# PSYCHIATRY

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THE PSYCHIATRIC ASSESSMENT

HISTORY

Identifying Data
- name, sex, age, race, marital status, religion, occupation, education, referral source

Reliability of Patient as a Historian
- may need collaborative source for history if patient unable to co-operate

Chief Complaint
- in patient's own words; include duration

History of Present Illness
- reason for seeking help THAT DAY, current symptoms (onset, duration, and course), stressors, relevant associated symptoms (pertinent positives and negatives)

Psychiatric Functional Inquiry
- Mood: sad (depressed), energetic (manic)
- Organic: EtOH, drugs, illness, dementia
- Anxiety: worry, obsessions, compulsions, panic attacks
- Psychosis: hallucinations, delusions
- Suicide: ideation, plan, attempts

Past Psychiatric History
- inquire about all previous psychiatric disorders, contact with psychiatrists, treatments and hospitalizations in chronological order (with dates)
- also include past suicide attempts, substance abuse/use, and legal history

Past Medical History
- all medical, neurological (e.g. craniocerebral trauma, convulsions), and psychosomatic illnesses
- medications, smoking, caffeine use, allergies

Family History
- family members: ages, occupations, personalities, medical or genetic illnesses and treatments, relationships with parents/siblings
- family psychiatric history: any past or current psychiatric illnesses and hospitalizations, suicide, depression, substance abuse, history of “bad nerves”, any past treatment by psychiatrist

Past Personal History
- prenatal and perinatal history
- early childhood to age 3 (e.g. developmental milestones, activity/attention level, fire-setting, stealing, incontinence)
- middle childhood to age 11 (e.g. school performance, peer relationships)
- late childhood to adolescence (e.g. drug/EtOH, legal history)
- adulthood (e.g. education, occupations, relationships)
- psychosexual history (e.g. paraphilias, gender roles, sexual abuse)
- personality before current illness

MENTAL STATUS EXAM (MSE)

General Appearance and Behaviour
- dress, grooming, posture, gait, physical characteristics, apparent vs. chronological age, physical health, body habitus, facial expression (e.g. sad, suspicious), attitude toward examiner (e.g. ability to interact, level of co-operation), psychomotor activity (e.g. agitation, retardation), abnormal movements (e.g. tremors, akathisia, tardive dyskinesia), attention level, and eye contact

Speech
- rate (e.g. pressured, slowed, muted), rhythm/fluency, volume, tone, articulation, quantity, spontaneity

Mood and Affect
- mood - subjective emotional state; in patient's own words
- affect - objective emotional state; described in terms of quality (euthymic, depressed, elevated, anxious), range (full, restricted), stability (fixed, labile), appropriateness, intensity (flat, blunt)

Thought Process Abnormalities
- circumstantiality
  - speech that is indirect and delayed in reaching its goal; eventually comes back to the point
- tangentiality
  - speech is oblique or irrelevant; does not come back to the original point
- flight of ideas
  - skipping verbally from one idea to another where the ideas are more or less connected
- loosening of associations
  - illogical shifting between unrelated topics
THE PSYCHIATRIC ASSESSMENT ... CONT.

- others include
  - thought blocking (sudden interruption in the flow of thought or speech)
  - neologisms (invention of new words)
  - clang (speech based on sound such as rhyming or punning)
  - perseveration (repetition of phrases or words)
  - word salad (jumble of words lacking meaning or logical coherence)
  - echolalia (echoing words/phrases of another's speech)

Thought Content Abnormalities
- ideas, themes, worries, preoccupations, ruminations, obsessions, overvalued ideas, magical thinking, ideas of reference, delusions
- suicidal ideation / homicidal ideation
  - low - fleeting thoughts, no formulated plan, no intent
  - intermediate - more frequent ideation, has formulated plan, no active intent
  - high - persistent ideation and profound hopelessness, well formulated plan and active intent, believes suicide is the only helpful option available
  - poor correlation between clinical impression of suicide risk and probability of attempt
- delusion
  - a fixed false belief that is out of keeping with a person's cultural or religious background and is firmly held despite incontrovertible proof to the contrary
  - types of delusions
    - persecutory (belief others are trying to cause harm)
    - delusions of reference (interpreting events as having direct reference to the patient)
    - erotomania (belief another is in love with you)
    - grandiose (belief of an inflated sense of self-worth or power)
    - religious
    - delusions of control (belief that one's thoughts/actions are controlled by some external source)
    - somatic (believes one has a physical disorder/defect)
- first rank symptoms: thought insertion / withdrawal / broadcasting
- obsession
  - recurrent and persistent thought, impulse or image which is intrusive or inappropriate
  - cannot be stopped by logic or reason
  - causes marked anxiety and distress
  - common themes: dirt/contamination, orderliness, sexual, pathological doubt

Perceptual Disturbances
- hallucination
  - sensory perception in the absence of external stimuli that is similar in quality to a true perception; auditory is most common; other types include visual, gustatory, olfactory, somatic
- illusion
  - misperception of a real external stimulus
- depersonalization
  - change in self-awareness such that the person feels unreal, detached from his or her body, and/or unable to feel emotion
- derealization
  - feeling that the world/outer environment is unreal

Cognition
- level of consciousness (LOC)
- orientation: time, place, person
- memory: remote, recent, immediate
- intellectual functions
  - attention, concentration and calculation
  - abstraction (proverb interpretation, similarities test)
  - intelligence

Insight
- patient's ability to realize that he or she has a physical or mental illness and understand its implications

Judgment
- ability to understand relationships between facts and draw conclusions that determine one's action

SUMMARY
Multiaxial Assessment (Impression)
- Axis I  - clinical disorders - DSM IV; differential diagnosis
- Axis II  - personality disorders - DSM IV
- mental retardation
- Axis III  - general medical conditions (as they pertain to Axis I or other Axes)
- Axis IV  - psychosocial and environmental problems
- Axis V  - global assessment of functioning (GAF)
  - GAF scale scored from 0 to 100

Formulation
- biological, psychological, social factors
- predisposing, precipitating, perpetuating, and protecting factors
THE PSYCHIATRIC ASSESSMENT... CONT.

MINI-MENTAL STATUS EXAM (MMSE) (FOLSTEIN)

Orientation
- orientation to time [5 points]
  - what year is this?
  - what season of the year is it?
  - what is the month?
  - what day of the month is it?
  - what day of the week is it?
- orientation to place [5 points]
  - what country are we in?
  - what province are we in?
  - what city are we in?
  - what street are we on / what hospital are we in?
  - what is the number of this house / what floor or ward are we on?

Memory
- immediate recall [3 points]
  - ask patient to immediately repeat the following 3 words: “honesty, tulip, black”
- delayed recall [3 points]
  - ask patient to recall the 3 words previously given, approximately 5 minutes after telling them to the patient

Attention and Concentration
- attention [5 points]: do either one of
  - serial 7s
  - spell “WORLD” backwards

Language Tests
- comprehension (three stage command) [3 points]
  - “take this piece of paper in your right hand, fold it in half, and place it on the floor”
- reading [1 point]
  - ask patient to read the words “close your eyes” on a piece of paper, and then to do what it says
- writing [1 point]
  - ask patient to write any complete sentence
- repetition [1 point]
  - repeat “no ifs, ands, or buts”
- naming [2 points]
  - point to a watch and pen and ask patient to name them

Test of Spatial Ability
- copying [1 point]
  - ask patient to copy the design in Figure 1 exactly
  - all ten angles must be present and two must intersect to score 1 point

Figure 1. Intersecting Pentagons

- total score out of 30; abnormal if < 26
- note: although not officially part of the Folstein, many examiners ask the patient to draw a clock with the time showing “10 after 11”
PSYCHOTIC DISORDERS

Definition
- characterized by a significant impairment in reality testing
- evidence can come from:
  - delusions or hallucinations without insight into their pathological nature
  - behaviour so disorganized that it is reasonable to infer that reality testing is disturbed

DIFFERENTIAL DIAGNOSIS OF PSYCHOTIC DISORDERS
- general medical conditions: tumour, head trauma, etc.
- dementia/delirium
- substance-induced psychosis
- affective disorders: psychotic depression, bipolar disorder - manic episode with psychotic features
- personality disorders: schizotypal, schizoid, borderline, paranoid
- primary psychotic disorder: schizophrenia, schizoaffective

SCHIZOPHRENIA

Epidemiology
- prevalence: 0.5%-1%; M:F = 1:1
- mean age of onset: females - 27; males - 21

Etiology
- multifactorial: disorder is a result of interaction between both biological and environmental factors
- genetic
  - 50% concordance in monozygotic (MZ) twins
  - 40% if both parents schizophrenic
  - 10% of dizygotic (DZ) twins, siblings, children affected
- neurochemistry - "dopamine hypothesis" theory: excess activity in the mesolimbic dopaminergic pathway may mediate the positive symptoms of psychosis (i.e. delusions, hallucinations, disorganized speech and behaviour, catatonic behaviour, and agitation)
  - supportive evidence
    - dopamine (DA) agonists exacerbate schizophrenia
    - anti-psychotic drugs act by blocking post-synaptic DA receptors
    - potency of many anti-psychotic drugs correlates with D2 blockade of post-synaptic receptors
    - antipsychotic drugs are associated with an increase in the number of D2 and D4 post-synaptic receptors
    - decreased activity in the mesocortical pathway or abnormalities in the NMDA receptors which regulate the release of glutamate may be responsible for the negative symptoms of schizophrenia
    - other neurotransmitters: serotonin (5-HT), norepinephrine, GABA, and CCK are currently being investigated
- neuroanatomy
  - implication of 3 brain structures: decreased frontal lobe function, asymmetric temporal limbic function, decreased basal ganglia function
  - subtle changes in thalamus, cortex, corpus callosum, and ventricles
  - cytoarchitectural abnormalities
- neuroendocrinology
  - abnormal growth hormone (GH), prolactin (PRL), cortisol, and adrenocorticotropin hormone (ACTH) responses to pharmacological challenges (e.g. bromocriptine, fenfluramine) in schizophrenia
- other
  - indirect evidence of
    - geographical variance
    - association with winter season of birth
    - association with prenatal exposure to viral epidemics
  - neuropsychology: global defects seen in attention, language, and memory suggest lack of connectivity of neural networks

Pathophysiology
- neurodegenerative theory
  - natural history of schizophrenia tends to be a downhill course
  - glutamate system may mediate progressive degeneration by an excitotoxic mechanism which leads to the production of free radicals
- neurodevelopmental theory
  - abnormal development of the brain from prenatal life
  - neurons fail to migrate correctly, make inappropriate connections, and break down in later life
  - inappropriate apoptosis during neurodevelopment resulting in wrong connections being made between neurons

Diagnosis
A. characteristic symptoms (Active Phase): 2 or more of the following, each present for a significant portion of time during a 1 month period (or less if successfully treated)
- delusions **
- hallucinations **
- disorganized speech
- grossly disorganized or catatonic behaviour
- negative symptoms, i.e. affective flattening, alogia, avolition or anhedonia
  **note: only 1 symptom is required if:
  1) delusions are bizarre, or
  2) hallucinations consist of a voice keeping up a running commentary on person's behaviour/thoughts or two (or more) voices conversing with each other
PSYCHOTIC DISORDERS . . . CONT.

B. social/occupational dysfunction
C. continuous signs of disturbance for at least 6 months including at least 1 month of active phase symptoms; may include prodromal or residual phases
D. schizoaffective and mood disorders excluded
E. exclude if substance-induced or due to general medical condition (GMC)
F. if history of pervasive developmental disorder, additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present for at least 1 month

Subtypes
- paranoid
  - preoccupation with one or more delusions (typically persecutory or grandiose) or frequent auditory hallucinations
  - relative preservation of cognitive functioning and affect; onset tends to be later in life; thought to have the best prognosis
- catatonic
  - at least two of: motor immobility (catalepsy or stupor); excessive motor activity (purposeless, not influenced by external stimuli); extreme negativism (resistance to instructions/attempts to be moved) or mutism; peculiar voluntary movement (posturing, stereotyped movements, prominent mannerisms); echolalia or echopraxia
- disorganized
  - all of the following are prominent: disorganized speech and behaviour; flat or inappropriate affect
  - poor premorbid personality, early and insidious onset, and continuous course without significant remissions
- undifferentiated
  - symptoms of criterion A met, but does not fall into other 3 types
- residual
  - absence of prominent delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behaviour
  - continuing evidence of disturbance indicated by presence of negative symptoms or two or more symptoms in criteria A present in attenuated form

Management of Schizophrenia (see Medications/Therapeutics section)
- pharmacological
  - acute treatment and maintenance
  - antipsychotics (PO and IM)
  - management of side effects
- psychosocial
  - psychotherapy (individual, family, group): supportive, cognitive behavioural therapy (CBT)
  - assertive community treatment
  - social skills training and employment programs
  - housing (group home, boarding home, transitional home)

Prognosis
- 1/3 improve, 1/3 remain the same, 1/3 worsen
- good prognostic factors
  - acute onset
  - precipitating factors
  - good cognitive functioning
  - good premorbid functioning
  - no family history
  - presence of affective symptoms
  - absence of structural brain abnormalities
  - good response to drugs
  - good support system

SCHIZOPHRENIFORM DISORDER
- epidemiology: only a slightly increased incidence in the family
- diagnosis: symptoms of schizophrenia are met except symptoms last from 1-6 months
- treatment: similar to acute schizophrenia
- prognosis: better than schizophrenia; begins and ends more abruptly; good pre- and post-morbid function

BRIEF PSYCHOTIC DISORDER
- diagnosis: acute psychosis (presence of 1 or more positive symptoms in criteria A1-4) lasting from 1 day to 1 month
- can occur after stressful event or post-partum
- treatment: secure environment, antipsychotics, anxiolytics
- prognosis: good, self-limiting, should return to premorbid function in about one month
**PSYCHOTIC DISORDERS**

**SCHIZOAFFECTIVE DISORDER**
- **diagnosis**
  - A. uninterrupted period of illness during which, at some point, there is either major depressive episode (MDE), manic episode, or mixed episode concurrent with symptoms meeting criterion A for schizophrenia
  - B. in the same period, delusions or hallucinations for at least 2 weeks without prominent mood symptoms
  - C. symptoms that meet criteria for a mood episode are present for a substantial portion of total duration of active and residual periods
- **treatment:** antipsychotics, mood stabilizers, antidepressants
- **prognosis:** between that of schizophrenia and affective disorder

**DELUSIONAL DISORDER**
- **diagnosis**
  - non-bizarre delusions for at least 1 month
  - criterion A has never been met (though patient may have tactile or olfactory hallucinations if they are related to the delusional theme)
  - functioning not markedly impaired; behaviour not odd or bizarre
  - if mood episodes occur concurrently with delusions, total duration has been brief relative to duration of the delusions
- **subtypes:** erotomanic, grandiose, jealous, persecutory, somatic, mixed, unspecified
- **treatment:** psychotherapy, antipsychotics, antidepressants
- **prognosis:** chronic, unremitting course but high level of functioning

**SHARED PSYCHOTIC DISORDER (FOLIE À DEUX)**
- **diagnosis:** a delusion that develops in an individual who is in close relationship with another person who already has a psychotic disorder with prominent delusions
- **treatment:** separation of the two people results in the disappearance of the delusion in the healthier member
- **prognosis:** good

**DIFFERENTIATING PSYCHOTIC DISORDERS**

**Schizophrenia vs. Schizophreniform**
- symptom complex is the same for both disorders
  - with schizophreniform disorder the prodromal, residual, and active phases last less than six months
  - with schizophrenia the symptoms last longer than six months

**Schizophreniform vs. Brief Psychotic Disorder**
- inclusion criteria for brief psychotic disorder are broader and only require the presence of one of: delusions, hallucinations, disorganized speech, disorganized / catatonic behaviour
  - with brief psychotic disorder these symptoms last less than one month with eventual full return to premorbid level of functioning
  - in schizophreniform disorder the symptoms last greater than one month

**Schizophrenia vs. Schizoaffective Disorder**
- the psychotic symptoms are the same in both disorders
  - in schizoaffective disorder, a manic or depressive episode must be present and the duration of the mood symptoms cannot be brief relative to the duration of the psychosis
  - to be diagnosed with schizoaffective disorder there must also be at least a 2 week period during which psychotic symptoms are present in the absence of mood symptoms

**Schizophrenia vs. Delusional Disorder**
- in delusional disorder, the content of the delusion involves events that may actually happen to people in real life (i.e. non-bizarre); hallucinations can occur but must be limited to a few brief periods
  - bizarre delusions, prominent hallucinations, disorganized speech / behaviour and negative symptoms rule out delusional disorder

**Schizoaffective vs. Mood Disorder with Psychotic Features**
- in a mood disorder with psychotic features the mood symptoms and psychosis must always overlap in time
  - in schizoaffective disorder, psychotic symptoms must be present in the absence of mood symptoms for at least 2 weeks
MOOD DISORDERS

Definitions
- mood DISORDERS are defined by the presence of mood EPISODES
- types of Mood DISORDERS
  - depressive (major depressive disorder, dysthymia)
  - bipolar (Bipolar I/II disorder, cyclothymia)
  - secondary to GMC, substances, medications
- mood EPISODES represent a combination of symptoms comprising a predominant mood state
  - types of Mood EPISODES: major depressive, manic, mixed, hypomanic

MOOD EPISODES

Major Depressive Episode (MDE)
- A. at least 5 of the following symptoms present for 2 weeks, one of which must be either depressed mood or loss of interest
  - Mood - depressed
  - Sleep - increased or decreased (if decreased, often early morning awakening)
  - Interest - decreased
  - Guilt/worthlessness
  - Energy - decreased or fatigued
  - Concentration/difficulty making decisions
  - Appetite and/or weight increase or decrease
  - Psychomotor activity - increased or decreased
  - Suicidal ideation
- B. symptoms do not meet criteria for mixed episode
- C. symptoms cause significant social or occupational impairment/distress
- D. exclude if substance-induced or due to a GMC
- E. symptoms not better accounted for by bereavement (a constellation of depressive symptoms meeting criteria for a MDE appearing within 2 months of the death of a close relative)

Manic Episode
- A. a period of abnormally and persistently elevated, expansive, or irritable mood lasting at least 1 week (or less if hospitalized)
- B. during this period three of the following symptoms (four if mood is only irritable; mnemonic - GST PAID)
  - Grandiosity or inflated self-esteem
  - Sleep, decreased need for
  - Talkative, pressured speech
  - Pleasurable activities with Painful consequences - increased (e.g. spending, sex, speeding, substance use, inappropriate speech)
  - Activity, goal-directed or psychomotor - increased
  - Ideas, flight of
  - Distractibility
- C. symptoms do not meet criteria for a mixed episode
- D. mood disturbance is severe enough to cause psychotic features, marked impairment in social/occupational functioning, or necessitate hospitalization
- E. symptoms not substance-induced or due to a GMC

Mixed Episode
- criteria met for both manic episode and MDE nearly every day for 1 week

Hypomanic Episode
- criteria A of mania but duration is at least 4 days
- criteria B and E of mania
- episode associated with an uncharacteristic change in functioning that is observable by others
- change in function is NOT severe enough to cause marked impairment in social or occupational functioning or to necessitate hospitalization
- absence of psychotic features
MCCQE 2002 Review Notes Psychiatry – PS9

MOOD DISORDERS . . . CONT.

