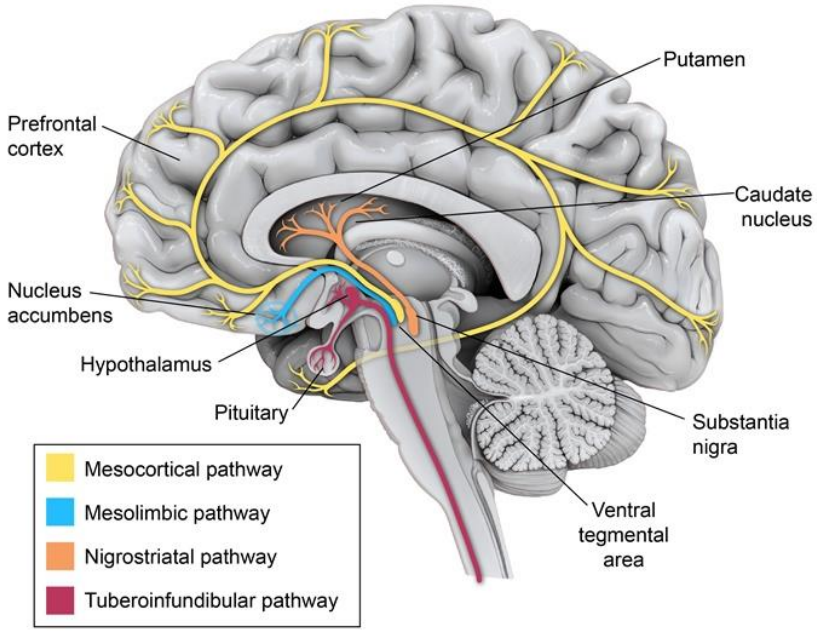

PSYCHIATRY

UWorld Step 2 Tables and Images (Subject)

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Anxiety and trauma-related disorders

Adjustment disorders

Adjustment disorder

Clinical features	• Mood & behavioral symptom onset within 3 months of identifiable stressor • Marked distress &/or functional impairment • Does not meet criteria for another DSM-5 disorder
Differential diagnosis	• Normal stress response – Not excessive, no significant impairment • Acute stress disorder – Traumatic event, intrusive reexperiencing • Major depressive disorder – ≥2 weeks, 5/9 symptoms: depressed mood + SIGECAPS
Management	• Psychotherapy is treatment of choice • Adjunctive pharmacotherapy – Short-term, reserved for rapid relief of impairing symptoms (eg, sleep aid, anxiolytic)

SIGECAPS = **S**leep disturbance, loss of **I**nterest, excessive **G**uilt, low **E**nergy, impaired **C**oncentration, **A**ppetite disturbance, **P**sychomotor agitation/retardation, **S**uicidal ideation.

Anxiety due to another medical condition

Pheochromocytoma

Pathogenesis	• Arises from neuroendocrine cells in **adrenal medulla** • 25% inherited: – *VHL* gene (von Hippel-Lindau) – *RET* gene (multiple endocrine neoplasia type 2) – *NF1* gene (neurofibromatosis) • Symptoms result from **increased catecholamine secretion**
Symptoms	• Headache • Tachycardia/palpitations • Sweating • Hypertension
Rule of 10s	• 10% bilateral • 10% extraadrenal (paragangliomas) • 10% malignant
Diagnosis	Elevated urinary & plasma catecholamines & metanephrines

Generalized anxiety disorder in children & adolescents

Clinical features	• Excessive, uncontrollable worry (multiple issues) ≥6 months • ≥1 of the following symptoms: – Restlessness; feeling on edge – Fatigue – Difficulty concentrating – Irritability – Muscle tension – Sleep disturbance
Associated features	• Physical symptoms: stomachaches, headaches • Perfectionism
Treatment	• Cognitive-behavioral therapy • SSRIs or SNRIs
Differential diagnosis	• Adjustment disorder (response to identifiable stressor) • Obsessive-compulsive disorder (intrusive thoughts; compulsive behaviors) • Separation anxiety disorder (anxiety focused on separation from caregiver) • Social anxiety disorder (fears of negative evaluation in social/performance situations)

SNRI = serotonin-norepinephrine reuptake inhibitor; **SSRI** = selective serotonin reuptake inhibitor.

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Generalized anxiety disorder

Clinical features	• Excessive, uncontrollable worry (multiple issues) ≥6 months • ≥3 of the following symptoms (≥1 in children): – Restlessness, feeling on edge – Fatigue – Difficulty concentrating – Irritability – Muscle tension – Sleep disturbance • Chronic, fluctuating course; academic/occupational dysfunction
Associated features	• Physical symptoms related to tension (headaches, neck pain) • Comorbid depression, substance use common • Increased risk of high health care utilization, cardiovascular events
Treatment	• Cognitive-behavioral therapy • SSRIs or SNRIs • Buspirone

SNRI = serotonin-norepinephrine reuptake inhibitor; **SSRI** = selective serotonin reuptake inhibitor.

Generalized anxiety disorder

DSM-5 criteria	• Excessive worry, anxiety (multiple issues) ≥6 months • Difficult to control • ≥3 of the following symptoms: – Restlessness or feeling on edge – Fatigue – Difficulty concentrating – Irritability – Muscle tension – Sleep disturbance • Significant distress or impairment • Not due to substances, another mental disorder, or medical condition
Treatment	• Cognitive-behavioral therapy • SSRIs or SNRIs

SNRI = serotonin-norepinephrine reuptake inhibitor; **SSRI** = selective serotonin reuptake inhibitor.

OBSESSIVE COMPULSIVE DISORDER

Obsessive-compulsive disorder

Clinical features	• **Obsessions** – Recurrent, intrusive, anxiety-provoking thoughts, urges, or images • **Compulsions** – Response to obsessions with repeated behaviors or mental acts – Behaviors not connected realistically with preventing feared event • Time-consuming (>1 hr/day) or causing significant distress or impairment
Treatment	• Selective serotonin reuptake inhibitor • Cognitive-behavioral therapy (exposure & response prevention)

OPPOSITIONAL DEFIANT DISORDER

Oppositional defiant disorder

Diagnosis	Pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness for ≥6 months • Argues with adults, defies authority figures, refuses to follow rules • Deliberately annoys others • Blames others for own mistakes or misbehavior • Easily annoyed, angry, resentful, or vindictive • Not due to another mental disorder
Treatment	• Parent management training • Psychotherapy (anger management, social skills training) • No pharmacotherapy for ODD but assess for comorbid ADHD & treat if present

ADHD = attention deficit hyperactivity disorder; **ODD** = oppositional defiant disorder.

PANIC DISORDER

Panic disorder

Clinical features	• Recurrent & unexpected panic attacks with ≥4 of the following: – Chest pain, palpitations, shortness of breath, choking – Trembling, sweating, nausea, chills – Dizziness, paresthesia – Derealization, depersonalization – Fear of losing control or of dying • Worry about additional attacks, avoidance behavior
Treatment	• First-line/maintenance: SSRI/SNRI &/or cognitive-behavioral therapy • Acute distress: benzodiazepines

SNRI = serotonin-norepinephrine reuptake inhibitor; **SSRI** = selective serotonin reuptake inhibitor.

Acute stress disorder

Clinical features	• Duration ≥3 days & ≤1 month • Exposure to actual or threatened trauma • Symptoms from following categories: – Avoidance of internal memories or external reminders – Intrusion (eg, nightmares, flashbacks) – Dissociation (eg, amnesia for event, derealization) – Arousal (eg, insomnia, hypervigilance, startle) – Negative mood
Management	• Trauma-focused, brief CBT • Consider medication for insomnia, intense anxiety • Monitor for PTSD (symptom duration >1 month)

CBT = cognitive-behavioral therapy; **PTSD** = posttraumatic stress disorder.

Posttraumatic stress disorder

Clinical features	• Exposure to life-threatening trauma • Nightmares, flashbacks, intrusive memories • Avoidance of reminders, dissociation • Emotional detachment, negative mood, decreased interest in activities • Sleep disturbance, hypervigilance, irritability • Duration ≥1 month
Treatment	• Trauma-focused cognitive-behavioral therapy • Antidepressants (SSRIs, SNRIs)

SNRIs = serotonin-norepinephrine reuptake inhibitors; **SSRIs** = selective serotonin reuptake inhibitors.

Posttraumatic stress disorder

DSM-5	• Exposure to life-threatening trauma • **Intrusion symptoms:** nightmares, flashbacks • **Avoidance symptoms:** avoids distressing thoughts, feelings & external reminders of the event • **Negative mood & cognitions:** persistent horror, anger, guilt, negative beliefs about self & the world, decreased interest in activities, emotional detachment, amnesia for event • **Arousal symptoms:** sleep disturbance, hypervigilance, impaired concentration • Duration: more than 1 month
Treatment	• Trauma-focused cognitive-behavioral therapy • Antidepressants (SSRIs, SNRIs) • Prazosin for nightmares

SNRIs = serotonin-norepinephrine reuptake inhibitors; **SSRIs** = selective serotonin reuptake inhibitors.

