

Management of New-Onset Psychosis

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Psychiatry for Non-Psychiatrists

DISCLOSURE for Dr. Steenblock

I do not have any financial relationships with ineligible companies to disclose.

I will be discussing off-label use of a commercial product.

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Learning Objectives:

- Become more proficient in eliciting and detecting psychotic symptoms during a patient interview.
- Discuss the various conditions that can potentially cause psychotic symptoms.
- Learn more about laboratory and imaging tests that can be utilized to identify possible medical causes of psychosis.
- Review treatment options for patients who present with new-onset psychosis.

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Defining “Psychosis”

Hallucinations (without insight)

Delusions

Disorganized thoughts (speech and behavior)

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Hallucinations:

Sensory perceptions occurring in the absence of corresponding external or somatic stimuli

Auditory, visual, olfactory, gustatory, tactile

Hallucination vs Illusion (misperception of an actual sensory stimulus)

Insight vs no insight

May be experienced by healthy individuals

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Delusions:

Firmly held (fixed) false beliefs for which there is no evidence

Based on incorrect inferences about reality

Cultural context

Bizarre vs ordinary

Misidentification syndromes

Differentiate from overvalued ideas or confabulation

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Disorganized Thoughts:

Abnormalities of speech and behavior

Illogicality, tangentiality, perseveration, neologisms, derailment, blocking, loose associations, etc.

Catatonia

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Catatonia:

Stupor, catalepsy, waxy flexibility, mutism, negativism, posturing, mannerism, stereotypy, agitation, grimacing, echolalia, echopraxia

IM lorazepam can be diagnostic

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Schneiderian First-Rank Symptoms:

Presence strongly suggests schizophrenia

Delusional perception	Normal perception has a private, illogical meaning.
Thought broadcasting	The patient's thoughts escape into the outside world and are experienced by others.
Thought withdrawal	The patient's thoughts are being removed by an external force.
Somatic passivity	Experience of bodily sensations (including actions, thoughts, or emotions) imposed by external agency.
Voices commenting on one's actions	Voices describe the patient's activities as they occur.
Audible thoughts	Voices speaking the patient's thoughts aloud.
Voices arguing	The patient hears two or more voices, talking to each other, in his or her head.

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Negative symptoms of schizophrenia:

Affect flat

Alogia (mute)

Avolition

Autistic

Apathy

Ambivalence

Anhedonia

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Statistics:

3% lifetime prevalence of psychotic disorders in the general population

Only 0.21% due to general medical condition

Childhood-onset schizophrenia rare (0.2-0.4 per 10,000)

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First Episode Psychosis:

Schizophrenia and psychotic mood disorders accounted for 29% (with high diagnostic stability)

Transient or brief psychotic states accounted for 65% (with variable courses)

Therefore, first episode psychosis does not always lead to long-term psychiatric illness

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Possible Risk Factors:

GENETICS

Substance use (stimulants, cannabis)

Perinatal (Obstetric complications, Prenatal/postnatal infection, Maternal malnutrition, Maternal stress)

Adverse childhood events (abuse)

Head injury

Migration/ethnicity/Urbanization

Social adversity (homeless)

Others: Cognitive ability, personality, neuroimaging, premorbid function

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Psychotic Disorders and Their Features

- 1) Primary psychotic disorders
- 2) Secondary psychotic disorders
 - Due to medical conditions, medications, substances
- 3) Demographic considerations
 - Child and adolescent, postpartum, elders

Primary Psychotic Disorders:

Schizophrenia-spectrum disorders

- Delusional disorder
- Brief psychotic disorder
- Schizophreniform disorder
- Schizophrenia
- Schizoaffective disorder

