risk factors for the development of tardive dyskinesia include old age, more than six months of neuroleptic exposure, a history of Parkinsonian side effects, diabetes, and affective disorders.
- \* Neuroleptic malignant syndrome (NMS) is associated with confusion, muscular rigidity, diaphoresis, fever, mutism, autonomic instability, and elevated CPK.
- \* Clozapine is a weak D2 antagonist, with relatively greater D1 and D4 antagonism; it is strongly anticholinergic, and is an antagonist of alpha-adrenergic, histaminergic, and serotonergic (5HT2) receptors.
- \* Agranulocytosis (< 500/cubic mm) occurs in 1.6% of clozapine-treated patients when taken for > 52 weeks.
- \* Risperidone is a 5-HT2 and D2 antagonist, that also antagonizes D4, noradrenergic, and histaminergic receptors.
- \* Conventional agents increase the density of post-synaptic D2 receptors (i.e., supersensitivity).
- \* Conventional agents produce depolarization blockade in A9 (substantia nigra) and A10 (ventral tegmental) dopamine neurons.
- \* Atypical agents produce dopaminergic blockade in A10 neurons only.
- \* A9 nigrostriatal neurons are responsible for EPS; A10 mesolimbic neurons are possible associated with psychosis; A10 mesocortical neurons are associated with negative symptoms.
- \* Hyperprolactinemia is associated with 72% blockade of dopaminergic neurons.
- \* When 65 % of dopaminergic neurons are blocked, efficacy results; when 78% are blocked, EPS and akathisia result.
- \* Side effects associated with low-potency antipsychotics include sedation, hypotension, weight gain, and anticholinergic symptoms.



## OBSESSIVE-COMPULSIVE DISORDERS

Michael A. Jenike, M.D.

In a comprehensive lecture, Dr. Jenike treated the audience to a bevy of facts about obsessive-compulsive disorder (OCD) and its related disorders. He laced the presentation with humorous vignettes that highlighted the clinical issues.

- \* The prevalence of OCD is 2%-3% of the US population.
- \* Medications and cognitive-behavioral therapy (CBT) are the two primary treatments for OCD.
- \* Drugs found partially successful for OCD are clomipramine, fluoxetine, fluvoxamine, paroxetine, sertraline, and citalopram.
- \* The behavioral techniques found useful for the treatment of OCD are exposure and response prevention.
- \* OCD is a chronic illness; it is rarely cured.
- \* The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) is a 10-item scale that assesses the severity of OCD.
- \* The diagnosis of OCD requires either obsessions or compulsions, which cause significant distress or interferes with social or role functioning.
- \* Two-thirds of OCD patients develop major depression during their lifetime.
- \* For cases of severe OCD, several neurosurgical techniques (i.e., subcaudate tractotomy, cingulotomy, limbic leucotomy, and anterior capsulotomy) have been employed.

## EPILEPSY I AND II

Shahram Khoshbin, M.D.

Dr. Khoshbin presented a wide range of material related to seizure disorders. His use of artistic images (of paintings and sculpture) invigorated and broadened our appreciation of affects and behaviors through the ages. His classifications and descriptions of a variety of seizure disorders were enlightening.

- \* Unlike myoclonic seizures, akinetic seizures are characterized by a loss of muscle tone.
- \* A seizure is defined as an epileptic and paroxysmal change in behavior usually associated with an alteration in, or loss of consciousness.

- \* Epilepsy is characterized by recurrent paroxysmal abnormalities in brain function associated with abnormal electrical discharges from neuronal aggregates.
- \* Todd's paralysis occurs after a focal motor seizure.
- \* In persons with partial seizures, neuroimaging techniques (e.g., MRI) have been able to detect brain lesions (e.g., cortical dysplasia, tumors, strokes, vascular malformations) that previously could only be detected with biopsies.
- \* The neuroimaging findings in patients with generalized seizures are typically unrevealing.
- \* An aura is the sensation that precedes the loss of consciousness in partial seizures.
- \* Nearly half of all adult seizure patients will claim to have petit mal epilepsy, but this condition usually occurs in children between 2 and 9 years old; it is almost never seen in adults.
- \* Consciousness is maintained in simple partial seizures.
- \* Complex partial seizures are the most common type of seizure seen in adult medicine.
- \* Affective symptoms are characteristic of complex partial seizures.
- \* Ictal fear is one of the most common symptoms of complex partial seizures.
- \* An inter-ictal personality disorder has been characterized in patients with complex partial seizures; it includes deepened philosophical interests, hypergraphia, altered sexuality, aggressivity, viscosity, and religiosity.
- \* Movements suggestive of pseudoseizures include pelvic thrusting, out-of-phase movements of arms and legs, and side-to-side movements of the head.
- \* When confusion and autonomic signs do not follow generalized seizures, pseudoseizures should be considered.
- \* A normal electroencephalogram (EEG) does not rule out correlation between behavior and seizures, as most mesial temporal lobe foci cannot be seen on a regular surface EEG.
- \* Carbamazepine is indicated in the treatment of complex partial seizures.
- \* Valproate and lamotrigine are indicated in the treatment of generalized and partial seizures.



- \* Ethosuximide is indicated in the treatment of absence seizures.

## TEST TAKING STRATEGIES

Jeff Q. Bostic, M.D., Ed.D.

Dr. Bostic, a trained educator as well as a psychiatrist, presented a lively and humor-filled approach to test taking. He described the components of part I of the written examination and instructed the audience on how to prepare, how to take the exam, and how to manage anxiety. His advice included:

- \* To become a test-taker, take tests.
- \* Study recent textbooks and review articles.
- \* Study over a longer time; don't cram.
- \* Approach the exam in a systematic fashion; pace yourself.
- \* Focus on key words in both the item stems and in the answers to clarify the purpose of each question.
- \* Circle correct answers on the test booklet as well as filling them in on the answer sheets; this strategy enhances rapid review of items, and for proper linkage of items and the numbers on the answer sheet. It is OK to change answers after further consideration.
- \* Guess, after trying to narrow down possible choices; guessing is not penalized.
- \* Practice relaxation-training exercises.
- \* Minimize undue anxiety to allow for enhanced concentration.

## NEUROIMAGING

Scott L. Rauch, M.D.

Dr. Rauch provided a comprehensive overview of the currently available neuroimaging techniques (e.g., CT, MRI [with and without contrast, T1 or T2 weighted, and diffusion weighted images [DWI], SPECT [single photon emission computerized tomography], PET [positron emission tomography], fMRI [functional magnetic resonance imaging], MRS [magnetic resonance spectroscopy]).

- \* CT poorly distinguishes white matter and grey matter, but is good for identifying a fresh bleed.

- \* MRI is preferred over CT scans of the head when superior soft tissue resolution is desired, or when posterior fossa pathology is suspected, or when radiation exposure is contraindicated (e.g., pregnant women or in women of childbearing age).
- \* Clinical indications for functional neuroimaging in neuropsychiatry include aiding in the differential diagnosis of dementia, evaluating seizure disorders, evaluating movement disorders, evaluating stroke, and evaluating brain tumors.
- \* Functional imaging is primarily a research tool; however, PET is more sensitive than SPECT.
- \* In Alzheimer's Disease, CT and MRI tend to detect diffuse cortical atrophy (greater in temporal lobes and the hippocampus, with an increase in ventricular volume).
- \* Bones and calcium are essentially invisible to MRI.
- \* Multi-infarct or vascular dementia tends to show multiple cortical and subcortical infarcts and diffuse atrophy.
- \* CSF (cerebrospinal fluid) shows up as white on T2 imaging; on T1 images, CSF is shown as black.