DEPRESSIVE DISORDERS

Major Depressive Disorder

- definition
  • history of one or more Major Depressive Episodes

- epidemiology
  • prevalence: male 2-4%, female 5-9% (M:F = 1:2)
  • mean age of onset: ~ 30 years

- etiology
  • genetic
    • 65-75% MZ twins
    • 14-19% DZ twins
  • neurotransmitter dysfunction at level of synapse (decreased activity of serotonin, norepinephrine, dopamine)
  • psychodynamic (e.g. low self-esteem)
  • cognitive (e.g. negative thinking)

- risk factors
  • sex: female
  • age: onset in 25-50 age group
  • family history: depression, alcohol abuse, sociopathy
  • childhood experiences: loss of parent before 11 years old, negative home environment (abuse, neglect)
  • personality: insecure, dependent, obsessional
  • recent stressors (illness, financial, legal)
  • postpartum
  • lack of intimate, confiding relationships (social isolation)

- diagnosis
  • history of one or more MDE
  • absence of a previous manic, hypomanic, or mixed episode

- classification
  • MDD, with psychotic features (with hallucinations or delusions; these may be mood congruent)
  • MDD, chronic (lasting 2 years or more)
  • MDD, with melancholic features (quality of mood is distinctly depressed, mood is worse in the morning, early morning wakening, severe weight loss, excessive guilt, psychomotor retardation)
  • MDD, with atypical features (increased sleep, weight gain, leaden paralysis, chronic rejection sensitivity)
  • MDD, with postpartum onset (see Postpartum Mood Disorders section)
  • MDD, with seasonal pattern (pattern of onset at same time each year)

- depression in the elderly
  • accounts for about 50% of acute psychiatric admissions in the elderly
  • affects about 15% of community residents > 65 years old
  • high suicide risk due to increased lethality and decreased communication of suicide attempt due to social isolation
  • suicide peak: males aged 80-90; females aged 50-65
  • often present with somatic complaints (e.g. changes in weight, sleep, energy) or anxiety symptoms rather than classic depression

- treatment (see Medications/Therapeutics section)
  • biological: antidepressants, lithium, electroconvulsive therapy (ECT)
  • psychological: psychodynamic, cognitive, behavioural, family, and group therapy
  • social: vocational rehabilitation, social skills training

- differential diagnosis for MDE
  • adjustment disorder with depressed mood
  • bereavement
  • dementia
  • mood disorder due to GMC
  • substance induced mood disorder
  • anxiety disorder

Dysthymia

- diagnosis
  A. depressed mood for most of the day, for more days than not, and for at least 2 years
  B. presence, while depressed, of at least two of
    • poor appetite or overeating
    • insomnia or hypersomnia
    • low energy or fatigue
    • low self-esteem
    • poor concentration or difficulty in decision making
    • feelings of hopelessness
  C. never without depressed mood for more than 2 months at a time
  D. no evidence of past MDE, manic, mixed, hypomanic episodes, cyclothymia
  E. symptoms do not occur with a chronic psychotic disorder
  F. not due to GMC or substance use
  G. symptoms cause significant social or occupational dysfunction or marked distress
MOOD DISORDERS . . . CONT.

POSTPARTUM MOOD DISORDERS

Postpartum "Blues"
- transient period of mild depression, mood instability, anxiety, decreased concentration, increased concern over own health and health of baby
- occurs in 50-80% of mothers; begins 2-4 days postpartum
- usually lasts 48 hours, can last up to 10 days
- considered to be normal emotional changes related to the puerperium
- does not require psychotropic medication
- patient at increased risk of developing postpartum depression

Postpartum Depression (PPD)
- diagnosis: MDE, onset within 4 weeks postpartum
- etiology: no consistent evidence for a biological (hormonal) etiology; occurs in 10% of mothers
- clinical presentation: typically lasts 2 to 6 months; residual symptoms can last up to 1 year
  - MUST ask about suicidal and infanticidal ideation
- risk factors
  - previous history of a mood disorder (postpartum or otherwise) increases risk
  - psychosocial factors of primary importance
    - stressful life events
    - unemployment
    - marital conflict
    - lack of support from spouse, family or friends
- treatment
  - many mothers may be reluctant to take medication if breastfeeding
  - at present no evidence that medication is superior to psychotherapy in non-psychotic PPD
  - short-term safety of maternal SSRIs for breastfeeding infants established; long-term effects unknown
  - supportive, non-directive counselling by trained home visitors shown to be effective
  - if depression severe, consider ECT
  - treatment of mother improves outcome for child at 18 months
- impact on child development
  - association with cognitive delay, especially in males and groups with low SES
  - insecure attachments at 18 months
  - increased behavioural disturbance at 5 years
  - mechanism: impaired mother-child communication

Postpartum Psychosis
- incidence: 1-2 per 1000 childbirths, more common in primiparous women
- most often has an affective basis, usually manic, but can be depressive
- mean onset 2-3 weeks postpartum, range 2 days to 8 weeks
- may have suicidal/infanticidal ideation
- previous history or family history of psychosis increases risk
- treat with antidepressants, mood stabilizers and/or antipsychotics; consider ECT

BIPOLAR DISORDERS

Bipolar I / Bipolar II Disorder
- epidemiology
  - prevalence: 0.6-0.9%
  - M:F = 1:1
  - age of onset: teens to 20's
  - slight increase in upper socioeconomic groups
  - 60-65% of bipolar patients have family history of major mood disorders
- definition
  - Bipolar I Disorder
    - disorder in which at least one manic or mixed episode is present
    - commonly accompanied by one or more MDE but not required for diagnosis
  - Bipolar II Disorder
    - disorder in which there is one MDE and one hypomanic episode
    - no past manic or mixed episode
- diagnosis
  - mood episodes in Bipolar I/Ill cannot be due to a GMC or substance induced
  - symptoms cannot be caused by a psychotic disorder
  - both can occur with rapid cycling (presence of at least 4 mood episodes within 1 year; must be symptom free for at least 2 months between episodes)
MOOD DISORDERS...CONT.

- classification
  A. classification of Bipolar disorder involves describing the current or most recent mood episode as either manic, hypomanic, mixed or depressed
  B. the most recent episode can be further classified as follows
     • without psychotic features, with psychotic features, with catatonic features, with postpartum onset

- treatment
  • biological: lithium, valproic acid, carbamazepine, lamotrigine, gabapentin, topiramate, antipsychotics, ECT
  • psychological: supportive and psychodynamic psychotherapy, cognitive or behavioural therapy
  • social: vocational rehabilitation, leave of absence from school/work, drug and ETOH avoidance, substitute decision maker for finances, sleep hygiene, social skills training, education for family members

- differential diagnosis
  • cyclothymic disorder
  • psychotic disorder
  • substance induced mood disorder
  • mood disorder due to a GMC
  • delirium

Cyclothymia
- presence of numerous periods of hypomanic and depressive symptoms (not meeting criteria for MDE) for at least 2 years; never without symptoms for > 2 months
- no MDE, manic or mixed episodes; no evidence of psychosis
- not due to GMC/substance use

MEDICAL/SUBSTANCE-INDUCED MOOD DISORDERS
- infectious: encephalitis, hepatitis, pneumonia, TB, syphilis
- endocrine: hypothyroidism, hypopituitarism, SIADH
- metabolic: porphyria
- vitamin disorders: Wernicke's, beriberi, pellagra, pemicious anemia
- collagen vascular: SLE, polyarteritis nodosa
- neoplastic: pancreatic cancer, carcinoid, pheochromocytoma
- cardiovascular (CV): cardiomyopathy, CHF, MI, CVA
- neurologic: Huntington's disease (HD), multiple sclerosis (MS), tuberous sclerosis, Wilson's disease, personality disorder (PD)
- drugs: antihypertensives, antiparkinsonian, hormones, steroids, antituberculous, antineoplastic medications

ANXIETY DISORDERS

Definition
- anxiety is a universal human characteristic which serves as an adaptive mechanism to warn about an external threat by activating the sympathetic nervous system (fight or flight)
- anxiety becomes pathological when
  • fear is greatly out-of-proportion to risk/severity of threat
  • response continues beyond existence of threat
  • social or occupational functioning is impaired
- manifestations of anxiety can be described along a continuum of physiology, psychology, and behaviour
  • physiology - main brain structure involved is the amygdala; neurotransmitters involved include serotonin, CCK, adrenaline
  • psychology - one's perception of a given situation is distorted which causes one to believe it is threatening in some way
  • behaviour - once feeling threatened, one responds by escaping/avoiding the situation, thereby causing a disruption in daily functioning

PANIC DISORDER

Epidemiology
- prevalence: 1.5-5%
- onset: average late 20's, familial pattern
- M:F = 1:2-3
- one of the top five most common reasons to see a family doctor

Diagnosis
A. recurrent, unexpected panic attacks; at least one attack has been followed by at least 1 month or more of either persistent concern about having another panic attack, worry about consequences of the attack, or significant behavioural change related to the attack
ANXIETY DISORDERS ... CONT.

B. panic attack - a discrete period of intense fear in which at least four of the following symptoms develop abruptly and reach a peak within 10 minutes
   · mnemonic – STUDENTS FEAR the 3 Cs
     · Sweating
     · Trembling or shaking
     · Unsteadiness, light-headedness
     · Depersonalization, Derealization
     · Excessive heart rate (palpitations, pounding heart, or accelerated heart rate)
     · Nausea
     · Tingling (paresthesias)
     · Shortness of breath
     · FEAR of dying, of losing control or going crazy
   · Chest pain, Chills (or hot flushes), Choking

C. attacks are not substance induced (e.g. amphetamines, caffeine, EtOH) or due to a GMC

Treatment
   · supportive psychotherapy, relaxation techniques (visualization, box-breathing), cognitive behavioural therapy (CBT) (correct distorted thinking, desensitization/exposure therapy)
   · pharmacotherapy
     · benzodiazepines dosed regularly (clonazepam, alprazolam), SSRIs (paroxetine, sertraline)
     · use of benzodiazepines should be short term with a low dose to avoid withdrawal or tolerance - benzodiazepines are primarily used as a temporary therapy until SSRIs take effect

Prognosis
   · 6-10 years post-treatment: 30% well, 40-50% improved, 20-30% no change or worse
   · clinical course: chronic, but episodic

PANIC DISORDER WITH AGORAPHOBIA
   · diagnosis: panic disorder + agoraphobia
   · agoraphobia
     · anxiety about being in places or situations from which escape might be difficult (or embarrassing) or where help may not be available in the event of having an unexpected panic attack
     · fears commonly involve clusters of situations like being out alone, being in a crowd, standing in a line, or travelling on a bus
     · situations are avoided, endured with anxiety or panic, or require companion
   · treatment: as per panic disorder

GENERALIZED ANXIETY DISORDER (GAD)
   (includes overanxious disorder of childhood)

Epidemiology
   · 1-year prevalence: 3-8%
   · most commonly presents in early adulthood
   · M:F = 1:2; if considering only those receiving inpatient treatment, ratio is 1:1

Diagnosis
   · excessive anxiety and worry for at least 6 months (chronic) about a number of events and activities (e.g. money, job security, marriage, health)
   · difficult to control the worry
   · three or more of the following six symptoms (only one for children)
     · mnemonic - BE SKIM
       · Blank mind, difficulty concentrating
       · Easy fatigability
       · Sleep disturbance
       · Keyed up, on edge or restless feeling
       · Irritability
       · Muscle tension
   · significant impairment in social, occupational, or other areas of functioning
   · not due to a GMC or substance use

Treatment
   · psychotherapy, relaxation, and CBT
   · caffeine and EtOH avoidance, sleep hygiene
   · pharmacotherapy
     · venlafaxine (Effexor)
     · benzodiazepines (alprazolam)
     · buspirone
     · others: SSRIs, TCAs, beta blockers
     · combinations of above
ANXIETY DISORDERS . . . CONT.

Prognosis
- chronically anxious adults become less so with age
- depends on pre-morbid personality functioning, stability of relationships, work, and severity of environmental stress

PHOBIC DISORDERS

Specific Phobia
- marked and persistent fear cued by presence or anticipation of a specific object or situation
- types: animal, natural environment (heights, storms), blood/injection/injury, situational (airplane, closed spaces), other (loud noise, clowns)

Social Phobia
- marked and persistent fear of social or performance situations in which person is exposed to unfamiliar people or to possible scrutiny by others; person fears he / she will act in a way (or show anxiety symptoms) that may be humiliating or embarrassing (e.g. public speaking)
- 6-month prevalence: 2-3%; lifetime prevalence: may be as high as 13-16%

Diagnosis
- exposure to stimulus almost invariably provokes an immediate anxiety response; may take form of panic attack
- person recognizes fear as excessive or unreasonable
- situations are avoided or endured with anxiety/distress
- significant interference with daily routine, occupational/social functioning, or there is marked distress
- if person is < 18 years, duration is at least 6 months

Treatment
- specific phobia
  - exposure therapy/desensitization
  - beta blockers or benzodiazepines in emergencies
- social phobia
  - CBT - exposure therapy
- pharmacotherapy
  - SSRIs
  - MAOIs
  - benzodiazepines (short-acting)
  - beta-blockers for performance-type
- insight oriented psychotherapy

Prognosis
- chronic

OBSESSIVE-COMPULSIVE DISORDER (OCD)

Epidemiology
- lifetime prevalence rates 2-3%
- MZ twins = 75%, DZ = 32%

Diagnosis
A. either obsessions, compulsions, or both are present
   1. obsessions
      - recurrent and persistent thoughts, impulses, or images that are intrusive, inappropriate, and cause marked anxiety and distress
      - not simply excessive worry about real life problems
      - attempts made to ignore/neutralize/suppress obsession with other thoughts or actions
      - patient aware obsessions originate from own mind
   2. compulsions
      - drive to perform repetitive behaviours (hand washing, ordering, checking) or mental acts (praying, counting, word repetition) in response to obsession or in keeping with rigidly applied rules
      - carried out with the goal of reducing distress or preventing dreaded event/situation, although there is no realistic connection between compulsion and anticipated outcome
B. recognition that obsessions or compulsions are excessive or unreasonable
C. obsessions or compulsions cause distress, are time-consuming, or interfere with normal functioning
D. not due to GMC/substance use

Treatment
- CBT - desensitization, flooding, thought stopping, implosion therapy, aversive conditioning
- medications - clomipramine, SSRIs (higher doses and longer treatment needed, i.e. up to 8-12 weeks)

Prognosis
- tends to be refractory and chronic
ANXIETY DISORDERS . . . CONT.

POST-TRAUMATIC STRESS DISORDER (PTSD)

**Epidemiology**
- lifetime prevalence: 1-3%
- men's trauma is most commonly combat experience;
  women's trauma is usually rape or assault

**Diagnosis**
A. exposed to a traumatic event in which person experienced, witnessed, or was confronted
   with a situation that involved death or serious injury to self or others
B. response involved intense fear, helplessness, or horror
C. traumatic event is persistently re-experienced through one or more of the following
   - recurrent, distressing recollections (images, thoughts)
   - recurrent, distressing dreams
   - acting or feeling as if event is recurring (flashbacks, illusions, hallucinations)
   - distress at exposure to cues that resemble event
   - physiological reactivity in response to cues
D. three of the following: feelings of detachment (emotional numbing), anhedonia,
   amnesia, restricted affect, avoidance of thoughts or activities that may be a
   reminder of the event
E. persistent symptoms of increased arousal (two or more of: insomnia, irritability,
   difficulty concentrating, hypervigilance, exaggerated startle response)
F. symptoms present for > 1 month

**Complications**
- substance abuse, relationship difficulties

**Treatment**
- CBT (systematic desensitization, relaxation techniques, thought stopping)
- pharmacotherapy
  - SSRIs
  - benzodiazepines (for acute anxiety)
  - lithium

ANXIETY DISORDERS DUE TO A GENERAL MEDICAL CONDITION (GMC)

**Diagnosis**
- may include prominent generalized anxiety symptoms, panic attacks,
  obsessions, or compulsions

**Differential**
- endocrine: hyper- or hypothyroidism, pheochromocytoma,
  hypoglycemia, hyperadrenalism
- CVS: congestive heart failure, pulmonary embolus, arrhythmia, mitral valve prolapse
- respiratory: COPD, pneumonia, hyperventilation
- metabolic: vitamin B12 deficiency, porphyria
- neurologic: neoplasm, vestibular dysfunction, encephalitis
- differentiate from substance-induced anxiety disorder: drugs of abuse
  (caffeine, amphetamine, cocaine), medications (benzodiazepine withdrawal),
  toxins (EtOH withdrawal)
ADJUSTMENT DISORDER

**Diagnosis**
A. emotional/behavioural symptoms in response to an identifiable stressor(s) occurring within 3 months of the onset of the stressor(s)
B. symptoms/behaviours are either
   1. marked distress in excess of what would be expected from exposure to stressor or
   2. significant impairment in social/occupational (academic) functioning
C. disturbance does not meet criteria for another specific Axis I disorder, and is not merely an exacerbation of a preexisting Axis I or Axis II disorder
D. symptoms do not represent bereavement
E. once the stressor (or its consequence) has terminated, the symptoms do not persist for more than an additional 6 months

**Types of Stressors**
- single (termination of romantic relationship)
- multiple (marked business difficulties and marital problems)
- recurrent (seasonal business crises)
- continuous (living in crime-ridden neighbourhood)
- developmental events (going to school, leaving parental home, getting married, becoming a parent, failing to attain occupational goals, retirement)

**Subtypes**
- adjustment disorder with: depressed mood, anxiety, mixed anxiety and depressed mood, disturbance of conduct, mixed disturbance of emotions and conduct, unspecified
- NB: the specific stressor is specified on Axis IV

**Treatment**
- brief psychotherapy (group, individual)
- crisis intervention
- medications (e.g. benzodiazepines may be used for those with anxiety symptoms; SSRIs for both depressed and anxiety symptoms)

COGNITIVE DISORDERS

DELIRIUM

**Diagnostic Criteria**
A. disturbance of consciousness (i.e. reduced clarity of awareness of the environment) with reduced ability to focus, sustain or shift attention
B. a change in cognition (i.e. memory deficit, disorientation, language disturbance) or development of a perceptual disturbance not better accounted for by a preexisting, established, or evolving dementia
C. disturbance develops over short period of time (hours-days) and tends to fluctuate over the course of the day
D. there is evidence from the history, physical examination or laboratory findings that the disturbance is due to a physiological consequence of a GMC, substance intoxication/withdrawal, medication use, toxin exposure, or a combination

**Clinical Presentation and Assessment**
- risk factors
  - hospitalization (incidence 10-40%)
  - nursing home residents (incidence 60%)
  - childhood (i.e. febrile illness, anticholinergic use)
  - old age (especially males)
  - severe illness (i.e. cancer, AIDS)
  - pre-existing cognitive impairment or brain pathology
  - recent anesthesia
  - substance abusers
- common symptoms
  - wandering attention
  - distractable
  - disorientation (time, place, rarely person)
  - misinterpretations, illusions, hallucinations
  - speech/language disturbances (dysarthria, dysnomia, dysgraphia)
  - affective symptoms (anxiety, fear, depression, irritability, anger, euphoria, apathy)
  - shifts in psychomotor activity (groping/picking at clothes, attempts to get out of bed when unsafe, sudden movements, sluggishness, lethargy)
- Folstein exam is helpful to assess baseline of altered mental state – i.e. score will improve as symptoms resolve
COGNITIVE DISORDERS . . . CONT.