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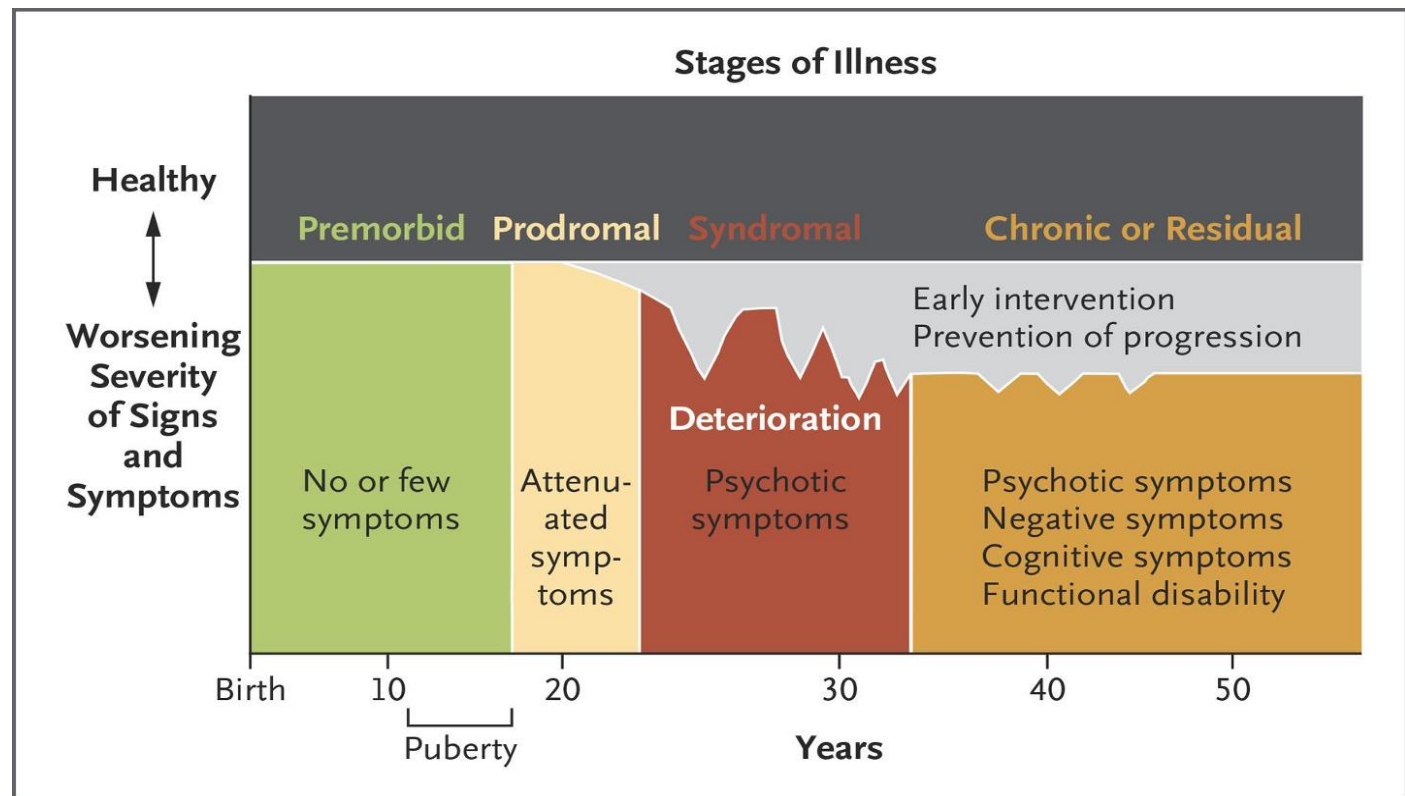
Schizophrenia

- Prodromal period
- Auditory/visual hallucinations
- Disorganization
- Negative symptoms

Schizoaffective

Bipolar I with Psychotic Features

Major Depressive Disorder with Psychotic Features



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Psychotic Mood Disorders:

- Bipolar 1 disorder with psychotic features
- Major depressive disorder with psychotic features

Postpartum Psychosis

Considered a psychiatric emergency

Suicide rates as high as 4-11% have been reported

Homicidal behavior is serious, though rare

- Approximately 33% expressed delusions about their infants
- Approximately 9% had thoughts of harming their infants
- Approximately 4% complete infanticide

EMERGENCY

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Borderline Personality Disorder