## BASIC NEUROTRANSMITTERS AND RECEPTORS

Stephan Heckers, M.D.

If you ever wondered how the brain gives rise to abnormal thinking and behavior, then you were treated to a remarkable review of the anatomic underpinning and neural circuitry of the brain. Dr. Stephan Heckers, systematically outlined and graphically represented the relationship between genes, cells, and neural circuits (e.g., of somatosensory, auditory, and visual systems) and their impact on information processing. Presentation of this framework enabled an informed discussion of functional localization. Cytoarchitecture of the cortex, as well as the structure and function of several neuroreceptor systems (dopaminergic, noradrenergic, glutaminergic, GABAergic) were also presented.

- \* The most prominent neurotransmitters are the excitatory glutamate and the inhibitory GABA.
- \* Glutamate is the most abundant amino acid in the central nervous system.
- \* Decrease glutamatergic function is probably involved in the creation of psychotic symptoms.



- \* Modulation of gamma amino butyric acid (GABA<sub>A</sub>) receptors is beneficial in the treatment of anxiety disorders, insomnia, and agitation, most likely due to a general inhibition of neuronal activity.
- \* Acetylcholine modulates attention, novelty seeking, and memory via the basal forebrain projections to the cortex and limbic structures.
- \* Acetylcholine acts at both muscarinic receptors and at nicotinic receptors.
- \* Glutamate is the major excitatory receptor.
- \* Serotonin is synthesized by the enzyme amino decarboxylase from 5-hydroxytryptophan (which is derived from tryptophan via tryptophan hydroxylase).
- \* Modulation of serotonergic receptors is beneficial in the treatment of anxiety, depression, OCD, and schizophrenia.
- \* Noradrenergic projections modulate sleep cycles, appetite, mood, and cognition by targeting the thalamus, limbic structures, and cortex. Antidepressant drugs target these projections.
- \* Dopamine projections of the ventral tegmental area (VTA) to limbic structures (e.g., the nucleus accumbens) are known to be involved in reward behavior and the development of addiction to drugs (e.g., ethanol, cocaine, nicotine, and opiates).

## CHILD DEVELOPMENT

Eugene V. Beresin, M.D.

Dr. Beresin presented a comprehensive review of child development, covering theoretical, psychological, and neurological models of development.

- \* At one month an infant follows moving objects and has a preference for the human face.
- \* At two months a social smile develops and the infant listens to voices and coos.
- \* At four months the infant can lift their head, grasp objects and bring them to their mouth, and laugh out loud.
- \* At seven months the infant can roll over and transfer objects from hand to hand.
- \* At nine months creeping begins, the child can grasp and release objects, can repeat consonant sounds, and play peek-a-boo.
- \* At 15 months the preschooler walks alone, builds a tower of 3 cubes, and makes a line with a crayon.
- \* At 24 months the preschooler can build a tower of 6 cubes, perform circular scribbling, and name body parts.
- \* At 36 months the child can copy a circle, and count 3 objects.
- \* At 48 months the child can hop on one foot, throw a ball overhand, and copy a cross and a square.
- \* At 60 months the child can skip, name 4 colors, and copy a triangle.
- \* According to Margaret Mahler symbiosis occurs from 0-4 months, differentiation from 5-9 months (when stranger anxiety occurs), practicing occurs from 10-15 months, rapprochement occurs from 18-24 months, and object constancy develops from 24-36 months.
- \* Object relations theory is associated with Winnicott.

## CHILD PSYCHOPATHOLOGY I

Eugene V. Beresin, M.D.

Dr. Beresin continued his elaboration of child psychiatry with a review of the epidemiology and manifestations of child and adolescent psychiatric disorders, noting that the prevalence of serious psychiatric disturbances in children is 9%-13 %.

- \* While major depression is less common (1%-25%) in children, its rate approaches adult rate of 6%-9% by adolescence.
- \* The prevalence of attention deficit disorder in school-age children is 3%-5%.
- \* Behavioral inhibition, manifest as irritability in infants, fearfulness in toddlers, and as being cautious in introverted school-age children may predispose to panic disorder and agoraphobia in later life.
- \* Family-genetic studies suggest heritability for OCD, particularly in association with Tourette's disorder.
- \* Social phobia in children is often manifest by avoidance of groups, playing alone, refusing to go to school, staying close with familiar adults; they may present with freezing, crying, and tantrums.



- \* Pervasive developmental disorders is a spectrum of disorders that have disruptions in social interactions and communications, cognitive disturbances, and stereotyped behaviors, activities, and interests.
- \* Most (80%) autistic individuals have mental retardation; some have unusual or special capacities (idiot savant skills) in music or math.
- \* 30%-75% of autistic children has neurological abnormalities: poor coordination, hypotonicity or hypertonicity, choreiform movements, tremor, or abnormal gait or posture.
- \* Asperger's syndrome does not present with language impairment or cognitive delay; major problems are with social skills and interactions.
- \* Conduct disorder is co-morbid with ADHD, ODD, mood and anxiety disorders, and substance abuse.

## CHILD PSYCHOPATHOLOGY: II

Eugene V. Beresin, M.D.

Dr. Beresin laced his wisdom-filled presentation with clinical vignettes to highlight the common problems faced by children and adolescents; he covered the topics of diagnosis and treatment related to attention deficit hyperactivity disorder, depression, and bipolar disorder. He also reviewed adolescent suicide, divorce and marital conflict, and maltreatment of children.

- \* ADHD involves a persistent pattern of inattention and or hyperactivity that is more frequent and severe than is expected or observed in individuals at a comparable level of development.
- \* ADHD is frequently co-morbid with conduct disorder, oppositional defiant disorder, mood disorders, anxiety disorders, and learning disorders.
- \* Overall, 30% - 80% of ADHD children have features persisting into adolescence and up to 65% in adulthood.
- \* Forty percent to 70% of children with depression have co-morbid disorders.
- \* Reactions to parental divorce depend upon the age of the child. Infants and young toddlers may become irritable and regressed; those of early school age may feel guilty; school age children may have their school performance slip and become aggressive; while adolescents may withdraw or become pseudomature.

- \* Adolescents may suicide when vulnerable to loss, when they feel no way out, when angry and tense, or resentful, when socially isolated and lonely, and when feeling self-critical.

## GENETICS AND PSYCHIATRY

Christine T. Finn, M.D.

Dr. Finn presented a stimulating and informative look at the interrelationship between genetics and psychiatry and taught the audience about a wide variety of genetic syndromes. She prepared the audience to clarify diagnoses, to understand the risks to families, and to be supportive. Principles of inheritance were reviewed, as was the importance of a family history. Specifics from her presentation included:

- \* Klinefelter syndrome involves a genetic defect on chromosome 47 (XXY pattern); clinical characteristics include hypotonia, clumsiness, tall stature, a small penis and testes, and emotional immaturity.
- \* Turner syndrome involves a defect on chromosome 45; clinical features include short stature, neck webbing, shield chest, gonadal dysgenesis, hypothyroidism, visuo-spatial learning disabilities, and problems with math.
- \* Prader-Willi syndrome involves a defect on chromosome 15q11; characteristics include hypotonia, failure to thrive as an infant, hyperphagia and obesity later on, an increased pain threshold, a low IQ, obsessions and compulsions, temper tantrums, and anxiety.
- \* Huntington disorder involves an expression of a CAG repeat on chromosome 4p16; physical findings include progressive motor dysfunction, dysarthria, cognitive decline, psychosis, mood lability, and a high rate of suicide.
- \* Tuberous sclerosis involves a mutations on chromosome 9p34 and 16p13.3; findings include dental pits, hypopigmented macules, as well as cardiac, ophthalmic, renal, and CNS problems.
- \* Neurofibromatosis involves a mutation on chromosome 17q11.2; findings include skin pigmentation, neurofibromas, bone abnormalities, and learning disabilities.
- \* Velocardiofacial/DiGeorge syndrome involves a deletion on chromosome 22; findings include cleft lip/palate, scoliosis, seizures, hypotonia, speech and motor delays, mental retardation, and congenital cardiac defects.



