

Methylphenidate Transdermal System In Attention-Deficit Hyperactivity Disorder in Children

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Stimulant medications are an evidence-based treatment for children with attention-deficit hyperactivity disorder (ADHD). The methylphenidate transdermal system (MTS) is a patch that delivers methylphenidate via absorption through the skin, and it is a novel method for administering stimulant medication. The MTS appears to offer advantages for treating children with ADHD. First, the MTS permits once-daily dosing, eliminating the need for a second dose, and perhaps improving medication compliance. Secondly, the MTS is a stimulant preparation appropriate for children who cannot swallow pills. A third advantage of the MTS appears to be dosing flexibility. The MTS patch may be applied and removed at any time throughout the day. In addition to providing full-day medication coverage, physicians can prescribe the MTS for use during

time-limited activities where behavioural impairment is present (e.g. religious services, sports), and the MTS may be removed after the activity is completed. Future studies need to investigate the efficacy of the MTS for this time-limited purpose because flexibility that permits dose minimisation is an advantage given recent reports of stimulant-related growth suppression. A disadvantage of the MTS is the potential for skin irritation in addition to typical stimulant adverse events.

When the MTS was combined with a behaviour modification intervention, the effects of the lowest MTS doses were equivalent to high doses of MTS administered alone, and the dose-response curves were moderated such that lower doses were comparable to the highest doses. These results suggest that families may minimise total medication doses and enhance MTS effects by combining the MTS with behavioural interventions.

Overall, the current literature on the MTS patch suggests it is an efficacious and useful addition to the collection of stimulant medication preparations for children with ADHD. ▲