**Differential for Delirium**
- **I** - Infectious (encephalitis, meningitis, UTI, pneumonia)
- **W** - Withdrawal (alcohol, barbiturates, benzodiazepines)
- **A** - Acute metabolic disorder (electrolyte imbalance, hepatic or renal failure)
- **T** - Trauma (head injury, postoperative)
- **C** - CNS pathology (stroke, hemorrhage, tumor, seizure disorder, Parkinson's)
- **H** - Hypoxia (anemia, cardiac failure, pulmonary embolus)
- **D** - Deficiencies (vitamin B12, folic acid, thiamine)
- **E** - Endocrinopathies (thyroid, glucose, parathyroid, adrenal)
- **A** - Acute vascular (shock, vasculitis, hypertensive encephalopathy)
- **T** - Toxins, substance use, medication (alcohol, anesthetics, anticholinergics, narcotics)
- **H** - Heavy metals (arsenic, lead, mercury)

**Note:** can use alternative classification: intracranial, extracranial, drug use, and drug withdrawal

**Investigations**
- standard: CBC + diff, lytes, calcium, phosphate, magnesium, glucose, ESR, LFTs (AST, ALT, ALP, albumin, bilirubin), RFTs (Cr, BUN), urinalysis, ECG
- as indicated: TSH, CT head, toxiciology/heavy metal screen, VDRL, LP, LE preparation, B12 and folic acid levels, EEG (typically abnormal: generalized slowing or fast activity)
- indications for radiological intervention: focal neurological deficit, acute change in status, anticoagulant use, early incontinence, gait abnormality, history of cancer

**Management**
- identify and treat underlying cause immediately
- stop all non-essential medications
- maintain nutrition, hydration, electrolyte balance and monitor vitals
- environment should be quiet and well-lit
- optimize hearing and vision
- room near nursing station for closer observation; constant care if patient jumping out of bed, pulling out lines
- family member present for reassurance and re-orientation
- calendar, clock for orientation cues
- pharmacological – haloperidol (low dose), lorazepam; physical restraints if patient becomes violent
- up to 50% 1 year mortality rate after episode of delirium

**DEMENTIA**

**Epidemiology**
- prevalence increases with age: 10% in patients over 65 years; 25% in patients over 85
- prevalence is increased in people with Down syndrome and head trauma
- Alzheimer's dementia comprises > 50% of cases; vascular causes comprise approximately 15% of cases
- 10% of dementia cases potentially curable

**Diagnosis (for Dementia of Alzheimer's Type)**
A. development of multiple cognitive deficits manifested by both
   - memory impairment (impaired ability to learn new information or to recall previously learned information)
   - one or more of the following cognitive disturbances
     - aphasia (language disturbance)
     - apraxia (impaired ability to carry out motor activities despite intact motor function)
     - agnosia (failure to recognize or identify objects despite intact sensory function)
     - disturbance in executive function (i.e. planning, organizing, sequencing, abstract thinking)
B. cognitive deficits significantly impair social/occupational functioning and are a significant decline from prior functioning
C. course characterized by gradual onset and continuing cognitive decline
D. cognitive deficits are not due to CNS conditions, systemic conditions, substance-induced conditions
E. deficits do not occur exclusively during course of delirium
F. disturbance is not better accounted for by another Axis I disorder (e.g. MDE, schizophrenia)

**Subtypes**
- with or without behavioural disturbance (i.e. wandering, agitation)
- early onset: age of onset < 65 years
- late onset: age of onset > 65 years

**Other Causes of Dementia** (see Neurology Chapter)
COGNITIVE DISORDERS ... CONT.

Investigations (rule out reversible causes)
- standard: as above in Delirium section
- as indicated: TSH, VDRL, B12, folic acid, albumin, SPECT, CT head in dementia
- indications for CT head: as above in Delirium section plus: age < 60, rapid onset (unexplained decline in cognition of function over 1-2 months), dementia of relatively short duration (< 2 years), recent significant head trauma, unexplained neurological symptoms (new onset of severe headache/seizures)

Management
- treat medical problems and prevent others
- provide orientation cues (e.g. clock, calendar)
- provide education and support for patient and family (day programs, respite care, support groups, home care)
- consider long term care plan (nursing home) and power of attorney/living will
- inform Ministry of Transportation about patient's inability to drive safely
- consider pharmacological therapy
  - low-dose neuroleptics (haloperidol) and antidepressants (if behavioural or emotional symptoms prominent); start low and go slow
  - anti-cholinesterase inhibitors (e.g. donepezil (Aricept))
  - some evidence supports Vitamin E, NSAIDS, estrogen (controversial)
  - reassess pharmacological therapy every 3 months

Table 1. Comparison of Dementia, Delirium and Pseudodementia of Depression

<table>
<thead>
<tr>
<th></th>
<th>Dementia</th>
<th>Delirium</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Gradual or step-wise decline</td>
<td>Acute (hours - days)</td>
<td>Subacute</td>
</tr>
<tr>
<td>Duration</td>
<td>Months-years</td>
<td>Days-weeks</td>
<td>Variable</td>
</tr>
<tr>
<td>Natural History</td>
<td>Progressive</td>
<td>Fluctuating, reversible</td>
<td>Recurrent</td>
</tr>
<tr>
<td></td>
<td>Usually irreversible</td>
<td>Usually irreversible in very old</td>
<td>Usually reversible</td>
</tr>
<tr>
<td>Level of</td>
<td>Normal</td>
<td>Fluctuating (over 24 hours)</td>
<td>Normal</td>
</tr>
<tr>
<td>Consciousness</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention</td>
<td>Not initially affected</td>
<td>Decreased (wandering, easy distraction)</td>
<td>Difficulty concentrating</td>
</tr>
<tr>
<td>Orientation</td>
<td>Intact initially</td>
<td>Impaired (usually to time and place), fluctuates</td>
<td>Intact</td>
</tr>
<tr>
<td>Behaviour</td>
<td>Disinhibition, catastrophic</td>
<td>Severe agitation/retardation</td>
<td>Importuning, self-harm/suicide</td>
</tr>
<tr>
<td></td>
<td>reaction impairment in ADL, IADL,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>personality change, loss of social graces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychomotor</td>
<td>Normal</td>
<td>Fluctuates between extremes</td>
<td>Slow ing</td>
</tr>
<tr>
<td>Sleep Wake Cycle</td>
<td>Fragmented sleep at night</td>
<td>Reversed sleep wake cycle</td>
<td>Early morning awakening</td>
</tr>
<tr>
<td>Mood and Affect</td>
<td>Labile but not usually anxious</td>
<td>Anxious, irritable, fluctuating</td>
<td>Depressed, stable</td>
</tr>
<tr>
<td>Cognition</td>
<td>Decreased executive functioning, paucity of thought</td>
<td>Fluctuating preceded by mood changes</td>
<td>Fluctuating</td>
</tr>
<tr>
<td>Delusions</td>
<td>Compensatory</td>
<td>Nightmarish and poorly formed</td>
<td>Nihilistic, somatic</td>
</tr>
<tr>
<td></td>
<td>Recent, eventually remote</td>
<td>Marked recent</td>
<td>Recent</td>
</tr>
<tr>
<td>Language</td>
<td>Agnosia, aphas ia, decreased</td>
<td>Dysnomia, dysgraphia, speech: rambling, irrelevant, incoherent, subject changes</td>
<td>Not affected</td>
</tr>
<tr>
<td></td>
<td>comprehension, repetition, speech: echolalia, palilalia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallucinations</td>
<td>Variable</td>
<td>Visual common</td>
<td>Less common, auditory predominates</td>
</tr>
<tr>
<td>Quality of</td>
<td>Vacuous/bland</td>
<td>Frightening/bizarre</td>
<td>Self-deprecatory</td>
</tr>
<tr>
<td>Hallucinations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Status</td>
<td>Variable</td>
<td>Acute illness, drug toxicity</td>
<td>R/O systemic illness, meds</td>
</tr>
</tbody>
</table>
**SUBSTANCE-RELATED DISORDERS**

**Types of Substance Disorders**

**A. substance-use disorders**

1. substance dependence: maladaptive pattern of substance use interfering with function; at least three of the following in 12 month period
   - tolerance
   - withdrawal/use to avoid withdrawal
   - taken in larger amount or over longer period than intended
   - persistent desire or unsuccessful efforts to cut down
   - excessive time to procure, use substance, or recover from its effects
   - important interests/activities given up or reduced
   - continued use despite physical/psychological problem caused/exacerbated by substance

2. substance abuse: maladaptive pattern of substance use interfering with function; at least one of the following in 12 month period
   - recurrent use resulting in failure to fulfill major role obligation
   - recurrent use in situations in which it is physically hazardous (i.e. driving)
   - recurrent substance-related legal problems
   - continued use despite interference with social or interpersonal function

**B. substance-induced disorders**

1. substance intoxification: reversible physiological and behavioural changes due to recent exposure to psychoactive substance
2. substance withdrawal: substance specific syndrome that develops following cessation of or reduction in dosage of regularly used substances

**Classification of Substances**

- mnemonic – CHEAP COCAINE
  - Cocaine
  - Hallucinogens
  - Ethanol
  - Amphetamines, sympathomimetics
  - Phencyclidine (PCP)
  - Caffeine
  - Opioids
  - Cannabis
  - Anxiolytics/hypnotics/sedatives
  - Inhalants
  - Nicotine
  - Ecstasy, gamma hydroxybutyrate, ketamine (new designer drugs)

**ALCOHOL**

**History**

- screening
  - C - ever felt need to cut down on drinking
  - A - ever felt annoyed at criticism of your drinking
  - G - ever feel guilty about your drinking
  - E - ever need a drink first thing in morning (eye opener)
  - 2 “yes” responses out of 4 is considered positive for an alcohol problem
  - if positive CAGE then assess further to determine if problem drinker or alcohol dependence (see mnemonic below)

- other important questions to ask
  - H - do you ever drink to get high
  - A - do you ever drink alone
  - L - do you ever look forward to drinking
  - T - are you tolerant to alcohol
  - B - have you ever had blackouts
  - U - do you ever use EtOH in an unplanned way
  - M - do you ever use EtOH for medicinal reasons
  - P - do you tend to protect your EtOH supply
  - F - any family history of EtOH problems
  - A - ever been a member of AA
  - T - do you think you are an alcoholic
  - L - any legal problems related to EtOH
  - D - do you ever drink and drive
  - T - do you use tranquilizers to steady your nerves
### Substance-Related Disorders ... Cont.

#### Table 2. Differentiating Problem Drinking from Alcohol Dependence

<table>
<thead>
<tr>
<th>Withdrawal Symptoms</th>
<th>Problem Drinker</th>
<th>Alcohol Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount Consumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social / Physical / Legal Consequences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neglect of Major Responsibilities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Table 3. Signs and Symptoms of Alcohol Withdrawal

<table>
<thead>
<tr>
<th>Autonomic Symptoms</th>
<th>Sleep Disturbance</th>
<th>Gastrointestinal</th>
<th>Neurological</th>
<th>Psychological</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachycardia</td>
<td>Sleep latency insomnia</td>
<td>Anorexia</td>
<td>Generalized tonic - clonic seizures</td>
<td>Agitation</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Increased REM sleep</td>
<td>Nausea</td>
<td>Restlessness</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Diaphoresis</td>
<td>Decreased deep sleep</td>
<td>Vomiting</td>
<td></td>
<td>Irritability</td>
</tr>
<tr>
<td>Tremor</td>
<td></td>
<td></td>
<td></td>
<td>Distractibility</td>
</tr>
<tr>
<td>Fever</td>
<td></td>
<td></td>
<td></td>
<td>Poor concentration</td>
</tr>
<tr>
<td>Respiratory distress</td>
<td></td>
<td></td>
<td></td>
<td>Impaired memory</td>
</tr>
</tbody>
</table>

#### Alcohol Intoxication
- Clinical effects seen when blood alcohol level is above 30 mmol/L (150 mg/dL)
- Above 50 mmol/L (250 mg/dL), coma usually ensues, but depends on level of tolerance

#### Alcohol Withdrawal
- Within 12 to 48 hours after prolonged heavy drinking

#### Delirium Tremens (DTs)
- Within 2-10 days after cessation of alcohol
- Characterized by
  - Symptoms of delirium
  - Autonomic hyperactivity
  - Perceptual distortions (visual or tactile hallucinations)
  - Fluctuating levels of psychomotor activity
- Course: in young almost completely reversible; elderly often left with cognitive deficits
- Mortality rate: 20% if untreated
- Treatment: chlordiazepoxide or lorazepam, plus supportive environment, +/- haloperidol

#### Management of Alcohol Withdrawal
- Basic protocol
  - Diazepam 20 mg PO q1-2h until symptoms abate; tapering dose not required after load
  - Observe for 1-2 h after last dose
  - Thiamine 100 mg IM then 100 mg PO for 3 days
  - Supportive care (hydration and nutrition)
- If history of withdrawal seizures
  - Diazepam 20 mg q1h for minimum of three doses
- If oral diazepam not tolerated
  - Diazepam 2-5 mg IV/min - Maximum 10-20 mg q1h; or lorazepam SL
- If severe liver disease, severe asthma or respiratory failure present
  - Lorazepam SL, PO 1-2 mg tid-qid; or oxazepam 15-30 mg PO tid-qid
- If hallucinosis present
  - Haloperidol 2-5 mg IM/PO q1-4h - Max 5/day
  - Diazepam 20 mg x 3 doses as seizure prophylaxis (haloperidol lowers seizure threshold)
- Admit to hospital if
  - Still in withdrawal after > 80 mg of diazepam
  - Delirium tremens, recurrent arrhythmias, or multiple seizures
  - Medically ill
**Wernicke-Korsakoff Syndrome**

- Alcohol-induced amnestic disorders due to thiamine deficiency
- Necrotic lesions - mamillary bodies, thalamus, brainstem
- Wernicke's (acute, reversible): oculomotor (nystagmus, 6th nerve palsy, gaze palsy), ataxia, vestibular dysfunction, delirium
- Korsakoff's (chronic, only 20% recover with treatment): marked short-term memory loss, difficulty in learning new information, anterograde amnesia, confabulations

**Management**

- Wernicke’s: thiamine 100 mg PO od X 1-2 weeks
- Korsakoff’s: thiamine 100 mg PO bid/tid X 3-12 months

**Treatment of Alcohol Dependence**

- Disulfiram (Antabuse): blocks normal oxidation of EtOH; acetaldehyde accumulates causing tachycardia, vomiting; use 125-250 mg/day
- Naltrexone: opioid antagonist, shown to be successful in reducing the “high” obtained from alcohol
- SSRI, buspirone, Li, trazodone, bromocriptine studied
- Behaviour modification: hypnosis, relaxation training, aversion therapy, assertiveness training, operant conditioning
- Supportive services: half-way houses, detoxification centres, Alcoholics Anonymous
- Psychotherapy

**OPIOIDS**

- Drugs in this category range from heroin and morphine to nonsteroidal prescription analgesics
- Major danger associated with the use of contaminated needles; increased risk of hepatitis B and C, bacterial endocarditis, HIV

**Acute Intoxification**

- Direct effect on receptors in CNS resulting in nausea/vomiting, decreased pain perception, sedation, decreased sex drive
- Decreased GI motility (constipation and anorexia)
- Respiratory depression

**Toxic Reaction**

- Typical syndrome includes shallow respirations, miosis, bradycardia, hypothermia, decreased level of consciousness
- Treatment: ABC's, IV glucose; naloxone hydrochloride (Narcan): 0.4 mg up to 2 mg IV and repeat as needed every 2 to 3 minutes to counter respiratory depression; may wear off in 30 to 120 minutes; therefore, need to monitor carefully for up to 48 hours

**Opioid Withdrawal**

- Increased sympathetic nervous system activity plus nausea, vomiting, diarrhea
- May include myalgias and arthralgias, restlessness, anxiety, intense craving for opioid
- Treatment:
  - Detoxification performed by re-administering an opioid (methadone often used) until withdrawal symptoms cease then decreasing the dose of opioid
  - Clonidine: for alleviating autonomic signs of withdrawal

**Treatment of Chronic Abuse**

- Psychosocial treatment (e.g. Narcotics Anonymous); usually emphasize total abstinence
- Long term treatment may also include maintenance on methadone (a synthetic long-acting opioid that produces less euphoria than morphine)
- Naltrexone or naloxone (opioid antagonists) may also be used to extinguish drug-seeking behaviour

**COCAINE**

- Alkaloid extracted from leaves of the coca plant; potentiates the actions of catecholamines
- Self-administered by inhalation or intravenous route

**Intoxication**

- Characterized by elation, euphoria, pressured speech, restlessness; sympathetic stimulation including tachycardia, mydriasis, sweating
- Prolonged use may result in paranoia and psychosis

**Overdose**

- Medical emergency; cocaine toxicity produces hypertension, tachycardia, tonic-clonic seizures, dyspnea, and ventricular arrhythmias
- Treatment with IV diazepam to control seizures and propranolol to manage hypermetabolic state and arrhythmias

**Treatment of Chronic Abuse**

- Optimal treatment not established
- Psychotherapy, group therapy, and behaviour modification useful in maintaining abstinence
- Studies of dopamine agonists to block cravings show inconsistent results
SUBSTANCE-RELATED DISORDERS . . . CONT.

