Tardive Dyskinesia

Assessment and Treatment: Information for Providers

1 May 2026

HFS
Illinois Department of Healthcare and Family Services

ILLINOIS DocAssist

Introduction and Contents

Document Purpose: Public Act 104-009 requires the Department of Healthcare and Family Services (HFS) to develop evidence-based screening guidelines for Tardive Dyskinesia (TD), as well as educational material explaining the guidelines to providers. HFS has worked with the Illinois DocAssist program to develop this document as an educational resource.

Document Contents:

ILLINOIS DocAssist

What is Illinois DocAssist?

Illinois DocAssist is a free service available to all Illinois health care and school-based clinicians from UI Health and the University of Illinois College of Medicine. Our psychiatric consultants can quickly assist you with addressing the mental health and substance use problems of children, adolescents (through age 21), and perinatal women. The program offers the following services:

- Same Day Psychiatric Teleconsultation
- Treatment Referral Assistance
- Provider Resources
- Continuing Education

Learn more and register with Illinois DocAssist: illinoisdocassist.uic.edu

Public Aid Code Update for TD

Click to open link

https://www.ilga.gov/documents/legislation/publicacts/104/104-0009.htm

Link address to copy & paste into a browser

About Tardive Dyskinesia

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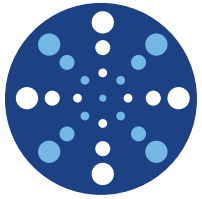
What is Tardive Dyskinesia (TD)?[1]

Tardive Dyskinesia is associated with prolonged exposure to Dopamine receptor blocking agents.

Involuntary movements present for at **least 4 weeks.**

TD movements may present as choreiform (rapid and jerky), athetoid (slow and writhing), or stereotypic (repetitive and patterned).



Defined as abnormal movements of the tongue, jaw, trunk, or extremities that develop in association with medications that block post-synaptic dopamine receptors.

Dopamine receptor blocking agents include first and second-generation antipsychotics and gastrointestinal medications like metoclopramide.

Why does TD occur?

- Mechanism is not exactly known
- The leading theory is that prolonged use of dopamine-blocking medications causes the brain's D2 receptors to increase in number and become more sensitive, which can lead to abnormal movement symptoms.
- Other theories: due to oxidative stress from free radical formation or a dysfunction of GABA and/or serotonin pathways

Incidence[2]

1

The risk of tardive dyskinesia builds over time. About 3% to 5% of patients develop TD each year during the first several years of antipsychotic use.

2

TD may occur within a few weeks in vulnerable patients.

3

TD is estimated to occur in approximately 20% to 30% of patients who have been treated with antipsychotic medications.

Burden of TD[3]

- Worsened quality of life and functioning
- Can interfere with speech, eating, and swallowing
- Aspiration risk in severe cases
- Pain and fatigue due to constant movements
- Lower productivity and work
- Social stigma
- Worsened morbidity/mortality
- Can persist even after medication discontinuation

Risk Factors[1]

Treatment

- Exposure to antipsychotics over time
- Treatment with anticholinergics
- History of extrapyramidal symptoms (medication induced movements) and acute dystonia (uncontrollable muscle contractions), parkinsonism and akathisia (uncontrollable urge to move, fidget).
- Potency of Dopamine Receptor Blocking Agent
- Neuroleptic withdrawal –emergent dyskinesia (unvoluntary uncontrolled movements)

Patient

- Increased age (>55 years old)
- Substance use disorders
- Mood Disorder diagnosis
- Postmenopausal women
- Intellectual Disabilities or CNS Injury

Anticholinergics(4)

Anticholinergic medications are medicines that block certain nerve signals in the brain and body. These signals help control functions like bladder activity, saliva production, digestion, and muscle movement.

In some medicines, this blocking effect is the main reason the medication is used (such as medications for overactive bladder).

In other medicines, it is simply a side effect and not the medication's primary purpose (such as some older antidepressants and allergy medications).