- \* Williams syndrome involves a deletion on chromosome 7q11; findings include cardiovascular abnormalities, elfin appearance, connective tissue disease, ADHD, mental retardation, and short stature.
- \* Fragile X syndrome involves changes in the FMR 1 gene (Xq27.3); findings include larger testes, a long face, large jaw, prominent forehead, hyperextensible joints, seizures, mood lability, and seizures.
- \* Wilson disease involves reduced levels of copper transport, cognitive decline, mood disorders, and basal ganglia dysfunction.
- \* Fetal alcohol syndrome presents with microcephaly, a characteristic facial appearance, and ADHD.
- \* Estimated risks for first degree relatives with schizophrenia, bipolar disorder, major depression, and panic disorder are 10-15%, 5-8%, 5-25%, and 4-17%, respectively.

## SOMATIC PAIN

Shahram Khoshbin, M.D.

Dr. Khoshbin delivered another thoughtful presentation. Pain, its pathophysiology and clinical manifestations, was reviewed. In specific, Dr. Khoshbin noted:

- \* Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage.
- \* Substance P is a neurotransmitter located in the substantia gelatinosa that is thought to mediate pain from the dorsal root ganglion.
- \* Surgical treatments of pain include neurectomy, rhizotomy, cordotomy, thalamotomy, and lobotomy.
- \* Control of pain via peripheral mechanisms can be achieved with use of NSAIDs, TENS, anticonvulsants, substance P inhibitors, and acupuncture.

## HEADACHE

Shahram Khoshbin, M.D.

Dr. Khoshbin continued his review of neurology with a comprehensive discussion of headache and its treatment. He noted:

- \* Headache can be classified into migraine, tension type headache, cluster headache, headache with systemic disorders, headache with cranial disorders, and neuralgias.
- \* Migraine headaches can be classified as migraines either with or without auras, ophthalmoplegia and retinal migraines, periodic syndromes of childhood, complicated migraines, and atypical migraines.
- \* Migraines without auras typically last 4-72 hours and are unilateral, pulsating, and severe; they are associated with nausea, vomiting, photophobia, and they are aggravated by physical activity.
- \* Tension type headaches tend to be bilateral and last for 30 minutes to 7 hours; they are manifest by pressure, tightening, and non-pulsatile pain.
- \* Cluster headaches are severe, unilateral (orbital, supra-orbital, or temporal); they last for 15-180 minutes and are associated with conjunctival injection, lacrimation, nasal congestion, rhinorrhea, miosis, ptosis, and edema of the eyelid.
- \* Cluster headaches occur in bursts; they are separated by pain-free periods of at least 14 days.
- \* Trigeminal neuralgia tends to have paroxysmal attacks lasting a few seconds to < 2 minutes, with a distribution in the 5th cranial nerve.
- \* The pain of trigeminal neuralgia is sudden, intense, sharp, and superficial; eating, talking, washing, or brushing the teeth often triggers it.
- \* 5HT1 agonists abort headaches, while 5HT2 antagonists prevent headaches.

## PERSONALITY DISORDERS

Robert J. Waldinger, M.D.

Dr. Waldinger provided a detailed and thoughtful approach to the diagnosis and management of personality disorders, punctuated by humorous comments which highlighted clinical points.

- \* Personality disorders involve inflexible and maladaptive responses to stress.
- \* Those with personality disorders are severely handicapped in nearly all areas of life (e.g., working and loving).



- \* People with personality disorders commonly experience their problems and feel the problem lies in their environment, not in themselves.
- \* Personality disorders do not begin suddenly; a sudden behavioral change should suggest the possibility of a CNS disorder (e.g., tumor, CVA, or seizure disorder), incipient psychosis, or substance abuse.
- \* Individuals with a paranoid personality disorder often use projection and attribute their motives, thoughts, or feelings to someone else, because they are unacceptable to oneself.
- \* Persons with a schizoid personality disorder often appear odd and withdrawn; their defensive style often involves a withdrawal into fantasy.
- \* Individuals with antisocial personality disorder usually come for help only under duress or to get something (e.g., to avoid legal proceedings); they use acting out as a defense.
- \* Sufferers of borderline personality disorder have chaotic relationships, an intolerance of being alone, low tolerance of affect, an identity disturbance, self-destructive behavior, and tend to use projective identification, splitting, and denial as defenses.
- \* The prevalence of borderline personality disorder is 2%-4%; afflicted individuals are at higher risk for depression and substance abuse.
- \* Those with histrionic personality disorder often use emotional displays to control others and to get them to take responsibility for them; they use repression and somatization as defenses.
- \* Persons with narcissistic personality disorder crave attention, are sensitive to slights, are filled with a sense of entitlement, lack empathy, and use projection, splitting, and idealization.
- \* Cluster C (anxious or fearful) personality disorders include avoidant personality disorder, dependent personality disorder, and obsessive-compulsive personality disorder.
- \* Those with avoidant personality disorder use avoidance as a defense and manifest extreme sensitivity to rejection, but long for relationships.
- \* Patients with dependent personality disorders tend to get others to take care of them, and cling to relationships (even when abusive); they are preoccupied with

fears of abandonment and use projection and avoidance as defenses.

- \* Individuals with obsessive-compulsive personality disorders are often preoccupied with the "right" way to do things; they are inflexible, intolerant of the weaknesses of others, and use isolation of affect and intellectualization as defenses.

## SUICIDE

Theodore A. Stern, M.D.

Dr. Stern provided a well-organized overview of the epidemiology and risk factors for suicide, and outlined key points necessary for the evaluation of suicide potential. He used numerous clinical vignettes (and gallows humor) to highlight the clinical dilemmas associated with the management of suicidal patients. Dr. Stern also reviewed the medico-legal aspects related to suicidal patients.

- \* Suicide accounts for more than 30,000 deaths each year in the US, resulting in a rate of 12.7/100,000.
- \* Evaluation of suicidal potential can be complicated by the physicians' emotional reactions (e.g., anger or anxiety) with the patient.
- \* Major depression accounts for 50% of completed suicides.
- \* Roughly 15% of those with serious, untreated affective illness die by suicide.
- \* Twenty-five percent of completed suicides are thought to be a result of alcoholism and drug dependence.
- \* Schizophrenia accounts for 10% of completed suicides; 10% of those with schizophrenia eventually suicide.
- \* Those who have never married are at highest risk for suicide, followed by those who are widowed, separated, divorced, or married.
- \* Precipitants for suicide include a response to hallucinations or delusions, an escape from pain or suffering, and a response to feeling hopeless, helpless, or trapped.



## GERIATRIC PSYCHIATRY

Gary Gottlieb, M.D., M.B.A.

Dr. Gottlieb eloquently reviewed the characteristic features of a variety of dementing illnesses and discussed methods to screen for, and manage these disorders. In addition, the diagnosis and treatment of geriatric depression were highlighted.