**CANNABIS**
- psychoactive substance delta-9-tetrahydrocannabinol (THC)
- smoking is most common mode of self-administration
- intoxication characterised by tachycardia, muscle relaxation, euphoria, general sense of well-being; impaired performance on psychomotor tasks including driving
- high doses can cause depersonalisation, paranoia, and anxiety
- chronic use associated with tolerance and an apathetic, amotivational state
- cessation does not produce significant withdrawal phenomenon
- treatment of dependence includes behavioural and psychological interventions to maintain abstinent state

**AMPHETAMINES**
- class of drugs structurally related to catecholamine neurotransmitters
- intoxication produces euphoria, improved concentration, sympathetic, and behavioural hyperactivity
- chronic use can produce a paranoid psychosis diagnostically similar to schizophrenia with agitation, paranoia, delusions and hallucinations; antipsychotics useful in treatment of stimulant psychosis
- withdrawal symptoms include dysphoria, fatigue, and restlessness

**HALLUCINOGENS**
- includes LSD, mescaline, psilocybin, and MDMA ("ecstasy" - see below)
- LSD is a highly potent drug; intoxication produces tachycardia, hypertension, mydriasis, tremor, hyperpyrexia, and a variety of perceptual and mood changes
- treatment of agitation and psychosis: support, reassurance, diminished stimulation; benzodiazepines or high potency antipsychotics seldom required
- high doses can cause depersonalisation, paranoia, and anxiety

**PHENCYCLIDINE (PCP)**
- PCP, "angel dust"
- widely used in veterinary medicine to immobilize large animals; mechanism of action not well understood
- taken orally, smoked, or IV; produces amnestic, euphoric, hallucinatory state; horizontal/vertical nystagmus, myoclonus, ataxia, and autonomic instability common
- effects unpredictable and often include prolonged agitated psychosis; individuals at high risk for suicide or violence towards others
- treatment of toxic reaction: room with minimal stimulation; diazepam IV for muscle spasm/seizures; haloperidol to suppress psychotic behaviour

**NEW DRUGS OF ABUSE**

**MDMA ("Ecstasy", "X", "E")**
- has properties of a hallucinogen and an amphetamine; acts on serotonergic and dopaminergic pathways
- enhances sensorium; increased feelings of well-being and empathy
- adverse effects: sweating, tachycardia, fatigue, muscle spasms (especially jaw clenching), ataxia
- severe complications: unpredictable, not necessarily dose-dependent
- hyperthermia, arrhythmias, DIC, rhabdomyolysis, renal failure, seizures, death
- animal studies suggest long-term neurotoxicity to serotonergic system

**Gamma Hydroxybutyrate (GHB, "G", "Liquid Ecstasy")**
- produces biphasic dopamine response and releases opiate-like substance
- purports euphoric effects, increased aggression and impaired judgment
- adverse effects: nystagmus, ataxia, amnesia, apnea with sudden awakening and violence, bradycardia
- one of several "date rape" drugs; consider in amnestic sexual assault victim

**Ketamine ("Special K", "Kit-Kat")**
- an anaesthetic still in use to sedate children for short procedures
- NMDA receptor antagonist
- rapid-acting; produces "dissociative" state with profound amnesia and analgesia; also hallucinations and sympathomimetic effects
- strong potential for psychological distress or accidents due to intensity of experience and lack of bodily control
- may be packaged to look like Ecstasy
- toxicity: decreased LOC, respiratory depression, catatonia
SUICIDE

Epidemiology
- attempted:complete = 120:1
- M:F = 3:1 for completed; 1:4 for attempts

Risk Factors and Clinical Presentation
- risk factors: see Table 4

Table 4. Risk Factors Associated with Completed Suicide

<table>
<thead>
<tr>
<th>Epidemiologic Factors</th>
<th>Psychiatric Disorders</th>
<th>Past History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence increases with age &gt; 14 years</td>
<td>Mood disorders (15% lifetime risk in depression; higher in bipolar)</td>
<td>Prior suicide attempt</td>
</tr>
<tr>
<td>2nd cause of death in age 15-24 years</td>
<td>Substance abuse (especially alcohol - 15% lifetime risk)</td>
<td>Family history of suicide attempt</td>
</tr>
<tr>
<td>Age &gt; 65 years</td>
<td>Schizophrenia (10-15%)</td>
<td></td>
</tr>
<tr>
<td>Male, white</td>
<td>Personality disorder- borderline, antisocial</td>
<td></td>
</tr>
<tr>
<td>Widowed/divorced</td>
<td>Eating disorders - 5% lifetime risk</td>
<td></td>
</tr>
<tr>
<td>Lives alone; no children &lt; 18 years in the household</td>
<td>Adjustment, conduct, and anxiety disorders (especially panic disorder)</td>
<td></td>
</tr>
<tr>
<td>Stressful life events</td>
<td>Adolescents: impulsive, aggressive and antisocial behavior, family violence</td>
<td></td>
</tr>
<tr>
<td>Access to firearms</td>
<td>Native Canadians on reserves 2-3x increased risk</td>
<td></td>
</tr>
</tbody>
</table>


- symptoms associated with suicide
  - hopelessness
  - anhedonia
  - insomnia
  - severe anxiety
  - impaired concentration
  - psychomotor agitation
  - panic attacks

- “SAD PERSONS” scale for assessment and management of suicidal ideation
  - Sex-male
  - Age > 60 years old
  - Depression
  - Previous attempts
  - Ethanol abuse
  - Rational thinking loss (delusion, hallucination, hopelessness)
  - Suicide in family
  - Organized plan
  - No spouse (no support systems)
  - Serious illness, intractable pain
  - Score (total number of risk factors present):
    - 0-2 consider sending home with family
    - 3-4 close follow up, consider hospitalization
    - 5-6 strongly consider hospitalization
    - 7-10 hospitalize

Approach
- assessment of suicidal ideation
  - Onset of suicidal thoughts? Stressors precipitating suicidal thoughts?
  - Frequency of suicidal thoughts? Feelings of being a burden? Or that life isn’t worth living?
  - What makes them feel better (e.g. contact with family, use of substances)?
  - What makes them feel worse (e.g. being alone)?
  - How much control of suicidal ideas do they have? Can they suppress them or call someone for help?
  - What keeps them alive? Stops them from killing themselves (e.g. family, religious beliefs)?

- assessment of lethality
  - Is there a plan to end their life?
  - Do they own a gun, have access to firearms or potentially harmful medications?
  - Have they imagined their funeral, and how people will react to their death?
  - Have they “practiced” the suicide? (e.g., put the gun to head or held medications in hand)?
  - Have they changed their will or life insurance policy or given away possessions?
SUICIDE . . . CONT.

- if an attempt was made
  - Planned or impulsive attempt? Triggers for attempt (stressors)?
  - Lethality of attempt? Chance of discovery? Reaction to being saved (intent)?
  - MSE - may reveal psychiatric disorder (e.g. depression), perception disturbance (e.g. command hallucination), poor insight and judgement

Clinical Pearls
- Asking patients about suicide will not give them the idea or the incentive to commit suicide.
- The best predictor of completed suicide is a history of attempted suicide.
- The most common psychiatric disorders associated with completed suicide are major depression and alcohol abuse.

Management
- do not leave patient alone; remove potentially dangerous objects from room
- patients with a plan, access to lethal means, recent social stressors, and symptoms suggestive of a psychiatric disorder should be hospitalized immediately
- if patients refuses to be hospitalized, form if criteria are met
- depression: if severe, hospitalize; otherwise outpatient treatment with good supports and SSRI's (fluoxetine, sertraline, paroxetine, fluvoxamine, venlafaxine, and nefazodone)
- alcohol related: usually resolves with abstinence for a few days; if not, suspect depression
- personality disorders: crisis intervention/confrontation
- schizophrenia/psychotic: hospitalization
- parasuicides/self mutilation: long term psychotherapy with brief crisis intervention when necessary

Clinical Pearls
- Once antidepressant therapy is initiated, patients should be followed frequently as there is a “suicide window” in which the patient may still be depressed, but has enough energy to carry out suicide.
- Avoid Tricyclic antidepressants (TCA) as high lethality in overdose!

SOMATOFORM DISORDERS

General Characteristics
- physical signs and symptoms lacking a known medical basis in the presence of psychological factors that are judged to be important in the initiation, exacerbation, or maintenance of the disturbance
- cause significant distress or impairment in functioning
- symptoms are not the result of malingering or factitious disorder
- types
  - conversion disorder
  - somatization disorder
  - somatoform pain disorder
  - hypochondriasis
  - body dysmorphic disorder

CONVERSION DISORDER
- one or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or general medical condition (e.g. impaired co-ordination, local paralysis, double vision)
- psychological factors thought to be etiologically related to the symptom as the initiation of symptoms is preceded by conflicts or other stressors
- primary gain: somatic symptom represents a symbolic resolution of an unconscious psychological conflict; serves to reduce anxiety and conflict
- secondary gain: the sick role; external benefits obtained or unpleasant duties evaded (e.g. work)
- “La belle indifférence” - patient's inappropriately cavalier attitude towards a serious symptom

SOMATIZATION DISORDER
- recurring, multiple, clinically significant physical complaints which result in patient seeking treatment or in impaired functioning
- onset before age 30; extends over a period of years
- at least eight physical symptoms that have no organic pathology
  - four pain symptoms
  - two gastrointestinal (GI) symptoms
  - one sexual symptom
  - one pseudo-neurological symptom
- complications: anxiety, depression, unnecessary medications or surgery
- often a misdiagnosis for an insidious illness so rule out all organic illnesses (e.g. multiple sclerosis (MS))
SOMATOFORM DISORDERS . . . CONT.

SOMATOFORM PAIN DISORDER
- pain is primary symptom and is of sufficient severity to warrant medical attention
- usually no organic pathology but when it exists reaction is excessive

HYPOCHONDRIASIS
- preoccupation with fear of having, or the idea that one has, a serious disease based on a misinterpretation of physical signs
- evidence does not support diagnosis of a physical disorder
- fear of having a disease despite medical reassurance
- belief is not of delusional intensity (as in delusional disorder, somatic type) as person acknowledges unrealistic interpretation
- duration at least 6 months

BODY DYSMORPHIC DISORDER
- preoccupation with imagined defect in appearance or excess concern around slight anomaly
- usually related to face
- may lead to avoidance of work or social situations

MANAGEMENT OF SOMATOFORM DISORDERS
- brief frequent visits
- try to be patient's only physician
- focus on psychosocial not physical symptoms
- biofeedback
- psychotherapy - conflict resolution
- minimize psychotropic drugs (anxiolytics in short term only; antidepressants for depressive symptoms)
- minimize medical investigations; co-ordinate necessary investigations

FACTITIOUS DISORDERS
- not true somatoform disorders since symptoms are intentional
- treatment: psychotherapy (conflict resolution)

Factitious Disorder
- intentional production or feigning of physical or psychological signs or symptoms in order to assume the sick role
- external incentives (e.g. economic gain) are absent

Malingering
- intentional production of false or grossly exaggerated physical or psychological symptoms motivated by external rewards (e.g. drug-seeking, avoiding work, financial incentives)

DISSOCIATIVE DISORDERS

DISSOCIATIVE AMNESIA
- diagnosis
  - inability to recall important personal information, usually of traumatic or stressful nature
  - symptoms cause distress or impaired functioning
  - rule out: DID, DF, PTSD, acute stress and somatization disorders, substances, medical condition, homicidal ideation
- treatment
  - memory recovery: barbiturates (e.g. thiopental, sodium amobarbital), benzodiazepines, hypnosis
  - psychotherapy

DISSOCIATIVE FUGUE (DF)
- diagnosis
  - sudden, unexpected travel away from home or work
  - inability to recall one's past and identity or assumptions of new identity
  - symptoms cause distress or impaired functioning
  - rule out: DID, substances, medical condition
- usually brief with spontaneous recovery
- treatment: similar to dissociative amnesia

DISSOCIATIVE IDENTITY DISORDER (DID)
- formerly multiple personality disorder
- diagnosis
  - two or more distinct personality states that recurrently take control of an individual's behaviour
  - amnesia regarding personal history
  - rule out: substance abuse, medical conditions (e.g. complex partial seizures), imaginary playmates in children
  - many patients report a history of sexual and/or physical abuse
- treatment: insight-oriented psychotherapy, hypnosis, drug-assisted interviewing, adjuvant antidepressants/anxiolytics/anticonvulsants
**DISSOCIATIVE DISORDERS . . . CONT.**

**DEPERSONALIZATION DISORDER**
- **diagnosis**
  - persistent or recurrent experiences of feeling detached from one's mental processes or body (i.e. feeling like one is in a dream)
  - normal reality testing
  - symptoms cause distress or impaired functioning
  - rule out: schizophrenia, panic disorder, acute stress, other dissociative disorders, substances, medical condition

**SLEEP DISORDERS**

**Criteria for Diagnosis**
- causes significant distress or impairment in functioning
- not due to medications, drugs, or a medical condition

**PRIMARY INSOMNIA**
- difficulty initiating/maintaining sleep, or non-restorative sleep, for at least 1 month
- psychophysiological (transient or persistent)
  - treatment - sleep hygiene, short-acting benzodiazepines
  (for less than 1 month)
- differential diagnosis: substance abuse, mood, anxiety or psychotic disorders

**SLEEP APNEA**
- most common cause of hypersomnolence in sleep disorder clinics
- more than 30 episodes of apnea lasting greater than 10 seconds in one night
- types - central (decreased respiratory center output), obstructive (upper airway obstruction), mixed
- symptoms: loud snoring, thrashing of limbs in sleep, excessive daytime sleepiness, hypertension, morning headache, intellectual deterioration, decreased libido
- aggravated by hypnotics and alcohol
- treatment: continuous positive airway pressure (CPAP) via nose mask, weight loss, respiratory stimulants (e.g. acetazolamide [Diamox]); rarely surgical treatment (see Respiratology Chapter)

**NOCTURNAL MYOCLONUS**
- middle-age and elderly
- myoclonic jerks every 20-40 seconds
- bed partner complains
- treatment: benzodiazepines (clonazepam, nitrazepam)

**NARCOLEPSY**
- irresistible sleep attacks (up to 30 minutes) and persistent day time drowsiness occurring daily for at least 3 months
- cataplexy (sudden temporary episodes of paralysis with loss of muscle tone)
- sleep paralysis
- hypnagogic/hypnopompic hallucinations
- incidence 4:10,000 cases (more common than MS)
- treatment: stimulants methylphenidate, D-amphetamine, TCAs, SSRIs
SEXUALITY AND GENDER

NORMAL SEXUALITY

<table>
<thead>
<tr>
<th>Phase</th>
<th>Male Response</th>
<th>Female Response</th>
<th>Example of Dysfunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire</td>
<td>Sexual fantasies and</td>
<td>Clitoral enlargement</td>
<td>Hypoactive sexual desire disorder</td>
</tr>
<tr>
<td></td>
<td>the desire to have sex</td>
<td>Vaginal lubrication</td>
<td>Sexual aversion disorder</td>
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<tr>
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<td>Breast engorgement</td>
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<tr>
<td>Excitement</td>
<td>Penile erection</td>
<td>Retraction of testes</td>
<td>Male erectile disorder</td>
</tr>
<tr>
<td></td>
<td>Clitoral enlargement</td>
<td>Cowper's gland secretion</td>
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<tr>
<td></td>
<td>Rhythmic vaginal and</td>
<td>Rhythmic vaginal and</td>
<td>Female sexual arousal disorder</td>
</tr>
<tr>
<td></td>
<td>uterine contractions</td>
<td>uterine contractions</td>
<td>(decreased lubrication)</td>
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<tr>
<td></td>
<td>Skin flushing</td>
<td>Skin flushing</td>
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<tr>
<td>Orgasm</td>
<td>Ejaculatory spurt</td>
<td>Rhythmic vaginal and</td>
<td>Delayed ejaculation</td>
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<tr>
<td></td>
<td>Rhythmic contractions</td>
<td>uterine contractions</td>
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<tr>
<td></td>
<td>of seminal system</td>
<td>Skin flushing</td>
<td></td>
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<tr>
<td>Resolution</td>
<td>Refractory to orgasm</td>
<td>No refractory period</td>
<td>Postcoital dysphoria</td>
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<tr>
<td></td>
<td>for a period of time</td>
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<tr>
<td></td>
<td>which increases with</td>
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<td></td>
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<tr>
<td></td>
<td>age</td>
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</tbody>
</table>

Source: Kaplan and Sadock, 7th ed.

SEXUAL ORIENTATION
- describes the degree of a person's erotic attraction to people of the same sex (homosexual), the opposite sex (heterosexual), or both sexes (bisexual)
- individuals may fall anywhere along a continuum between exclusive homosexuality and exclusive heterosexuality
- homosexuals and bisexuals undergo a developmental process of identity formation known as "coming out"
  - sensitization - before puberty, sensations of being different from one's peers
  - identity confusion - after puberty, heightened awareness of same-sex attraction conflicts with social expectations of heterosexuality and/or social stigma of homosexuality
  - identity assumption - self-definition as homosexual or bisexual, but definition merely tolerated, not yet fully accepted
  - commitment - self-acceptance and comfort with homosexual or bisexual identity; disclosure of identity in family, social, occupational settings

SEXUAL DYSFUNCTION
- involves both physical and psychological factors
- physical factors present in 33% of men and 10% of women
- medications are among the commonest causes of sexual dysfunction
- classified according to disturbance in sexual response cycle (desire, arousal, orgasm), pain, or medical conditions causing dysfunction

LOWERED DESIRE
- greatest increase of any sexual dysfunction over the past decade
- rule out medications, chronic disease, endocrine disorders, and menopausal decrease in hormones
- individual psychological factors: history of incest, assault, other "secret"
- couple factors: consider relationship stress, changes in life stages
- treatment: 30% overall success rate; manage medical conditions and medications; individual therapy for "survivors" (e.g. of incest, other abuse); couple therapy

MALE ERECTILE DISORDER
- more than 50% of erectile problems have physical causes
- medications account for 25% of these (e.g. antihypertensives, sedatives)
- rule out medications, medical conditions (vascular, neurological, endocrine)
- individual factors: acuteness of onset, presence of waking or masturbatory erections, global vs. situational dysfunction; these help distinguish organic from psychological
- couple factors: relationship stress, performance anxiety
- treatment
  - manage medical conditions and medications
  - medical/surgical: oral yohimbine, papaverine and prostaglandin (PG) injections, implants, sildenafil (Viagra)
  - psychotherapy as applicable for psychiatric conditions (anxiety, depression, other); couple therapy to address anxiety issues, marital counseling

PS26 – Psychiatry
MCCQE 2002 Review Notes
SEXUALITY AND GENDER . . . CONT.

**Female Sexual Arousal Disorder - Decreased Lubrication**
- usually presents as dyspareunia
- rule out organic causes: vaginitis (atrophic, infectious, other), episiotomy, etc.
  