REACTIVE ATTACHMENT DISORDER

Reactive attachment disorder

Clinical features **(some evidence** **<5 years)**	• Insufficient care (eg, neglect, abuse, inconsistent caregiving) • Does not seek or respond to comfort • Poor social responsiveness, limited positive affect • Unexplained irritability/fear/sadness even during safe encounters
Associated features	• Toileting & sleep difficulties • Anxiety, aggression, hyperactivity/impulsivity
Differential diagnosis	• Adjustment disorder, posttraumatic stress disorder • Global developmental delay, intellectual disability • Autism spectrum disorder • Anxiety disorders (eg, social anxiety disorder, selective mutism) • Depressive disorders
Management	• Early intervention promoting: – safe, stable & enriching environment – consistent, responsive caregiving • Psychological services (eg, parenting skills, individual/family counseling)

Differential diagnosis of DSM-5 anxiety disorders

Social anxiety disorder (social phobia)	Anxiety restricted to social & performance situations, **fear of scrutiny** & embarrassment
Panic disorder	Recurrent, **unexpected** panic attacks
Specific phobia	Excessive anxiety about a **specific object** or situation (phobic stimulus)
Generalized anxiety disorder	**Chronic multiple worries**, anxiety, tension

Social anxiety disorder (social phobia)

Diagnosis	• Marked anxiety about ≥1 social situations for ≥6 months • Fear of scrutiny by others, humiliation, embarrassment • Social situations avoided or endured with intense distress • Marked impairment (social, academic, occupational) • Subtype specifier: performance only
Treatment	• SSRI/SNRI • Cognitive-behavioral therapy • Beta blocker or benzodiazepine for performance-only subtype

SNRI = serotonin-norepinephrine reuptake inhibitor; **SSRI** = selective serotonin reuptake inhibitor.

Specific phobia

History & clinical features	• Marked anxiety about a **specific** object or situation (the phobic stimulus) for >6 months • Common types: fear of flying, heights, animals, injections, blood • Avoidance behavior (eg, avoiding bridges & elevators, refusing work requiring travel) • Common (10% of population) • Usually develops in childhood, often after traumatic event
Treatment	• Cognitive-behavioral therapy with exposure (first-line) • Short-acting benzodiazepines (limited role, may help acutely if therapist unavailable or insufficient time)

TRICHOTILLOMANIA

Trichotillomania (hair-pulling disorder)

Features	• Recurrent hair pulling resulting in hair loss • Repeated attempts to decrease/stop hair pulling • Not due to a medical/dermatological condition (eg, alopecia areata) • Not due to another mental disorder (eg, body dysmorphic disorder)
Examination findings	• Irregular patches of hair loss • Hair shafts of variable lengths • Noninflammatory, nonscarring
Treatment	• Cognitive-behavioral therapy (habit reversal therapy)

Eating disorders

ANOREXIA NERVOSA

Eating disorders

Diagnosis	Clinical features	Treatment
Anorexia nervosa	• **BMI <18.5 kg/m²** • Intense fear of weight gain • Distorted views of body weight & shape	• Cognitive-behavioral therapy • Nutritional rehabilitation • **Olanzapine** if no response to first-line treatments
Bulimia nervosa	• Recurrent episodes of binge eating • Binge eating and **inappropriate compensatory behavior** to prevent weight gain • Excessive worrying about body shape & weight	• Cognitive-behavioral therapy • Nutritional rehabilitation • **SSRI (fluoxetine)**, often in combination with first-line treatments
Binge eating disorder	• Recurrent episodes of binge eating • **No inappropriate compensatory behaviors** • Lack of control during eating	• Cognitive-behavioral therapy • Behavioral weight loss therapy • SSRI • Lisdexamfetamine, topiramate

SSRI = selective serotonin reuptake inhibitor.

Anorexia nervosa

Clinical features	• Underweight (BMI <18.5 kg/m^2) • Fear of weight gain, distorted body image
Treatment	• Psychotherapy (individual, family, group) • Nutritional rehabilitation • Olanzapine if severe/refractory
Indications for hospitalization	• Bradycardia (<40/min), dysrhythmia • Hypotension (<80/60 mm Hg), orthostasis • Hypothermia (<35 C) • Electrolyte disturbance, marked dehydration • Organ compromise (renal, hepatic, cardiac) • <70% expected weight (BMI <15 kg/m^2)

Anorexia nervosa

Clinical features	• BMI <18.5 kg/m^2 • Fear of weight gain, distorted body image
Medical complications	• Osteoporosis • Amenorrhea • Lanugo, hair loss, dry skin • Enlarged parotid glands (if binge/purge type) • Hypotension, hypothermia, bradycardia • Cardiac atrophy, arrhythmias
Treatment	• Psychotherapy (individual, family, group) • Nutritional rehabilitation • Olanzapine if severe/refractory

Eating disorders

Diagnosis	Clinical features	Treatment
Anorexia nervosa	• **BMI <18.5 kg/m²** • Intense fear of weight gain • Distorted views of body weight & shape	• Cognitive-behavioral therapy • Nutritional rehabilitation • **Olanzapine** if no response to above
Bulimia nervosa	• Recurrent episodes of binge eating • Binge eating & **inappropriate compensatory behavior** to prevent weight gain • Excess worrying about body shape & weight	• Cognitive-behavioral therapy • Nutritional rehabilitation • **SSRI (fluoxetine)**, often in combination with above
Binge-eating disorder	• Recurrent episodes of binge eating • **No inappropriate compensatory behaviors** • Lack of control during eating	• Cognitive-behavioral therapy • Behavioral weight loss therapy • SSRI • Lisdexamfetamine

SSRI = selective serotonin reuptake inhibitor.

Miscellaneous

Child and adolescent mental health

Parent management training

Focus	Parent interventions	
Antecedents (communication leading to wanted/unwanted behaviors)	• Use (promote wanted behavior): – clear instructions – calm tones & supportive gestures – alternative choices	• Avoid (promote unwanted behavior): – nagging – threats – harsh comments – physical intimidation
Behaviors (practicing effective parent-child interactions)	• Shaping: – small behavioral goals adding to bigger changes	• Role-play wanted behaviors: – artificial situations first – build to realistic scenarios
Consequences (for wanted/ unwanted behaviors)	• Reinforce wanted behaviors: – praise (verbal, nonverbal) – token/point system rewards	• Manage unwanted behaviors: – extinction (eg, ignore, walk away) – mild punishment (eg, privilege loss)

Defense mechanisms

Key defense mechanisms

Immature	• Acting out: Expressing unacceptable feelings through actions • Denial: Behaving as if an aspect of reality does not exist • Displacement: Transferring feelings to less threatening object/person • Intellectualization: Focusing on nonemotional aspects to avoid distressing feelings • Passive aggression: Avoiding conflict by expressing hostility covertly • Projection: Attributing one's own feelings to others • Rationalization: Justifying behavior to avoid difficult truths • Reaction formation: Transforming unacceptable feelings/impulses into the opposite • Regression: Reverting to earlier developmental stage • Splitting: Experiencing a person/situation as either all positive or all negative
Mature	• Sublimation: Channeling impulses into socially acceptable behaviors • Suppression: Putting unwanted feelings aside to cope with reality

DISSOCIATIVE AMNESIA

Dissociative disorders

Depersonalization/derealization disorder	• Persistent or recurrent experiences of 1 or both: – Depersonalization (feelings of detachment from, or being an outside observer of, one's self) – Derealization (experiencing surroundings as unreal) • Intact reality testing
Dissociative amnesia	• Inability to recall important personal information, usually of a traumatic or stressful nature • Not explained by another disorder (eg, substance use, post-traumatic stress disorder)
Dissociative identity disorder	• Marked discontinuity in identity & loss of personal agency with fragmentation into ≥2 distinct personality states • Associated with severe trauma/abuse

DOWN SYNDROME

Common causes of intellectual disability

Syndrome	Dysmorphic features	Comorbid conditions
Down syndrome	• Upslanting palpebral fissures • Flat nasal bridge • Epicanthal folds • Single palmar crease	• Heart disease (eg, AV canal defect) • Short stature, obesity • Hearing loss
Fragile X syndrome	• Long face with prominent chin & forehead • Large, protruding ears • Macroorchidism • Macrocephaly	• Self-injurious behavior (eg, hand biting) • Anxiety, autistic behaviors • Tall stature
Fetal alcohol syndrome	• Smooth philtrum • Thin vermillion border • Small palpebral fissures	• Seizures • Growth restriction

AV = atrioventricular.

Sexual Behavior

Sexual behavior in preadolescents

Normal	Abnormal
Toddler • Exploring one's own or others' genitals • Masturbatory movements • Undressing self or others	• Repeated insertion of objects into vagina or anus • Sex play involving genital-genital, oral-genital, or anal-genital contact • Use of force, threats, or bribes in sex play • Age-inappropriate sexual knowledge
School-age • Increased interest in sex words & play • Asking questions about sex & reproduction • Masturbatory movements (may become more sophisticated)	

Mood disorders

Adjustment Disorders

Differential diagnosis of depressed mood

Major depressive disorder	• ≥2 weeks • **≥5 of 9** symptoms: depressed mood & SIGECAPS • Significant functional impairment • No lifetime history of mania
Persistent depressive disorder (dysthymia)	• Chronic depressed mood ≥2 years • ≥2 of the following: appetite disturbance, sleep disturbance, low energy, low self-esteem, poor concentration, hopelessness
Adjustment disorder with depressed mood	• Onset within 3 months of identifiable stressor • Marked distress &/or functional impairment • Does not meet criteria for another DSM-5 disorder
Normal stress response	• Not excessive or out of proportion to severity of stressor • No significant functional impairment

SIGECAPS = **S**leep disturbance, loss of **I**nterest, excessive **G**uilt, low **E**nergy, impaired **C**oncentration, **A**ppetite disturbance, **P**sychomotor agitation/retardation, and **S**uicidal ideation.