- \* Alzheimer's Disease (AD) affects roughly 8% of those greater than 65 years old.
- \* AD accounts for two-thirds or more of all dementia cases.
- \* Beginning at age 60, the prevalence of AD doubles every five years.
- \* The APOE-4 allele increases the likelihood of developing AD and decreases the age at onset.
- \* Vascular dementia accounts for 15% of all dementia cases.
- \* Pathologic changes detected in the brains of individuals with AD include the presence of neurofibrillary tangles, neuritic plaques, and amyloid in the neuropil.
- \* Cholinesterase inhibitors are the only class of drug proven to enhance cognitive function.
- \* Options for treatment of cognitive decline associated with dementing illnesses include Aricept (donepezil), Exelon (rivastigmine), Cognex (tacrine), vitamin E (alpha-tocopherol), and Eldapryl (selegeline).
- \* Vascular dementia, in general, presents and progresses in a slow, stuttering, stepwise manner.
- \* Diffuse Lewy Body Disease (DLBD) typically presents with more movement disorders and hallucinations than does AD.
- \* Frontal lobe dementias tend to present with prominent personality changes (e.g., indifference, and disinhibition) and behavioral changes (e.g., a loss of personal or social awareness and stereotyped behaviors).
- \* As many as 30% of patients with dementia have major depression.
- \* Surveys of geriatric individuals (mean age 79 years) in nursing homes reveal a prevalence of 23.7% for depression.
- \* The elderly commit 25% of all suicides.

- \* As many as 25%-50% of individuals develop post-stroke depression in the first two years following the stroke.

## GRIEVING

Ned H. Cassem, M.D. and Paula K. Rauch, M.D.

Drs. Cassem and Rauch presented a moving discussion about the care of adults and children at the end of life. They ably described why individuals request euthanasia and discussed how someone can maintain hope. The search for the meaning of the individual was highlighted and a developmental approach was explained. Finally, the impact of the doctor-patient relationship at the end of life was stressed.

- \* Reasons for requests for euthanasia include a loss of dignity, pain, and a distressing feeling of being dependent upon others.
- \* A person's life may be defined by many dimensions, including family relationships, culture, ethnicity, education, socioeconomic status, and occupation.
- \* Sick persons want caregivers who care about them and who have expertise in palliative care.
- \* When dealing with the dying it is wise to consider whether speaking is an improvement upon silence.
- \* Children should be prepared for hospital visits to see an ill person; questions should be encouraged and the emotional climate should be described.
- \* Rehearsal of answers given to children is useful; honesty should be encouraged.
- \* Remember that when a patient dies, a doctor suffers.

## IMMUNE AND INFECTIOUS DISORDERS OF THE CENTRAL NERVOUS SYSTEM

Shahram Khoshbin, M.D.

Dr. Khoshbin reviewed immune disorders (e.g., SLE, paraneoplastic syndrome, and Eaton-Lambert syndrome) and demyelinating diseases (e.g., Multiple sclerosis [MS]) of the CNS, and discussed the efficacy of diagnostic testing. Specifically he noted:

- \* In systemic lupus erythematosus (SLE), cognitive dysfunction, depression, migraine, seizures, and psychosis are common.



- \* True vasculitis in SLE is rare.
- \* Neurological features of SLE may also involve confusion, cranial and peripheral neuropathies, meningitis, transverse myelitis, chorea, optic neuritis, and pseudotumor.
- \* HSV-1 encephalitis is generally accompanied by an alteration of consciousness, fever, and headache and may involve personality changes, dysphasia, seizures, hemiparesis, or papilledema.
- \* Neurological complications of HIV-1 infection include aseptic meningitis, chronic meningitis, HIV-encephalopathy, vacuolar myelopathy, sensory neuropathy, and inflammatory demyelinating polyneuropathy, mononeuritis multiplex, and myopathy.
- \* Opportunistic processes associated with HIV-1 infection include cryptococcal meningitis, toxoplasmosis, CMV retinitis, herpes encephalitis, progressive multifocal leukoencephalopathy, primary CNS lymphomas, and systemic lymphomas.
- \* Manifestations of AIDS dementia complex may include global dementia, psychomotor slowing, an unawareness of their illness, disinhibition, confusion, disorientation, weakness, ataxia, pyramidal tract signs, incontinence, and myoclonus.
- \* The target of the autoimmune response is the acetylcholine receptor in myasthenia gravis and the calcium channel receptor in Eaton-Lambert syndrome.
- \* In Guillain-Barre syndrome the antibody is to myelin protein.
- \* In MS, there is a cell-mediated (T-cell macrophage) immune response, where reaction to myelin protein causes brain demyelination.
- \* The incidence of MS peaks between the ages of 20 and 40; it is most common in temperate climates.
- \* The course of MS may be relapsing-remitting or progressive.
- \* The most sensitive diagnostic test for MS is the MRI, which typically reveals multiple lesions in the white matter.
- \* In the CSF of MS patients, a normal or slightly elevated protein, no cells or a few lymphocytes, an increased gamma globulin, and oligoclonal bands are found.
- \* Spongiform encephalopathies (e.g., Creutzfeldt-Jakob disease [CJD]), characterized by dementia and

myoclonus, are due to proteinaceous infectious particles (prions) that can incubate for > 20 years.

## HIGHER CORTICAL FUNCTIONS: APHASIAS, ALEXIAS, AGRAPHIAS, AND AGNOSIAS I AND II

Shahram Khoshbin, M.D.

Dr. Khoshbin delivered a brilliant synthesis of higher cortical functions and delineated and defined clearly a variety of syndromes related to language functions.

- \* Aphasia involves the acquired loss or impairment of language caused by brain injury or brain dysfunction.
- \* Tests of language function involve determination of spontaneous speech (rate, fluency, articulation, prosody), ability to name (objects, body parts, infrequent objects), repetition (short, low information phrases, neologisms), comprehension (following commands, answering questions), reading (oral decoding and comprehension of writing), writing (to dictation and spontaneously).
- \* Broca's aphasia involves non-fluent speech (effortful, dysarthric, sparse, and agrammatic) with relatively good comprehension and impaired repetition and oral reading; it usually results from large left middle cerebral infarcts.
- \* Wernicke's aphasia is fluent, often paraphasic with impaired comprehension, naming, repetition, reading, and writing, usually secondary to a lesion in the superior temporal gyrus or involving the posterior Sylvian region.
- \* A conduction aphasia is fluent, but with paraphasic speech, with good comprehension, but with poor repetition. It usually results from small cortical infarcts in the parietal operculum or supramarginal gyrus.
- \* Agraphia is the acquired impairment of ability to write.
- \* The major deficits in persons with frontal lobe lesions anterior to the motor strip include sympathetic apraxia of the left hand, pseudo-bulbar palsy, aphasia (often non-fluent), frontal release signs (e.g., grasp, root, snout), difficulties in maintenance and reversal of set, organizational deficits, changes in foresight and planning, and changes in personality (either abulic, apathetic, distractible, with a poor attention span with dorsolateral syndromes, or hyperactive, inattentive, garrulous, or confabulatory).



- Individuals with parietal lobe lesions manifest constructional deficits, neglect, confusion, and Gerstmann's syndrome (with right-left confusion, finger agnosia, dysgraphia, and dyscalculia).

## CLINICAL NEUROPHYSIOLOGY: ELECTROENCEPHALOGRAPHY AND EVOKED POTENTIALS

Shahram Khoshbin, M.D.

