Tardive Dyskinesia

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Disclosures

- No conflicts
- May mention off label use and brand names

Objectives

DISCUSS KNOWN PATHOPHYSIOLOGY OF TARDIVE DYSKINESIA

IDENTIFY KNOWN RISK FACTORS

ASSESS A PATIENT WITH MOVEMENT DISORDER AND MAKE A DIAGNOSIS

IDENTIFY FDA-APPROVED PHARMACOTHERAPIES FOR TARDIVE DYSKINESIA

History

Observed in the 1950's
Coined in early 1960's

Classified by DSM 5

Diagnostic Criteria Evolution

DEFINITIONS

- Tardive
- Dyskinesia
- Withdrawal dyskinesia

TD stats

500,000 estimated affected persons in the United States.

60% to 70% of cases are mild

3% are extremely severe

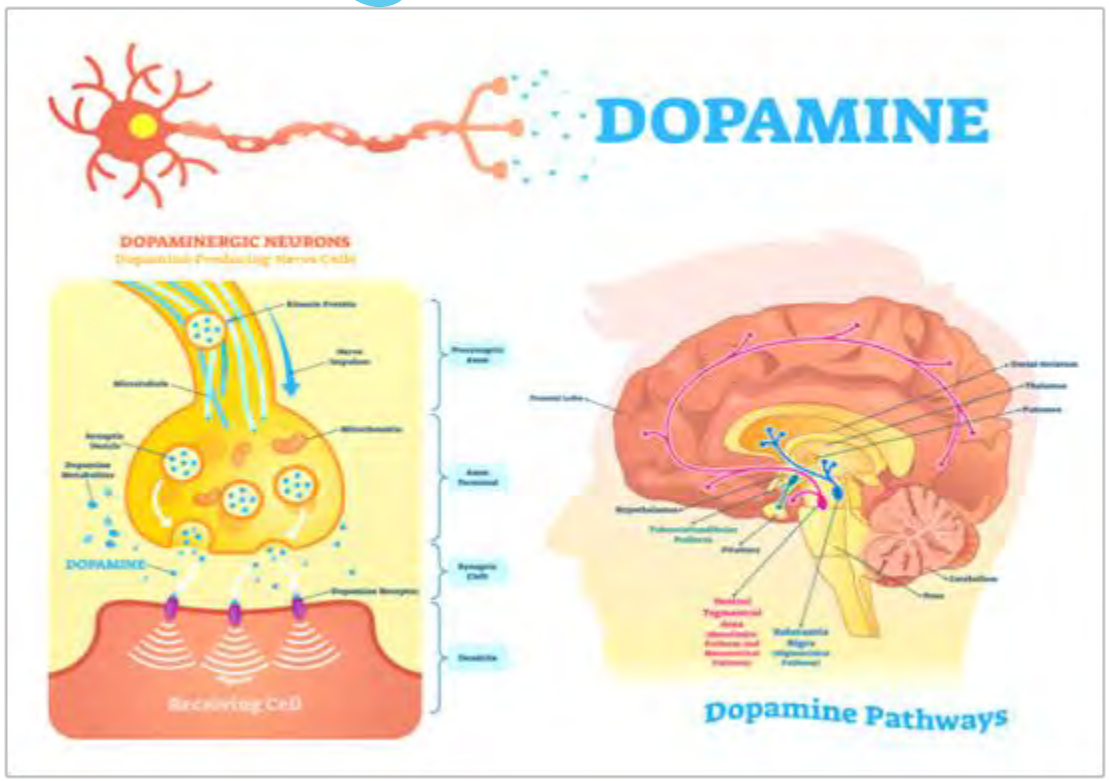
58%-not aware that antipsychotics can cause involuntary movements or tardive dyskinesia

Risk Factors

- Age
- Gender
- Exposure to DRBAs
- Other co-morbidities

What is TD?