- “Transient, stress-related paranoid ideation or severe dissociative symptoms”
- Presentation may be similar to Bipolar Disorder

	Borderline PD	Bipolar Disorder
Timing	Days - Months	Seconds - Hours
Mood	Highly dependent on life events	Often independent of life events
Treatment	Therapy - DBT	Medications, mainly

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Substance-Induced Psychosis

- Most common cause
- Can last for days-weeks

Class of substance	Number of studies	Rates of transition to schizophrenia		
		Estimate	Lower bound	Upper bound
Brief, atypical and NOS	34	36%	30%	43%
Combined	-	25%	18%	38%
Cannabis	6	34%	25%	46%
Hallucinogens	3	26%	14%	43%
Amphetamines	5	22%	14%	34%
Opioid	3	12%	8%	18%
Sedative	3	10%	7%	15%
Alcohol	5	9%	6%	15%

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Major Neurocognitive disorders

- Lewy Body Dementia
 - 54-70% with visual hallucinations
- Alzheimer's Disease
 - 36% with delusions
 - 18% with hallucinations
- Many cases span multiple categories

Delirium

- Underlying medical illness



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Secondary Psychotic Disorders

Cerebrovascular disorders

- Post-stroke psychosis prevalence is around 3%

Endocrine disorders

- Hypo/hyperthyroid

Space occupying intracranial disorders

- Tumors, hematoma

Seizure disorders

- Can occur hours to days following seizure

Autoimmune Disorders

- Systemic Lupus Erythematosus, Multiple sclerosis

Delirium

Iatrogenic

- Includes steroids and antimalarials

Dietary disorders

- Cobalamin (b12) and folate deficiency

Sepsis/Infection

- Toxoplasma gondii, neurosyphilis, HIV, etc

Metabolic disorders

- Niemann-Pick disease, Wilson's disease, etc

Toxic

- Heavy metals including lead, mercury, and arsenic

Traumatic Brain Injury

Secondary Psychotic Disorders

	Examples	Investigations
Trauma	Traumatic head injury	CT, MRI
Autoimmune disorders	Systemic lupus erythematosus, NMDA receptor encephalitis	Autoantibody titers
Cytogenetic/congenital disorders	Velocardiofacial syndrome, agenesis of corpus callosum	Karyotyping, MRI
Toxic/substance-induced disorders	PCP, MDMA, LSD, cannabis, alcohol Lead, mercury or arsenic poisoning	Careful medication history; urine screen for drugs, heavy metal screen; trial off the offending agent
Iatrogenic disorders	Antimalarials, steroids, isoniazid	Careful medication history; trial off the offending agent
Cerebrovascular disorders	Stroke, subdural hematomas	CT, MRI
Space-occupying disorders	Cerebral tumors	CT, MRI
Metabolic disorders	Phaeochromocytoma, metachromatic leukodystrophy, Wilson's disease	Urinary catecholamines; arylsulphatase-A levels, copper and ceruloplasmin levels
Dietary disorders	Pellagra, B12 deficiency; vitamin D deficiency	B12, Folate, D3 levels
Sepsis/infectious disorders	Neurosyphilis, toxoplasmosis, HIV disease	RPR to rule out syphilis; HIV antibody titers; glucose, protein in CSF
Unknown cause/degenerative/demyelinating disorders	Lewy body dementia, Parkinson's disease, Huntington's disease, multiple sclerosis, Friedreich's ataxia	MRI, CT, EEG, evoked potentials
Seizure disorders	Partial complex seizures, temporal lobe epilepsy	EEG, including sleep deprivation; telemetric EEG as indicated
Endocrine disorders	Hyperthyroidism, hypothyroidism, hyperparathyroidism	Serum calcium, thyroid/parathyroid hormone levels

CT – computed tomography; MRI – magnetic resonance imaging; NMDA – *N*-methyl D-aspartate; PCP – phencyclidine; MDMA – 3,4-methylenedioxy-*N*-methylamphetamine; LSD – lysergic acid diethylamide; RPR – rapid plasma reagin; HIV – human immunodeficiency virus; CSF – cerebrospinal fluid; EEG – electroencephalography

