

## **Clinical Policy: Deutetrabenazine (Austedo, Austedo XR)**

Reference Number: CP.PHAR.341

Effective Date: 06.13.17

Last Review Date: 05.23

Line of Business: Medicaid

[Revision Log](#)

See [Important Reminder](#) at the end of this policy for important regulatory and legal information.

### **Description**

Deutetrabenazine (Austedo<sup>®</sup>, Austedo<sup>®</sup> XR) is a vesicular monoamine transporter 2 (VMAT2) inhibitor.

### **FDA Approved Indication(s)**

Austedo and Austedo XR are indicated in adults for the treatment of:

- Chorea associated with Huntington's disease
- Tardive dyskinesia (TD) in adults

### **Policy/Criteria**

*Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.*

It is the policy of health plans affiliated with Centene Corporation<sup>®</sup> that Austedo or Austedo XR is **medically necessary** when the following criteria are met:

#### **I. Initial Approval Criteria**

##### **A. Chorea Associated with Huntington Disease (must meet all):**

1. Diagnosis of chorea associated with Huntington disease;
2. Prescribed by or in consultation with a neurologist;
3. Age  $\geq$  18 years;
4. Targeted mutation analysis demonstrates a cytosine-adenine-guanine (CAG) trinucleotide expansion of  $\geq$  36 repeats in the huntingtin (HTT) gene;
5. Evidence of chorea is supported by a Unified Huntington Disease Rating Scale (UHDRS) score ranging from 1 to 4 on any one of chorea items 1 through 7 (*see Appendix D*);
6. Failure of tetrabenazine (e.g., no improvement on any one of UHDRS chorea items 1 through 7) at up to 100 mg per day, unless contraindicated or clinically significant adverse effects are experienced;
7. Austedo/Austedo XR is not prescribed concurrently with tetrabenazine or Ingrezza<sup>®</sup>;
8. Dose does not exceed 48 mg per day.

**Approval duration: 6 months**

##### **B. Tardive Dyskinesia (must meet all):**

1. Diagnosis of TD secondary to treatment with a centrally acting dopamine receptor blocking agent (DRBA) (*see Appendix G*);
2. Prescribed by or in consultation with a psychiatrist or neurologist;

3. Age  $\geq$  18 years;
4. Evidence of moderate to severe TD is supported by an Abnormal Involuntary Movement Scale (AIMS) score of 3 or 4 on any one of items 1 through 9 (*see Appendix H*);
5. Failure of tetrabenazine (e.g., no improvement on any one of AIMS items 1 through 9) at up to 200 mg per day, unless contraindicated or clinically significant adverse effects are experienced;
6. Austedo/Austedo XR is not prescribed concurrently with tetrabenazine or Ingrezza;
7. Dose does not exceed 48 mg per day.

**Approval duration: 6 months**

**C. Other diagnoses/indications (must meet 1 or 2):**

1. If this drug has recently (within the last 6 months) undergone a label change (e.g., newly approved indication, age expansion, new dosing regimen) that is not yet reflected in this policy, refer to one of the following policies (a or b):
  - a. For drugs on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the no coverage criteria policy for the relevant line of business: CP.PMN.255 for Medicaid; or
  - b. For drugs NOT on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the non-formulary policy for the relevant line of business: CP.PMN.16 for Medicaid; or
2. If the requested use (e.g., diagnosis, age, dosing regimen) is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized) AND criterion 1 above does not apply, refer to the off-label use policy for the relevant line of business: CP.PMN.53 for Medicaid.

**II. Continued Therapy**

**A. All Indications in Section I (must meet all):**

1. Member meets one of the following (a or b):
  - a. Currently receiving medication via Centene benefit or member has previously met initial approval criteria;
  - b. Member is currently receiving medication and is enrolled in a state and product with continuity of care regulations (*refer to state specific addendums for CC.PHARM.03A and CC.PHARM.03B*);
2. Member meets one of the following (a or b):
  - a. For Huntington disease: Member is responding positively to therapy as evidenced by a reduction since baseline in any one of UHDRS chorea items 1 through 7 (*see Appendix D*);
  - b. For TD: Member is responding positively to therapy as evidenced by a reduction since baseline in any one of AIMS items 1 through 9 (*see Appendix H*);
3. Austedo/Austedo XR is not prescribed concurrently with tetrabenazine or Ingrezza;
4. If request is for a dose increase, new dose does not exceed 48 mg per day.