Pathogenesis

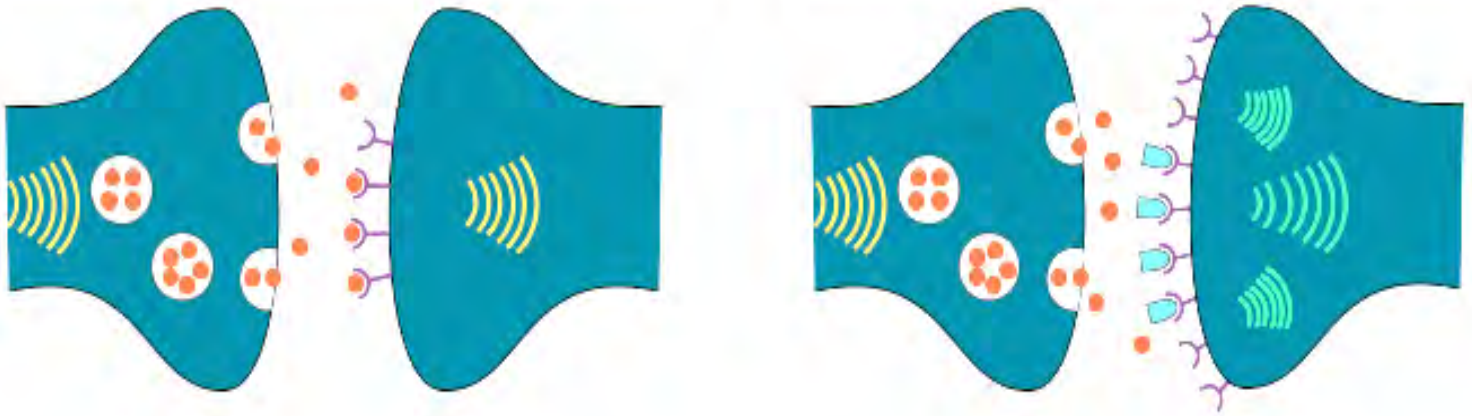


https://www.youtube.com/watch?v=eNB5dQzQC0s

It Is Hypothesized That in Some People, Prolonged D2 Receptor Blockade Leads to Upregulation of Postsynaptic D2 Receptors

Blockade of D2 receptors in the nigrostriatal dopamine pathway may cause them to upregulate