Once again Dr Khoshbin illuminated the audience with an in-depth review of neurological principles. This time he focused on clinical neurophysiology and the use of the electroencephalogram (EEG), and included a discussion of visual, auditory, and somatosensory evoked potentials. He also reviewed peripheral nerve conduction studies and their implications. Highlights of his presentation included:

- The EEG is ordinarily recorded from the scalp with small surface electrodes.
- The precise origin of the electrical activity is unknown, but most believe the activity represents dendritic synaptic potentials in the cortical pyramidal cells.
- Nasopharyngeal leads are long electrodes that are passed through the nose and rest on the back of the throat near the mesial aspect of the temporal lobe.
- Electrical frequencies are described by Greek letters (e.g., Delta, 0-4 HZ; Theta, 4-8 HZ; Alpha, 8-12 HZ; and Beta, >12 HZ).
- In the normal awake adult with eyes closed there is a prominent alpha rhythm seen in the posterior aspect of the head; the alpha rhythm disappears when the eyes open.
- Abnormalities of the EEG are focal or generalized, continuous or intermittent.
- Increased amounts of slow wave activity (i.e., theta and delta) in a waking record are almost always abnormal.
- FIRDA (frontal intermittent rhythmic delta activity) is indicative of increased intracranial pressure in young people and is a less specific sign of some brain abnormality in the elderly.
- Generalized slowing is a sign of encephalopathy.
- Triphasic delta waves are often seen with hepatic or renal encephalopathies.

- Hypoxic encephalopathies typically have slow waves with low amplitude.
- Increased beta activity is often seen with use of a sedative agent.
- A spike is a single wave, which stands out from background activity; it lasts < 80 msec.
- A sharp wave lasts > 80 msec.
- Hyperventilation, photic stimulation, sleep, sleep deprivation, and use of drugs can bring out epileptic activity.
- Sensory nerve conduction studies assess the number of functioning axons (the amplitude of the sensory nerve action potential) and the state of the myelin of these axons (the conduction velocity).
- In axonal degeneration neuropathies (e.g., diabetic neuropathy) the primary feature is reduced sensory action potential amplitude.
- In demyelinating neuropathies (e.g., Guillain-Barre syndrome) the primary feature is slowing of conduction.
- The amplitude of the muscle action potential is an indicator of the number of activated muscle fibers.
- Myasthenia gravis involves an abnormality at the neuromuscular junction.

## PSYCHOLOGICAL TESTING

Mark A. Blais, Psy.D.

Dr. Blais increased our knowledge of psychological assessment and reviewed the major categories of psychological tests. In addition, he described how these tests can and should be used in clinical practice, and supplemented his presentation with clinical vignettes.

- Reliability represents the repeatability, stability, or consistency of a subject's test score.
- Some form of correlation coefficient, ranging from 0 to 1.0, usually indicates reliability.
- Content validity assesses the degree to which an instrument covers the full range of the target construct.
- Predictive and concurrent validity show how well a test either predicts future demonstration of the construct, or how well it correlates with other current measures of the construct.



- The Wechsler scales provide three major test scores: the Full Scale IQ, the Verbal IQ, and the Performance IQ.
- The Minnesota Multiphasic Personality Inventory (MMPI) is a 567-item, true-false self-report test of psychological functioning.
- The Personality Assessment Inventory (PAI) is one of the newest psychological tests, with 22 scales (4 validity scales, 11 clinical scales, 5 treatment scales, and 2 interpersonal scales), that cover a wide range of axis I and II psychopathology.
- Projective psychological tests (e.g., Rorschach Inkblot Test and Thematic Apperception Test [TAT]) are less structured, and provide the patient with freedom to demonstrate his or her own unique personality characteristics and psychological organizing processes.
- Pharmacokinetic effects are alterations in plasma levels and or tissue concentrations produced by interactions that affect drug absorption, distribution, metabolism, or excretion.
- Pharmacodynamic effects include respiratory depression (from benzodiazepines), prolongation of the QTc (with TCAs, or antipsychotics), anticholinergic symptoms (from diphenhydramine or clozapine), or hypotension (from TCAs, MAOIs, or trazodone).
- Charcoal, antacids, and kaolin-pectin may bind to drug and form unabsorbable complexes.
- Cachexia and liver failure typically reduce serum protein levels, potentially increasing risk of protein binding interactions.
- Inhibition is typically associated with a rapid impact (within hours to days) on blood levels of a relevant co-administered drug.

## DRUG INTERACTIONS

Jonathan E. Alpert, M.D., Ph.D.

Dr. Alpert's encyclopedic presentation described pharmacodynamic interactions and pharmacokinetic interactions, and identified a dozen interactions that are essential for practitioners to know about. A bevy of useful figures and tables were also presented.

- Drug interactions are alterations in drug plasma levels, tissue concentrations, and/or drug effects associated with the use of two or more prescribed, illicit, or over-the-counter agents in close temporal proximity.
- Psychotropic drug interactions rarely imply contraindications to concurrent use.
- Factors that contribute to inter-individual variability in drug levels and treatment responses include age, gender, nutritional status, smoking and alcohol consumption, disease states altering hepatic and renal clearance, genetic polymorphisms, and compliance with recommended dosing.
- Some drug interactions are "friendly;" i.e., they can manage drug-related nausea, reverse drug overdoses, prolong drug actions, and enhance levels of costly drugs.
- Pharmacodynamic effects are alterations in pharmacological effects either produced directly by agonist or antagonist interactions at a common receptor site, or indirectly, at separate but interrelated biological sites.
- Induction is associated with a more gradual effect, over days to weeks (via enhanced synthesis of an enzyme).
- Of the P450 isoenzymes, the most relevant to drug metabolism and interactions are 3A, 2D6, 1A2, and 2C subfamilies.
- Co-administration of MAOIs and sympathomimetics may lead to a hypertensive crisis.
- Use of MAOIs and meperidine may result in a serotonin syndrome.
- Carbamazepine is a potent inducer of metabolism (reducing levels and efficacy) of many psychotropics of all classes, via induction of P450 3A isoenzymes.
- P450 2D6 inhibition by SSRIs, bupropion, and phenothiazines will elevate levels of 2D6 substrates, including TCAs, beta-blockers, and antiarrhythmics.
- Lithium levels will increase with use of thiazides, NSAIDs, and some antimicrobials.
- Inhibition of metabolism by valproate or lamotrigine may elevate the carbamazepine 10,11-epoxide metabolite and increase the risk of toxicity.
- MAOIs should not be initiated until 5 weeks after discontinuation of fluoxetine.
- Mirtazapine is a potent antagonist of the alpha-adrenergic receptor as well as a potent antagonist at the histamine receptor and a moderate antagonist at the muscarinic receptor.



## EVENING SEMINARS

### **SOCIAL, COMMUNITY, AND POPULATION-BASED PSYCHIATRY**

**Paul J. Barreira, M.D.**

Dr. Barreira provided a valuable historical perspective on the development of social and community psychiatry and reviewed landmark studies in the field.