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ANTIDEPRESSANTS

Major depressive disorder

Diagnosis	• ≥5 of the following symptoms lasting ≥2 weeks (at least 1 symptom must be either depressed mood or loss of interest/pleasure): – Depressed mood – Loss of interest or pleasure – Change in appetite or weight – Insomnia or hypersomnia – Psychomotor retardation or agitation – Low energy – Poor concentration or indecisiveness – Thoughts of worthlessness or inappropriate guilt – Recurrent thoughts of death or suicide • No history of mania or hypomania • Not due to substances or another medical condition
Treatment	• Psychotherapy • Antidepressant medication

Acute mania

Clinical features	• Elevated, irritable, labile mood • Increased energy & activity, decreased need for sleep • Pressured speech, racing thoughts, distractibility • Grandiosity, risky behavior • Marked impairment, may have psychotic symptoms
Management	• Antipsychotics (first- & second-generation) • Lithium (avoid in renal disease) • Valproate (avoid in liver disease) • Combinations in severe mania (eg, antipsychotic plus lithium or valproate) • Adjunctive benzodiazepines for insomnia, agitation

Manic episode

Clinical features	• ≥1 week of elevated or irritable mood & increased energy/activity • ≥3 of the following symptoms (4 if mood is irritable only) (**DIGFAST** mnemonic): – **Distractibility** – **Impulsivity**/indiscretion, risky behavior – **Grandiosity** – **Flight of ideas**/racing thoughts – Increased **activity**/psychomotor agitation – Decreased need for **sleep** – **Talkativeness**/pressured speech
Severity	• Impaired psychosocial function • May have psychotic features (hallucinations, delusions) • May require hospitalization

Bipolar & related disorders

Manic episode	**Hypomanic episode**
• Symptoms more **severe** • **1 week** unless hospitalized • **Marked impairment** in social or occupational functioning or **hospitalization** necessary • May have **psychotic features**; makes episode manic by definition	• Symptoms **less severe** • **≥4 consecutive days** • Unequivocal, observable change in functioning from patient's baseline • Symptoms not severe enough to cause marked impairment or necessitate hospitalization • **No psychotic features**

Bipolar I

- **Manic episode(s)**
- Depressive episodes common but not required for diagnosis

Bipolar II

- **Hypomanic episode(s)**
- ≥1 major depressive episodes

Cyclothymic disorder

- **≥2 years** of fluctuating, mild hypomanic & depressive symptoms that do not meet criteria for hypomanic or major depressive episodes

Mood disorders with psychotic features vs primary psychotic disorders

Major depressive or bipolar disorder with psychotic features	• Psychotic symptoms occur exclusively during mood episodes.
Schizophrenia	• Mood symptoms, if present, are brief and not prominent.
Schizoaffective disorder	• Major depressive or manic episode occurs concurrent with symptoms of schizophrenia. • Lifetime history of delusions or hallucinations for ≥2 weeks outside of mood episode is present. • Mood episodes are prominent & recur throughout illness.

Features of Cushing syndrome

Clinical manifestations	• **Central obesity** • Skin atrophy & wide, purplish **striae** • Proximal muscle weakness • Hypertension • **Glucose intolerance** • Skin hyperpigmentation (if due to ACTH excess) • Depression, anxiety
Diagnosis	• 24-hour urinary cortisol excretion • Late-night salivary cortisol assay • Low-dose dexamethasone suppression test

Adjustment disorder

Clinical features	• Mood and behavioral symptom onset within 3 months of identifiable stressor • Marked distress and/or functional impairment • Does not meet criteria for another DSM-5 disorder
Differential diagnosis	• Normal stress response (not excessive, no significant impairment) • Acute stress disorder (traumatic event, intrusive re-experiencing) • Major depressive disorder (≥2 weeks, 5/9 symptoms, depressed mood, SIGECAPS)
Management	• Psychotherapy is the treatment of choice • Adjunctive pharmacotherapy (short term, reserved for rapid relief of impairing symptoms [eg, sleep aid, anxiolytic])

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Antidepressant classification & major drugs

SSRI Selective serotonin reuptake inhibitor	• Fluoxetine • Paroxetine • Sertraline • Citalopram • Escitalopram • Fluvoxamine
SNRI Serotonin & norepinephrine reuptake inhibitor	• Venlafaxine • Desvenlafaxine • Duloxetine
NDRI Norepinephrine & dopamine reuptake inhibitor	• Bupropion
TCA Tricyclic antidepressant	• Amitriptyline • Nortriptyline
MAOI Monoamine oxidase inhibitor	• Phenelzine • Tranylcypromine
Other	• Mirtazapine • Trazodone • Vortioxetine

Suicide risk assessment

Acute modifiable risk factors	• Suicidal thoughts, plan & intent • Presence/severity of psychiatric illness • Impulsivity • Hopelessness • Psychosis/agitation • Intoxication (disinhibition)/active substance use • Recent psychosocial stressors • Medical illness/pain • Lack of social support/living alone • Access to means (eg, weapons, medications)
Static risk factors	• Age (young adult & >70) • Sex – Attempts: female > male – Completion: male > female • Past suicide attempts • Family history of suicide/psychiatric illness

Major depressive episode & grief reaction

Major depressive episode	Grief reaction
• ≥2 weeks; ≥5 of 9 symptoms: low mood, anhedonia, sleep disturbance, appetite change, low energy, psychomotor changes, guilt/worthlessness, concentration difficulty, suicidal ideation • May occur in response to a variety of stressors, including loss of a loved one • Marked social & occupational dysfunction • Suicidality related to hopelessness & worthlessness	• Normal reaction to loss (bereavement) • Sadness more specific to thoughts of the deceased • "Waves" of grief at reminders • Self-esteem usually preserved • Functional decline less severe • Thoughts of dying involve wish to join the deceased; active suicidality uncommon • Intensity decreases over time

Modality	Primary indications	Features
Cognitive-behavioral therapy	• Depression • Generalized anxiety disorder • PTSD • Panic disorder • OCD • Eating disorders • Negative thought patterns	• Combines cognitive & behavioral therapy • Challenges maladaptive cognitions • Targets avoidance with behavioral techniques (relaxation, exposure, behavior modification)
Interpersonal psychotherapy	• Depression	• Links symptoms to current relationship conflicts & interpersonal skill deficits
Supportive psychotherapy	• Lower functioning; psychotic disorders • Patients in crisis	• Maintains hope; provides encouragement • Reinforces coping skills, adaptive defenses
Psychodynamic psychotherapy	• Higher functioning • Personality disorders	• Builds insight into unconscious conflicts & past relationships • Uses transference • Breaks down maladaptive defenses
Motivational interviewing	• Substance use disorders	• Nonjudgmental; acknowledges ambivalence & resistance • Enhances intrinsic motivation to change
Dialectical behavioral therapy	• Borderline personality disorder	• Improves emotion regulation, distress tolerance, mindfulness • Decreases self harm; builds skills
Biofeedback	• Prominent physical symptoms; pain disorders	• Improves control over physiological reactions to emotional stressors

OCD = obsessive-compulsive disorder; **PTSD** = post-traumatic stress disorder.

Suicide assessment – ideation, intent & plan

Evaluate **ideation**

- Wish to die, not wake up (passive)
- Thoughts of killing self (active)
- Frequency, duration, intensity, controllability

Evaluate **intent**

- Strength of intent to attempt suicide; ability to control impulsivity
- Determine how close patient has come to acting on a plan (rehearsal, aborted attempts)

Evaluate **plan**

- Specific details: Method, time, place, access to means (eg, weapons, pills), preparations (eg, gathering pills, changing will)
- Lethality of method
- Likelihood of rescue

Electroconvulsive therapy for depression

Indications	• Treatment resistance • Psychotic features • Emergency conditions – Pregnancy – Refusal to eat or drink – Imminent risk for suicide
Safety	• No absolute contraindications • Increased risk – Severe cardiovascular disease, recent myocardial infarction – Space-occupying brain lesion – Recent stroke, unstable aneurysm

Postpartum blues, depression & psychosis

	Postpartum blues	Postpartum depression	Postpartum psychosis
Prevalence	• 40%-80%	• 8%-15%	• 0.1%-0.2%
Onset	• 2-3 days (resolves within 14 days)	• Typically within 4-6 weeks (can be up to 1 year)	• Days to weeks
Symptoms	• Mild depression, tearfulness, irritability	• ≥2 weeks of moderate to severe depression, sleep, or appetite disturbance; low energy; psychomotor changes; guilt; concentration difficulty; and suicidal ideation	• Delusions, hallucinations, thought disorganization, bizarre behavior