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Special Considerations for Age of Onset

Gender

- Men around 18-25 years old
- Women around 18-25 years old
- 40-60 years old for late onset
- Late onset more common in women

Pediatric

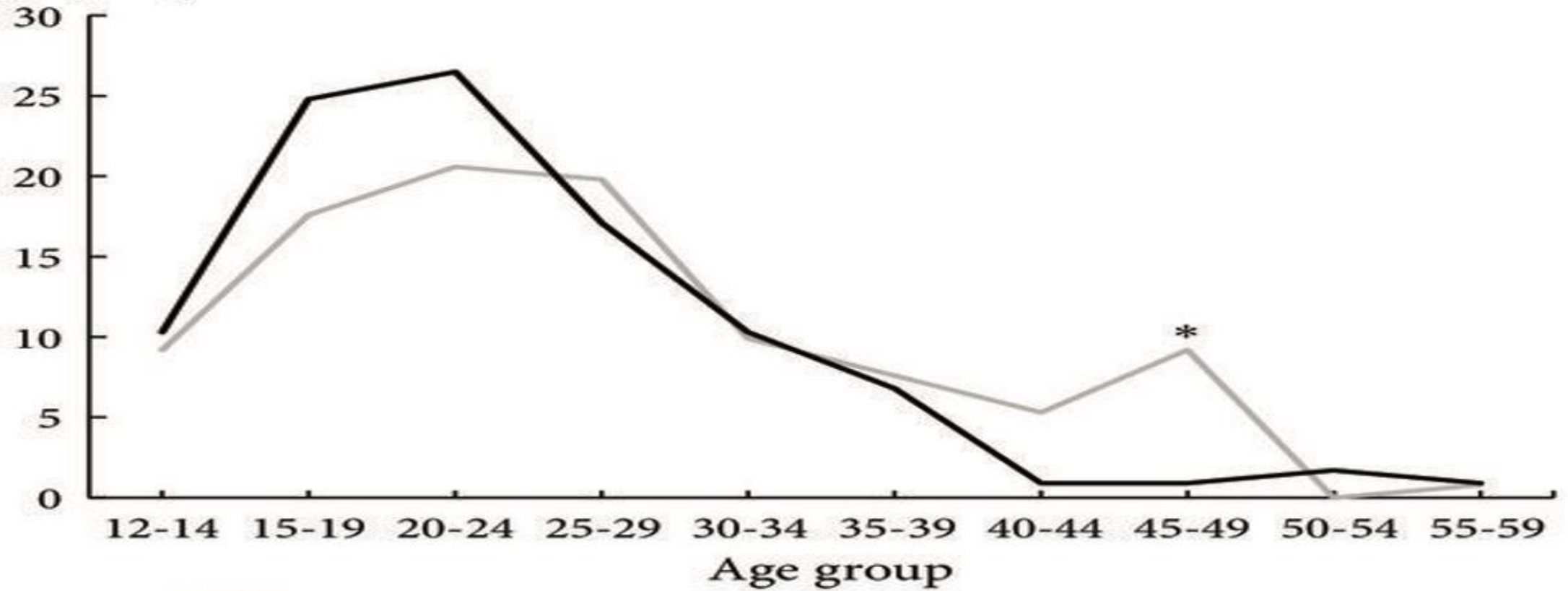
- CNS abnormalities
- Metabolic abnormalities