  (creates cycle of: initial pain → anxiety → decreased lubrication → more pain)
- psychological causes: expectations that intercourse will hurt (self-fulfilling prophecy), traumatic abusive experiences, difficulties in forming trusting, intimate relationships; other relationship difficulties
- treatment
  - medication for vaginitis (plus warning that lubrication may be decreased for a few weeks as mucosa heals) and alternative sexual behaviour to intercourse
  - psychotherapy for individual factors, couple therapy, sex education - counsel longer foreplay

**Female Orgasmic Disorder - Preorgasmia**
- 1 in 7 women believe they have never had an orgasm
- physical factors rare: denervation of lumbosacral spine
- psychological: not yet “learned how to have an orgasm” (social conditioning, unrealistic expectations of partner)
- treatment: 99% success rate
  - individual, couple, group therapies
  - “permission” to explore own body

**Male Orgasmic Disorder - Delayed Ejaculation**
- primary organic: congenital, neurological, endocrine
- secondary organic: trauma, cord lesions, medication side effects (phenothiazines, sympatholytics)
- psychological: most delayed ejaculation is situational; causes include rigid conservative sexual upbringing, fear of pregnancy, hostility to women, repressed homosexuality, poor partnership factors
- treatment: limited success rate
  - rule out medication and organic conditions
  - sufficient stimulation in relaxed environment
  - gradual involvement of partner

**Premature Ejaculation**
- most common male sexual dysfunction: 33% affected
- medical causes unknown
- psychological: usually secondary to performance anxiety caused by interrupted sexual experiences, intimacy fears, relationship difficulties
- treatment: 90% success rate
  - goal: decrease performance anxiety
  - exercises to focus on experience vs. performance
  - increasing stimulation and control exercises
  - gradual partner involvement

**Coital Pain Disorders - Dyspareunia and Vaginismus**
- vaginismus (a diagnosis of exclusion for dyspareunia) = sharp pain in anterior vagina, worse during attempted penetration
- 32% of patients have associated physical factors
- psychological: belief that intercourse is painful, abusive relationships (past, present), other factors involving decreased trust
- treatment
  - interventions: lubricating creams/jellies, change of positions, sex education materials, permission, reassurance
  - pelvic anatomy review i.e. pubococcygeus muscle, teaching how to gain control of pelvic floor muscles

**PARAPHILIAS**
- diagnosis: sexual arousal, fantasies, sexual urges or behaviour involving non-human objects, suffering or humiliation of oneself or one’s partner, children or other nonconsenting person
- person usually has more than one paraphilia
- subtypes: exhibitionism, fetichism, frotteurism, voyeurism, pedophilia, sexual masochism, sexual sadism, transvestic fetishism and NOS
- course
  - begins in childhood or early adolescence; more defined later
  - chronic, decreases with advancing age
  - may increase with psychosocial stressors
- almost never diagnosed in women, except sexual masochism
- treatment: anti-androgen drugs, behaviour modification, psychotherapy
  - rarely self-referred; come to medical attention through interpersonal or legal conflict

**GENDER IDENTITY DISORDER**
- orientation (born with) vs. gender identity (learned)
- gender identity is set at about 3 years of age
- diagnosis: strong and persistent cross-gender identification
- manifested by repeated stated desire or insistence that one is of the opposite sex
- children believe they will grow up to be the opposite sex
  - cross-dressing, cross-sex roles in play
- significant distress or impairment in functioning
- treatment: sexual reassignment surgery, psychotherapy
EATING DISORDERS

Epidemiology
- prevalence
  - anorexia nervosa (AN) - 1% of adolescent and young adult females
  - bulimia nervosa (BN) - 1-3% of adolescent and young adult females
- F:M = 10:1
- onset: AN - 13-20 years old; BN - 16.5-18 years old
- mortality 5-10%

Etiology
- multifactorial
  - individual: perfectionism and insistence on control when little control in other life areas, history of sexual abuse
  - familial: maintenance of equilibrium in dysfunctional family
  - cultural factors: prevalent in industrialized societies, idealization of thinness created by media
  - genetic factors

Risk Factors
- women who by career choice are expected to be thin
- family history (mood disorders, eating disorders, substance abuse)
- psychiatric illness
- obesity
- chronic medical illness, especially diabetes mellitus
- history of sexual abuse
- gay men
- competitive athletes

ANOREXIA NERVOSA (AN)

Diagnosis
- refusal to maintain above 85% of expected weight for age and height
- fear of becoming obese, even though underweight
- abnormal perception of body image (weight, size, shape)
- in females, absence of > 3 consecutive menstrual cycles
- type
  - restricting - no binge eating or purging
  - binge eating/purging during episode of AN

BULIMIA NERVOSA (BN)

Diagnosis
- recurrent binge-eating characterized by both
  A. eating in a discrete period of time (e.g. < 2 hours) an amount of food that is definitely larger than most people would eat
  B. loss of control over eating behaviour during binges
- inappropriate compensatory behaviour to prevent weight gain: self-induced vomiting, ipecac, laxatives, diuretics, amphetamines, caffeine, dieting, vigorous exercise, etc.
- frequency: both binging and compensatory behaviour occur at least twice a week for 3 months
- self-image unduly influenced by body shape and weight
- not exclusively during episodes of AN

Treatment
- biological
  - reversal of starvation effects
  - antidepressants (SSRIs) in BN
- psychological
  - reality-oriented feedback
  - recognition of risk and perpetuating factors
  - education
  - develop trusting relationship with therapist
- social
  - challenge destructive societal views of women
  - family therapy
  - use of hospital to provide external controls for disordered eating behaviour

Prognosis
- few recover without recurrence
- good prognosis associated with onset before age 15, weight gain within 2 years after treatment
- poor prognosis associated with later age of onset, previous hospitalizations, greater individual and familial disturbance
### Table 6. Physiologic Complications of Eating Disorders

<table>
<thead>
<tr>
<th>System</th>
<th>Starvation</th>
<th>Binge - Purge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td>Low BP, low HR, low temperature</td>
<td>Vomiting</td>
</tr>
<tr>
<td><strong>Endocrine</strong></td>
<td>Amenorrhea, ↓T3/T4</td>
<td>Russell's sign (knuckle hypopigmentation)</td>
</tr>
<tr>
<td><strong>Neurologic</strong></td>
<td>Grand mal seizure (↓Ca, Mg, PO₄)</td>
<td>Parotid gland enlargement</td>
</tr>
<tr>
<td><strong>Cutaneous</strong></td>
<td>Dry skin, lanugo hair, hair loss or thinning, brittle nails, yellow skin from high carotene</td>
<td>Perioral skin irritation</td>
</tr>
<tr>
<td><strong>GI</strong></td>
<td>Constipation, impaired taste, delayed gastric emptying</td>
<td>Periocular petechiae</td>
</tr>
<tr>
<td><strong>CV</strong></td>
<td>Arrhythmias, CHF</td>
<td>Loss of dental enamel</td>
</tr>
<tr>
<td><strong>MSK</strong></td>
<td>Osteoporosis</td>
<td>Hematemesis</td>
</tr>
<tr>
<td><strong>Renal</strong></td>
<td>Pre-renal failure (hypovolemia), renal calculi</td>
<td>Aspiration pneumonia</td>
</tr>
<tr>
<td><strong>Extremities</strong></td>
<td>Pedal edema (↓albumin)</td>
<td>Renal failure</td>
</tr>
</tbody>
</table>

### Table 7. Labs in Eating Disorders

<table>
<thead>
<tr>
<th>Increased</th>
<th>Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUN (dehydration)</td>
<td>Na⁺, K⁺, Cl⁻ (vomiting, laxatives)</td>
</tr>
<tr>
<td>Amylase (vomiting)</td>
<td>LH, FSH, estrogen (starvation)</td>
</tr>
<tr>
<td>Cholesterol (starvation)</td>
<td>Testosterone (starvation)</td>
</tr>
<tr>
<td>Growth hormone (GH) (starvation)</td>
<td>H⁺ (vomiting)</td>
</tr>
<tr>
<td>H⁺ (laxatives)</td>
<td>RBCs (starvation)</td>
</tr>
<tr>
<td></td>
<td>WBCs (starvation)</td>
</tr>
</tbody>
</table>

### PERSONALITY DISORDERS (PD)

**General Diagnostic Criteria**
- an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture; manifested in two or more of: cognition, affect, interpersonal functioning, impulse control
- inflexible and pervasive across a range of situations
- causes distress or impaired functioning
- usually age 18 for diagnosis but pattern well established by adolescence or early adulthood
- personality traits are only considered disorders when they meet first two criteria
- prevalence of the common PD's (% population affected)
  - borderline PD 1-2%
  - histrionic PD 1.3-3%
  - schizotypal PD 3-5.6%
  - dependent PD 1.6-6.7%
### Table 8. Classification of the Personality Disorders

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Core Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLUSTER A</td>
<td>“MAD”</td>
</tr>
<tr>
<td></td>
<td>Appear odd or eccentric</td>
</tr>
<tr>
<td></td>
<td>Common defense mechanisms:</td>
</tr>
<tr>
<td></td>
<td>projection, fantasy</td>
</tr>
<tr>
<td>1. Paranoid PD</td>
<td></td>
</tr>
<tr>
<td>2. Schizoid PD</td>
<td></td>
</tr>
<tr>
<td>3. Schizotypal PD</td>
<td></td>
</tr>
<tr>
<td>CLUSTER B</td>
<td>“BAD”</td>
</tr>
<tr>
<td></td>
<td>Dramatic, emotional, erratic behavior</td>
</tr>
<tr>
<td></td>
<td>Common defense mechanisms:</td>
</tr>
<tr>
<td></td>
<td>denial, acting out, dissociation (HPD), splitting (BPD)</td>
</tr>
<tr>
<td>1. Borderline PD</td>
<td></td>
</tr>
<tr>
<td>2. Antisocial PD</td>
<td></td>
</tr>
<tr>
<td>3. Narcissistic PD</td>
<td></td>
</tr>
<tr>
<td>4. Histrionic PD</td>
<td></td>
</tr>
<tr>
<td>CLUSTER C</td>
<td>“SAD”</td>
</tr>
<tr>
<td></td>
<td>Anxiety, fearfulness, constriction</td>
</tr>
<tr>
<td></td>
<td>Common defense mechanisms:</td>
</tr>
<tr>
<td></td>
<td>isolation, avoidance, hypochondriasis</td>
</tr>
<tr>
<td>1. Avoidant PD</td>
<td></td>
</tr>
<tr>
<td>2. Dependent PD</td>
<td></td>
</tr>
<tr>
<td>3. Obsessive-Compulsive PD</td>
<td></td>
</tr>
</tbody>
</table>

### Table 9. Diagnosing the Personality Disorders

<table>
<thead>
<tr>
<th>PD</th>
<th>Diagnosis</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paranoid PD</td>
<td>Suspects others are exploiting, harming, or deceiving him/her</td>
<td>Psychotherapy (but difficult to establish trust, so poor prognosis)</td>
</tr>
<tr>
<td></td>
<td>Doubts trustworthiness of others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fears information given to others will be used against him/her</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interprets benign remarks/events as demeaning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bears grudges</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quick to react angrily or to counterattack</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repeatedly questions fidelity of partner</td>
<td></td>
</tr>
<tr>
<td>Schizoid PD</td>
<td>Neither desires nor enjoys close relationships</td>
<td>Individual psychotherapy</td>
</tr>
<tr>
<td></td>
<td>Chooses solitary activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Little interest in sexual experiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Takes pleasure in few activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No close friends except first-degree relatives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indifferent to praise or criticism</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emotional detachment</td>
<td></td>
</tr>
<tr>
<td>Schizotypal PD</td>
<td>Odd thinking and speech</td>
<td>Psychotherapy</td>
</tr>
<tr>
<td></td>
<td>Odd, eccentric behavior</td>
<td>Social skills training</td>
</tr>
<tr>
<td></td>
<td>Ideas of reference</td>
<td>Low-dose antipsychotics may be helpful</td>
</tr>
<tr>
<td></td>
<td>Odd beliefs or magical thinking (e.g., superstitiousness)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unusual perceptual experiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paranoid ideation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inappropriate or constricted affect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No close friends except first-degree relatives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excessive social anxiety</td>
<td></td>
</tr>
<tr>
<td>Borderline PD</td>
<td>Frantic efforts to avoid real or imagined abandonment</td>
<td>Psychotherapy (individual and/or group)</td>
</tr>
<tr>
<td></td>
<td>Unstable and intense relationships</td>
<td>Cognitive behavioural therapy</td>
</tr>
<tr>
<td></td>
<td>Unstable sense of self</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impulsivity that is potentially self-damaging (e.g., spending, promiscuity, reckless driving)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Affective instability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic feelings of emptiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficulty controlling anger</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transient dissociative symptoms</td>
<td></td>
</tr>
<tr>
<td>Antisocial PD</td>
<td>Criminal, aggressive, irresponsible behaviour</td>
<td>Control of behaviour (hospitalization, imprisonment)</td>
</tr>
<tr>
<td></td>
<td>Deceitfulness</td>
<td>Control of substance abuse</td>
</tr>
<tr>
<td></td>
<td>Impulsivity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irritability and aggressiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reckless disregard for safety of self and others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consistent irresponsibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of remorse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Symptoms of conduct disorder before age 15 (see Child Psychiatry Section)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 9. Diagnosing the Personality Disorders (continued)

<table>
<thead>
<tr>
<th>PD</th>
<th>Diagnosis</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narcissistic PD</td>
<td>Exaggerated sense of self-importance</td>
<td>Psychotherapy</td>
</tr>
<tr>
<td></td>
<td>Preoccupied with fantasies of unlimited success, power, beauty, love</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Believes he/she is “special” and should associate with other special people</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Requires excessive admiration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sense of entitlement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Takes advantage of others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lacks empathy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Often envious of others or believes that others are envious of him/her</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arrogant attitudes</td>
<td></td>
</tr>
<tr>
<td>Histrionic PD</td>
<td>Not comfortable unless center of attention</td>
<td>Insight-oriented psychotherapy</td>
</tr>
<tr>
<td></td>
<td>Inappropriately sexually seductive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rapidly shifting and shallow expression of emotions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uses physical appearance to attract attention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speech is excessively impressionantic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dramatic and exaggerated expression of emotion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Easily influenced by others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Considers relationships to be more intimate than they really are</td>
<td></td>
</tr>
<tr>
<td>Avoidant PD</td>
<td>Avoids occupational activities that involve significant interpersonal contact due to fear of criticism or rejection</td>
<td>Assertiveness training</td>
</tr>
<tr>
<td></td>
<td>Unwilling to get involved with people unless certain to be liked</td>
<td>Systemic desensitization</td>
</tr>
<tr>
<td></td>
<td>Restrained in intimate relationships</td>
<td>Cognitive therapy</td>
</tr>
<tr>
<td></td>
<td>Preoccupied with being rejected in social situations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhibited in new interpersonal situations due to feelings of inadequacy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Views him or herself as inferior to others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reluctant to engage in new activities due to embarrassment</td>
<td></td>
</tr>
<tr>
<td>Dependent PD</td>
<td>Needs others to assume responsibility for most major areas of his/her life</td>
<td>Insight-oriented psychotherapy</td>
</tr>
<tr>
<td></td>
<td>Difficulty making everyday decisions without excessive advice</td>
<td>Assertiveness training</td>
</tr>
<tr>
<td></td>
<td>Difficulty expressing disagreement, fear of loss of approval</td>
<td>Social skills training</td>
</tr>
<tr>
<td></td>
<td>Difficulty initiating projects due to lack of self-confidence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Goes to excessive lengths to obtain support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uncomfortable when alone due to fears of being unable to care for self</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urgently seeks another source of care when relationship ends</td>
<td></td>
</tr>
<tr>
<td>Obsessive-Compulsive PD</td>
<td>Perfectionism interferes with task completion</td>
<td>Psychotherapy</td>
</tr>
<tr>
<td></td>
<td>Preoccupied with details so that major point of activity is lost</td>
<td>Behavioural therapy</td>
</tr>
<tr>
<td></td>
<td>Excessively devoted to work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inflexible about morality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unable to discard worthless objects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reluctant to delegate tasks to others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Misery spending</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rigidly and stubborness</td>
<td></td>
</tr>
</tbody>
</table>

N.B. For each PD, the optimal criterion for diagnosis is indicated in italics (as per Allnutt and Links, *Diagnosing Specific Personality Disorders and the Optimal Criteria in Clinical Assessment and Management of Severe Personality Disorders*, 1996, American Psychiatric Press)

**Clinical Pearl**

- **mnemonic for borderline personality disorder**
  - Paranoid ideas
  - Relationship instability
  - Abandonment fears
  - Anger outbursts
  - Affective instability
  - Impulsion
  - Identity disturbance
  - Suicidal behavior
  - Emptiness

**Clinical Pearl**

- A key distinction between OCD and OCPD is that in OCD the symptoms are ego-dystonic (the patient realizes the obsessions are not reasonable) whereas in OCPD the symptoms are ego-syntonic (i.e. consistent with the patient's way of thinking).

- OCD = obsessive compulsive disorder
- OCPD = obsessive compulsive personality disorder
**DEVELOPMENTAL CONCEPTS**

<table>
<thead>
<tr>
<th>Table 10. Developmental Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freud</strong></td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Anal</td>
</tr>
<tr>
<td>Latency</td>
</tr>
<tr>
<td>Oedipal</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

- Erikson stages continue throughout life: intimacy/isolation (young adult); generativity/stagnation (middle age); integrity/despair (later life)
- stranger anxiety (8 months) - infants cry at approach of stranger
- separation anxiety (10-18 months) - separation from primary/attachment figure results in anxiety
- object constancy - (Margaret Mahler) - 2-3 years; child becomes comfortable with mother's absence by internalizing her image and the knowledge she will return
- object permanence - (Piaget) - objects exist even when not visible
- attachment - (John Bowlby) - special relationship between child and primary caretaker(s); develops during first 4 years
- temperament - innate psychophysiological behavioural characteristics of child; nine behavioral dimensions exist
- parental fit - the “fit” between parenting style and child's temperament
- adolescence - most adolescents negotiate development well; if signs of “turmoil” present (e.g. extreme rebelliousness), consider psychiatric diagnosis

**ATTENTION-DEFICIT AND DISRUPTIVE BEHAVIOUR DISORDERS**

- NB. cannot adequately evaluate one disorder without investigating the presence of others

**Attention-Deficit / Hyperactivity Disorder (ADHD)**

- prevalence: 4-8% of school-aged children
  - M:F = 3.5:1
  - girls tend to have inattentive/distractible symptoms; boys have impulsive symptoms
- etiology
  - genetic - MZ twins > DZ twins, runs in families
  - minimal brain damage
  - neurotransmitter (catecholamine)/neuroanatomical hypothesis
  - child/family factors (i.e. difficult child temperament, chaotic)
- diagnosis
  - six or more symptoms of inattention and/or hyperactivity-impulsivity persisting for at least 6 months
CHILD PSYCHIATRY . . . CONT.