Examples:

- **Antidepressants**: Amitriptyline, amoxapine, clomipramine, desipramine, doxepin (>6 mg/day), imipramine, nortriptyline, paroxetine
- **Antihistamines** (first-generation): Brompheniramine, dimenhydrinate, diphenhydramine, hydroxyzine,
- **Antimuscarinics** (urinary/bladder): oxybutynin, tolterodine, trospium
- **Antiparkinsonian agents**: Benztropine, trihexyphenidyl
- **Antipsychotics:** Chlorpromazine, clozapine, olanzapine, perphenazine
- **Antiemetics**: Prochlorperazine, promethazine
- **Antispasmodics**: Atropine, dicyclomine, homatropine, scopolamine
- **Skeletal muscle relaxants**: Cyclobenzaprine, orphenadrine

Tardive Dyskinesia Risk: Medication List

Antipsychotic	First-Generation	Second-Generation
	Chlorpromazine	Aripiprazole
	Droperidol	Asenapine
	Fluphenazine	Brexpiprazole
		Cariprazine
	Haloperidol	Clozapine
	Loxapine	Iloperidone
		Lumateperone
	Molindone	Lurasidone
	Perphenazine	Olanzapine
	Pimozide	Paliperidone
	Prochlorperazine	Pimavanserin
	Thioridazine	Quetiapine
	Thiothixene	Risperidone
	Trifluoperazine	Ziprasidone

Other medications (more weakly associated) known to cause TD

1. Metoclopramide (Reglan)
2. Prochlorperazine (Compazine)
3. Amitriptyline (Elavil)
4. Fluoxetine (Prozac)
5. Sertraline (Zoloft)
6. Trazadone (Oleptro)
7. Lithium
8. Phenytoin (Dilantin)
9. Carbamazepine (Tegretol)
10. Lamotrigine (Lamictal)
11. Levodopa (L-Dopa)
12. Hydroxyzine (Atarax)
13. Paroxetine
14. Stimulants

Assessment and Treatment Guidelines for Providers

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Screening Guidelines(5)

- Assessment with a structured instrument (e.g., AIMS, DISCUS)[1] should be performed at a minimum of **every 6 months** in patients at **high risk** of tardive dyskinesia and at least **every 12 months** in **other patients** as well as if a new onset or exacerbation of preexisting movements is detected at any visit.
- When using scales such as the **AIMS** or the DISCUS, it should be noted that there is no specific score threshold that suggests a need for intervention although ranges of scores are noted to correspond with mild, moderate, and severe symptoms.
- The same test score does not always mean the condition affects patients in the same way.

[1] – "AIMS" = Abnormal Involuntary Movement Scale; "DISCUS" = Dyskinesia Identification Scale, Condensed User Scale

Who is responsible for Assessment and Treatment?

Collateral information from **patients, family members, caregivers**, or other **support persons** may help clarify:

- the onset of abnormal movements
- changes in symptoms over time, including relationships to treatment or other triggers
- the impact of movements on functioning, overall health (including dental health), and quality of life

Assessment of any and all abnormal or involuntary movements, including Tardive Dyskinesia, performed at each visit by a **licensed clinician.**

Clinical Assessment: AIMS[6] (1 of 3)

Facial and Oral Movements	None	Minimal	Mild	Moderate	Severe
1. **Muscles of Facial Expression** e.g., movements of forehead, eyebrows, periorbital area, cheeks, include frowning, blinking, smiling, grimacing	0	1	2	3	4
2. **Lips and Perioral Area** e.g., puckering, pouting, smacking	0	1	2	3	4
3. **Jaw** e.g., biting, clenching, chewing, mouth opening, lateral movement	0	1	2	3	4
4. **Tongue** Rate only increase in movement both in and out of mouth, NOT inability to sustain movement	0	1	2	3	4

Clinical Assessment: AIMS[6] (2 of 3)

Extremity Movements	None	Minimal	Mild	Moderate	Severe
5. Upper (arms, wrists, hands, fingers) Include choreic movements (i.e., rapid, objectively purposeless, irregular, spontaneous), athetoid movements (ie, slow, irregular, complex, serpentine). DO NOT include tremor (i.e., repetitive, regular, rhythmic)	0	1	2	3	4
6. Lower (legs, knees, ankles, toes) e.g., lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and eversion of foot	0	1	2	3	4

Extremity Movements	None	Minimal	Mild	Moderate	Severe
7. Neck, shoulders, hips e.g., rocking, twisting, squirming, pelvic gyrations	0	1	2	3	4

Clinical Assessment: AIMS[6] (3 of 3)

Global Judgments	None	Minimal	Mild	Moderate	Severe
8. Severity of abnormal movements overall	0	1	2	3	4
9. Incapacitation due to abnormal movements	0	1	2	3	4
10. Patient's awareness of abnormal movements (rate only Patient's report) 0=No awareness; 1=Aware, no distress; 2=Aware, mild distress; 3=Aware, moderate distress; 4=Aware, severe distress	0	1	2	3	4
Dental Status	**Yes/No**				
11. Current problems with teeth and/or denture	☐ Yes ☐ No				
12. Does the patient usually wear dentures?	☐ Yes ☐ No				

AIMS in Steps(6)

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Before the Exam

Observe the patient unobtrusively, at rest (e.g., in the waiting room).