- \* Psychiatric epidemiology is the study of the distribution and determinants of psychiatric disease, defects, and disability.
- \* The Epidemiologic Catchment Area (ECA) Study surveyed more than 20,000 persons in five sites (New Haven, Baltimore, St. Louis, Durham, and Los Angeles), using the NIMH Diagnostic Interview Schedule (DIS) for DSM-III disorders and found a lifetime prevalence of any DSM-III disorder of 32%, and an active caseload of 20%.
- \* Primary prevention involves the discovery and elimination of the causes of mental illness to prevent its occurrence.
- \* Successful primary prevention can be measured by a decrease in the incidence of mental illness in the community.
- \* Successful secondary prevention can be measured by a decrease in the prevalence of mental illness in the community (the number of existent cases of mental illness at any one time). Successful tertiary prevention can be measured by a decrease in the prevalence of disability due to mental illness in the community.
- \* Central concepts of community mental health involve a population focus and responsibility, services provided in the patient's community, and service provided within a continuum of care.

### **INDIVIDUAL THERAPY: THEORY, THEORISTS, AND TERMINOLOGY**

**Anne Alonso, Ph.D.**

Dr. Alonso eloquently described and reviewed a variety of schools of psychological thought by weaving together historical notes about famous theorists with readily accessible vignettes from her own clinical practice.

- \* All psychodynamic theories share a belief in unconscious processes and an understanding in unconscious defenses.
- \* Defense mechanisms are unconscious processes that act to reduce an aversive state, either of anxiety or emptiness.
- \* Denial is a defense to disavow the existence of a painful reality.
- \* Projection assigns to another one's unacceptable wishes or feelings.
- \* Repression makes painful conscious thoughts unconscious.
- \* Projective identification assigns to another one's unacceptable wishes or feelings and then enables acting in a way as to get the other person to display those unacceptable feelings.
- \* Regression is the defense that returns one to a younger mode of thought and behavior in response to stress.
- \* Reaction formation makes unacceptable wishes acceptable by adopting the antithetical affect or attitude.
- \* Identification is the internalization of the qualities of another out of admiration to feel less vulnerable.
- \* Isolation of affect separates a memory or experience from its rightful affect.
- \* Dissociation is the walling off of emotional experiences leading to behavioral or emotional responses that are not integrated.
- \* Rationalization ascribes logical meaning to irrational thought or behavior.
- \* Humor turns unacceptable wishes into jokes.
- \* Sublimation turns unacceptable impulses of the id into acceptable behavior.
- \* Intellectualization focuses on abstract thinking to avoid affect.
- \* Transference involves unresolved feelings that originated in early conflicts with significant others that emerge in attitudes and yearnings towards the therapist.
- \* Schools of psychodynamic theories include object relations, ego psychology, and self-psychology.
- \* Anna Freud is associated with the field of ego psychology.



- \* Melanie Klein is associated with the field of object relations, a field that involves analysis of therapeutic relationships.
- \* The Ornsteins (Anna and Paul) are associated with self-psychology.

## PSYCHIATRIC DISORDERS ASSOCIATED WITH FEMALE REPRODUCTIVE FUNCTION

Ruta Nonacs, M.D., Ph.D.

Dr. Nonacs delivered a comprehensive and practical talk on the prevalence and manifestations of psychiatric disorders associated with reproductive function. She discussed whether mood disorders are different in men than in women and reviewed the treatments for premenstrual dysphoric disorder and for psychiatric illnesses during pregnancy and the post-partum period. Highlights of her presentation include:

- \* The lifetime prevalence for major depression in women is 21.3%; in men it is 12.7%.
- \* Premenstrual dysphoric disorder (PMDD) occurs in approximately 5% of women; treatment often involves SSRIs in low dosages.
- \* Hormonal therapy may be more effective for the physical symptoms of PMDD than for psychiatric symptoms.
- \* Pregnancy is not protective, nor does it reduce the risk for psychiatric illness.
- \* There appears to be no increased risk of congenital malformations with fluoxetine use, based upon more than 2500 exposures to use of fluoxetine in pregnant women.
- \* Lithium use during the first trimester is associated with a 0.1% risk of Ebstein's and other cardiac anomalies.
- \* The risk of neural tube defects associated with the use of valproic acid during pregnancy is 3%-5%.
- \* The post-partum period is a time of increased risk for the emergence of psychiatric illness.
- \* Post-partum blues affects 50%-75% of women after delivery.
- \* Post-partum depression affects 10%-15% of women after delivery.
- \* Post-partum psychosis develops after 1 or 2 per 1000 pregnancies.
- \* All psychotropics are secreted into breast milk.

## EATING DISORDERS

Anne E. Becker, M.D., Ph.D.

Dr. Becker presented a comprehensive review of the diagnostic features, and an approach to the evaluation and management (including the results of recent pharmacological trials) of bulimia and anorexia nervosa.

- \* Anorexia nervosa involves a refusal to maintain minimally normal weight, a fear of gaining weight or gaining weight, and a disturbance in the manner one's weight is experienced.
- \* Bulimia nervosa consists of binge eating, recurrent inappropriate compensatory behaviors to prevent weight gain or purge calories, and a self-evaluation unduly influenced by body shape and weight.
- \* Ninety percent of anorexia and bulimia occur in women.
- \* Anorexia has a slightly earlier age of onset than bulimia.
- \* Sixty percent of cases of bulimia occur in women.
- \* Compensatory behaviors to control weight include induced vomiting, laxative use, abuse of diuretics, compulsive exercise, and restrictive eating or fasting.
- \* Ideal body weight (IBW) can be estimated by the equation:  $IBW = 100\text{lbs} + 5\text{lbs/inch above } 5\text{ ft} + 10\%$  (for females).
- \* Medical complications of anorexia nervosa include bradycardia, dehydration, hypoglycemia, leukopenia, thrombocytopenia, cardiac arrhythmias, decreased intestinal motility, peripheral neuropathy, amenorrhea, osteopenia, growth retardation, and hair loss.
- \* Cognitive behavioral therapy (CBT) is effective for bulimia; less is known about its efficacy for anorexia.
- \* No specific medication has been shown effective for anorexia nervosa.
- \* Fluoxetine is the best-studied SSRI for bulimia; it appears safe and effective in controlled trials.
- \* Desipramine and imipramine have each been found superior to placebo for bulimia.
- \* One criteria for inpatient care of the anorectic patient is a body weight  $< 75\%$  of ideal body weight.



## UPDATE ON LITHIUM AND BIPOLAR DISORDERS

Gary S. Sachs, M.D.

Dr. Sachs extended his discussions of mood disorders with a rousing discussion of lithium therapy. He elaborated upon the anti-manic efficacy of lithium, the prophylactic benefits of lithium therapy, and the problems associated with discontinuation of lithium. Moreover, he placed the use of lithium in the context of current treatment guidelines for bipolar disorder, and enlightened the audience with a bevy of facts regarding the side effects of lithium. He reported:

- \* Lithium monotherapy is inadequate for the vast majority of bipolar patients.
- \* Lithium and divalproex are considered first-line treatments for acute mania.
- \* Valproate is associated with more weight gain than is lithium.
- \* Lithium preparations are not bioequivalent.
- \* Lithium levels will be increased with co-administration of NSAIDs ACE-inhibitors, and thiazides, and are decreased by use of caffeine and theophylline.
- \* Common side effects of lithium include acne, tremor, urinary frequency, and lethargy.

## PLANNED BRIEF TREATMENT

Mark Blais, Psy. D.

Dr. Blais provided a superbly organized overview of planned brief psychotherapy and emphasized an eclectic and integrated model. He highlighted his discussion by use of clinical vignettes so that the essentials of brief treatment could be assimilated into the psychiatric treatment of participants. He noted:

- \* Practitioners must be willing to suspend disbelief and cynicism about brief psychotherapy.
- \* Therapy must be conceptualized as a time-limited enterprise.
- \* The therapist must expect and accept that patients will return to therapy periodically across the life span.
- \* Patients who are actively psychotic, abusing substances, or who are at significant risk of self-harm should not be enrolled in brief therapy.