Table 11. Examples of Inattention, Hyperactivity, Impulsivity

<table>
<thead>
<tr>
<th>Inattention</th>
<th>Hyperactivity</th>
<th>Impulsivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Careless mistakes</td>
<td>Fidgets, squirms in seat</td>
<td>Blurs out answers before questions completed</td>
</tr>
<tr>
<td>Cannot sustain attention in tasks/play</td>
<td>Leaves seat when expected to remain seated</td>
<td>Difficulty awaiting turn</td>
</tr>
<tr>
<td>Does not listen when spoken to directly</td>
<td>Runs, climbs excessively</td>
<td>Interrupts/intrudes on others</td>
</tr>
<tr>
<td>Fails to complete tasks</td>
<td>Cannot play quietly</td>
<td></td>
</tr>
<tr>
<td>Disorganized</td>
<td>On the “go”, driven by motor</td>
<td></td>
</tr>
<tr>
<td>Avoids, dislikes tasks required sustained mental effort</td>
<td>Talks excessively</td>
<td></td>
</tr>
<tr>
<td>Loses things necessary for tasks/activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distractible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forgetful</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. onset **before** age 7
C. symptoms present in at least two settings (i.e. at home, and at school or work)
D. interferes with academic, family, and social functioning
E. does not occur exclusively during the course of PDD, schizophrenia, or other psychotic disorders, and is not better accounted for by another mental disorder (e.g. mood, anxiety, dissociative, personality disorder)

Clinical Pearl
- observe the child, watch for “ATTENTION” features: Annoying, Impulsive, Temperamental, Energetic, Noisy, Task Incompletion, Inattentive, Oppositional, Negativism.

- key questions in history
  - family history for ADHD or co-morbid conditions
  - evidence for: developmental delay, genetic syndromes, encephalopathies, or poisoning (alcohol/lead)

Clinical Pearl
- good indicator that child has ADHD: Inability to focus for 30 minutes when child wants to focus!

- course
  - average onset 3 years old
  - identification at school entry
  - remission prior to age 12, 70-80% continue into adolescence, 65% into adulthood
  - adult outcome - ASPD, ADHD, poor educational and employment performance

- non-pharmacological treatment
  - parent management, anger control strategies, positive reinforcement, social skills training, individual/family therapy, resource room, tutor for homework, classroom intervention, exercise routines, extracurricular activities

- pharmacological treatment (see Table 21)
  - psychostimulants
  - antidepressants
  - α-agonists
  - for comorbid symptoms: TCA, neuroleptics, clonidine, lithium, MAOI, carbamazepine

Conduct Disorder (CD)
- prevalence
  - males: 6-16%, females 2-9%
  - M:F = 4-12:1

- etiology
  - parental/familial factors
  - parental psychopathology (e.g. ASPD, substance abuse)
  - child rearing practices (e.g. child abuse, discipline)
  - low SES, family violence
  - child factors - difficult temperament, ODD, learning problems, neurobiology
Child Psychiatry…cont.

- **diagnosis**
  - persistent behavioural pattern in which others’ basic rights/societal norms are violated
  - categories of violation include:
    - aggression to people/animals
    - property destruction
    - deceitfulness/theft
    - serious rule violation
  - the disturbance causes clinically significant impairment in social, academic, or occupational functioning.
  - if individual is 18 years or older, criteria not met for ASPD

- **diagnostic types (associated features)**
  - childhood onset - ODD, aggressive, impulsive, poor prognosis
  - adolescent onset - less aggressive, gang-related delinquency, better prognosis

- **poor prognostic indicators:** early-age onset, high frequency and variety of behaviours, pervasive (i.e. home, school, and community) vs. situational disorder, comorbid ADHD, early sexual activity/substance abuse
  - 50% of CD children become adult ASPD

- **treatment**
  - early intervention necessary and more effective
  - parent management training, anger replacement training, CBT, family therapy, education/employment programs, social skills training, medications (e.g. carbamazepine) for aggressivity or comorbid disorder

**Oppositional Defiant Disorder (ODD)**

- **prevalence:** 2-16%
- **diagnosis**
  - A. a pattern of negativistic, hostile, defiant, disobedient behaviour towards parental/authority figures over a 6 month period (i.e. loses temper often, violates minor rules, argumentative, etc.)
  - B. behaviour causes significant impairment in social, academic or occupational functioning
  - C. behaviours do not occur exclusively during the course of a psychotic or mood disorder
  - D. criteria not met for CD; if 18 years or older, criteria not met for ASPD

- **features that typically differentiate ODD from transient developmental stage:** onset at 8 years old; chronic duration (> 6 months); frequent intrusive behaviour

- **impact of behaviour:** poor school performance, few friends, strained parent/child relationships

- **course:** may progress to conduct disorder

- **treatment (goal is to establish generational boundary):** parent management training, individual/family psychotherapy

**Tic Disorders**

- **four types:** Tourette's disorder, chronic motor/vocal tic disorder, transient tic disorder, tic disorder not otherwise specified (NOS)
- **tics:** involuntary, sudden, rapid, recurrent, nonrhythmic, stereotyped motor movements or vocalizations
  - simple tics - eye blinking, nose wrinkling, facial grimacing, shoulder shrugging
  - complex tics – hand gestures, jumping, touching, facial contortions, coprolalia

**Tourette's Disorder**

- **epidemiology**
  - prevalence 4-5 per 10,000
  - M:F = 3:1
  - onset: motor - age 7, vocal - age 11
- **etiology**
  - genetic
  - MZ > DZ twins, autosomal dominant
  - Tourette's and chronic tic disorder aggregate within same families
  - dopamine serotonin dysregulation
- **diagnosis**
  - A. multiple motor tics and at least one vocal tic
  - B. tics occur many times a day, nearly every day for 1 year without a tic-free period of more than 3 consecutive months
  - C. onset before 18 years
  - D. disturbance not due to direct physiological effects of substance or GMC
- **presentation**
  - 50% initial tic = eyeblinking; others include head jerking, facial grimace, tongue protrusion, etc.
  - vocal tics can include sniffing, coughing, throat clearing (rule out ENT problem)
- **course**
  - social, academic, occupational impairment due to rejection by peers; anxiety about tics in social situations
  - chronic and life-long with periods of remission and exacerbations
CHILD PSYCHIATRY . . . CONT.

- treatment
  - behavioural therapy, psychotherapy for both family and individual;
  - important to address relation of stress to the disorder
  - for tics - atypical neuroleptics, α-2 agonists, traditional non-tricyclic neuroleptics
  - when associated with OCD - SSRI, clomipramine

LEARNING DISORDERS
- prevalence: 2-10%

- characterized by
  - A. individual scores on achievement tests in reading, mathematics or written expression (WISC III, WRAT) significantly below (> 2 SD) that expected for age, education, and IQ
  - B. interferes with academic achievement or ADLs that require reading, mathematics or writing skills

- types: reading, mathematics, disorders of written expression

- associated features
  - low self-esteem, poor social skills
  - 40% school drop-out rate

- psychiatric comorbidity = 10-25% of individuals with CD, MDD, ODD, ADHD, dysthymia

- may be associated with: genetic predisposition, prenatal injury, lead poisoning, fetal alcohol syndrome, fragile X syndrome

PERVASIVE DEVELOPMENTAL DISORDER (PDD)

- types: autistic disorder, Rett's disorder, childhood disintegrative disorder, Asperger's disorder and PDD NOS

- characterized by
  - severe impairment in reciprocal social interaction
  - severe impairment in communication skills
  - presence of stereotyped behaviour, interests and activities

- present in first years of life, often associated with some degree of mental retardation (Axis II) and/or a GMC (i.e. chromosomal abnormality, congenital infections) (Axis III)

Autistic Disorder

- epidemiology
  - 5:10,000 population; M:F = 4:1
  - onset prior to age 3

- diagnosis
  - A. at least six items from the following
    - impaired social interaction (at least two of the following)
      - impaired nonverbal behaviours
      - failure to develop peer relations
      - no shared enjoyment or interests with others
      - lack of social or emotional reciprocity
    - communication (at least two)
      - limited language development
      - stereotyped, repetitive speech
      - unable to sustain conversation
      - lack of make-believe or social imitative play
    - activity/interests (at least one)
      - stereotyped body movements
      - preoccupation with parts of objects
      - persistence in routines/compulsions
      - restricted interests
  - B. delays/abnormal function in one of: social interaction, language, symbolic or imaginative play
  - C. disturbance not better accounted for by Rett's or childhood disintegrative disorder

- associated medical conditions: phenylketouria (PKU), Fragile X, maternal rubella, birth anoxia, encephalitis, tuberous sclerosis

- differential diagnosis
  - deafness, mental retardation (75%), childhood schizophrenia, elective mutism, degenerative neurological disease, language disorders, other PDD

- prognosis
  - chronic course
  - better if language development and IQ above 60
  - 1/3 achieve partial independence
  - up to 50% develop convulsive disorder by teens/early adulthood

- treatment
  - no specific treatment
  - early intervention important (2-4 years)
  - family support, education on nature of illness
  - behaviour modification
  - consistency, security, limit setting
  - specialized education and therapeutic settings for young children; sheltered workshops and community group homes for teens/adults
  - pharmacological treatments: aim only to control targeted behaviours
    - haloperidol - hyperactivity, aggression, stereotypies
    - methylphenidate - hyperactivity
    - clomipramine - compulsive and perseveration behaviours
    - naltrexone - withdrawal, self-injurious behaviours
CHILD PSYCHIATRY . . . CONT.

Rett's Disorder
- epidemiology: only in females, less common than autism
- onset before age 4, generally lifelong course
- diagnosis: characterized by normal development after birth which is interrupted by specific developmental deficits such as
  - loss of hand skills with development of stereotypies (e.g. hand washing/wrangling)
  - head growth decelerations
  - loss of social engagement
  - gait/trunkal incoordination
  - severe language impairment

Childhood Disintegrative Disorder
- epidemiology: more common in males, less common than autism
- diagnosis: appropriate development until age 2 followed by deteriorating development in at least two areas: language, social skills, toileting, motor skills, play
- associated with severe MR (Axis II), seizures, metachromatic leukodystrophy, Schilder's disease

Asperger's Disorder
- epidemiology: more common in males
- diagnosis
  - impaired social interaction
  - restricted repetitive stereotyped patterns of behaviour, interests, and activities causing social and occupational impairment
  - no clinical impairment in language or cognitive development

MENTAL RETARDATION (MR)

Epidemiology
- 1% of general population
- M:F = 1.5:1
- highest incidence: ages 10-14

Etiology
- genetic: Down syndrome, Fragile X, PKU
- prenatal: rubella, fetal alcohol syndrome, prenatal exposure to heroin, cocaine, HIV; maternal DM; toxemia; maternal malnutrition; cerebral hypoxia due to delivery complications
- perinatal: prematurity, low birth weight, cerebral ischemia, maternal deprivation
- childhood: infection, trauma
- psychosocial factors: mild MR associated with low socioeconomic status (SES), limited parental education, parental neglect, failure to thrive (FTT), teen pregnancy, family instability, limited stimulation of children

Diagnosis
- subaverage general intellectual functioning as defined by an IQ of approximately 70 or below
- deficits in adaptive functioning in at least two of
  - communication, self-care, home-living, social skills, self-direction, academic skills, work, leisure, health, safety
- onset before 18 years of age

<table>
<thead>
<tr>
<th>Severity</th>
<th>% of MR</th>
<th>IQ</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>85%</td>
<td>50-70</td>
<td>Late</td>
</tr>
<tr>
<td>Moderate</td>
<td>10%</td>
<td>35-49</td>
<td>Late</td>
</tr>
<tr>
<td>Severe</td>
<td>3-4%</td>
<td>20-34</td>
<td>Early</td>
</tr>
<tr>
<td>Profound</td>
<td>1-2%</td>
<td>&lt; 20</td>
<td>Early</td>
</tr>
</tbody>
</table>

- psychiatric comorbidity
  - 3-4 times greater vs. general population
  - ADHD, mood disorders, PDD, stereotypic movement disorders

Table 12. Classification of Mental Retardation
CHILD PSYCHIATRY . . . CONT.

Treatment
- main objective: enhance adaptive functioning level
- emphasize community-based treatment vs. institutionalization
- education: life skills, vocational training, communication skills, family education
- therapy: individual/family therapy; behaviour modification (to decrease aggressive/distracting behaviours)

CHILDHOOD SCHIZOPHRENIA
- prevalence
  - 1/2,000 in childhood
  - increases after puberty to reach adult rates in late adolescence
- diagnostic criteria same as in adults
- < 6 years old may present in similar fashion to Autistic disorder prior to onset of core symptoms
- prognosis poor as cognitive, language, social and personality development are disrupted but no different from adult outcomes
- treatment: psychotherapy, family education, low dose antipsychotics for target behaviours, hospitalization, residential placement

ADOLESCENT MOOD DISORDERS

Depressive Disorder
- prevalence
  - prepuberty 1-2%
  - postpuberty 8-10%
  - 2.5% in teenage boys; 7.2% in teenage girls
- clinical presentation
  - more cognitive and fewer vegetative symptoms than adults
  - boredom, irritability, anhedonia, discouragement, helplessness, low self-esteem, deterioration in academic performance, hypersomnia, somatic complaints, social withdrawal, lack of motivation, substance abuse
  - significant increased risk of suicide
  - majority never seek treatment
- course
  - prolonged, up to 1-2 years
  - adolescent onset predicts chronic mood disorder
  - 2/3 will have another depression within 5 years
- clinical sequelae
  - negative impact upon peer and family relationships
  - school failure
  - substance abuse
  - comorbid diagnoses of anxiety, ADHD, CD, and eating disorders
- treatment
  - individual/family psychotherapy
  - antidepressants; SSRIs are safest

Bipolar Affective Disorder
- prevalence estimates vary but probably similar to adults (0.8%)
- look like children with ADHD
- triad: inappropriate sexual behaviours, physical violence, mood swings within 24 hours
- more likely to have bipolar II or rapid-cycling particularly if early onset
- often comorbid or pre-existing ADHD/conduct disorder
- unipolar depression may be early sign of adult bipolar disorder
  - predicted by rapid onset of depression, psychomotor retardation, mood-congruent psychosis, affective illness in family, pharmacologically induced mania
- treatment
  - mood stabilizers (lithium, carbamazepine, and valproic acid)
  +/− antidepressants
**ANXIETY DISORDERS**
- childhood prevalence 2-15%
- postpubertal females > postpubertal males

**Separation Anxiety Disorder**
- prevalence: 4% of children/teens
- on average 7.5 years old at onset, 10 years old at presentation
- common for mother to have an anxiety or depressive disorder
- diagnosis
  - school refusal (75%)
  - excessive and developmentally inappropriate anxiety on separation from primary caregiver with physical or emotional distress for at least two weeks
  - persistent worry, school refusal, refusal to go to sleep, clinging, nightmares, somatic symptoms
- comorbid major depression common (66%)
- differential diagnosis: simple or social phobia, depression, learning disorder, truancy, conduct disorder, school-related problems (e.g. bullying)
- course
  - symptoms may wax and wane
  - if inadequately treated early on may present later in a more severe form
  - may develop into panic disorder with/without agoraphobia
- treatment
  - primary objective: child returning to school
  - coordinated effort by school/family/physician
  - family and individual psychotherapy
  - behaviour modification techniques, stress reduction
  - TCAs (inconsistent results), SSRIs (positive though small studies), clonazepam/buspirone (case reports)

**Other Anxiety Disorders Seen in Children (criteria same as adults)**
- Post-Traumatic Stress Disorder (PTSD)
  - examples of trauma include: sexual/physical abuse, witnessing extreme family violence, natural disasters
  - treatment: individual and group psychotherapy; parental education
- Obsessive-Compulsive Disorder (OCD)
  - 0.3-1% of children/teenagers
  - treatment: clomipramine, fluoxetine; parent education; behaviour modification; psychotherapy
- Panic Disorder (PD)
  - genetic/parental modeling/identification hypothesized as cause
  - often parent with panic or depressive disorder
  - treatment: clonazepam; parental education; family/individual psychotherapy; behaviour techniques

**ELIMINATION DISORDERS** (see Pediatrics Chapter)

**CHRONIC RECURRENT ABDOMINAL PAIN** (see Pediatrics Chapter)

**SLEEP DISTURBANCES** (see Pediatrics Chapter)

**CHILD ABUSE** (see Pediatrics Chapter)
PSYCHOANALYSIS REVIEW

PSYCHOANALYSIS

Assumption: one's present outlook is shaped by the past
Attention to unconscious psychological forces
Insight gained allows change in personality and behaviour
Conflict - three stages of symptoms
  - Unresolvable conflict
  - Attempt to repress
  - Return of conflict in disguised form (symptom or character trait)

Emphasis on early development with caregiver
Sources of information
  - Past and present experiences and relationships
  - Relationship with therapist
  - Transference: unconscious; re-enact early interpersonal patterns in relationship with therapist
  - Countertransference: therapist's transference to patient
  - Resistance: elements in the patient which oppose treatment

Techniques
  - Free association: patient says whatever comes to mind
  - Dream analysis

VARIETIES OF PSYCHOANALYSIS

Psychoanalysis (exploratory psychotherapy)
- Original therapy developed by Freud
- Emphasis on early childhood experiences
- 4-5 times/week for 3-5 years, use of couch
- For individuals who can tolerate ambiguity (healthier end of spectrum)

Supportive psychotherapy
- Goal is not insight but lessening of anxiety
- Strengthen defense mechanisms to assist day-to-day functioning
- Techniques include: enhancing self-esteem, clarification, confrontation, rationalization, reframing, encouragement, rehearsal/anticipation, tracking, universalizing, decatastrophizing, allowing ventilation

Short term/brief psychotherapy
- Resolution of particular emotional problem, acute crisis
- Number of sessions agreed at outset (6-20)

Interpersonal psychotherapy
- Short-term treatment containing supportive principles
- Focus on personal social roles and relationships to help deal with problem in current functioning

BEHAVIOUR THERAPY

Modification of internal or external events which precipitate or maintain emotional distress
Systematic desensitization - mastering anxiety-provoking situations by approaching them gradually and in a relaxed state that inhibits anxiety
Flooding - confront feared stimulus for prolonged periods until it is no longer frightening
Positive reinforcement - strengthening behaviour and causing it to occur more frequently by rewarding it
Negative reinforcement - causing behaviour to occur more frequently by removing a noxious stimulus when desired behaviour occurs
Extinction - causing a behaviour to diminish by not responding to it
Punishment (aversion therapy) - causing a behaviour to diminish by applying a noxious stimulus
Used for anxiety disorders, substance abuse, paraphilias

COGNITIVE THERAPY

Assumption: moods and feelings influenced by thoughts
Psychiatric disturbances are frequently caused by habitual errors in thinking
Goal: to help patient become aware of automatic thoughts and correct assumptions with more balanced view
Useful for depression, anxiety disorders, self-esteem problems
Use of this therapy presupposes a significant level of functioning

OTHER THERAPIES

Group psychotherapy
- Goals: self-understanding, acceptance, social skills
- Creates a microcosm of society
Family therapy
- Family system considered more influential than individual
- Structural focus
  - Here and now
  - Re-establish parental authority
  - Strengthen normal boundaries
  - Re-arrange alliances
Hypnosis
- Good for pain, phobias, anxiety, smoking
### ANTIPSYCHOTICS