Geriatric

- Secondary to major neurocognitive disorders
- Delirium

Age of Onset by Gender

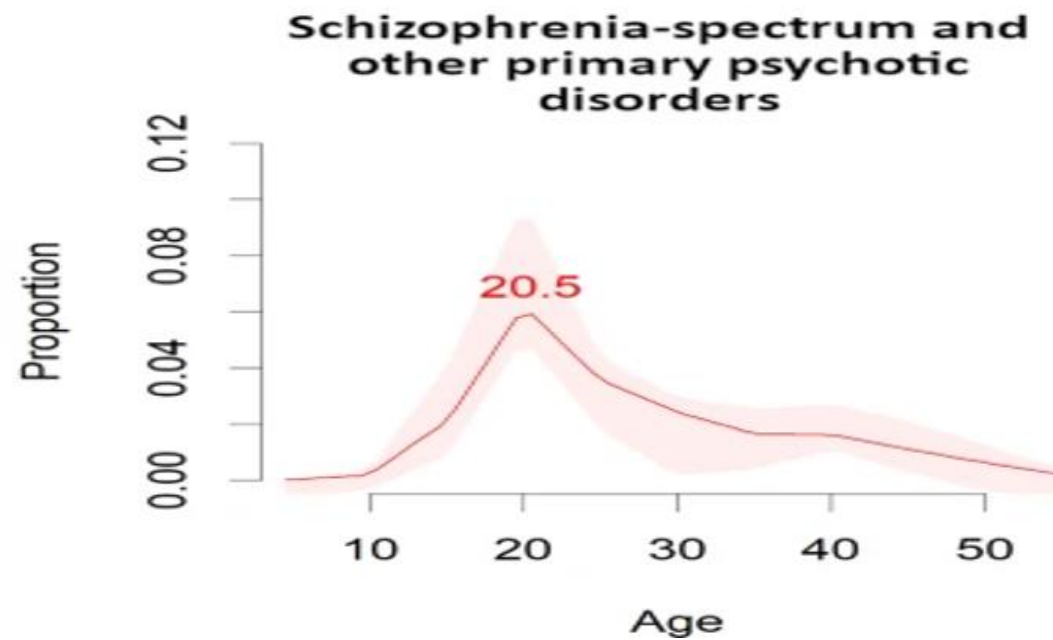