- \* Excellent candidates for brief therapy include those who are in modest emotional distress, have a desire to have their pain relieved, have an ability to articulate a circumscribed problem, have a history of at least one positive interpersonal relationship and who are functioning well in at least one area of life, and who have the ability to commit to a treatment contract.
- \* Selecting a brief therapy relies on whether the style of therapy selected can effectively treat the patient and the agreed upon problem focus.
- \* Cognitive brief therapies aim to bring the patient's pre-conscious thoughts into awareness and demonstrate how these thoughts impact behavior and feelings.

## PRINCIPLES OF CONSULTATION PSYCHIATRY

Gregory L. Fricchione, M.D.

Dr. Fricchione ably reviewed the scope of Consultation-Liaison (C-L) Psychiatry (renamed Psychosomatic Medicine as a bona-fide subspecialty) and showed how this branch of psychiatry fits into the overall care of the medically ill. He provided an historical overview of the genesis and growth of C-L psychiatry and laid the foundation for a broad-based approach to the care of patients with co-morbid medical and psychiatric problems. Moreover, Dr. Fricchione reported:

- \* C-L psychiatry rests on a strong foundation in medicine, neurology, and psychiatry (including both psychopharmacologic and psychodynamic principles).
- \* Evaluations must pay attention to the history, the examination, and laboratory tests; knowledge gained will allow for a multidisciplinary approach to patient care.
- \* Competency, compassion, continuity, and availability are highly valued by patients.



## PSYCHIATRIC EPIDEMIOLOGY

Jane M. Murphy, Ph.D.

Dr. Murphy systematically reviewed the field of psychiatric epidemiology. In addition, she provided definitions of often-used epidemiological terms, described designs of epidemiological studies, and reported results of several key studies. Highlights of her presentation included:

- \* Epidemiology is the study of the distribution and frequency of illness in the population.
- \* Epidemiological research assesses service needs, describes the natural history of illness, and generates evidence about etiology.
- \* The association between exposure and outcome is often presented by means of measures such as "relative risk" or "odds ratio."
- \* Prevalence is the number of persons in a population who are ill during a defined period.
- \* Incidence is the number of persons who become ill for the first time ever over a defined period.
- \* Cross-sectional investigations involve the collection of information at one point in time.
- \* Longitudinal investigations involve the collection of data a second or third point in time.
- \* According to the ECA (Epidemiological Catchment Area) Program, the lifetime prevalence of any psychiatric disorder is 32%, and is 19% in a given year.
- \* The female: male ratio for major depressive disorder is 2: 1. While for alcoholism it is 1: 5.
- \* The Ontario Child Health Study indicated that the 6-month prevalence of any psychiatric disorder is 18%.
- \* Most people who suffer a psychiatric disorder are not treated by psychiatrists or by others in the specialty sector.
- \* The life-time risk of schizophrenia is approximately 1% in the general population.
- \* Twin studies take advantage of the fact that monozygotic twins are genetically identical, but dizygotic twins share an average of one-half of their genes.

## GROUP PSYCHOTHERAPY

Anne Alonso, Ph.D.

Dr. Alonso eloquently noted that humans thrive when in relationships with other humans. She recounted the history of group therapy, a treatment, which flourished following WW II, when large numbers of traumatized veterans, needed assistance and there were insufficient numbers of clinicians to treat them. Since then, several theoretical orientations have informed the treatment of assorted diagnostic groupings and populations. Moreover, she reviewed how one selects and prepares patients, and discussed inclusion criteria, the therapeutic contract, and contraindications to group therapy. More specifically, she noted that:

- \* Brief treatment requires more modest goals, greater attention to task focus, prompt intervention, and more active participation on the part of the therapist.

## POLITICAL AND ECONOMIC REALITIES OF HEALTH CARE TODAY

Jonathan F. Borus, M.D.

Dr. Borus reviewed the state of the current healthcare system, and described how each of several models plays out in today's society. He discussed who pays for health care now and how current practices compare with prior approaches, and focused on the difference between fee-for-service and capitated healthcare systems. In specific he noted:

- \* Capitation focuses on prevention and wellness and tracks outcomes and health status; service use costs money.
- \* Fee-for-service care employs an illness model that tracks beds and admissions; service use earns money for the system.



## CLINICAL PROBLEMS IN DUAL DIAGNOSIS

Martha T. Kane, Ph. D.

Dr. Kane ably addressed the prevalence of co-morbid substance abuse and psychiatric disorders (and their symptoms). She noted that many individuals wait until several weeks after detoxification is complete before making an Axis I diagnosis. Highlights of her presentation included:

- \* Approximately 30% of patients with a psychiatric disorder exhibit a substance abuse disorder at some point.
- \* Approximately 50% of patients with a substance abuse disorder qualify for a diagnosis of a psychiatric disorder.
- \* Alcohol dependence is co-morbid in approximately 25%-50% of those with bipolar disorder.
- \* 60% of patients with substance abuse and or dependence have a history of an anxiety disorder.
- \* 40% of patients with generalized anxiety disorder are alcohol-dependent.
- \* Substance abuse is 4-5 times as prevalent in those with schizophrenia as it is in the general population.
- \* Many believe that sobriety is necessary before treatment of another psychiatric disorder can be successful.
- \* Motivational techniques and multidisciplinary treatment are often necessary to facilitate a commitment to ongoing treatment.
- \* Useful techniques involve creation of contracts, making statements of commitment, and completing behavioral logs.
- \* Outpatient treatment programs may involve psychotherapy, day treatment, self-help strategies, and community-based support groups (e.g., AA).

## PSYCHIATRIC CARE OF THE PATIENT WITH HIV INFECTION

John Querques, M.D.

Dr. Querques described clearly the process by which HIV (Human immunodeficiency virus) infects human cells and creates clinical symptoms, and reviewed why psychiatrists need to be aware of the signs, symptoms, and treatment options for HIV infection. In particular he noted:

- \* HIV is a retrovirus that contains RNA (as its genetic material) and the enzyme reverse transcriptase, (that facilitates translation of RNA to DNA in human cells).
- \* After replication of HIV to human DNA, the now functional virus can infect other cells, especially the CD4 t-helper lymphocyte, causing severe (primarily cell-mediated) immune dysfunction for which the virus and resulting syndrome were named.
- \* One in 300 Americans is living with HIV infection.
- \* More than 25 million people in sub-Saharan Africa are HIV-infected.
- \* Use of highly active anti-retroviral therapy (HAART) has led to longer life in HIV-infected individuals.
- \* The first onset of mania in an HIV-infected person should prompt a search for secondary causes of mania.
- \* By the time the CD4 cell count drops to 200-500 cells/cubic mm, thrush, Kaposi's sarcoma, TB reactivation, herpes zoster, and herpes simplex are more likely to develop.
- \* When CD4 counts drop below 50 cells /cubic mm disseminated mycobacterium avium intracellulare complex, non-Hodgkin's lymphoma, CNS lymphoma, and HIV-associated dementia become more prevalent.
- \* Side effects of AZT (zidovudine) include bone marrow suppression, anemia, neutropenia, GI distress, headache, and insomnia.
- \* Numerous drug-drug interactions (between HIV-related medications and psychotropics) exist and co-administration requires thought about the need for possible dose adjustments.