DYSTHYMIA

Persistent depressive disorder (dysthymia)

Clinical features	• Chronic depressed mood ≥**2 years** (1 year in children/adolescents) • No symptom-free period for >2 months • Presence of ≥**2** of the following: – Poor appetite or overeating – Insomnia or hypersomnia – Low energy or fatigue – Low self-esteem – Poor concentration or difficulty making decisions – Feelings of hopelessness
Specifiers	• With **pure dysthymic syndrome**: criteria for major depressive episode never met • With intermittent major depressive episodes • With persistent major depressive episodes: criteria for major depressive episode met throughout previous 2 years

HOMICIDE AND OTHER VIOLENCE

Homicide risk factors

- Young male
- Unemployed
- Impoverished
- Access to firearms
- Substance abuse
- Antisocial personality disorder
- History of violence or criminality
- History of childhood abuse
- Impulsivity

LITHIUM

Tremor	Clinical features
Essential	• Action tremor • Bilateral hands &/or head • Improves with alcohol
Parkinson disease	• Resting tremor (decreases with movement) • Hands & legs • "Pill-rolling" • Associated parkinsonian features (eg, rigidity, masked faces, short-stepped gait)
Cerebellar	• Action tremor (increases as hand reaches target) • Associated ataxia, dysmetria, or gait disorder
Physiologic	• Action & rest tremor • Low amplitude, high frequency (ie, "fine" tremor) • Not visible under normal circumstances • Enhanced with sympathetic activation (eg, anxiety, caffeine, hyperthyroidism)

Lithium toxicity

Etiology	Acute toxicity • Intentional overdose Chronic toxicity • Decreased renal perfusion (↓ lithium clearance) – Dehydration – Thiazide diuretics, NSAIDs, ACE inhibitors
Clinical features	Acute toxicity • Gastrointestinal: nausea, vomiting, diarrhea • Late neurologic sequelae Chronic toxicity (neurologic) • Lethargy, confusion, agitation • Ataxia, tremor/fasciculations, seizure
Treatment	• Intravenous hydration • Hemodialysis (severe cases)

NSAID = nonsteroidal anti-inflammatory drug.

NEUROLEPTIC MALIGNANT SYNDROME

Neuroleptic malignant syndrome

Signs/symptoms	• Fever (>40 C common) • Confusion • Muscle rigidity (generalized) • Autonomic instability (abnormal vital signs, sweating)
Treatment	• Stop antipsychotics or restart dopamine agents • Supportive care (hydration, cooling), intensive care unit • Dantrolene or bromocriptine if refractory

Assessment & management of suicidality

Assessment	**SAD PERSONS** • **S**ex • **A**ge • **D**epression • **P**revious attempt • **E**tOH (or other substance) use • **R**ational thought loss (psychosis) • **S**ocial support • **O**rganized plan • **N**o spouse or significant other • **S**ickness or injury
Management	**High imminent risk** (ideation, **intent & plan**) • Ensure safety: hospitalize immediately (involuntarily if necessary) • Remove personal belongings & objects in room that may present self-harm risk • Constant observation & security may be required to hold against will **High nonimminent risk** (ideation, intent, but **no plan to act in near future**) • Ensure close follow-up • Treat modifiable risk factors (underlying depression, psychosis, substance abuse, pain) • Recruit family or friends to support patient • Reduce access to potential means (secure firearms, medications)

EtOH = ethanol alcohol.

Assessment & management of suicidality

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EtOH = ethanol alcohol.

Suicide risk & protective factors

Risk factors	• Psychiatric disorders, prior suicide attempts • Hopelessness • Never married, divorced, separated • Living alone • Unemployed or unskilled • Physical illness • Family history of suicide, family discord • Access to firearms • Substance abuse, impulsivity
Protective factors	• Social support/family connectedness • Pregnancy • Parenthood • Religion & participation in religious activities

Firearm injury

Risk factors	• Male adolescent • Behavioral or psychiatric problems • Impulsive, violent, or criminal behavior • Low socioeconomic status
Prevention	• **Remove all firearms from the home** • Store firearms unloaded • Lock firearms & ammunition in separate containers

TARDIVE DYSKINESIA

Tardive dyskinesia

Clinical features	• Abnormal involuntary movements due to prolonged use of antipsychotics or metoclopramide • Orofacial dyskinesia (tongue protrusion, lip smacking, grimacing) • Limb dyskinesia (dystonic postures, foot tapping, chorea) • Trunk dyskinesia (rocking, thrusting, shoulder shrugging) • Greater risk with first-generation antipsychotics
Management	• Discontinue causative medication if feasible • Switch to second-generation antipsychotic (quetiapine, clozapine) if continued antipsychotic is required • Treat with valbenazine or deutetrabenazine

Neurodevelopmental and neurocognitive disorders

Alzheimer disease

	Normal aging	Dementia (major cognitive disorder)
Memory loss	• Can provide details about incidents of forgetfulness • Patient is concerned about memory loss • Recent memory for important events & conversations is intact	• Cannot remember specific instances of forgetfulness • Family is more concerned than patient • Has notable decline in memory for recent important events & conversations
Word-finding difficulty	• Occasional (expressive aphasia) • No receptive aphasia	• Frequent, with substitutions • Some receptive aphasia
Independence & functioning	• Maintains independence in ADLs • Is able to operate common appliances • Maintains interpersonal social skills • Does not get lost in familiar territory (may have to pause briefly to reorient)	• Becomes dependent on others for ADLs • Is unable to operate common appliances • Loses interest in social activities • Can get lost for hours in familiar territory while driving or walking

ADL = activities of daily living.

Attention deficit hyperactivity disorder

Attention-deficit hyperactivity disorder	
Clinical features	• Inattentive &/or hyperactive/impulsive symptoms for ≥6 months – **Inattentive symptoms:** Difficulty focusing, distractible, does not listen or follow instructions, disorganized, forgetful, loses/misplaces objects – **Hyperactive/impulsive symptoms:** Fidgety, unable to sit still, "driven by a motor," hyper-talkative, interrupts, blurts out answers • Several symptoms present **before age 12** • Symptoms occur in at least two settings (home, school) & cause functional impairment • Subtypes: Predominantly inattentive, predominantly hyperactive/impulsive, combined type

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Treatment	• Stimulants (methylphenidate, amphetamines) • Nonstimulants (atomoxetine, α-2 adrenergic agonists) • Behavioral therapy

Pharmacotherapy for attention deficit hyperactivity disorder

Category	Medication	Adverse effects
Stimulant	Methylphenidate	Weight loss, decreased appetite, insomnia, abdominal pain, tachycardia, hypertension, tics (rare), addiction potential
	Amphetamine salts	
Nonstimulant	Clonidine	Sedation, dry mouth, constipation, irritability, anxiety, hypotension, abdominal pain, sleep disturbances (eg, nightmares)
	Guanfacine	
	Atomoxetine	Dry mouth, decreased appetite, insomnia, hyperhidrosis, erectile dysfunction

AUTISM SPECTRUM DISORDERS

Autism spectrum disorder

Clinical features	• Deficits in social communication & interactions with onset in early development – Sharing of emotions or interests – Nonverbal communication – Developing & understanding relationships • Restricted, repetitive patterns of behavior – Repetitive movements or speech – Insistence on sameness/routines – Intense, fixated interests – Adverse responses to sensory input • May occur with or without language & intellectual impairment

Autism spectrum disorder

Clinical features	• Deficits in social communication & interactions with onset in early development – Sharing of emotions or interests – Nonverbal communication – Developing & understanding relationships • Restricted, repetitive patterns of behavior – Repetitive movements or speech – Insistence on sameness/routines – Intense fixated interests – Adverse responses to sensory input • May occur with or without language & intellectual impairment
Assessment & management principles	• Early diagnosis & intervention • Comprehensive, multimodal treatment (speech, behavioral therapy, educational services) • Adjunctive pharmacotherapy for psychiatric comorbidities

RETT SYNDROME

Rett syndrome

Key features	• Rare neurodevelopmental disorder, greater incidence in females, onset 6-18 months • Initially normal development followed by: – Loss of speech – Loss of purposeful hand use, stereotypical movements – Gait abnormalities
Additional findings	• Head growth deceleration • Seizures • Breathing abnormalities • Sleep disturbance • Autistic features
Etiology	• *MECP2* gene mutations

TOURETTE SYNDROME

Tourette syndrome

Clinical features	• Both **multiple motor tics & ≥1 vocal tics** (not necessarily concurrent) >1 year – Motor: facial grimacing, blinking, head/neck jerking, shoulder shrugging, tongue protrusion, sniffing – Vocal: grunting, snorting, throat clearing, barking, yelling, coprolalia (obscenities) • Onset age <18 (commonly age 6-15)

Tourette syndrome

Clinical features	• Both **multiple motor & ≥1 vocal tics** (not necessarily concurrent, >1 year) – Motor: Facial grimacing, blinking, head/neck jerking, shoulder shrugging, tongue protrusion, sniffing – Vocal: Grunting, snorting, throat clearing, barking, yelling, coprolalia (obscenities) • Onset age <18
Treatment	• Behavioral therapy (habit reversal training) • Antidopaminergic agents – Tetrabenazine (dopamine depleter) – Antipsychotics (receptor blockers) • Alpha-2 adrenergic receptor agonists