- **indications:** schizophrenia and other psychotic disorders, mood disorders with psychosis, violent behaviour, autism, organic mental disorders, Tourette's, somatoform disorders (low dose), symptoms of dementia, OCD
- **onset:** immediate calming effect and decrease in agitation; thought disorder responds in 2-4 weeks
- **mechanism of action**
  - "typical" - block D2 receptors (dopamine); treats only positive symptoms
  - "atypical" - block D2 and/or D1, 5-HT receptors (dopamine + serotonin); treats both positive and negative symptoms
- **classification of typical antipsychotics**
  - low potency (e.g. chlorpromazine): very sedating; +++ cardiovascular, anticholinergic and antiadrenergic side effects
  - mid-potency (e.g. perphenazine): few side effects
  - high potency (e.g. haloperidol): ++ risk of movement disorder side effects and neuroleptic malignant syndrome (NMS)

### Rational Use of Antipsychotics (see Tables 13 and 14)

- **no reason to combine antipsychotics** (see Figure 2)
- **choosing an antipsychotic**
  - all antipsychotics (except clozapine) are equally effective
  - choice depends on side effect profile
  - choose a drug patient responded to in the past or was used successfully in a family member
  - route: PO (pills or elixir); short-acting or long-acting depot IM injections (I.e. Haldol LA, Modecate, Imap, Clopixol)
  - clozapine is used in refractory cases (risk of agranulocytosis and cost hinder routine use, but has a low incidence of extrapyramidal symptoms (EPS))
  - minimum 6 months, usually for life

### Table 13. Common Antipsychotics

<table>
<thead>
<tr>
<th></th>
<th>Starting Dose</th>
<th>Maintenance</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Typicals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CPZ (Largactil)</strong></td>
<td>10-15 mg PO b/t/qid</td>
<td>400 mg/d</td>
<td>1000 mg/d</td>
</tr>
<tr>
<td><strong>thioridazine (Mellaril)</strong></td>
<td>25-100 mg PO tid</td>
<td>100-400 mg PO bid</td>
<td>800 mg/d</td>
</tr>
<tr>
<td><strong>methyltrimeprazine (Nozinan)</strong></td>
<td>2-8 mg PO tid</td>
<td>Based on clinical effect</td>
<td>1000+ mg/d</td>
</tr>
<tr>
<td><strong>loxapine HCL (Loxitane)</strong></td>
<td>10 mg PO tid</td>
<td>60-100 mg/d</td>
<td>250 mg/d</td>
</tr>
<tr>
<td><strong>perphenazine (Trilafon)</strong></td>
<td>8-16 mg PO b/tid</td>
<td>4-8 mg PO t-qid</td>
<td>64 mg/d</td>
</tr>
<tr>
<td><strong>fluphenazine enanthate (Moditen)</strong></td>
<td>2.5-10 mg/d</td>
<td>1-5 mg PO qhs</td>
<td>20 mg/d</td>
</tr>
<tr>
<td><strong>haloperidol (Haldol)</strong></td>
<td>2-5 mg IM q4-8h</td>
<td>Based on clinical effect</td>
<td>100 mg/d</td>
</tr>
<tr>
<td><strong>pimozide (Orap)</strong></td>
<td>0.5-1 mg PO bid</td>
<td>2-12 mg/d</td>
<td>20 mg/d</td>
</tr>
<tr>
<td><strong>Atypicals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>clozapine (Clozaril)</strong></td>
<td>25 mg od/bid</td>
<td>300-600 mg/d</td>
<td>900 mg/d</td>
</tr>
<tr>
<td><strong>risperidone (Risperdal)</strong></td>
<td>1-2 mg od/bid</td>
<td>4-8 mg/d</td>
<td></td>
</tr>
<tr>
<td><strong>olanzapine (Zyprexa)</strong></td>
<td>5 mg/d</td>
<td>10-20 mg/d</td>
<td></td>
</tr>
<tr>
<td><strong>quetiapine (Seroquel)</strong></td>
<td>25 mg/bid</td>
<td>300-600 mg/d</td>
<td></td>
</tr>
</tbody>
</table>
**Acute Psychosis**

- **Complications or inadequate response**
- **Select agent:** high potency conventional antipsychotic, risperidone or olanzapine, continue for at least 3 weeks
- **Good response, no complications**

- **Agitation or insomnia**
  - Add benzodiazepine

- **Acute parkinsonism**
  - Use lowest effective dose, add anticholinergics

- **Refractory parkinsonism**
  - Switch to risperidone or olanzapine

- **Acute akathisia**
  - Use lowest effective dose, add anticholinergics or beta-blocker

- **Neuroleptic malignant syndrome (NMS)**
  - Switch to clozapine

- **Partial response after 3 weeks of therapy**
  - Continue medication for 2-9 weeks more or increase dose

- **No response after 3 weeks**
  - Inadequate response or intolerable side effects
  - Adequate response tolerable side effects

  - Switch to risperidone or olanzapine if unresponsive or unable to tolerate, switch to clozapine

  - Adequate response tolerable side effects
  - Maintain on antipsychotic medication

**Figure 2. Treatment of Schizophrenia**

### Atypical Antipsychotics
- Fewer EPS than typicals
- Serotonin-dopamine antagonism
- Often more efficacious for treating negative symptoms than placebo
- Often effective for treating symptoms refractory to conventional antipsychotics

### Clozapine (Clozaril)
- A dibenzodiazepine
- Blocks a spectrum of receptors, including D1-D4, 5-HT2, 5-HT3, muscarinic, histaminic
- **Indications**
  - Treatment-resistant schizophrenia
  - Severe neurological side effects (i.e. tardive dyskinesia)
    - Limiting use of other agents (clozapine does not worsen tardive symptoms; it may actually treat them)
  - About 50% of patients benefit, especially paranoid patients and those with onset after 20 years old
  - Side effects: agranulocytosis (1-2%), drowsiness, hypersalivation, tachycardia, sedation, orthostatic hypotension, nausea, vomiting, atropinic side effects, weight gain, extrapyramidal, fever, seizure, NMS, drooling
  - Weekly blood counts for at least 1 month, then q2 weeks, due to risk of agranulocytosis
  - Do not use with carbamazepine because of agranulocytosis risk
**Risperidone (Risperdal)**
- a benzisoxazole
- blocks 5-HT2 and D2
- low incidence of EPS
- indications
  - schizophrenia
  - negative symptoms
  - intolerance to side effects of conventional neuroleptics
- advantages limited to a narrow dose range: 4-8 mg/day only
- side effects: sedation, hypotension, weight gain, impairment of ejaculation/orgasm, increased prolactin levels, hypersalivation, insomnia, agitation, headache, anxiety, rhinitis

**Olanzapine (Zyprexa)**
- blocks 5-HT2, 3, 6, D1-D4, muscarinic, adrenergic, histaminergic
- overall efficacy is superior to Haldol; well tolerated; comparable to risperidone
- not for use in treatment-resistant schizophrenia
- incidence of EPS much less than traditional neuroleptics (i.e. Haldol)
- favourable tardive dyskinesia (TD) profile but may not be as good as clozapine
- side effects: mild sedation, minimal anticholinergic, mild dizziness, sexual dysfunction, early AST and ALT elevation in some individuals, weight gain, restlessness

**Quetiapine (Seroquel)**
- structurally related to clozapine and olanzapine
- blocks 5-HT2A, D1-D2, adrenergic, and histaminergic receptors
- overall efficacy superior to Haldol
- incidence of EPS much less with traditional neuroleptics (i.e. Haldol)
- associated with less weight gain as compared with clozapine and olanzapine

**Ziprasidone**
- not yet approved in Canada
- a 3-benzothiazolyl-piperazine derivative with 5-HT2A and moderate D2 antagonism; moderately potent adrenergic and histaminergic blocker
- similar profile to other atypical drugs
- dosing recommendations not yet known; range of efficacy expected to between 40-80 mg/day
- side effects
  - expected to have a favourable profile with respect to weight gain and to exert minimal effects on prolactin
  - sedation may be the most common side effect

**Long-Acting Preparations**
- antipsychotics formulated in oil for deep IM injection received on an outpatient basis every few weeks
- indications: schizophrenia or other chronic psychoses who relapse because of noncompliance
- available preparations (all high potency typical antipsychotics):
  - fluphenazine decanoate, fluphenazine enanthate, haloperidol decanoate, clopixol acuphase, clopixol decanoate (every 2-4 weeks)
- dosing: start at low dosages and then titrate to maximize safety and minimize side effects; should be exposed to oral form prior to first injection
- side effects: risk of EPS, parkinsonism
Table 14. Side Effects of Antipsychotics

<table>
<thead>
<tr>
<th>System/Syndrome</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticholinergic</td>
<td>Dry mucous membranes, Blurred vision, acute glaucoma, Constipation, Urinary retention, Sweating, Delayed/retrograde ejaculation</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>Orthostatic hypotension, Dizziness, Fainting, Tachycardia</td>
</tr>
<tr>
<td>CNS</td>
<td>Weight gain, Sedation, Confusion, Decreased seizure threshold, Movement disorders (see next section)</td>
</tr>
<tr>
<td>Endocrine (due to dopamine blockage which increases prolactin (PRL))</td>
<td>Men: Decreased libido, Gynecomastia, Women: Breast engorgement, Lactation, Amenorrhea, Menstrual irregularities, Changes in libido</td>
</tr>
<tr>
<td>Ocular</td>
<td>Lenticular pigmentation, Pigmentary retinopathy (thioridazine &gt;800 mg/day)</td>
</tr>
<tr>
<td>Hypersensitivity reactions</td>
<td>Liver problems, Blood dyscrasias (e.g. agranulocytosis), Skin rashes/indurations, neuroleptic malignant syndrome (see next section)</td>
</tr>
<tr>
<td>Altered temperature regulation</td>
<td>Hypothermia or hyperthermia</td>
</tr>
</tbody>
</table>

Neuroleptic Malignant Syndrome
- due to massive dopamine blockage, increased incidence with high potency and depot neuroleptics
- risk factors
  - sudden increase in dosage, or starting a new drug
  - medical illness
  - dehydration
  - exhaustion
  - poor nutrition
  - external heat load
  - sex: male
  - age: young adults
- symptoms
  - classic 4 symptoms (mnemonic “FARM”)
    - Fever
    - Autonomic changes (i.e. increased HR/BP, sweating)
    - Rigidity
    - Mental status changes (i.e. confusion)
  - develops over 24-72 hours
- labs: increased CPK, leukocytosis, myoglobinuria
- treatment: discontinue drug, hydration, cooling blankets, dantrolene, bromocriptine
- mortality: 5%
Extrapyramidal Side Effects (EPS) of Antipsychotics
- incidence related to increased dose and potency
- acute vs. tardive (late-onset)

### Table 15. Extrapyramidal Side Effects

<table>
<thead>
<tr>
<th></th>
<th>Dystonia</th>
<th>Akathisia</th>
<th>Pseudoparkinsonism</th>
<th>Dyskinesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute or tardive</td>
<td>Both</td>
<td>Both</td>
<td>Acute</td>
<td>Tardive</td>
</tr>
<tr>
<td>Risk group</td>
<td>Acute: young Asian males</td>
<td>Acute: elderly females</td>
<td>Elderly females</td>
<td>Elderly females</td>
</tr>
<tr>
<td>Presentation</td>
<td>Sustained abnormal posture</td>
<td>Motor restlessness; can't sit down</td>
<td>Tremor</td>
<td>Purposeless constant movements usually involving facial and mouth musculature, or less commonly, the limbs</td>
</tr>
<tr>
<td></td>
<td>Acute: within 5 d</td>
<td>Acute: within 10 d</td>
<td>Acute: within 30 d</td>
<td>Tardive: &gt; 90 d</td>
</tr>
<tr>
<td>Onset</td>
<td>Acute: within 5 d</td>
<td>Acute: within 10 d</td>
<td>Acute: within 30 d</td>
<td>Tardive: &gt; 90 d</td>
</tr>
<tr>
<td>Treatment</td>
<td>Acute: lorazepam or benztropine</td>
<td>Acute: lorazepam, propranolol or diphenhydramine, reduce or change neuroleptic to lower potency</td>
<td>Acute: benztrapine (or benzodiazepine if side effects), reduce or change neuroleptic to lower potency</td>
<td>Tardive: no good treatment; may try clozapine, discontinue drug or reduce dose</td>
</tr>
</tbody>
</table>

Antiparkinsonian Agents (Anticholinergic Agents)
- do not always prescribe with neuroleptics, give only if at high risk for EPS
- do not give these for tardive syndromes; they worsen the condition

- types
  - benztropine (Cogentin) 2 mg PO, IM or IV od (~1-6 mg)
  - procyclidine (Kemadrin) 15 mg PO od (~5-30 mg)
  - biperiden (Akineton) 2 mg PO, IM or IV bid (2-10 mg)
  - amantadine (Symmetrel) 100 mg PO bid (100-400 mg)
  - trihexyphenidyl (Artane) 1 mg-15 mg PO od
  - diphenhydramine (Benedryl) 25-50 mg PO/IM qid

### ANTIDEPRESSANTS

- onset of effect
  - neurovegetative symptoms – 1-3 weeks
  - emotional/cognitive symptoms – 2-6 weeks
- indications - depression, depressive phase of bipolar disorder, dysthymia, anxiety disorders, obsessive-compulsive disorders (clomipramine), chronic pain, enuresis, bulimia, cocaine withdrawal

### Table 16. Common Antidepressants

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug</th>
<th>Starting Dose (mg)</th>
<th>Therapeutic Dose (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCA (3° Amines)</td>
<td>amitriptyline (Elavil)</td>
<td>25-75</td>
<td>150-300</td>
</tr>
<tr>
<td></td>
<td>imipramine (Tofranil)</td>
<td>25-75</td>
<td>150-300</td>
</tr>
<tr>
<td>TCA (2° Amines)</td>
<td>nortriptyline (Aventyl)</td>
<td>20-50</td>
<td>75-150</td>
</tr>
<tr>
<td></td>
<td>desipramine (Norpramin)</td>
<td>25-75</td>
<td>150-300</td>
</tr>
<tr>
<td>MAOI</td>
<td>phentolamine (Nardil)</td>
<td>15</td>
<td>45-90</td>
</tr>
<tr>
<td></td>
<td>tranylcypromine (Parnate)</td>
<td>10</td>
<td>10-90</td>
</tr>
<tr>
<td>RIMA</td>
<td>moclobemide (Manerix)</td>
<td>150</td>
<td>150-600</td>
</tr>
<tr>
<td>SSRI</td>
<td>fluoxetine (Prozac)</td>
<td>20</td>
<td>20-80</td>
</tr>
<tr>
<td></td>
<td>fluvoxamine (Luvox)</td>
<td>50-100</td>
<td>150-300</td>
</tr>
<tr>
<td></td>
<td>paroxetine (Paxil)</td>
<td>10</td>
<td>20-60</td>
</tr>
<tr>
<td></td>
<td>sertraline (Zoloft)</td>
<td>50</td>
<td>50-200</td>
</tr>
<tr>
<td></td>
<td>citalopram (Celexa)</td>
<td>10</td>
<td>20-60</td>
</tr>
<tr>
<td>SNRI</td>
<td>venlafaxine (Effexor)</td>
<td>20</td>
<td>75-225</td>
</tr>
<tr>
<td>SDRI</td>
<td>bupropion (Wellbutrin)</td>
<td>200</td>
<td>300-450</td>
</tr>
<tr>
<td>Other cyclics</td>
<td>nefazodone (Serzone)</td>
<td>100</td>
<td>100-600</td>
</tr>
</tbody>
</table>

TCA = tricyclic antidepressants
MAOI = monamine oxidase inhibitors
RIMA = reversible inhibition of MAO-A
SSRI = selective serotonin reuptake inhibitors
SNRI = serotonin and norepinephrine reuptake inhibitors
SDRI = serotonin and dopamine reuptake inhibitors
Rational Use of Antidepressants (see Tables 16 and 17)
- taper TCA’s slowly (over weeks-months) because they can cause withdrawal reactions;
- MAOI’s and SSRI’s can be tapered over 1 week (see Figure 3)
- patient education regarding drug effects

Treatment Strategies for Refractory Depression (see Figure 3)
- optimization: ensuring adequate drug doses for the individual
- augmentation or combination: addition to ongoing treatment of drugs that are not antidepressants themselves (e.g. T3 or lithium)
- substitution: change in the primary drug

**Figure 3. Treatment of Depression**

ELECTROCONVULSIVE THERAPY (ECT)
- induction of a grand mal seizure using an electrical pulse through brain under general anesthesia
- indications
  - depression refractory to “adequate” pharmacological trial
  - high suicide risk
  - medical risk in addition to depression (dehydration, electrolytes, pregnancy)
  - previous good response to ECT
  - familial response to ECT
  - elderly
  - psychotic depression
  - catatonic features (negativism)
  - marked vegetative features
  - acute schizophrenia
  - mania unresponsive to meds
- side effects: risk of anesthesia; memory loss (may be retrograde and/or anterograde, tends to resolve by 6 to 9 months, permanent impairment controversial); headaches; muscle aches
- some evidence that unilateral ECT causes less memory loss than bilateral but may not be consistently as effective
- contraindications: increased intracranial pressure (ICP)
### Table 17. Antidepressants

<table>
<thead>
<tr>
<th></th>
<th>TCA</th>
<th>SSRI</th>
<th>MAOI</th>
<th>RIMA</th>
<th>Nefazodone</th>
<th>SNRI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific Indications</strong></td>
<td>Kids</td>
<td>Anxiety states, BN (fluoxetine), OCD, seasonal depression, atypical depression</td>
<td>Atypical depression (e.g. in elderly, coexisting anxiety or panic, hypochondriacal symptoms, reversed functional shift, increased sleep/food intake, insomnia)</td>
<td>Outpatient management of depression</td>
<td>Depression</td>
<td>Melancholic depression</td>
</tr>
<tr>
<td><strong>Mode of Action</strong></td>
<td>Block NE and serotonin reuptake</td>
<td>Block serotonin reuptake only</td>
<td>Irreversible inhibition of monoamine oxidase A and B</td>
<td>Reversible inhibition of MAO A only</td>
<td>Block serotonin reuptake</td>
<td>Block NE and serotonin reuptake</td>
</tr>
<tr>
<td><strong>Side Effects</strong></td>
<td>Anticholinergic: dry mouth, blurry vision, acute glaucoma, constipation, urinary retention, delirium at 1 adrenergic: orthostatic hypotension, Antihistamine: sedation, weight gain</td>
<td>Fewer than TCA, therefore increased compliance</td>
<td>Hypertensive crises with tyramine rich food (headache, flushes, palpitations, N/V, photophobia)</td>
<td>Anticholinergic: orthostatic hypotension</td>
<td>Weight gain</td>
<td>Hypertensive crises with tyramine rich food (headache, flushes, palpitations, N/V, photophobia)</td>
</tr>
<tr>
<td><strong>Risk in Overdose</strong></td>
<td>Toxic in OD 3 times therapeutic dose is lethal Presentation Ach effects, CNS stimulation then depression, then seizures EKG: prolonged QRS (duration reflects OD severity) Treatment: activated charcoal, cathartics, supportive treatment, IV diazepam for seizure, physostigmine salicylate for coma Do NOT give ipecac, as can cause rapid neurologic deterioration and seizures</td>
<td>Very safe, hard to OD on them</td>
<td>Toxic in OD, but wider margin of safety than TCA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drug Interactions</strong></td>
<td>MAOI, SSRI, EtOH</td>
<td>SSRIs inhibit P450 enzymes; therefore will increase levels of drugs metabolized by P450 system</td>
<td></td>
<td></td>
<td>EtOH Hypertensive crises with norepinephrine medications (e.g. TCA, decongestants, amphetamines) Serotonin syndrome with serotonergic drugs (e.g. SSRI, tryptophan, dextromethorphan)</td>
<td></td>
</tr>
</tbody>
</table>
MOOD STABILIZERS