For the exam, ask the patient to sit in a firm chair without arms.

Step One

Ask if there is anything in the patient's mouth.

- If so have them remove it (gum, candy, tobacco).

Step Two

Ask patient about the current condition of his/her teeth. Do teeth bother patient now?

Step Three

Ask the patient whether he/she notices any movements in mouth, face, hands, or feet.

- If yes, ask to describe and to what extent they currently bother patient or interfere with his/her activities.

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Step Four

Have patient sit in chair with hands on knees, legs slightly apart, and feet flat on floor.

- Look at entire body for movements while in this position.

Step Five

Ask patient to sit with hands hanging unsupported. If male, between legs; if female and wearing a dress, hanging over knees.

- Observe hands or other body areas.

Step Six

Ask patient to open mouth.

- Observe tongue at rest within mouth

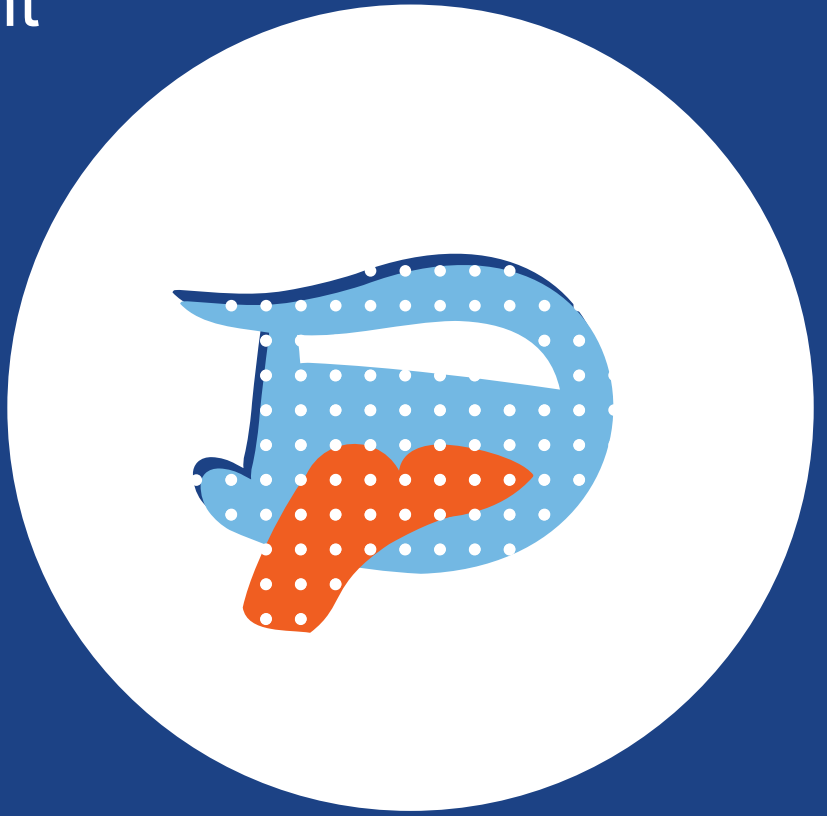
Do this twice.

Step Seven

Ask patient to protrude tongue.

➡ Observe abnormalities of tongue movement

Do this twice.



Step Eight

Ask patient to tap thumb, with each finger as rapidly as possible for 10 to 15 seconds; first with right hand, then with left hand.

- Observe facial and leg movements.

Step Nine

Flex and extend patient's left and right arms (one at a time).

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Step Ten

Ask patient to stand up.

- Observe in profile.
- Observe all body areas again, hips included.

Step Eleven

Ask patient to extend both arms outstretched in front with palms down.

- Observe trunk, legs, and mouth.

Step Twelve

Have patient walk a few paces, turn, and walk back to chair.

- Observe hands and gait.

Do this twice.

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Scoring AIMS[7]

1. Score the highest amplitude or frequency in a movement on the 0-4 scale, **not** the average
2. Score Activated Movements the same way; do **not** lower those numbers
3. A positive AIMS examination is: a score of **2 in two or more movements** -or- a score of **3 or 4 in a single movement**
4. Do **not sum** the scores: e.g. a patient who has scores 1 in four movements DOES NOT have a positive AIMS score of 4 (generally accepted threshold, known as the Schooler-Kane criteria)

Telehealth and TD Assessment[8]

Insist video is on!