Normal behavior and development

AGING

Cognitive impairment in elderly patients

Normal aging	• Slight decrease in fluid intelligence (ability to process new information quickly) • **Normal functioning** in all activities of daily living
Mild neurocognitive disorder (mild cognitive impairment)	• Mild decline in ≥1 cognitive domains • Normal functioning in all activities of daily living with compensation
Major neurocognitive disorder (dementia)	• Significant decline in ≥1 cognitive domains • **Irreversible** global cognitive impairment • Marked functional impairment • Chronic & progressive, months to years
Major depression	• **Reversible** mild-moderate cognitive impairment • Features of **depression** (mood, interest, energy) • Episodic, weeks to months

Personality, impulse control, and sexual disorders

Conduct disorder

Conduct disorder

Clinical features	• Pattern of violating major societal norms or rights of others over the previous 12 months • Aggression & cruelty toward people & animals • Destruction of property, setting fires • Serious violation of rules (truancy, running away) • Deceitfulness &/or theft (lying, stealing)
Treatment	• Cognitive-behavioral therapy, family therapy • Parent management training

Gender dysphoria

Gender dysphoria

Clinical features	• Experiences persistent (≥6 months) incongruence between assigned & felt gender • Desires to be another gender • Dislikes own anatomy, desires sexual traits of another gender • Believes feelings/reactions are of another gender • Feels significant distress/impairment
Initial management (tailored to individual needs)	• Assessment of safety • Support; psychotherapy (individual, family) • Referral to specialist services (medical & mental health multidisciplinary)

Personality disorders

Borderline personality disorder

Diagnostic criteria	• Pervasive pattern of marked impulsivity, with unstable relationships, self-image & affects, plus ≥5 of the following features: – Frantic efforts to avoid abandonment – Unstable & intense interpersonal relationships – Markedly & persistently unstable self-image – Impulsivity in ≥2 areas that are potentially self-damaging – Recurrent suicidal behaviors or threats of self-mutilation (eg, cutting) – Affective instability (marked mood reactivity) – Chronic feelings of emptiness – Inappropriate & intense anger – Transient stress-related paranoia or dissociation

DSM-5 personality disorders

Cluster A Odd/eccentric	• **Paranoid:** suspicious, distrustful, hypervigilant • **Schizoid:** prefers to be a loner, detached, unemotional • **Schizotypal:** unusual thoughts, perceptions & behavior
Cluster B Dramatic/erratic	• **Antisocial:** disregard & violation of the rights of others • **Borderline:** chaotic relationships, abandonment fears, labile mood, impulsivity, inner emptiness, self-harm • **Histrionic:** superficial, theatrical, attention-seeking • **Narcissistic:** grandiosity, lack of empathy
Cluster C Anxious/fearful	• **Avoidant:** avoidance due to fears of criticism & rejection • **Dependent:** submissive, clingy, needs to be taken care of • **Obsessive-compulsive:** rigid, controlling, perfectionistic

Paranoid personality disorder

Clinical features	• Pervasive pattern of distrust & suspiciousness beginning in early adulthood & occurring in a variety of settings (no clear delusions) – Believes being exploited & deceived by others – Interprets benign comments & events as threats; reacts angrily – Bears grudges – Questions loyalty of partner without justification
Differential diagnosis	• Delusional disorder (delusions only) • Schizophrenia (delusions, hallucinations, disorganization, negative symptoms) • Schizotypal personality disorder (eccentric behavior & thinking, unusual perceptual experiences)

Antisocial personality disorder

Clinical features	• Violates rights of others, social norms, laws • Impulsive, irritable, aggressive (fights, assaults) • Consistently irresponsible, lies, is deceitful • Lack of remorse • Age ≥18 • Evidence of conduct disorder before age 15
Management	• Psychotherapy for milder forms (monitor for manipulation of therapeutic relationship) • Treat comorbid psychiatric disorders (eg, substance use, depression)

Borderline personality disorder

Diagnostic criteria	• Pervasive pattern of unstable relationships, self-image & affects & marked impulsivity, with ≥5 of the following features: – Frantic efforts to avoid abandonment – Unstable & intense interpersonal relationships – Markedly & persistently unstable self-image – Impulsivity in ≥2 areas that are potentially self-damaging – Recurrent suicidal behaviors or threats of self-mutilation (eg, cutting) – Mood instability (marked mood reactivity) – Chronic feelings of emptiness – Inappropriate & intense anger – Transient stress-related paranoia or dissociation
Treatment	• **Primary treatment is psychotherapy** (several types effective; best evidence for dialectical behavior therapy) • Adjunctive pharmacotherapy to target mood instability & transient psychosis (second-generation antipsychotics, mood stabilizers) • Antidepressants if comorbid mood or anxiety disorder

Histrionic personality disorder

Clinical features	• Pattern of excessive emotionality & attention-seeking behavior since early adulthood • Inappropriate, sexually seductive or provocative behavior; uses appearance to draw attention • Shallow, shifting, dramatic emotions • Impressionistic, vague speech • Suggestible (easily influenced) • Considers relationships more intimate than they really are

IMPULSE CONTROL DISORDERS

Pyromania

Clinical features	• Deliberate fire setting >1 occasion • Fascination with fire • Tension/arousal prior to act; pleasure/relief when setting/witnessing fires • No external motivation (eg, financial gain, political statement, recognition)
Differential diagnosis	• Conduct disorder, antisocial personality disorder • Mania, psychosis • Impaired judgment (eg, neurocognitive disorder, substance intoxication)

Psychotic disorders

ANTIPSYCHOTICS

Neuroleptic malignant syndrome

Causative agents	• Antipsychotic medication (eg, haloperidol) • Antiemetic medications (eg, promethazine) • Withdrawal of Parkinson medications
Pathophysiology	• Central dopaminergic receptor blockade (hyperthermia, dysautonomia) • Disruption of nigrostriatal dopamine pathways (rigidity)
Signs/symptoms	• Fever • Altered mental status • Generalized muscle rigidity (lead-pipe rigidity) • Autonomic instability (abnormal vital signs, diaphoresis) • Elevated creatine kinase ± renal failure
Treatment	• Stop antipsychotics or restart dopamine agents • Supportive care (hydration, cooling), intensive care unit • Benzodiazepines • Bromocriptine or dantrolene if refractory

Antipsychotic extrapyramidal effects		**Pharmacotherapy***
Acute dystonia	• Sudden, sustained contraction of the neck, mouth, tongue & eye muscles	• Benztropine • Diphenhydramine
Akathisia	• Subjective restlessness, inability to sit still	• Beta blocker (propranolol) • Benzodiazepine (lorazepam) • Benztropine
Parkinsonism	• Gradual-onset tremor, rigidity & bradykinesia	• Benztropine • Amantadine
Tardive dyskinesia	• Gradual onset after prolonged therapy (>6 months): dyskinesia of the mouth, face, trunk & extremities	• Valbenazine • Deutetrabenazine

*Management may include reducing the dose or switching to another antipsychotic, depending on the clinical scenario.

Metabolic effects of second-generation antipsychotics

Metabolic syndrome	• Weight gain • Dyslipidemia • Hyperglycemia (including new-onset diabetes)
Highest-risk drugs	• Clozapine • Olanzapine
Monitoring guidelines	Baseline & regular follow-up • BMI • Fasting glucose & lipids • Blood pressure • Waist circumference

Neuroleptic malignant syndrome vs serotonin syndrome

	Neuroleptic malignant syndrome	**Serotonin syndrome**
Causative agent	• Dopamine antagonist	• Serotonergic agent
Course	• Slow onset/offset (days to weeks) • Not dose dependent, can occur anytime	• Rapid onset/offset (<24 hr) • Often associated with dose increase or additional serotonergic agent
Overlapping features	• Autonomic dysregulation • Altered mental status • Hyperthermia	• Autonomic dysregulation • Altered mental status • Hyperthermia
Distinct features	• Severe, diffuse muscle rigidity	• Hyperreflexia • Clonus • Nausea, vomiting common

BRIEF PSYCHOTIC DISORDER

Differential diagnosis of DSM-5 psychotic disorders

Brief psychotic disorder	**≥1 days & <1 month**, sudden onset, full return to function
Schizophreniform disorder	**≥1 months & <6 months**, same symptoms as schizophrenia, functional decline not required
Schizophrenia	**≥6 months** (includes ≥1 months of active symptoms, can include prodromal & residual periods), requires functional decline
Schizoaffective disorder	Mood episode with concurrent active-phase symptoms of schizophrenia + ≥2 weeks of delusions or hallucinations in the absence of prominent mood symptoms
Delusional disorder	**≥1 delusions & ≥1 months**, **no other psychotic symptoms**, normal functioning apart from direct impact of delusions