This upregulation may lead to TD



Slide credit: clinicaloptions.com

Impact on QoL

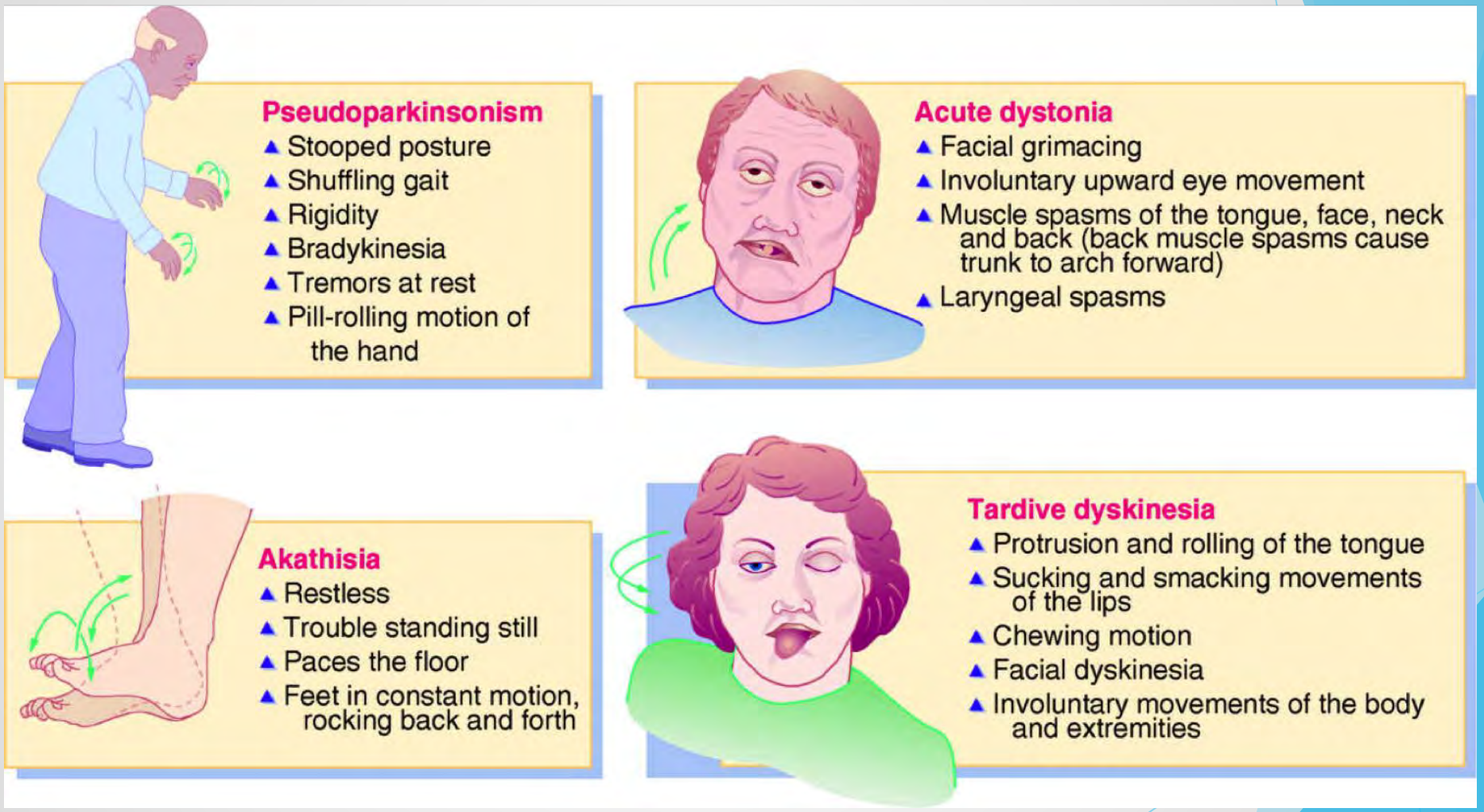
- Tanner, C. M.,et al (2023).

Assessment

History

Physical

Screening


Pseudoparkinsonism
▲ Stooped posture
▲ Shuffling gait
▲ Rigidity
▲ Bradykinesia
▲ Tremors at rest
▲ Pill-rolling motion of the hand
Acute dystonia
▲ Facial grimacing
▲ Involuntary upward eye movement
▲ Muscle spasms of the tongue, face, neck and back (back muscle spasms cause trunk to arch forward)
▲ Laryngeal spasms
Akathisia
▲ Restless
▲ Trouble standing still
▲ Paces the floor
▲ Feet in constant motion, rocking back and forth
Tardive dyskinesia
▲ Protrusion and rolling of the tongue
▲ Sucking and smacking movements of the lips
▲ Chewing motion
▲ Facial dyskinesia
▲ Involuntary movements of the body and extremities