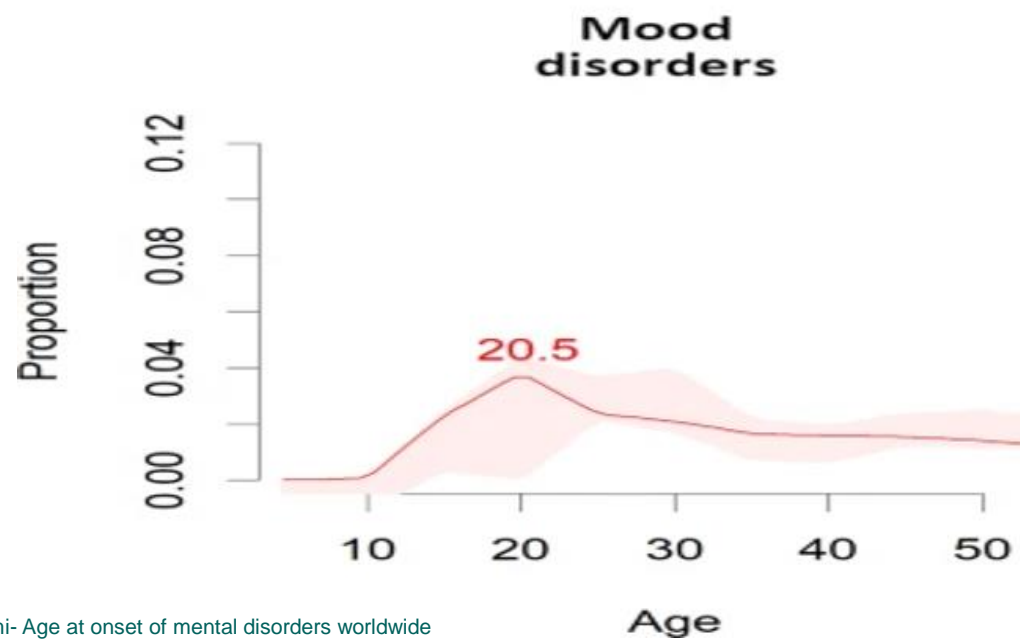
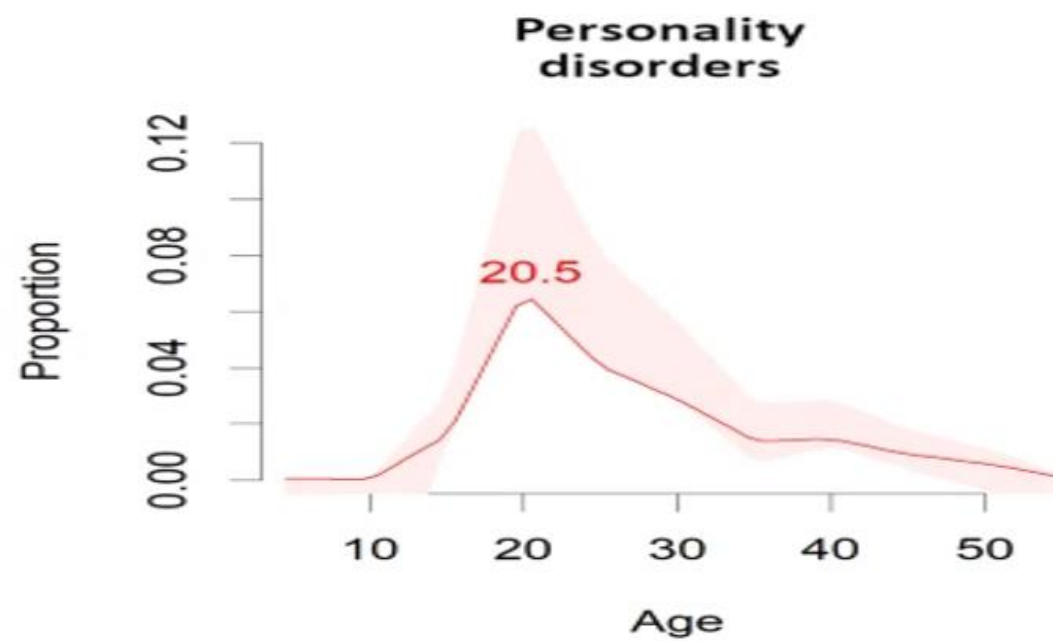
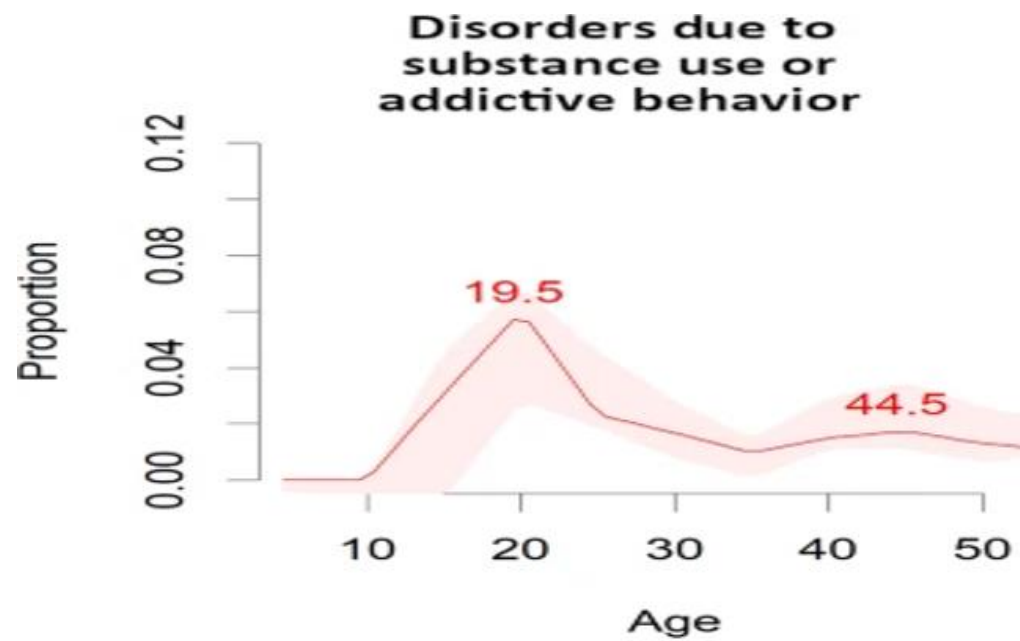
Percentage of onsets
per age group