DELUSIONAL DISORDER

Delusional disorder

Clinical features	• ≥1 delusions for ≥1 months • Other psychotic symptoms absent or not prominent • Behavior not obviously odd/bizarre; ability to function apart from delusion's impact • Subtypes: erotomanic, grandiose, jealous, persecutory & somatic
Differential diagnosis	• Schizophrenia: other psychotic symptoms present (eg, hallucinations, disorganization, negative symptoms); greater functional impairment • Personality disorders: pervasive pattern of suspiciousness (paranoid), grandiosity (narcissistic), or odd beliefs (schizotypal), but no clear delusions
Treatment	• Antipsychotics • Cognitive-behavioral therapy

Neuroleptic malignant syndrome

Causative agents	• Antipsychotic medication (eg, haloperidol) • Antiemetic medications (eg, promethazine) • Withdrawal of Parkinson medications
Pathophysiology	• Central dopaminergic receptor blockade (hyperthermia, dysautonomia) • Disruption of nigrostriatal dopamine pathways (rigidity)
Signs/symptoms	• Fever • Altered mental status • Generalized muscle rigidity (lead-pipe rigidity) • Autonomic instability (abnormal vital signs, diaphoresis) • Elevated creatine kinase ± renal failure
Treatment	• Stop antipsychotics or restart dopamine agents • Supportive care (hydration, cooling), intensive care unit • Benzodiazepines • Bromocriptine or dantrolene if refractory

Clinical features of idiopathic Parkinson disease

Cardinal findings	• Bradykinesia **PLUS** • 4- to 6-Hz resting tremor **OR** • Cogwheel rigidity
Suggest diagnosis	• Unilateral onset • Craniofacial (masked facial expression, decreased eyeblink rate, hypophonia) • Visual (blurred vision, impaired upward gaze) • Musculoskeletal (micrographia, dystonia, myoclonus) • Shuffling, stooped gait; postural instability • Autonomic dysfunction • Neuropsychiatric (depression, psychosis, disturbed sleep, dementia)

Schizophrenia

Diagnosis	• ≥2 of the following (at least 1 symptom from 1-3) a. Delusions b. Hallucinations c. Disorganized speech d. Disorganized or catatonic behavior e. Negative symptoms (eg, apathy, flat affect) • Continuous impairment ≥6 months • Significant functional decline
Treatment	• Antipsychotic medication • Adjunctive psychosocial interventions (eg, social skills training, cognitive-behavioral therapy, family intervention)

SCHIZOAFFECTIVE DISORDER

Schizoaffective disorder

DSM-5 criteria	• Major depressive or manic episode concurrent with symptoms of schizophrenia • Lifetime history of **delusions or hallucinations for ≥2 weeks in the absence of major depressive or manic episode** • Mood episodes are prominent & recur throughout illness • Not due to substances or another medical condition
Differential diagnosis	• **Major depressive or bipolar disorder with psychotic features:** Psychotic symptoms occur exclusively during mood episodes • **Schizophrenia:** Mood symptoms may be present for relatively brief periods

SCHIZOPHRENIA

Pharmacotherapy of psychosis

Medications	• Second-generation antipsychotics (eg, risperidone, aripiprazole, quetiapine, olanzapine, ziprasidone) • First-generation antipsychotics (eg, haloperidol) • Adjunctive benzodiazepines for agitation
Special populations	• Chronic nonadherence: consider long-acting injectable • Treatment resistance (2 failed trials): consider clozapine

Clozapine treatment guidelines

Indications	• Treatment-resistant schizophrenia • Schizophrenia associated with suicidality
Adverse effects	• Agranulocytosis • Seizures • Myocarditis • Metabolic syndrome

Somatoform disorders and sleep disorders

Body dysmorphic disorder

Body dysmorphic disorder

Clinical features	• Preoccupation with ≥1 perceived physical defects • Defects not observable or appear slight to others • Repetitive behavior or mental acts performed in response to the preoccupation • Significant distress or impairment • Variable insight (good, poor, absent/delusional beliefs)
Management	• Antidepressants (selective serotonin reuptake inhibitors) • Cognitive-behavioral therapy

Body dysmorphic disorder

Clinical features	• Preoccupation with ≥1 perceived physical defects • Defects not observable or appear slight to others • Repetitive behavior performed in response to the preoccupation (eg, mirror checking, concealing, excessive grooming, skin picking) • Significant distress or impairment • Variable insight (good, poor, absent/delusional beliefs)
Approach to patient	• Acknowledge distress; do not refer to perceived flaws as "imagined" • Reassurance about normal appearance rarely helpful • Focus on alleviating distress & functional impairment • Avoid inappropriate cosmetic/medical/surgical treatments
Treatment	• Antidepressants (selective serotonin reuptake inhibitors) • Cognitive-behavioral therapy

CONVERSION DISORDER

Conversion disorder (functional neurological symptom disorder)

Clinical features	• Neurological symptoms (eg, weakness/paralysis, nonepileptic seizures, sensory disturbances) • Not intentionally produced (contrary to factitious disorder or malingering) • Findings incompatible with recognized neurological conditions • Symptoms cause significant functional impairment • Often precipitated by psychological stressor
Treatment options	• Education about the disorder • Cognitive-behavioral therapy • Physical therapy for motor symptoms

FACTITIOUS DISORDER

Factitious disorder (imposed on self)

Behavioral characteristics	• Intentional falsification of illness: – Feigning illness – Self-induced illness – Exacerbation of preexisting illness • Motivation by internal factors rather than external gain (eg, financial compensation)
Clinical presentation	• Overt/dramatic symptoms • Frequent visits for medical care • Patient possibly refusing consent to release records or tampering with test samples • More common in health care workers
Diagnostic confirmation	• Direct observation or discovery of medical supplies (eg, medications, syringes) • Confirmatory testing (eg, sulfonylurea screen, stool laxative screen) • Medical record review

ILLNESS ANXIETY DISORDER

Key features of somatic symptom & related disorders

Somatic symptom disorder	≥1 unexplained symptoms; excessive thoughts, anxiety & behaviors in response to symptoms
Illness anxiety disorder	Minimal to no symptoms; preoccupation with idea of having a serious illness
Conversion disorder (functional neurologic symptom disorder)	Neurologic symptom(s) incompatible with anatomy or pathophysiology
Factitious disorder	Falsification of symptoms/inducing injury in the absence of obvious external rewards
Malingering	Falsification of illness for obvious external rewards

NARCOLEPSY

Narcolepsy

DSM-5 diagnostic criteria	• Recurrent lapses into sleep or naps (≥3 times/week for 3 months) • ≥1 of the following: – Cataplexy: brief loss of muscle tone precipitated by strong emotion (eg, laughter, excitement) – Low cerebrospinal fluid levels of hypocretin-1 – Shortened REM sleep latency
Associated features	• Hypnagogic or hypnopompic hallucinations • Sleep paralysis

PARASOMNIAS

Sleep terrors

Features	• Abrupt arousals from sleep (panicked scream, terror, autonomic arousal, unresponsive to comfort) • Little or no dream recall • Amnesia for episodes
Management	• Reassurance • Administer low-dose benzodiazepine at bedtime if episodes are frequent, persistent & distressing

Somatic symptom disorder

Risk factors	• Female • Lower educational level • Chronic childhood illness or family history of chronic illness • Childhood abuse/neglect • Sexual trauma
Key features	• ≥1 somatic symptom(s) causing distress/functional impairment • Excessive thoughts, anxiety, or behaviors (time & energy) related to symptoms • ≥6 months duration
Associated features	• High health care utilization/multiple providers • Repeated testing rarely reassuring
Management	• Schedule regular visits (not symptom driven) with same provider • Limit unnecessary workup & specialist referrals • Legitimize symptoms but focus on stress reduction/coping strategies • Antidepressants, cognitive-behavioral therapy if treatment resistant

Somatic symptom disorder

Risk factors	• Female • Lower educational level • Chronic childhood illness or family history chronic illness • Sexual trauma
Key features	• ≥1 somatic symptoms causing distress/functional impairment • Excessive thoughts, anxiety or behaviors (time & energy) related to symptoms • ≥6-month duration
Associated features	• High health care use/multiple providers • Repeated testing rarely reassuring
Management	• Regularly scheduled visits (not symptom driven) with same provider • Limit unnecessary workup & specialist referrals • Legitimize symptoms but focus on stress reduction & coping strategies • Antidepressants, cognitive behavioral therapy if treatment resistant

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Substance use disorders

Aggression

Aggressive patient in the emergency department

Risk factors	• History of violent behavior/antisocial personality disorder • Psychiatric illness (eg, psychosis, delirium, suicidal/homicidal ideation) • Substance use; acute intoxication, withdrawal • Prolonged wait times
Warning signs	• Angry, irritable demeanor • Loud, aggressive speech, cursing, verbal threats • Tense posture, clenched fists, pacing • Desk or wall pounding, throwing objects
Management	• Maintain a distance of 2 arm lengths; avoid direct eye contact • Interview with door open, clinician closer to the exit • Verbal deescalation – Use calm voice, nonconfrontational approach – Provide for basic needs (eg, offer food, drink, blanket) – Listen attentively to clarify patient's wants/needs – Set clear expectations that violence is unacceptable; reinforce that patient will not be harmed – Offer choices if appropriate (eg, oral vs intramuscular medications) • Chemical & physical restraint when verbal deescalation fails & violence is imminent