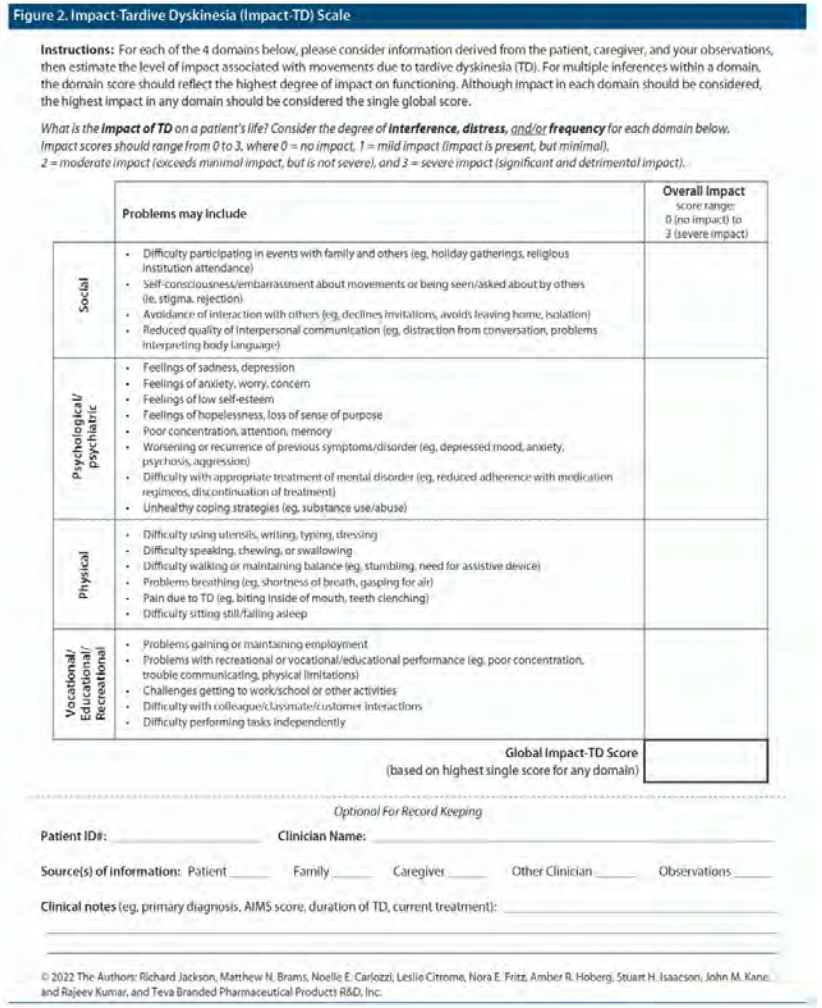


Figure 2. Impact-Tardive Dyskinesia (Impact-TD) Scale

Instructions: For each of the 4 domains below, please consider information derived from the patient, caregiver, and your observations, then estimate the level of impact associated with movements due to tardive dyskinesia (TD). For multiple inferences within a domain, the domain score should reflect the highest degree of impact on functioning. Although impact in each domain should be considered, the highest impact in any domain should be considered the single global score.

*What is the **impact of TD** on a patient's life? Consider the degree of **interference, distress,** and/or **frequency** for each domain below.*
Impact scores should range from 0 to 3, where 0 = no impact, 1 = mild impact (impact is present, but minimal),
2 = moderate impact (exceeds minimal impact, but is not severe), and 3 = severe impact (significant and detrimental impact).

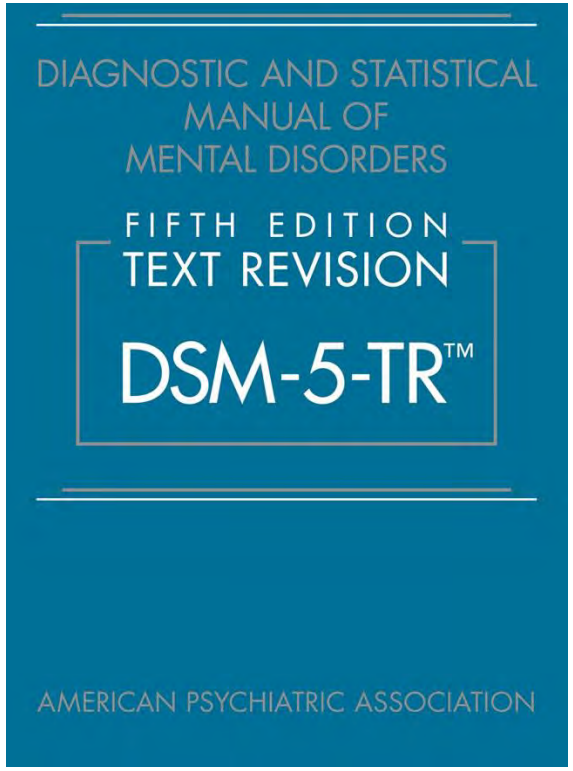
	Problems may include	Overall Impact score range: 0 (no impact) to 3 (severe impact)
Social	• Difficulty participating in events with family and others (eg, holiday gatherings, religious institution attendance) • Self-consciousness/embarrassment about movements or being seen/asked about by others (ie, stigma, rejection) • Avoidance of interaction with others (eg, declines invitations, avoids leaving home, isolation) • Reduced quality of interpersonal communication (eg, distraction from conversation, problems interpreting body language)	
Psychological/ psychiatric	• Feelings of sadness, depression • Feelings of anxiety, worry, concern • Feelings of low self-esteem • Feelings of hopelessness, loss of sense of purpose • Poor concentration, attention, memory • Worsening or recurrence of previous symptoms/disorder (eg, depressed mood, anxiety, psychosis, aggression) • Difficulty with appropriate treatment of mental disorder (eg, reduced adherence with medication regimens, discontinuation of treatment) • Unhealthy coping strategies (eg, substance use/abuse)	
Physical	• Difficulty using utensils, writing, typing, dressing • Difficulty speaking, chewing, or swallowing • Difficulty walking or maintaining balance (eg, stumbling, need for assistive device) • Problems breathing (eg, shortness of breath, gasping for air) • Pain due to TD (eg, biting inside of mouth, teeth clenching) • Difficulty sitting still/falling asleep	
Vocational/ Educational/ Recreational	• Problems gaining or maintaining employment • Problems with recreational or vocational/educational performance (eg, poor concentration, trouble communicating, physical limitations) • Challenges getting to work/school or other activities • Difficulty with colleague/classmate/customer interactions • Difficulty performing tasks independently	
	Global Impact-TD Score (based on highest single score for any domain)	