**Approval duration: 12 months**

**B. Other diagnoses/indications (must meet 1 or 2):**

1. If this drug has recently (within the last 6 months) undergone a label change (e.g., newly approved indication, age expansion, new dosing regimen) that is not yet reflected in this policy, refer to one of the following policies (a or b):
  - a. For drugs on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the no coverage criteria policy for the relevant line of business: CP.PMN.255 for Medicaid; or
  - b. For drugs NOT on the formulary (commercial, health insurance marketplace) or PDL (Medicaid), the non-formulary policy for the relevant line of business: CP.PMN.16 for Medicaid; or
2. If the requested use (e.g., diagnosis, age, dosing regimen) is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized) AND criterion 1 above does not apply, refer to the off-label use policy for the relevant line of business: CP.PMN.53 for Medicaid.

**III. Diagnoses/Indications for which coverage is NOT authorized:**

- A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policies – CP.PMN.53 for Medicaid or evidence of coverage documents.

**IV. Appendices/General Information**

*Appendix A: Abbreviation/Acronym Key*

AAN: American Academy of Neurology  
 AIMS: Abnormal Involuntary Movement Scale  
 APA: American Psychiatry Association  
 DRBA: dopamine receptor blocking agent  
 DSM V: Diagnostic and Statistical Manual, Version 5

FDA: Food and Drug Administration  
 HTT: huntingtin  
 MAOI: monoamine oxidase inhibitor  
 TD: tardive dyskinesia  
 UHDRS: Unified Huntington Disease Rating Scale  
 VMAT: vesicular monoamine transporter

*Appendix B: Therapeutic Alternatives*

*This table provides a listing of preferred alternative therapy recommended in the approval criteria. The drugs listed here may not be a formulary agent for all relevant lines of business and may require prior authorization.*

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
tetrabenazine (Xenazine <sup>®</sup> )	<b>Huntington's Chorea</b> 12.5 mg PO QD for 1 week, then 12.5 mg BID, then titrated by 12.5 mg weekly to a tolerated dose up to maximum of 50 mg/day (100 mg/day for CYP2D6 intermediate or extensive metabolizers)	25 mg/dose and 50 mg/day (37.5 mg/dose and 100 mg/day for CYP2D6 intermediate or extensive metabolizers)
	<b>TD (off-label)</b> Typical dosing range (mg/day): 25-75 Comments: Give in divided doses: increase from initial dose of 25-50 mg/day by 12.5 mg/week to	200 mg/day in divided doses

Drug Name	Dosing Regimen	Dose Limit/ Maximum Dose
	maximum of 150-200 mg/day. Retitrate dose for treatment interruptions of more than 5 days. Test for CYP2D6 metabolizer status before giving doses > 50 mg/day. Do not exceed 50 mg/day in poor metabolizers or in patients treated with a strong inhibitor of CYP2D6. <i>The American Psychiatric Association practice guideline for the treatment of patients with schizophrenia. 2020. Third Ed.</i>	

Therapeutic alternatives are listed as Brand name<sup>®</sup> (generic) when the drug is available by brand name only and generic (Brand name<sup>®</sup>) when the drug is available by both brand and generic.

*Appendix C: Contraindications/Boxed Warnings*

- Contraindication(s):
  - Suicidal or untreated/inadequately treated depression in patients with Huntington’s disease
  - Hepatic impairment
  - Taking reserpine, MAOIs, tetrabenazine or valbenazine
- Boxed warning(s): depression and suicidality in patients with Huntington’s disease

*Appendix D: Chorea and the Unified Huntington Disease Rating Scale (UHDRS)*

- The UHDRS encompasses motor, behavioral, cognitive, and functional components for use in evaluating patients with Huntington disease and is commonly used in both research and clinical practice.
- The American Academy of Neurology (AAN) guidelines evaluating pharmacologic therapies for chorea associated with Huntington disease describe the chorea subscore of the UHDRS motor component as a rating of 7 body regions (facial, bucco-oral-lingual, trunk, extremities) on a five-point scale from 0 to 4 with 0 representing no chorea.
- See Huntington Study Group 1996 and Mestre et al. 2018 for additional information about the UHDRS.