* $p < 0.05$

— Males n=117
— Females n=131

Age of Onset for Specific Mental Disorders



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Initial Assessment

History

Physical exam

Labs

Imaging

Procedures



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Assessment

Importance of Early Diagnosis

- Duration of untreated psychosis is related to poor outcomes of illness
- Earlier treatment is associated with less functional deficit
- Considered to be a critical period of plasticity



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History

Onset and Duration

- When did the symptoms first appear?
- Did the symptoms develop suddenly or gradually?

Substance Use

- Recreational substances and prescription medications

Collateral Information

- Speak with family and friends

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Medical History

- Head trauma, epilepsy, migraines, or other neurological conditions
- Thyroid disease, adrenal disorders
- Infectious diseases and recent travel

Psychiatric History

- Mood disorders, anxiety, or personality disorders

Family history

- Family members with psychiatric diagnoses

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Mental Status Exam

General Appearance: Grooming, hygiene, and clothing

Behavior: Agitation, restlessness, or abnormal movements such as tremors or tics

Eye contact: Decreased, looking around room

Speech: Abnormalities in rate, volume, or cadence

Mood and affect: Flat, agitated, elevated

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Mental Status Exam

Thought process: Tangential or disorganized

Perception: Hallucinations and delusions

Cognition: Test orientation to person, place, time, memory, and attention.

Insight and judgment: Safety and decision making

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Neurological Exam

Cranial nerves: Visual fields, pupil reactivity, and eye movements

Motor function: Test for tremors, rigidity, and other abnormal movements

Reflexes: Test deep tendon reflexes

Coordination: Observe for ataxia, dysmetria (finger-to-nose test), gait

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Common Labs

Urine Drug Screen → Substance-induced

Urinalysis → Urinary tract infection (delirium)

Complete Blood Count → Infection

Complete Metabolic Panel → Liver abnormalities, calcium, glucose

Thyroid function tests → hyper/hypothyroidism

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Lab	Assessing For
Erythrocyte sedimentation rate	Autoimmune disorders
Anti-nuclear antibodies	Autoimmune disorders
Infectious workup	Syphilis, HIV
Urinary catecholamines/metanephrines	Pheochromocytoma
Copper/ceruloplasmin levels	Wilson's disease
B12, Folate, D3 levels	Vitamin deficiencies

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Imaging

CT and/or MRI

- Space occupying lesions including tumors
- Multiple sclerosis
- Stroke
- Especially patients older than 50 years old and in patients with focal neurological findings on exam



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Procedures

EEG

- Rule out seizure disorders

Lumbar Puncture

- Autoimmune disorders, infectious etiologies, paraneoplastic

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That's Entirely Too Much Information



Use your clinical judgement

Psychosis Dot Phrase

- Consider neuroimaging and EEG to assess for secondary causes of psychosis including underlying medical causes, space occupying brain lesions, and/or neurologic disorders
- Consider autoantibody titers for NMDA receptor encephalitis, HIV antibodies, serum calcium and thyroid/parathyroid hormone levels, urinary catecholamines/metanephrines for pheochromocytoma, copper/ceruloplasmin levels for Wilson's disease, B12/Folate/D3 levels for vitamin deficiencies

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Interviewing Tips:

Avoid any behavior that might increase paranoia or suspicion

Open-ended questions are helpful

Screen for mood disorders

Situational stressors

Time line

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Questions:

Have you been worried about anything lately?

Have you had any troubling thoughts lately?

Do you ever hear/see things that other people don't hear/see?

Do you ever hear/see things that might not be real?

Is anyone watching you or out to get you?

Do you have any special abilities?

What are your plans for the future?

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Is it really psychosis?

Examples...

