## North Dakota Medicaid Pharmacy Program Quarterly News

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Welcome to the "North Dakota Medicaid Pharmacy Program Quarterly News," a pharmacy newsletter presented by the North Dakota Department of Human Services and published by Kepro. This newsletter is published as part of a continuing effort to keep the Medicaid provider community informed of important changes in the North Dakota Medicaid Pharmacy Program.

The North Dakota Department of Human Services has contracted with Kepro to review and process prior authorizations (PAs) for medications. For a current list of medications requiring a PA, as well as the necessary forms and criteria, visit <u>www.hidesigns.com/ndmedicaid</u>, or call Kepro at (866) 773-0695 to have this information faxed. An important feature on this website is the NDC Drug Lookup, which allows you to determine if a specific NDC is covered (effective date), reimbursement amount, MAC pricing, copay information, and any limitations (prior authorization or quantity limits).

This newsletter provides an overview of prescribing considerations for methylphenidate products used for Attention Deficit Hyperactivity Disorder (ADHD).

The North Dakota Medicaid Pharmacy Program team appreciates your comments and suggestions regarding this newsletter. To suggest topics for inclusion, please contact Kepro at 1-800-225-6998, or e-mail us at ND Info@kepro.com.

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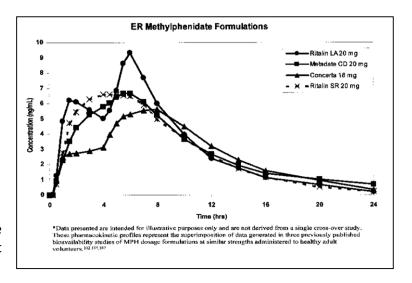
## Prescribing Considerations for Methylphenidate

Methylphenidate products are commonly utilized prescription medications for children, adolescents, and adults with attention-deficit hyperactivity disorder (ADHD). They are one of the first-line medication treatment options for patients with ADHD. These medications can be used alongside non-stimulant ADHD medications and non-pharmacological treatment such as behavioral classroom interventions and cognitive behavioral therapy. There are many methylphenidate products currently available, thus it is important to note a few differences between these options, specifically their pharmacokinetics. Methylphenidate agents are formulated differently to allow for immediate-release, extended-release, or biphasic-release (mimicking twice daily dosing). Choosing the right agent for the patient's individual needs may eliminate the use of "booster" agents to help get the patient through the day. Eliminating booster agents not only decreases the side effects experienced from stimulant agents, but also, simplifies dosing regimens.

## **ER formulations**

- Osmotic release oral system (OROS): combines immediate and extended-release biopharmaceutics to provide an initial rise in drug concentrations after morning dose, followed by a short plateau, then a second rise. This formulation is comparative to thrice daily dosing of immediate-release products. This should allow for ~12 hour duration of action. An example of this formulation is <u>Concerta</u>.
- **Diffucaps:** a beaded controlled-release system that contains a 30:70 ratio of IR:ER beads. The immediate-release beads allow for rapid dissolution for an initial peak while the remaining 70% is released over a prolonged amount of time. This technology mimics twice daily dosing. <u>Metadate CD</u> possesses this diffucaps technology. A comparative

study between Concerta and Metadate CD suggests that Metadate CD may have a more rapid onset of action; Coincidentally, compared with Concerta, Metadate CD formulation results in approximately twice the exposure in terms of both the Cmax and AUC during the first 4 hours. Another benefit to this type of formulation is that it can be opened, and the beads can be sprinkled over soft foods without significant changes in bioavailability.



• Spheroidal oral drug absorption system (SODAS): This formulation is like Diffucaps, as it is a capsule containing immediate and extended-release beads. The ratio is different, however. SODAS contains 50:50 ration of IR:ER beads. The extended-release beads are polymer coated to allow approximately 4 hours before the coating is eroded, releasing the second dose. This formulation is comparative to twice daily immediate-release dose, and an example of this formulation is <u>Ritalin LA</u>. The beads may also be sprinkled over soft foods.