(AAN Guidelines 2012, Huntington Study Group 1996, Mestre 2018)

*Appendix E: Tardive Dyskinesia General Information*

- The 2020 American Psychiatric Association (APA) Practice Guideline for the Treatment of Patients With Schizophrenia recommends that patients who have moderate to severe or disabling TD be treated with a reversible VMAT2 inhibitor (i.e., deutetrabenazine, tetrabenazine, and valbenazine); the guideline notes that the AIMS tool can be instrumental in such decision-making.
- Medication-induced movement disorders, including tardive dyskinesia, are organized in the DSM V as follows: neuroleptic-induced parkinsonism/other medication-induced parkinsonism, neuroleptic malignant syndrome, medication-induced acute dystonia, medication-induced acute akathisia, tardive dyskinesia, tardive dystonia/tardive akathisia, medication-induced postural tremor, other medication-induced movement disorder, antidepressant discontinuation syndrome, and other adverse effects of medication.

- Tardive dyskinesia is a type of movement disorder that occurs secondary to therapy with *centrally acting* DRBAs (see *Appendix F*). (DSM V)
- Typical therapeutic drug classes containing DRBAs include first- and second-generation antipsychotics, antiemetics, and tri-cyclic antidepressants (see *Appendix G*). (DSM V)
- Other therapeutic drug classes containing agents that have been variously associated with movement disorders are listed below: (Waln 2013, Meyer 2014, Lerner 2015)
  - Antiarrhythmics
  - Antibiotics
  - Anticholinergics
  - Antidepressants
  - Antiepileptics
  - Antihistamines
  - Antimanics
  - Bronchodilators
  - Calcium channel blockers
  - Central nervous system stimulants
  - Dopamine agonists
  - Dopamine depleting agents
  - Dopaminergics
  - Glucocorticoids
  - Immunosuppressants
  - Mood stabilizers
  - Muscle relaxants
  - Oral contraceptives

*Appendix F: Tardive Dyskinesia: DSM-V Definition*

Tardive Dyskinesia (ICD-9 333.85/ICD-10 G24.01)
<ul style="list-style-type: none"> <li>• Involuntary athetoid or choreiform movements (lasting at least a few weeks) generally of the tongue, lower face and jaw, and extremities (but sometimes involving the pharyngeal, diaphragmatic, or trunk muscles) developing in association with the use of a neuroleptic medication for at least a few months.</li> <li>• Symptoms may develop after a shorter period of medication use in older persons. In some patients, movements of this type may appear after discontinuation, or after change or reduction in dosage, of neuroleptic medications, in which case the condition is called neuroleptic withdrawal emergent dyskinesia. Because withdrawal emergent dyskinesia is usually time limited, lasting less than 4-8 weeks, dyskinesia that persists beyond this window is considered to be tardive dyskinesia.</li> </ul>

*Appendix G: Tardive Dyskinesia: Centrally Acting Dopamine Receptor Blocking Agents (Neuroleptics)*

Pharmacologic Class	Therapeutic Class		
	First-generation (typical) antipsychotics	Antiemetic agents	Tri-cyclic antidepressants
Phenothiazine	Chlorpromazine Fluphenazine Perphenazine Thioridazine Thiothixene Trifluoperazine	Chlorpromazine Perphenazine Prochlorperazine Promethazine* Thiethylperazine	Amoxapine <sup>†</sup>
Butyrophenone	Haloperidol	Droperidol Haloperidol**	
Substituted benzamide		Metoclopramide Trimethobenzamide	
Dibenzazepine	Loxapine		

Pharmacologic Class	Therapeutic Class		
	First-generation (typical) antipsychotics	Antiemetic agents	Tri-cyclic antidepressants
Diphenylbutylpiperidine	Pimozide		
Pharmacologic Class	Second-generation (atypical) antipsychotics		
Quinolone	Aripiprazole, brexpiprazole		
Dibenzazepine	Asenapine		
Piperazine	Cariprazine		
Dibenzodiazepine	Clozapine, quetiapine		
Benzisoxazole	Iloperidone		
Benzisothiazole	Lurasidone, ziprasidone		
Thienobenzodiazepine	Olanzapine		
Pyrimidinone	Paliperidone, risperidone		

