

Comparison of Daytrana vs Xelstrym

	Methylphenidate transdermal system (Daytrana®)	Dextroamphetamine transdermal system (Xelstrym®)
Indications & Usage	<ul style="list-style-type: none"> Indicated for the treatment of ADHD in children & adolescents (ages 6-17) FDA's Psychopharmacologic Advisory Committee recommends considering MPH TDS only after oral forms due to potential unknown risks of topical sensitization, which could preclude any form of MPH use 	<ul style="list-style-type: none"> indicated for the treatment of ADHD in adults and pediatric patients 6 years or older Renal impairment max daily dose Severe: 13.5 mg/9 hours ESRD: 9 mg/9 hours
Application	<ul style="list-style-type: none"> Apply 2 hours before an effect is needed to the hip area (alternate sites) Remove after 9 hours Remove earlier for shorter effect or if late day AEs appear 	<ul style="list-style-type: none"> Apply 2 hours before an effect is needed to one of the following sites: hip, upper arm, chest, upper back or flank Change site when applying new patch Remove within 9 hours
PK	<ul style="list-style-type: none"> Tmax: 10 hours (single application), 8 hours (repeat applications) much less first pass effect than oral use -Lower TDS dose may still produce higher d-MPH exposures --unlike oral use, TDS gives nearly equal exposure to l-MPH and d-MPH due to bypassing first pass metabolism T_{1/2} d-MPH: ~ 4 to 5 hours T_{1/2} l-MPH: 1.4 to 2.9 hours Duration of effect: patch application time + up to 3 hours 	<ul style="list-style-type: none"> Tmax: 6 to 9 hours (single application) 6 hours (repeat applications) T_{1/2}: 6.4 hours (pediatric), 11.5 hours (adult) Duration of effect: 9-12 hours
Contraindications	<ul style="list-style-type: none"> Marked anxiety, tension, or agitation Glaucoma Tics or family history or diagnosis of Tourette's syndrome Use with or within 14 days of the last MAOI dose. Known hypersensitivity to MPH 	<ul style="list-style-type: none"> Use with or within 14 days of the last MAOI dose Known hypersensitivity to amphetamine or other ingredients in Xelstrym
Dermatologic Adverse Effects	<ul style="list-style-type: none"> Erythema Contact dermatitis Skin hypopigmented -- post-marketing reports indicate skin depigmentation or hypopigmentation, suggesting chemical leukoderma 2% discontinued due to skin reactions in clinical trial 	<ul style="list-style-type: none"> Allergic contact dermatitis Application site irritation (94%) Application site itching (7%) Application site reaction (69%) 0% discontinued due to skin reactions in clinical trial <p>Although transdermal systems are known to be irritating, the overall rates of dermal discomfort & irritation appear much higher.</p> <p>Potential risk of chemical leukoderma (limited post-marketing data)</p>