Alcohol use disorder

Clinical features	• Drinking in larger amounts, inability to cut down, cravings • Drinking in hazardous situations, failure to fulfill role obligations, continued drinking despite health/psychological/interpersonal problems • Evidence of tolerance & withdrawal
Psychosocial treatment	• Motivational interviewing • Cognitive-behavioral therapy • Residential treatment/rehabilitation • Mutual help groups (eg, Alcoholics Anonymous)
Pharmacotherapy	• Naltrexone • Acamprosate (preferred in patients with liver disease or opioid use) • Disulfiram is second-line therapy in highly motivated patients

Alcohol withdrawal syndrome

Manifestations	Symptoms/signs	Onset since last drink (hr)
Mild withdrawal	Anxiety, insomnia, tremors, diaphoresis, palpitations, gastrointestinal upset, intact orientation	6-24
Seizures	Single or multiple generalized tonic-clonic	12-48
Alcoholic hallucinosis	Visual, auditory, or tactile; intact orientation; stable vital signs	12-48
Delirium tremens	Confusion, agitation, fever, tachycardia, hypertension, diaphoresis, hallucinations	48-96

Neuroleptic malignant syndrome

Causative agents	• Antipsychotic medication (eg, haloperidol) • Antiemetic medications (eg, promethazine) • Withdrawal of Parkinson medications
Pathophysiology	• Central dopaminergic receptor blockade (hyperthermia, dysautonomia) • Disruption of nigrostriatal dopamine pathways (rigidity)
Signs/symptoms	• Fever • Altered mental status • Generalized muscle rigidity (lead-pipe rigidity) • Autonomic instability (abnormal vital signs, diaphoresis) • Elevated creatine kinase ± renal failure
Treatment	• Stop antipsychotics or restart dopamine agents • Supportive care (hydration, cooling), intensive care unit • Benzodiazepines • Bromocriptine or dantrolene if refractory

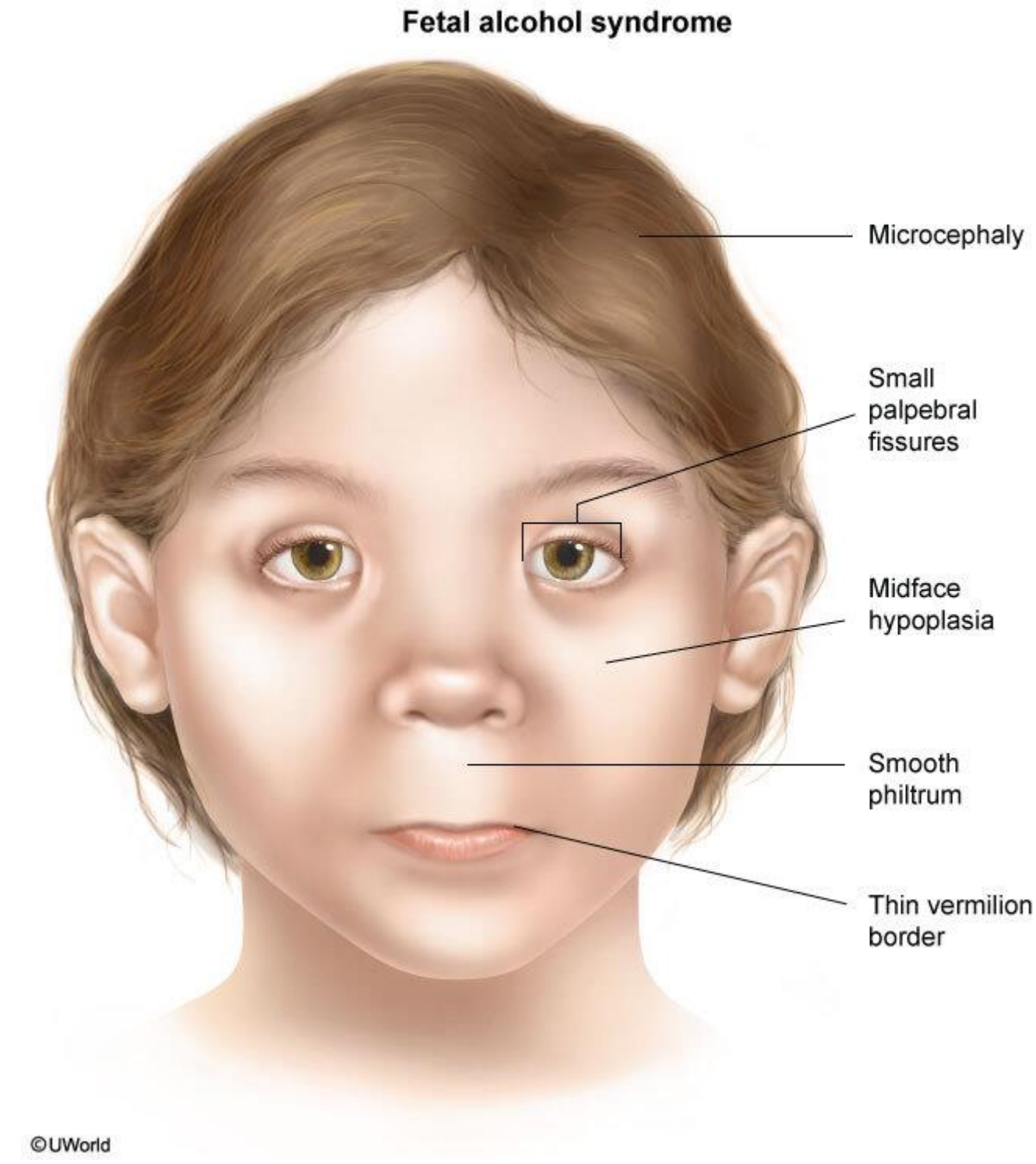
Acute drug intoxication

Drug	Class	Clinical features
PCP (phencyclidine)	Hallucinogen	• Violent behavior • Dissociation • Hallucinations • Amnesia • **Nystagmus** (horizontal or vertical) • Ataxia
LSD	Hallucinogen	• **Visual hallucinations** • Euphoria • Dysphoria/panic • Tachycardia/hypertension
Cocaine	Stimulant	• Euphoria • Agitation/psychosis • **Chest pain** • **Seizures** • Tachycardia/hypertension • **Mydriasis**
Methamphetamine	Stimulant	• Violent behavior • Psychosis, diaphoresis • Tachycardia/hypertension • Choreiform movements • Tooth decay
Marijuana **(THC, cannabis)**	Cannabinoid	• Increased appetite • Euphoria • Dysphoria/panic • Slow reflexes, impaired time perception • Dry mouth • **Conjunctival injection**
Heroin	Opioid	• Euphoria • **Depressed mental status** • **Miosis** • **Respiratory depression** • Constipation

THC = tetrahydrocannabinol.

Catatonia

Clinical features	• Immobility or excessive purposeless activity • Mutism, stupor (decreased alertness & response to stimuli) • Negativism (resistance to instructions & movement) • Posturing (assuming positions against gravity) • Waxy flexibility (initial resistance, then maintenance of new posture) • Echolalia, echopraxia (mimicking speech & movements)
Management	• Benzodiazepines (lorazepam) • Electroconvulsive therapy



Fetal alcohol syndrome

Motivational interviewing: components

Engaging	• Start a nonjudgmental, open-ended conversation • Collaborate to set the agenda • Elicit patient strengths
Focusing	• Ask the patient to identify 1 or 2 behavior targets
Evoking	• Elicit change talk to get the patient's: – Commitment – Reasons to change
Planning	• Guide the patient toward: – Identifying specific next steps – Anticipating obstacles – Deciding how to measure success

Common withdrawal syndromes

Substance	Symptoms	Examination findings
Alcohol	Tremors, agitation, anxiety, delirium, psychosis	Seizures, tachycardia, palpitations
Benzodiazepines	Tremors, anxiety, perceptual disturbances, psychosis, insomnia	
Opioids	Nausea, vomiting, abdominal cramping, diarrhea, muscle aches	Dilated pupils, yawning, piloerection, lacrimation, hyperactive bowel sounds
Stimulants (eg, cocaine, amphetamines)	Increased appetite, hypersomnia, intense psychomotor retardation, severe depression ("crash")	No significant findings
Nicotine	Dysphoria, irritability, anxiety, increased appetite	
Cannabis	Irritability, anxiety, depressed mood, insomnia, decreased appetite	No significant findings

Neonatal abstinence (withdrawal) syndrome

Pathophysiology	• In utero exposure to maternal substances (primarily opioids)
Clinical manifestations	• CNS: irritability, hypertonia, tremor, shortened sleep-wake cycles, uncoordinated swallowing • Autonomic nervous system: diaphoresis, sneezing, yawning • Gastrointestinal: feeding difficulty, vomiting, diarrhea
Diagnosis	• Primarily clinical • Confirm: umbilical cord blood, urine, or meconium drug testing
Treatment	• Mild withdrawal: nonpharmacologic – Minimize environmental stimuli, swaddling, frequent small feeds • Moderate to severe withdrawal: pharmacologic – Morphine, methadone

PRESCRIPTION DRUG MISUSE

Opioid prescribing best practices

Prior to initiation	• Screen for risk factors for misuse • Perform urine drug screening • Query PDMP database • Sign controlled substance agreement (eg, 1 prescriber, 1 pharmacy)
During therapy	• Follow up every 1-3 months • Query PDMP database before each refill • Perform random urine drug screenings

PDMP = prescription drug monitoring program.