(DSM V, Meyer 2014, Smith 2010, Clinical Pharmacology, Lexicomp)

\*First generation H1 antagonist

\*\*Off-label use

†A dibenzoxapine that shares properties with phenothiazines

#### Appendix H: The Abnormal Involuntary Movement Scale (AIMS)

- The AIMS is a clinician-rated 12-item assessment tool developed by the National Institute of Mental Health to evaluate severity of involuntary movements in multiple movement disorders including TD. The AIMS is commonly used in both research and clinical practice.
- AIMS items 1-10 are rated on a 5-point scale (0 - none; 1 - minimal; 2 - mild; 3 - moderate; 4 - severe). Items 1-7 assess dyskinesia severity by body region (items 1-4 orofacial; items 5-7 extremity and trunk). Items 8-10 assess overall severity, incapacitation, and patient awareness respectively - item 8 uses the highest score of any one of items 1-7. Items 11 (dental) and 12 (dentures) are yes/no questions which help characterize lip, jaw, and tongue movements.
- See Munetz 1988 for additional information about the AIMS.

#### V. Dosage and Administration

Indication	Dosing Regimen	Maximum Dose
Huntington's chorea	<p><u>When not switching from tetrabenazine:</u></p> <p>Recommended starting dose</p> <ul style="list-style-type: none"> <li>• Austedo XR: 12 mg PO QD</li> <li>• Austedo: 6 mg PO BID</li> </ul>	48 mg/day (36 mg/day in poor CYP2D6 metabolizers or with strong CYP2D6 metabolizers)
TD	<p>Titrate at weekly intervals by 6 mg/day based on reduction of chorea or tardive dyskinesia, and tolerability, up to a maximum recommended daily dosage of 48 mg. When switching between Austedo and Austedo XR, switch to the same total daily dosage.</p>	



Indication	Dosing Regimen	Maximum Dose
	When switching from tetrabenazine: see Prescribing Information dosage chart	

## VI. Product Availability

Drug Name	Availability
Austedo	Immediate-release tablets: 6 mg, 9 mg, 12 mg
Austedo XR	Extended-release tablets: 6 mg, 12 mg, 24 mg

## VII. References

1. Austedo and Austedo XR Prescribing Information. North Wales, PA. Teva Pharmaceuticals USA, Inc.; February 2023. Available at: [www.austedo.com](http://www.austedo.com). Accessed March 10, 2023.
2. Clinical Pharmacology [database online]. Tampa, FL: Gold Standard, Inc. Available at [www.clinicalpharmacology.com](http://www.clinicalpharmacology.com). Updated periodically. Accessed February 5, 2023.

### Huntington Disease

3. Frank S, et al. Effect of deutetrabenazine on chorea among patients with Huntington disease. *JAMA*. July 2016; 316(1):40-50.
4. O Classen D, et al. Indirect tolerability comparison of deutetrabenazine and tetrabenazine for Huntington disease. *J Clin Mov Disord*. 2107;4(3):1-11.
5. Potter NT, Spector EB, Prior TW. Technical standards and guidelines for Huntington disease testing. *Genet Med*. 2004;6(1):61-65.
6. Bean L and Bayrak-Toydemir R. American College of Medical Genetics and Genomics Standards and Guidelines for Clinical Genetics Laboratories, 2014 edition: technical standards and guidelines for Huntington disease. *Genet Med*. 2014 Dec;16(12):e2.
7. Bean L, Bayrak-Toydemir P, ACMG Laboratory Quality Assurance Committee. Addendum: American College of Medical Genetics and Genomics Standards and Guidelines for Clinical Genetics Laboratories, 2014 edition: technical standards and guidelines for Huntington disease. *Genet Med*. 2021;23(12):2461.
8. Kremer B, Goldberg P, Andrew SE. A worldwide study of the Huntington's disease mutation: the sensitivity and specificity of measure CAG repeats. *NEJM*. May 19, 1994; 330(20):1401-1406.
9. Armstrong MJ, Miyasaki JM. Evidence-based guideline: pharmacologic treatment of chorea in Huntington disease: report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology*. August 7, 2012;79:598-603.
10. Unified Huntington's disease rating scale: reliability and consistency. Movement Disorder Society. *Movement Disorders*. 1996;11(2):136-143.
11. Mestre TA, Forjaz MJ, Mahlknecht P, et al. Rating scales for motor symptoms and signs in Huntington's disease: Critique and recommendation. International Parkinson and Movement Disorders Society. *Movement Disorders Clinical Practice*. 2018;5(2):111-117. DOI:10.1002/mdc3.1257.