## ANTIPSYCHOTIC DRUGS: COMMON CLINICAL PROBLEMS, CLINICAL CASE DISCUSSION, AND QUESTIONS

David C. Henderson, M.D.

Dr. Henderson systematically reviewed the properties of antipsychotics and their administration. Highlights of his presentation included:

- \* Conventional neuroleptics need 60%-70% of dopamine (D2) receptors occupied to be effective.
- \* Parkinsonian symptoms are associated with 80% D2 blockade.



- \* Co-administration of carbamazepine may lower blood levels of neuroleptics.
- \* Risperidone is a 5-HT<sub>2</sub> and D<sub>2</sub> antagonist that is metabolized by the P450 2D6 isoenzyme system.
- \* Clozapine is indicated for the treatment of psychosis after two neuroleptic trials, lasting > 6 weeks, have failed.
- \* Clozapine is a strongly anticholinergic, alpha-adrenergic, histamine H<sub>1</sub> antagonist, as well as a serotonin 5HT<sub>3</sub> antagonist, and a weak D<sub>2</sub> antagonist with a minimal effect on prolactin levels; it fails to block nigrostriatal dopamine neurons.
- \* Side effects of clozapine include sedation, tachycardia, hypersalivation, and less commonly, agranulocytosis.
- \* Clozapine has been associated with seizures in 5%-6% of patients treated with > 600 mg/day; DKA and AODM has also been noted with clozapine and with olanzapine administration.
- \* Olanzapine has a high 5HT<sub>2</sub>/D<sub>2</sub> ratio, and a high D<sub>4</sub>/D<sub>2</sub> ratio.
- \* Olanzapine is metabolized by the P450 1A<sub>2</sub>, 3A<sub>4</sub>, and 2D<sub>6</sub> isoenzyme systems.
- \* Ziprasidone has a high affinity for 5HT<sub>1A</sub>, 5HT<sub>2C</sub>, 5HT<sub>1D</sub>, and D<sub>2</sub> receptors.
- \* Quetiapine has a moderate affinity for dopamine D<sub>2</sub> and low affinity for dopamine D<sub>1</sub>; it is not anticholinergic.
- \* Use of SSRIs may increase levels of neuroleptics.
- \* The Halstead-Reitan neuropsychological test battery consists of seven tests to discriminate between patients with frontal lobe lesions and those with other lesions or normal subjects.
- \* Norm-referenced testing allows performance to be compared with the performance of a specific group of subjects.
- \* Standardized scores express how far an examinee's score lies from the mean of the distribution in terms of standard deviation.
- \* Neuropsychologists rely not only on test scores, but in an individual's approach to tasks and error types.
- \* IQ scores do not convey a predictable relationship to size of a lesion.
- \* Impaired attention and concentration are among the most common deficits associated with brain damage.
- \* Attention can be assessed by use of a digit span test, a Stroop test, or a Trails A and B test.
- \* Retrograde memory involves memory for prior events, while anterograde memory involves ability to learn and to remember new material.
- \* Executive functions are those that enable a person to engage successfully in planning, problem-solving, abstract thinking, concept formation, self-monitoring, and mental flexibility.
- \* The Wisconsin Card Sorting Test is a test of frontal and executive function.
- \* Projective tests include the Rorschach, while objective tests include the MMPI and the Beck Depression Inventory.

## NEUROPSYCHOLOGICAL TESTING

Janet C. Sherman, Ph.D.

Dr. Sherman systematically described the goals of neuropsychological assessment and reviewed the tests employed to obtain a diagnostic impression. She discussed the domains of attention, memory, language, visuospatial perception, executive functioning, as well as personality. In particular she noted:

- \* Neuropsychology is a science dedicated to the study of the relationship between brain and behavior.
- \* Neuropsychological assessment identifies a patient's cognitive competencies and strengths and determines how strengths can be used to compensate for deficits.

## HYPNOSIS AND RELAXATION TECHNIQUES

Owen S. Surman, M.D. and Lee Baer, Ph.D.

Drs. Surman and Baer delivered an informative discussion of the history of hypnosis (covering the work of Anton Mesmer, James Braid, Milton Erickson, T.X. Barber, and Herbert Spiegel) and they described the clinical application of hypnosis. They also discussed the use of hypnosis in memory retrieval and behavior therapy. In addition, they noted:

- \* Hypnotizability can be measured.



- \* Contraindications to hypnosis include unwillingness of the subject, a history of paranoia, and the inexperience of the hypnotist.
- \* Hypnosis is a skill set that can be taught and learned to facilitate symptom control (e.g., pain relief) or control of unwanted habits (e.g., smoking).

**MENTAL RETARDATION**

John N. Julian, M.D.

Dr. Julian provided a comprehensive overview of mental retardation (MR) and considered the relationship between MR and psychiatric illness. In specific he noted:

- \* MR is a condition with diverse etiologies; it has a prevalence of 1%-3%.
- \* Approximately 40% of cases have no clear etiology.
- \* The three most common causes of MR include Down's syndrome, Fragile X syndrome, and Fetal Alcohol syndrome.
- \* Fragile X syndrome is the most common inherited cause of MR (with an X-linked gene, FMR-1).
- \* Down's syndrome is the most common genetic cause of MR.
- \* Fetal Alcohol syndrome is manifest by growth retardation, developmental delay, and specific facial abnormalities.
- \* Individuals with MR have a higher prevalence of psychiatric disorders than do others in the general population.
- \* Those with MR have a standardized IQ score > two standard deviations < the mean and impairment in at least 2 of 10 areas (i.e., communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, and health and safety) of adaptive functioning when compared to peers in the same age and culture.
- \* MR is divided by levels by severity.
- \* Mild MR; IQ 55-70 (85%).
- \* Moderate MR; IQ 40-55 (10%).
- \* Severe MR; IQ 25-40 (3%-4%).

Profound MR; IQ <25 (1%-2%).

- \* There are no laboratory findings that are specifically associated with MR.
- \* Aggression is one of the primary reasons for institutionalization of consultation in the MR population.
- \* Individuals with Williams syndrome (chromosome 7 deletion) present with an elfin-like facies, a starburst iris, supraaortic stenosis, and hypertension.
- \* Individuals with Prader-Willi syndrome (chromosome 15 deletion) exhibit a short stature, obesity, hypogonadism, and hyperphagia.

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**Other seminars included:**

- THE PSYCHIATRIC INTERVIEW Dr. John Herman
- THE PSYCHIATRIC INTERVIEW Dr. Christopher Gordon
- THE PSYCHIATRIC INTERVIEW Dr. Robert Abernethy, III
- THE PSYCHIATRIC INTERVIEW Dr. Lisa Robinson
- BORDERLINE AND NARCISSISTIC DISORDERS: PRACTICAL MANAGEMENT Dr. Robert Abernethy, III
- INTEGRATIVE PSYCHOTHERAPY: MIXING PSYCHODYNAMIC, FAMILY, COGNITIVE, BEHAVIORAL, AND BIOLOGICAL STRATEGIES Dr. Robert Abernethy, III
- INDIVIDUAL THERAPY: THEORY, THEORISTS, AND TERMINOLOGY-QUESTIONS AND ANSWER SESSION Dr. Anne Alonso
- CHARACTER: WHAT IS IT AND HOW TO WORK WITH IT? Dr. Joseph Schwartz
- SCHOOLS OF PSYCHOTHERAPY: COMPARATIVE VIGNETTES Dr. Paul Hamburg
- THE NEUROLOGICAL EXAM Dr. Shahram Khoshbin