Disorders of the male reproductive system

MALE SEXUAL DYSFUNCTION

Premature ejaculation

Clinical features	• Decreased ejaculatory latency (<1 min) • Uncontrolled orgasm • Distress to patient and/or partner
Treatment	• SSRIs • Topical anesthetics (lidocaine) • Psychotherapy, joint/couples' therapy

SSRI = selective serotonin reuptake inhibitor.

Congenital and developmental anomalies

Fragile X syndrome

Fragile X syndrome

Pathogenesis	• Trinucleotide (CGG) repeat expansion of *FMR1* • Gene methylation silences FMR protein • X-linked dominant inheritance
Neuropsychiatric features	• Developmental delay • Intellectual disability • Attention deficit hyperactivity disorder • Autism spectrum disorder • Self-injurious behavior (eg, hand biting) • Anxiety
Examination findings	• Long face with prominent forehead & chin • Large, protruding ears • Macroorchidism (age >8) • Macrocephaly • Joint hypermobility (eg, fingers, wrists)
Diagnosis	• *FMR1* DNA analysis (PCR or Southern blot)

FMR = fragile X mental retardation.

Miscellaneous

Delirium

Delirium symptom management*

Nonpharmacologic	• Environment: noise reduction, intervention grouping • Sleep facilitation: bright day/dim night lighting • Personal interaction: reassurance, physical touch • Constant observation: family, professional sitters • Mobilization: out of bed, restraint avoidance
Pharmacologic	• Pain management: nonopioid when possible • Antipsychotics: off-label indication • Benzodiazepines: antipsychotic failure/withdrawal syndromes

*Definitive management is identification and treatment of the underlying cause(s).

Neurodegenerative disorders and dementias

Dementia with Lewy bodies

Differential diagnosis of dementia subtypes

Alzheimer disease	• Early, insidious short-term memory loss • Language deficits & spatial disorientation • Later personality changes
Vascular dementia	• Stepwise decline • Early executive dysfunction • Cerebral infarction &/or deep white matter changes on neuroimaging
Frontotemporal dementia	• Early personality changes • Apathy, disinhibition & compulsive behavior • Frontotemporal atrophy on neuroimaging
Dementia with Lewy bodies	• Visual hallucinations • Spontaneous parkinsonism • Fluctuating cognition • Rapid eye movement behavior disorder
Normal pressure hydrocephalus	• Ataxia early in disease • Urinary incontinence • Dilated ventricles on neuroimaging
Prion disease	• Behavioral changes • Rapid progression • Myoclonus &/or seizures

Prion disease

Creutzfeldt-Jakob disease

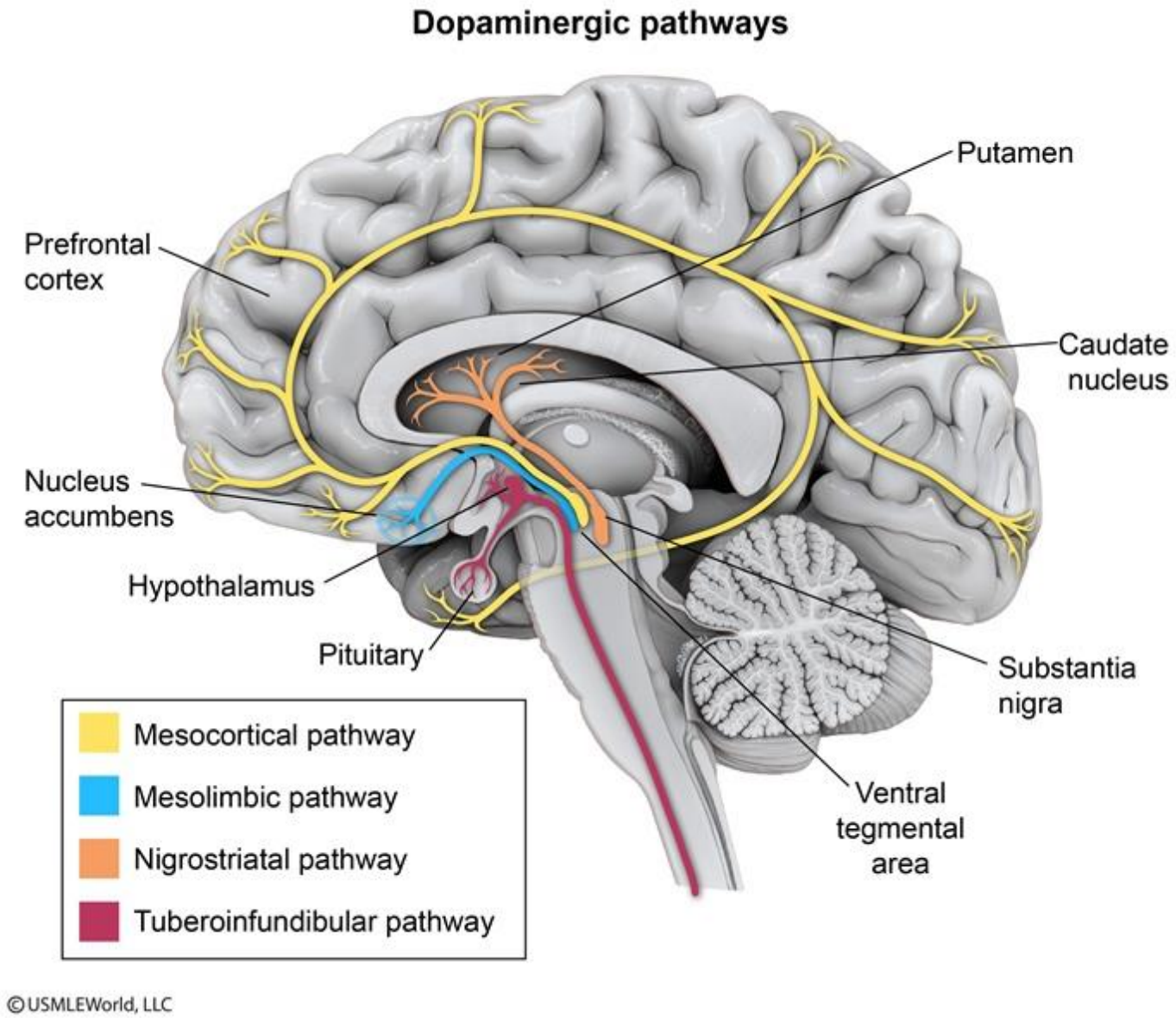
Clinical features	• Rapidly progressive dementia • Myoclonus (provoked by startle) • Cerebellar signs (eg, ataxia) • Upper motor neuron signs (eg, hyperreflexia) • Extrapyramidal signs (eg, hypokinesia) • Mood &/or sleep disturbances
Findings	• MRI: widespread atrophy (cerebrum & cerebellum), cortical enhancement (ie, cortical ribboning), enhancement of putamen & caudate head (ie, hockey stick sign) • CSF: normal routine analysis, positive 14-3-3 protein titers, positive RT-QuIC test • EEG: sharp, triphasic, synchronous discharges • Neuropath: spongiform degeneration without inflammation
Management & prognosis	• Symptomatic treatment, counseling, social services referral • No effective disease-modifying therapy, fatal in <12 months

CSF = cerebrospinal fluid; **EEG** = electroencephalogram; **RT-QuIC** = real-time quaking-induced conversion.

ANTIPSYCHOTICS

Antipsychotic medication effects (dopamine antagonism) in dopamine pathways

Pathway	Effect
Mesolimbic	Antipsychotic efficacy
Nigrostriatal	Extrapyramidal symptoms: Acute dystonia, akathisia, parkinsonism
Tuberoinfundibular	Hyperprolactinemia



Dopaminergic pathways

Toxicology

Serotonin syndrome

Serotonin syndrome

Causes	• Serotonergic medications, especially in combination (eg, SSRI/SNRI, TCA, tramadol) • Drug interactions: serotonergic medication & MAOI or linezolid • Intentional overdose of serotonergic medications • Serotonergic drugs of abuse (eg, MDMA)
Clinical features	• Mental status changes (eg, anxiety, agitation, delirium) • Autonomic dysregulation (eg, diaphoresis, hypertension, tachycardia, hyperthermia, vomiting, diarrhea) • Neuromuscular hyperactivity (eg, tremor, myoclonus, hyperreflexia)
Management	• Discontinuation of all serotonergic medications • Supportive care, sedation with benzodiazepines • Serotonin antagonist (cyproheptadine) if supportive measures fail • Immediate sedation, paralysis & tracheal intubation if temperature >41.1 C (106 F)

MAOI = monoamine oxidase inhibitor; **MDMA** = 3,4-methylenedioxymethamphetamine; **SNRI** = serotonin-norepinephrine reuptake inhibitor; **SSRI** = selective serotonin reuptake inhibitor; **TCA** = tricyclic antidepressant.