### Tardive Dyskinesia

12. Medication-induced movement disorders and other adverse effects of medication. Diagnostic and statistical manual of mental disorders, 5<sup>th</sup> Ed. American Psychiatric Association.
13. Keepers GA, Fochtmann LJ, Anzia JM, et al. The American Psychiatric Association practice guideline for the treatment of patients with schizophrenia. 2020. Third Ed. Available at <https://www.psychiatry.org/psychiatrists/practice/clinical-practice-guidelines>.

14. Munetz MR, Sheldon B. How to examine patients using the abnormal involuntary movement scale. *Hospital and Community Psychiatry*. November 1988;39(11):1172-77.
15. Bhidayasiri R, Jitkriksadakul O, Friedman JH, Fahn S. Updating the recommendations for treatment of tardive syndromes: a systematic review of new evidence and practical treatment algorithm. *Journal of the Neurological Sciences*. 2018;389:67-75.
16. Bhidayasiri R, Fahn S, Weiner WJ, et al. Evidence-based guideline: treatment of tardive syndromes. Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology*. 2013;31:463-469.
17. Waln O, Jankovic J. An update on tardive dyskinesia: from phenomenology to treatment. *Tremor Other Hyperkinet Mov (N Y)*. July 12, 2013;3:tre-03-161-4138-1. DOI:10.7916/D88P5Z71. Print 2013.
18. Witter DP, Holbert RC, Suryadevara U. Pharmacotherapy for the treatment of tardive dyskinesia in schizophrenia patients. *Expert Opin Pharmacother*. April 26, 2017. DOI:10.1080/14656566.2017.1323874. [Epub ahead of print.]
19. Meyer TA, Belson TE, McAllister R. Tardive dyskinesia: a distressing drug-induced movement disorder. *US Pharm*. 2014;39(1):HS13-HS16.
20. Lerner PP, Miodownik C, Lerner V. Tardive dyskinesia (syndrome): current concept and modern approaches to its management. *Psychiatry Clin Neurosci*. June 2015;69(6):321-34.
21. Rao AS, Camilleri M. Review article: metoclopramide and tardive dyskinesia. *Alimentary Pharmacology and Therapeutics*. January 2010;31(1):11-19.
22. Smith HS, Cox LR, Smith BR. Dopamine receptor antagonists. *Annals of Palliative Medicine*. July 2012;1(2). DOI: 10.3978/j.issn.2224-5820.2012.07.09.

Reviews, Revisions, and Approvals	Date	P&T Approval Date
2Q 2019 annual review: no significant changes; added HIM line of business; references reviewed and updated.	02.26.19	05.19
2Q 2020 annual review: no significant changes; references reviewed and updated.	02.11.20	05.20
Genetic testing and UHDRS scoring added to chorea criteria; AIMS scoring added to TD criteria; related appendices added (D and H); references reviewed and updated.	07.07.20	08.20
2Q 2021 annual review: Commercial and HIM lines of business removed per SDC; tetrabenazine trial added for TD and Appendix B updated to reflect this; dosing and contraindications updated in Appendix C; APA guideline clarification added in Appendix H; references reviewed and updated.	03.04.21	05.21
2Q 2022 annual review: WCG.CP.PHAR.341 was retired and combined with this policy; references reviewed and updated.	01.31.22	05.22
Template changes applied to other diagnoses/indications and continued therapy section.	09.21.22	
2Q 2023 annual review: no significant changes; references reviewed and updated. RT4: added new extended-release dosage formulation, Austedo XR, to policy.	03.13.23	05.23



**Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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**Note:**

**For Medicaid members**, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

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