Drug Name	Formulation	Time to Peak	Duration of Action
Adhansia XR	Capsules with multilayered beads (IR:ER of 20:80)	First: 1.5 hours Second: 12 hours	13+ hours
Aptensio XR	Capsule with multilayered beads (IR:CR of 40:60)	First: 2 hours Second: 8 hours	≤16 hrs
Azstarys	Capsule containing dexmethylphenidate and serdexmethylphenidate, a prodrug of dexmethylphenidate	2 hours	8 hours
Concerta	OROS tri-layer core with an IR overcoat, inner membrane controls rate of drug delivery	~1 hour, followed by gradually ascending concentrations over 5-9 hours	8-12 hours
Contempla XR-ODT	ER orally disintegrating tablet (IR:ER of 25:75)	~5 hours	
Daytrana	Adhesive-based matrix transdermal patch	7.5 – 10.5 hours	11-12 hours
Focalin XR	Isomer product dexmethylphenidate	First: 1.5 hours Second: 6.5 hours	8 hours
Jornay PM	Delayed- and extended-release oral capsule (sustained-release layer enclosing a methylphenidate core, then a delayed-release layer enclosing the sustained-release layer)	8-10 hours	11-12 hours
Metadate CD	Diffucaps encapsulated beads (IR:ER of 30:70)	First: 1.5 hours Second: 4.5 hours	6-8 hours
Methylin	IR solution, chewable tablet, and tablet	1-2 hours	3-5 hours
QuilliChew ER	ER chewable tablet (IR:ER of 30:70)	5 hours	~12 hours
Quillivant XR	ER suspension (IR: ER of 20:80)	2-4 hours	~6 hours
Ritalin	IR tablet	1-2 hours	3-5 hours
Ritalin LA	SODAS encapsulated biphasic release beads (IR:DR of 50:50)	First: 1.5-3 hours Second: 4.5 – 6.5 hours	~8 hours

## **References**

Wolraich ML, Hagan JF Jr, Allan C, et al. Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents [published correction appears in Pediatrics. 2020 Mar;145(3):]. Pediatrics.

2019;144(4):e20192528. doi:10.1542/peds.2019-2528

Methylphenidate or Dexmethylphenidate (Concerta, Ritalin and others). College of Pediatric and Neurologic Pharmacists (CPNP) and the National Alliance on Mental Illness (NAMI). August 2019. <u>https://www.nami.org/About-Mental-Illness/Treatments/Mental-Health-Medications/Types-of-Medication/Methylphenidate-or-Dexmethylphenidate-(Concerta-R</u> [accessed 09/21/2021].

Markowitz, John & Straughn, Arthur & Patrick, Kennerly. (2003). Advances in the Pharmacotherapy of Attention-Deficit–Hyperactivity Disorder: Focus on Methylphenidate Formulations. Pharmacotherapy. 23. 1281-99. 10.1592/phco.23.12.1281.32697.

Metadate ER (methylphenidate) [prescribing information]. Smyrna, GA: UCB Inc; February 2016.

Methylin oral solution [prescribing information]. Florham Park, NJ: Shionogi Inc; July 2021.

Metadate CD (methylphenidate) [prescribing information]. Philadelphia, PA: Lannett Company Inc; June 2021.

Concerta (methylphenidate) [prescribing information]. Titusville, NJ: Janssen Pharmaceuticals; June 2021.

Ritalin LA (methylphenidate) [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals; June 2021.

Ritalin/Ritalin SR (methylphenidate) [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Corp; June 2021.

Quillivant XR (methylphenidate) [prescribing information]. Monmouth Junction, NJ: Tris Pharma Inc; June 2021.

Jornay PM (methylphenidate) [prescribing information]. Cherry Hill, NJ: Ironshore Pharmaceuticals Inc; June 2021.

Daytrana (methylphenidate) [prescribing information]. Miami, FL: Noven Therapeutics LLC; June 2021. Aptensio XR (methylphenidate) extended-release capsules [prescribing information]. Greenville, NC: Patheon; June 2021.

Adhansia XR (methylphenidate hydrochloride) [prescribing information]. Wilson, NC: Purdue Pharmaceuticals LP; June 2021.

QuilliChew ER (methylphenidate) extended-release chewable tablets [prescribing information]. Monmouth Junction, NJ: Tris Pharma Inc; June 2021.

Cotempla XR-ODT (methylphenidate) [prescribing information]. Grand Prairie, TX: Neos Therapeutics Brands LLC; June 2021.

Azstarys (serdexmethylphenidate and dexmethylphenidate) [prescribing information]. Grand Rapids, MI: Corium, Inc; June 2021.

http://www.hidesigns.com/ndmedicaid for information on prior authorization. Helpful links include PA Forms, PA Criteria, and NDC Drug Lookup.