Optional For Record Keeping

Patient ID#: _____ **Clinician Name:** _____

Source(s) of information: Patient ____ Family ____ Caregiver ____ Other Clinician ____ Observations ____

Clinical notes (eg, primary diagnosis, AIMS score, duration of TD, current treatment): _____



Diagnosis

Table 3. Schooler-Kane and DSM-5 criteria for diagnosis of tardive dyskinesia

Schooler-Kane

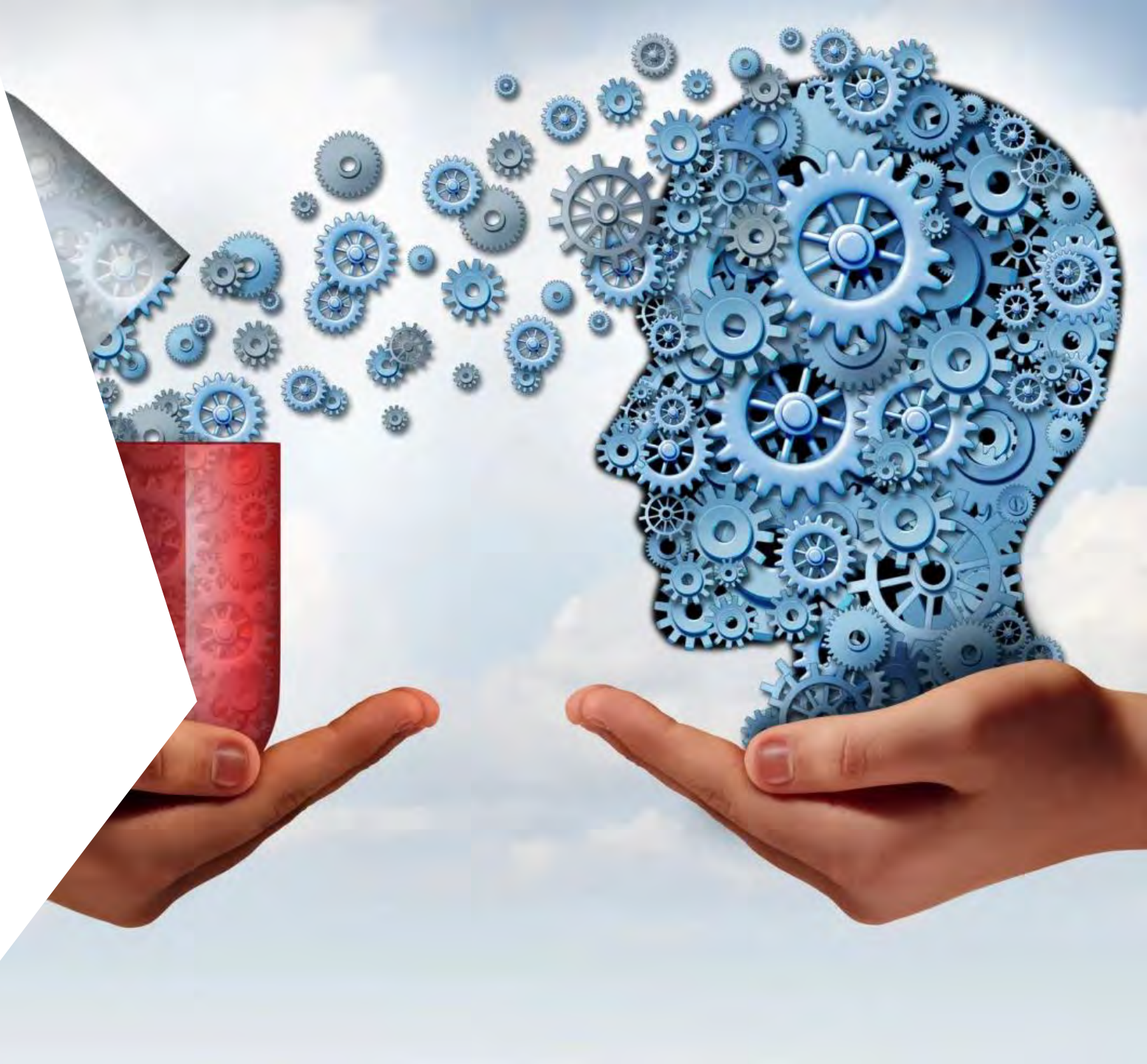
- Abnormal involuntary movements of either: moderate severity in one or more body region; mild severity in two or more body regions
- Movements assessed using a standardized tool such as the AIMS or ESRS
- History of at least 3 months' cumulative neuroleptic exposure
- Absence of other conditions that might produce abnormal involuntary movements