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PTSD:

“Re-experience phenomena” such as flashbacks may present as psychotic-like symptoms

Ask if symptoms related to past events

May be best addressed by psychotherapy

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Dementia:

Disorientation vs delusions

They often think they are in a different time/place from the past

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Bereavement:

Some patients sense the presence of the departed

Reassure that this is normal

Charles Bonnet Syndrome:

Visual hallucinations related to certain ocular conditions that reduce vision

Not delusional; insight remains intact

Patients may be reluctant to disclose and many are not bothered

Response to antipsychotics is variable

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Once you determine that the patient is psychotic, what's next?...

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Antipsychotic Medication Selection:

Consider level of distress, safety concerns and functional impairment

Second-generation antipsychotics preferred, but still must do a risk-benefit analysis considering many factors

Will they need injectable medication (short/long acting)?

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Generics Commonly Used:

Risperidone/paliperidone

Olanzapine

Quetiapine

Ziprasidone

Aripiprazole

Haloperidol

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Antipsychotic Side Effects:

Metabolic

Movement disorders

Anticholinergic

QT prolongation

Others

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Metabolic:

Weight gain, dyslipidemia, hyperglycemia

Can affect quality and length of life

Lower: Aripiprazole, ziprasidone, haloperidol

Higher: Olanzapine

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Movement Disorders:

Parkinsonism, akathisia, dystonia, tardive dyskinesia

Lower: Quetiapine, olanzapine

Higher: Risperidone/paliperidone, aripiprazole, ziprasidone, haloperidol

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Anticholinergic:

Confusion, dry mouth, constipation, urine retention, blurred vision

Older patients more sensitive

Lower: Risperidone

Higher: Olanzapine, quetiapine

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QT Prolongation:

Can lead to Torsades des pointes

Lower: Aripiprazole

Higher: Ziprasidone, haloperidol (IV)

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Others:

Orthostasis/falls (risperidone)

Hyperprolactinemia (risperidone, haloperidol)

Sedation (quetiapine)

Seizures: Caution if history epilepsy

Sexual dysfunction

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Injectables:

Short-acting: Aripiprazole, ziprasidone, olanzapine, haloperidol

Long-acting: Aripiprazole, risperidone/paliperidone, haloperidol

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Benzodiazepines:

May be useful or reasonable in some situations

May combine with antipsychotic injectable in extreme cases

Alprazolam (PO) has rapid onset with short half-life

Lorazepam (PO/drops/IM/IV) has rapid onset IM/IV

Clonazepam (PO/ODT) has slower onset but longer half-life

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How fast is antipsychotic response?

Tranquilization can be immediate (especially with IM/IV)

Reduction in psychotic symptoms may take up to 2-3 weeks

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Peripartum:

Risk-benefit analysis

Breastfeeding

Post-partum psychosis may require inpatient management with benzodiazepines, lithium, antipsychotics or ECT

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Children:

Risperidone, quetiapine, aripiprazole best choices

Avoid olanzapine or first-generation antipsychotics

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Parkinsonian Syndromes:

Parkinson's Disease, Diffuse Lewy Body Disease, etc.

First consider lowering dopaminergic drugs

Be cautious with antipsychotic use! Increased risk NMS

Antipsychotics: Pimavanserin, quetiapine, clozapine (NO haloperidol)

In LBD, consider using acetylcholinesterase inhibitors

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Secondary Psychosis:

Address underlying medical problems

Address substance abuse

Delirium: Antipsychotics for extreme agitation (avoid benzodiazepines unless alcohol related)

Dementia: Antipsychotics increase risk of death and are tightly regulated in long-term care facilities

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Borderline Personality Disorder:

Consider psychotherapy referral

May not need medication for brief psychotic episode related to situational stress

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Psychosocial Interventions for Schizophrenia:

Psychotherapy (CBT)

Cognitive remediation activities

Social skills training

Assertive community treatment

Supported employment

Family support/education (NAMI)

Treat co-morbid disorders and assess suicide risk

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A top-down view of a teal desk. In the top left, a dark teal tray holds several gold paper clips. To its left is a white mug filled with dark coffee. In the bottom left corner, there is a small green plant with thick, rounded leaves. On the right side, a dark teal pencil case is open, showing several green pencils with yellow erasers. The overall aesthetic is clean and professional.

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November 1, 2024