**Rational Use of Mood Stabilizers (see Table 18)**
- before initiating lithium: screen for pregnancy, thyroid disease, seizure disorder, other neurological, renal, cardiovascular diseases
- get baseline: CBC, ECG (if patient > 45 years old or cardiovascular risk), urinalysis, BUN, Cr, lytes, TSH
- use lithium or valproic acid first (plus or minus an antipsychotic); use carbamazepine in non-responders and rapid cyclers
- a clinical trial of lithium lasts 3 weeks at therapeutic blood levels; a trial of carbamazepine or valproic acid lasts 3 weeks (blood levels do not correlate well)
- give lithium as a single dose at bedtime, others 2-3x per day
- can combine lithium and carbamazepine or valproic acid safely in lithium non-responders
- olanzepine is also a mood stabilizer; used in combination with other mood stabilizers

**Lithium Toxicity**
- CLINICAL diagnosis, as toxicity can occur at therapeutic levels
- presentation
  - GI: severe N/V and diarrhea
  - cerebellar: ataxia, slurred speech, incoordination
  - cerebral: myoclonus, choreiform or Parkinsonian movements, upper motor neuron (UMN) signs, seizures, delirium, coma
- management
  - discontinue lithium
  - serum Li levels, BUN, lytes
  - saline infusions
  - hemodialysis if Li > 2 mmol/L, coma, shock, severe dehydration, failure to respond to treatment after 24 hours, or deterioration

**ANXIOLYTICS**
- types: benzodiazepines, azapirones (e.g. buspirone, zopiclone)
- indications
  - anxiety disorders, insomnia, alcohol withdrawal (especially delerium tremens (DT)), barbiturate withdrawal, organic brain syndrome (agitation in dementia), akathisia due to antipsychotics, seizure disorders, musculoskeletal disorders
- relative contraindications
  - major depression (except as an adjunct to other treatment), history of drug/alcohol abuse, pregnancy, breast feeding
- mechanism of action
  - benzodiazepines: potentiate binding of GABA to its receptors; results in decreased neuronal activity
  - buspirone: partial agonist of 5-HT type IA receptors

**Rational Use of Anxiolytics (see Table 19)**
- anxiolytics mask or alleviate symptoms, they do not cure
- benzodiazepines
  - should be used for limited periods (weeks-months) to avoid dependence
  - have similar efficacy, so choice depends on half-life, metabolites and route of administration
  - give once or twice a day
  - taper slowly over weeks-months because they can cause withdrawal reactions
    - low dose withdrawal: tachycardia, hypertension, panic, insomnia, anxiety, impaired memory and concentration, perceptual disturbances
    - high dose withdrawal: hyperpyrexia, seizures, psychosis, death
  - avoid alcohol because of potentiation of CNS depression
  - other uses: sedative, muscle relaxants, EtOH withdrawal, catatonia, narcoanalysis
  - side effects
    - CNS: drowsiness, cognitive impairment, reduced motor coordination, memory impairment
    - physical dependence, tolerance develops
    - commonly used drug in overdose
      - overdose is rarely fatal
    - in combination with other drugs is more dangerous and may cause death
- buspirone
  - primary use: generalized anxiety disorder (GAD)
  - non-sedating, therefore, may be preferred over benzodiazepines
  - does not: alter seizure threshold, interact with EtOH, act as a muscle relaxant
  - onset: 2 weeks
  - side effects: restlessness, nervousness, extrapyramidal
### Table 18. Mood Stabilizers

<table>
<thead>
<tr>
<th>Medications</th>
<th>Lithium</th>
<th>Carbamazepine (Tegretol)</th>
<th>Valproic Acid (Epival)</th>
<th>Gabapentin</th>
<th>Lamotrigine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indications</strong></td>
<td>Prophylaxis of BAD*</td>
<td>Prophylaxis of BAD</td>
<td>Prophylaxis of BAD</td>
<td>Second-line or adjuvant</td>
<td>Second-line or adjuvant</td>
</tr>
<tr>
<td>*BAD = Cluster “B” Personality PD</td>
<td>Treatment of acute mania</td>
<td>Treatment of acute mania</td>
<td>Treatment of depression</td>
<td>Treatment of dysphoric mania</td>
<td>Treatment of mixed episodes</td>
</tr>
<tr>
<td></td>
<td>Augmentation of antidepressants in MDE and OCD</td>
<td>Rapid cycling BAD</td>
<td>Rapid cycling BAD</td>
<td></td>
<td>Rapid cycling BAD</td>
</tr>
<tr>
<td></td>
<td>Schizoaffective disorder</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic aggression and antisocial behaviour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recurrent depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Less common: mental retardation, Boderline PD, alcoholism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MOA</strong></td>
<td>Unknown</td>
<td>Depresses synaptic transmission</td>
<td>Depresses synaptic transmission</td>
<td>May increase GABA turnover in brain or interfere with glutamate metabolism</td>
<td>May inhibit 5-HT1 receptors and potentiate dopamine activity</td>
</tr>
<tr>
<td><strong>Dosage</strong></td>
<td>Adult – 600-1500 mg/day</td>
<td>750-3000 mg/day</td>
<td>300-1600 mg/day</td>
<td>900-2400 mg/day</td>
<td>100-200 mg/day</td>
</tr>
<tr>
<td></td>
<td>Geriatric – 150-600 mg/day</td>
<td>Usually tid dosing</td>
<td>Usually bid dosing</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Therapeutic Level</strong></td>
<td>Adult – 0.5-1.2 mmol/L</td>
<td>350-700 µmol/L</td>
<td>17-50 mmol/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>Monitor serum levels always wait 12 hours after dose until therapeutic, then biweekly or monthly until a steady state is reached, then q2 months Also monitor thyroid function q6 months, Crq6 months, urinalysis q1 year</td>
<td>Weekly blood counts for first month, due to risk of agranulocytosis Also watch for signs of blood dyscrasias: fever, sore throat, easy bruising</td>
<td>LFTs weekly X 1 month, then monthly, due to risk of liver dysfunction Also watch for signs of liver dysfunction: nausea, edema, malaise</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Side Effects</strong></td>
<td>GI: N/V, diarrhea</td>
<td>Hematologic: transient leukopenia, agranulocytosis</td>
<td>GI: liver disease (can be fatal), N/V, diarrhea</td>
<td>CNS: sedation, ataxia, dizziness</td>
<td>GI: nausea</td>
</tr>
<tr>
<td></td>
<td>SI: polyuria, polydipsia, GN, renal failure, nephrogenic DI</td>
<td>CNS: ataxia, dizziness, slurred speech, drowsiness, confusion, nystagmus, diplopia</td>
<td>CNS: tremor, sedation, ataxia, drowsiness</td>
<td>Other: increased cycling</td>
<td>CNS: headache, tremors, dizziness, somnolence, fatigue, anxiety</td>
</tr>
<tr>
<td></td>
<td>CNS: tremor, lethargy, fatigue, Headache</td>
<td>Skin: rash (5% risk, should d/c drug because of risk of Steven-Johnson syndrome (SJS))</td>
<td>Skin: rash, Stevens-Johnson syndrome</td>
<td>Other: hair loss, weight gain, transient thrombocytopenia</td>
<td>Skin: rash, Stevens-Johnson syndrome</td>
</tr>
<tr>
<td></td>
<td>Hematologic: reversible</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutropenia, weight gain, edema, psoriasis, hypothyroidism, hair thinning, muscle weakness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactions</strong></td>
<td>NSAIDS decrease clearance</td>
<td></td>
<td></td>
<td></td>
<td>No interaction with valproic acid, carbamazepine</td>
</tr>
</tbody>
</table>
Table 19. Common Anxiolytics

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug</th>
<th>Dose Range (mg/day)</th>
<th>t1/2</th>
<th>Appropriate Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Long-acting</td>
<td>clonazepam (Rivotril)</td>
<td>1.5-2.0</td>
<td>18-50</td>
<td>Akathisia, generalized anxiety, seizure prevention, panic disorder</td>
</tr>
<tr>
<td></td>
<td>diazepam (Valium)</td>
<td>5-40</td>
<td>30-100</td>
<td>Generalized anxiety, seizure prevention, muscle relaxant</td>
</tr>
<tr>
<td></td>
<td>chlordiazepoxide (Librium)</td>
<td>25-200</td>
<td>30-100</td>
<td>Sleep, anxiety</td>
</tr>
<tr>
<td></td>
<td>flurazepam (Dalmane)</td>
<td>15-30</td>
<td>50-160</td>
<td>Sleep</td>
</tr>
<tr>
<td></td>
<td>alprazolam (Xanax)</td>
<td>0.125-0.5</td>
<td>1.5-5</td>
<td>Shortest t1/2, rapid sleep but rebound insomnia</td>
</tr>
<tr>
<td>• Short-acting</td>
<td>lorazepam (Ativan)</td>
<td>2-6</td>
<td>10-20</td>
<td>Sleep, generalized anxiety</td>
</tr>
<tr>
<td></td>
<td>oxazepam (Serax)</td>
<td>30-120</td>
<td>8-12</td>
<td>Sleep, generalized anxiety</td>
</tr>
<tr>
<td></td>
<td>temazepam (Restoril)</td>
<td>15-30</td>
<td>8-20</td>
<td>Sleep</td>
</tr>
<tr>
<td>Azapirones</td>
<td>buspirone (Buspar)</td>
<td>20-60</td>
<td></td>
<td>Generalized anxiety</td>
</tr>
<tr>
<td></td>
<td>zopiclone (Imovane)</td>
<td>7.5</td>
<td></td>
<td>Sleep</td>
</tr>
</tbody>
</table>

Benzodiazepine Antagonist - Flumazenil (Anexate)
- Use for suspected benzodiazepine overdose
- Mechanism of action: a competitive benzodiazepine antagonist

PSYCHOSTIMULANTS

Table 20. Treatment of ADHD

<table>
<thead>
<tr>
<th>Psychostimulants</th>
<th>Anti-depressants</th>
<th>α-agonist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylphenidate (Ritalin)</td>
<td>Dextroamphetamine (Dexedrine)</td>
<td>Dextroamphetamine salts (Adderal)</td>
</tr>
<tr>
<td>Indications</td>
<td>First line therapy</td>
<td>First line therapy</td>
</tr>
<tr>
<td>Side Effects</td>
<td>Insomnia, irritability, paradoxical worsening of behaviour</td>
<td>Anorexia, nausea, abdominal pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraindications</td>
<td>(Relative)-Tourette’s, tics, substance abuse, weight/growth retardation, psychosis, cardiac illness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>Checklists (Child behaviour, Conner’s Teacher)</td>
<td>Side effects</td>
</tr>
</tbody>
</table>
### LEGAL ISSUES

#### COMMON FORMS

<table>
<thead>
<tr>
<th>Form 1: Application by physician to hospitalize a patient for psychiatric assessment against his/her will (Form 42 to patient)</th>
<th>Any MD</th>
<th>Within 7 days after examination</th>
<th>72 hours after hospitalization</th>
<th>Void if not implemented within 7 days</th>
<th>No</th>
<th>Form 3 Voluntary admission Send home +/- follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form 2: Order for hospitalization and medical examination against his/her will by Justice of the Peace</td>
<td>Justice of the Peace</td>
<td>No statutory time restriction</td>
<td>7 days from when filled out Purpose of form is complete once patient brought to hospital</td>
<td>No</td>
<td>Form 1 Send home +/- follow-up</td>
<td></td>
</tr>
<tr>
<td>Form 3: Certificate of involuntary admission (Form 30 to patient, notice to rights advisor)</td>
<td>Attending MD (different than MD who completed Form 1)</td>
<td>Before expiration of Form 1 Any time to change status of an informal patient</td>
<td>2 weeks</td>
<td>Yes (within 48 hours)</td>
<td>Form 4 Form 5</td>
<td></td>
</tr>
<tr>
<td>Form 4: Certificate of renewal of involuntary admission (Form 30 to patient, notice to rights advisor)</td>
<td>Attending MD following patient on Form 3</td>
<td>Prior to expiration of Form 3</td>
<td>First: 1 month Second: 2 months Third: 3 months</td>
<td>Yes (within 48 hours)</td>
<td>Form 4 Form 5</td>
<td></td>
</tr>
<tr>
<td>Form 5: Change to informal/voluntary status</td>
<td>Attending MD following patient on Form 3/4</td>
<td>Whenever deemed appropriate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

### CONSENT

**Definition**
- the voluntary agreement to what another person proposes
- in medical care, consent is geared toward making the patient a partner in a joint enterprise based on expectation that the physician is pursuing the patient's best interests

**Health Care Consent Act (HCCA), 1996**
- covers consent to treatment (cosmetic, diagnostic, palliative, preventive, or therapeutic), admission to care facility, and personal assistance services (i.e. care outside of hospital) proposed by health practitioners
- consent to treatment will be the focus in this section

**Valid Consent to Treatment - Five Criteria**
- specific - detailed treatment plan (a person may be capable to consent/refuse one treatment but incapable for another)
- informed - receives information about his/her medical condition, nature of treatment, risks and benefits, side effects, alternative options, consequences of not having treatment
- voluntary - of the patient's own will
- honest - on the part of the practitioner proposing the treatment
- capacity standards (see below)
LEGAL ISSUES . . . CONT.

Capacity Assessment
- HCCA requires MD to assess patient's ability to consent (decision making capacity)
- formal capacity assessment is not necessary - in most cases capacity can be presumed unless there are reasonable grounds to believe the person is incapable
- a patient is capable if he/she can understand the information relevant to making a decision and appreciate the reasonably foreseeable consequences of a decision or lack thereof
- MD should screen for psychiatric symptoms that may affect capacity (e.g. denial of illness, fear of procedure, cognitive disorder such as delirium/dementia, severe depression)

Treatment of the Incapable Patient
- document opinion in chart
- notify patient of determination by Form 33 (for psychiatric treatment in a psychiatric facility) and contact rights advisor
- obtain consent from substitute decision maker (SDM) using the following hierarchy
  - court appointed guardian
  - power of attorney for personal care
  - capacity and control board appointed representative
  - spouse/partner
  - child > 16 or custodial parent
  - sibling
  - other relative
  - public guardian and trustee
- SDM must be > 16 unless they are parents deciding for a child
- begin treatment unless patient wishes to appeal the decision to the Consent and Capacity Board (CCB)

Principles SDM Must follow when deciding to Give Consent
- act in accordance to wishes expressed previously by the patient, applicable to the circumstances, while capable
- if above unknown, SDM must act in the patient's best interests and take the following into consideration
  - values and beliefs held by the patient while capable
  - whether medical condition/well-being is likely to improve with vs. without treatment
  - whether the benefit expected by the treatment outweighs the risk of harm to the patient
  - whether a less intrusive treatment would be as beneficial as the one proposed
- the final decision of the SDM should be made in consultation with MD;
  - if MD feels the SDM is not acting in the patient's best interests, then MD can apply to the CCB for another SDM

Can an Incapable Patient be Forced to Stay in Hospital to Receive Treatment?
- no - HCCA does not address the issue of detaining incapable patients
- an incapable patient can only be detained against his/her will to receive treatment if he/she meets the criteria for certification under the Mental Health Act (MHA) (Form 1 or 3)
- to apply the above, the hospital in question must be a schedule 1 facility

What about Treatment of an Incapable Patient in an Emergency Situation?
- emergency treatment may be administered without consent if the physician believes the incapable patient is:
  - apparently experiencing severe suffering
  - at risk of sustaining serious bodily harm if treatment is not administered promptly
- MD must document reasons for incapacity and why situation is emergent
- since the SDM is not usually immediately available, MD can treat without consent until the SDM is available or the situation is no longer an emergency

Pediatric Aspects of Capacity Covered by the HCCA
- no age of consent - consent depends on one's decision-making ability (capacity)
- this causes a dilemma with patients who are infants or children - adolescents are usually treated as adults
- it is assumed that infants and children lack mature decision-making capacity for consent but they should still be involved (e.g. be provided the information appropriate to their comprehension level)
- most likely SDM in hierarchy is a parent or legal guardian
- support for the family and patient is essential and can involve the attending physician, nurses, chaplains, etc.
- in the event that the physician believes the SDM is not acting in the child's best interest, an appeal can be made to the provincial child welfare authorities

Other Types of Capacity Not Covered by the HCCA
- testamentary (ability to make a will)
- fitness (ability to stand trial)
- financial (ability to manage property - Form 21 of the MHA)
- personal (ability to care for oneself)
- areas of capacity are independent - a person may be incapable in some areas but capable in others
LEGAL ISSUES . . . CONT.

Criteria for Financial Competence
¶ covered by the Mental Health Act (section 54) and Substitute Decision Act (section 16,27)
¶ patient must
  • appreciate importance of financial capability and reason for exam
  • have realistic appreciation of own strengths/weaknesses in managing finances
  • understand nature and extent of assets, liabilities, income, and expenses
  • have recently demonstrated ability to make sound reasonable financial decisions and be expected to do so in future
  • have appropriately used available resources, and indicate willingness to do so in future
¶ if MD determines the patient is incapable of managing property, a Form 21 is completed and the Public Guardian and Trustee becomes the temporary guardian until a substitute can be found; those eligible as substitute guardians are the patient's spouse/partner, relative, or attorney
¶ Form 21 can only be filled out if the patient is an inpatient of a psychiatric facility

COMMUNITY TREATMENT ORDER (CTO)
¶ purpose: to provide a person who suffers from a serious mental disorder with a comprehensive plan of community-based treatment or care and supervision that is less restrictive than being detained in a psychiatric facility
¶ intended for those who, as a result of their serious mental disorder, experience a pattern of admission to a psychiatric facility where their condition is usually stabilized; who after being released often stop treatment or care and supervision after discharge to community; whose condition then changes, and, as a result, requires admission to hospital

REFERENCES