DSM-5

- Involuntary athetoid or choreiform movements (lasting at least a few weeks) generally of the tongue, lower face and jaw, and extremities (sometimes involving the pharyngeal, diaphragmatic, or trunk muscles)
- Develop in association with the use of neuroleptic medication for at least a few months
- Symptoms may develop after a shorter period of medication use in older persons
- Neuroleptic withdrawal-emergent dyskinesia (dyskinesia occurring after discontinuation or dosage adjustment of a neuroleptic that is time limited, lasting less than 4–8 weeks) needs to be ruled out; dyskinesia that persists beyond this window is considered to be tardive dyskinesia

AIMS, Abnormal Involuntary Movement Scale; ESRS, Extrapyramidal Symptoms Rating Scale.

Treatment



TD vs DIP:

	TD	DIP
Mechanism of disease	Dopamine blockade upregulates dopamine receptors and **increases** dopamine signaling	Dopamine blockade **reduces** dopamine signaling
Timing of onset	**Delayed**: occurs months or years following administration of APD therapy Elderly persons may develop TD symptoms in a shorter period of time	**Acute**: occurs within days or weeks following administration of antipsychotic therapy
Increase antipsychotic dose/potency	**Acute**: may improve by temporarily masking TD	May worsen symptoms of DIP
Decrease antipsychotic dose/potency	**Acute**: may fail to improve or may induce withdrawal dyskinesia **Chronic**: may reduce chance of worsening	May improve or resolve with reduction or discontinuation of antipsychotic, or change to less potent
Anticholinergics	Contraindicated in TD, Worsens TD	Improves DIP

Frie, K et AL, 2025

Prevention

SGAs should be preferred over FGAs

minimal therapeutic dose

Conclusions

Accurate diagnosis

Appropriate treatment

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Resources

Tardive Dyskinesia Across Psychiatric Disorders:

https://www.clinicaloptions.com/neurology-psychiatry/programs/2021/tardive-dyskinesia

Aims:

https://www.psychiaictimes.com/view/aims-abnormal-involuntary-movement-scale

Risk of Tardive Dyskinesia:

https://www.psychiatrictimes.com/view/increased-risk-of-tardive-dyskinesia