AE: Adverse effects, MPH: Methylphenidate, TDS - transdermal system

Drug and Manufacturer	Dosage Form(s) & Strength(s)	Dosing Regimen	Cost per 30 Days ^a
Xelstrym (dextroamphetamine) Transdermal [Noven Pharmaceuticals Inc.]	<ul style="list-style-type: none"> • Transdermal system: 4.5 mg/9 hours, 9 mg/9 hours, 13.5 mg/9 hours, 18 mg/9 hours 	<ul style="list-style-type: none"> • Ages 6 to 17 years: Starting dose of 4.5 mg/9 hours. Titrate in weekly increments of 4.5 mg. • Adults: Starting dose of 9 mg/9 hours. • Maximum dose: 18 mg/9 hours 	\$463
Dexedrine Spansule (dextroamphetamine sulfate) [Various]	<ul style="list-style-type: none"> • Oral ER capsule: 5 mg, 10 mg, 15 mg 	<ul style="list-style-type: none"> • Initial: 5 mg once to twice daily. Titrate by 5 mg weekly. • Maximum dose: 40 mg daily 	<ul style="list-style-type: none"> • Brand: \$3,375.60 • Generic: \$436.80 (NF)
Dyanavel XR (amphetamine) [Tris Pharma Inc.]	<ul style="list-style-type: none"> • Oral ER suspension: 2.5 mg/mL • Oral ER tablets: 5 mg, 10 mg, 15 mg, 20 mg 	<ul style="list-style-type: none"> • Initial: 2.5 mg or 5 mg once daily. Titrate by 2.5 mg to 10 mg daily for 4 to 7 days. • Maximum dose: 20 mg daily 	<ul style="list-style-type: none"> • ER suspension: \$832.80 • ER tablets: \$425.10
Adderall XR (amphetamine/dextroamphetamine mixed salts) [Various]	<ul style="list-style-type: none"> • Oral ER capsule: 5 mg, 10 mg, 15 mg, 20 mg, 25 mg, 30 mg 	<ul style="list-style-type: none"> • Ages 6 to 17 years: 10 mg once daily. • Adults: 20 mg once daily • Maximum dose: 30 mg (6 to 12 years of age)* 	<ul style="list-style-type: none"> • Brand: \$256.20 • Generic \$15.00
Vyvanse (lisdexamfetamine dimesylate) [Takeda]	<ul style="list-style-type: none"> • Oral capsule: 10 mg, 20 mg, 30 mg, 40 mg, 50 mg, 60 mg, 70 mg • Oral chewable tablet: 10 mg, 20 mg, 30 mg, 40 mg, 50 mg, 60 mg 	<ul style="list-style-type: none"> • Initial: 30 mg every morning. Titrate by 10 mg or 20 mg weekly to recommended dose of 30 mg to 70 mg per day. • Maximum dose: 70 mg daily 	• \$422.10
Concerta (methylphenidate hydrochloride) [Various]	<ul style="list-style-type: none"> • Oral ER tablet: 18 mg, 27 mg, 36 mg, 54 mg 	<ul style="list-style-type: none"> • Initial: 18 mg or 36 mg (adults) once daily. Titrate by 18 mg weekly. • Maximum dose: 54 mg (pediatrics) or 72 mg (adults) 	<ul style="list-style-type: none"> • Brand: \$523.80 - \$963.00 • Generic: \$26.10 - \$46.80
Daytrana (methylphenidate) Transdermal [Noven Therapeutics, LLC]	<ul style="list-style-type: none"> • Transdermal patch: 10 mg/9 hours, 15 mg/9 hours, 20 mg/9 hours, 30 mg/9 hours 	<ul style="list-style-type: none"> • Initial: 10 mg daily. Titrate based on individual response. • Maximum dose: 30 mg daily. 	• \$463
Focalin XR (dexmethylphenidate hydrochloride) [Various]	<ul style="list-style-type: none"> • Oral ER capsules: 5 mg, 10 mg, 15 mg, 20 mg, 25 mg, 30 mg, 35 mg, 40 mg 	<ul style="list-style-type: none"> • Initial: 5 mg (pediatrics) or 10 mg (adults) once daily. Titrate by 5mg (pediatrics) or 10 mg (adults) weekly. • Maximum dose: 30 mg (pediatrics) or 40 mg (adults) 	<ul style="list-style-type: none"> • Brand: \$459.00 - \$525.30 • Generic: \$39.30 - \$64.80

Formulary in green, Nonformulary in yellow

Formulary Recommendation:

- Vyvanse chewable tablets are the only formulary option for patients unable to swallow pills on BHRS/CA/HealthWorx formularies
- Comparison of Daytrana and Xelstrym shows Xelstrym may have advantages in application site flexibility, and less severe skin reactions, although application site reactions are common with Xelstrym
- Pricing of Xelstrym is comparable to Vyvanse
- Committee recommends addition of Xelstrym to BHRS/CA/HealthWorx formularies, with QL of #30/30DS

References:

- Daytrana package insert
- Department of mental health parameters 3.8 for use of psychotropic medication in children and adolescents." March 15, 2023. Los Angeles County. Accessed 6/5/2023. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://file.lacounty.gov/SDSInter/dmh/1103669_Parameters3.8UseofPsychotropicMedicationinChildrenandAdolescents.docx.pdf
- Micromedex Online. Accessed 6/5/2023
- "NDA 215401 Multi-disciplinary Review and Evaluation Xelstrym (dextroamphetamine transdermal system; d-ATS)." FDA, February 22, 2021. Accessed 6/5/2023. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.fda.gov/media/158282/download
- Xelstrym package insert