Preference is **in-person visits**.

New patients, new diagnosis should **require** an in-person visit.

All patients should have at least one in-person visit a year.

A positive result on the AIMS screening tool does not confirm a diagnosis of TD; rather, it signals that additional diagnostic assessment is warranted.

Diagnostic Considerations

- Use clinical evaluation and medical history
- May occur in patients with other dopamine receptor blocking agent induced movement disorders
- Movements present for at least 4 weeks
- The individual must have been taking the medication of concern for at least **one month if age 60 or older**, or for **more than three months if under age 60.**
- Signs develop during exposure to dopamine receptor blocking agent
  - Within 4 weeks of withdrawal from agent
  - Within 8 weeks of withdrawal from long-acting injectable (LAI)

American Psychiatric Association Treatment Guidelines

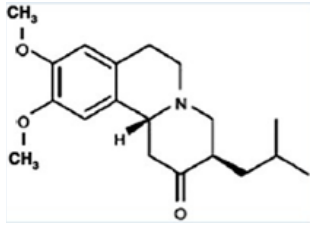
Management of Tardive Dyskinesia

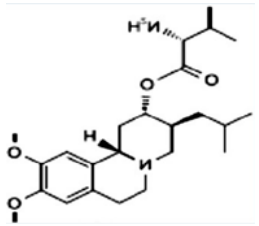
- FDA approved VMAT2 inhibitors
- Medication Adjustment: Lower the dose of causative drug, or switch to a 2nd generation antipsychotic with a lower risk, such as Clozapine or Quetiapine
- Recognize that Long-Acting Injectable Antipsychotic, once administered cannot be taken out!
- Botox injection for involuntary movements localized to a single area, such as face or neck
- Deep Brain Stimulation, a surgical procedure, for severe cases not responding to medical management

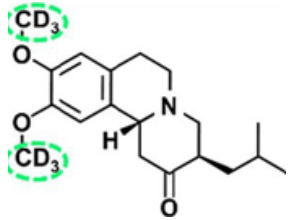
Insufficient Evidence to Support

- Anticholinergics
- Benzodiazepines
- Ginkgo Biloba
- Amantadine
- Vitamin E

Available VMAT2 Inhibitors: Comparison[9]







Medication	Tetrabenazine	Valbenazine*	Deutetrabenazine*
Mechanisms	Reversibly binds VMAT2	Reversibly and selectively binds VMAT2	Reversibly binds VMAT2
Initial daily dose (mg)	12.5	40	12
Maximum daily dose (mg)	150	80	48
Dosing Frequency	TID	Once daily	BID
Half-life (h)	5-7	15-22	9-10
Taken with food	With or without	With or without	With
Hepatic impairment	Contraindicated	Dose 4mg	Contraindicated
Renal impairment		Not recommended in severe impairment	
Cytochrome enzymes	Genotyping CYP2D6 for does >50mg; Maximum daily dose 50 mg in CYP2D6 poor metabolizers or with CYP2D6 inhibitors	40 mg dose in CYP2D6 poor metabolizers, or with CYP3A4 or CYP2D6 inhibitors; not recommended with CYP3A4 inducers	Maximum daily dose 36 mg in CYP2D6 poor metabolizers or with CYP2D6 inhibitors
Side effects	Somnolence, akathisia, parkinsonism, depression, ^QTc, contraindicated in suicidal patients	Somnolence, fatigue, headache, parkinsonism, ^QTc, monitor digoxin	Somnolence, fatigue, headache, parkinsonism, ^QTc, contraindicated in suicidal patients

* Deutetrabenazine or Valbenazine preferred over tetrabenazine due to greater evidence base

Guidelines for Patients

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Guidelines for Patients Checklist

- [x] Make sure you have a routine symptom assessment every three months.
- [x] Keep track of your symptoms and let your provider know about any new ones.
- [x] Talk to your provider about your daily functioning and quality of life.
- [x] Practice self-care that includes physical activity.
- [x] Your care decisions should be made collaboratively between you and your care team.

Reference Section

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Additional Resources

Resource Links

National Organization for Tardive Dyskinesia

National Alliance on Mental Illness

American Psychiatric Association

ConnecTD: Hub for providers who manage patients with TD

Neurocrine Bioscences: TD Awareness

Teva: Magnitude of TD

Professional Resource Links

The Association of Movement Disorder Advanced Practice Providers

The International Parkinsons and Movement Disorders Society