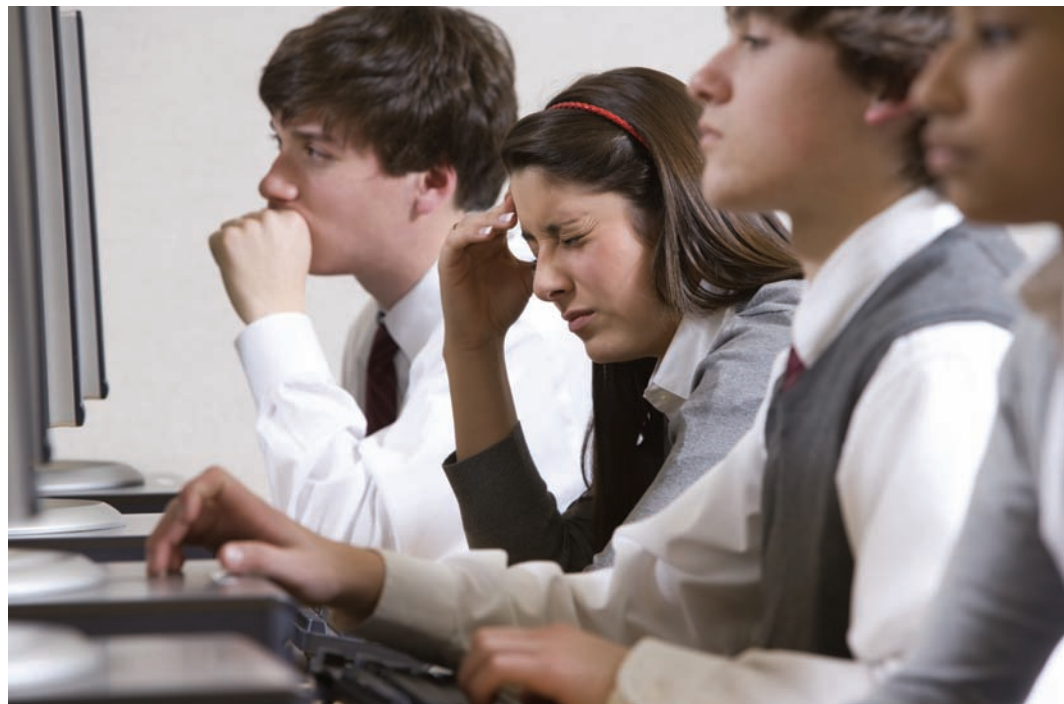




Migraine Headache Prophylaxis in Adolescents

HEIDI COLLINS FANTASIA

It's estimated that up to 28 percent of adolescents between the ages of 15 and 19 (mostly females) are affected by migraine (Lewis, Yonker, Winner, & Sowell, 2005). Researchers have documented the association between migraine headaches and reduced quality of life, including missed school days and impaired academic functioning (Lipton & Bigal, 2005; Powers, Paten, Hommel, & Hershey, 2003, 2004). Due to

the prevalence of migraine in this age group and potential negative consequences, it's important to consider available options for treatment and prevention.

Because the burden of frequent migraines can be significant, preventing debilitating headaches before they begin is an important component of treatment. Currently, episodic treatment of migraine includes a range of medications,

Abstract Migraine headache is estimated to affect up to 28 percent of adolescents, most of whom are female. Chronic migraine in this population has been associated with reduced quality of life and academic disruption due to missed school days. Historically, migraine headache was treated episodically as it occurred. In March 2014 the U.S. Food and Drug Administration approved an existing medication, topiramate (Topamax®), for migraine prophylaxis in adolescents between the ages of 12 and 17. This is the first FDA approval of a drug for migraine prevention in this population. There are several possible adverse effects of taking topiramate, some potentially serious, so adequate education for adolescents and their families on all the potential benefits and risks is imperative. DOI: 10.1111/1751-486X.12150

Keywords adolescents | headache | migraine prevention | Topamax | topiramate

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Because the burden of frequent migraines can be significant, preventing debilitating headaches before they begin is an important component of treatment. Currently, episodic treatment of migraine includes a range of medications, including simple over-the-counter analgesics (acetaminophen, ibuprofen) and prescription medications such as serotonin agonists (amitriptyline) and beta-blockers (propranolol). Opiates are rarely used to treat migraine headache in the adolescent population (Sivaswamy & Pawlik, 2013). Although these medications can provide episodic pain relief, they are prescribed as rescue measures and don't prevent or lessen migraine occurrence.

Although various pharmacologic and behavioral therapies exist to treat adolescent migraine, until recently there was no medication approved by the U.S. Food and Drug Administration (FDA) to prevent migraine headache in adolescents. In March 2014, the FDA approved the use of topiramate (Topamax™) for migraine prophylaxis among adolescents between the ages of 12 and 17 (FDA, 2014), making this the only FDA-approved medication for migraine prevention in the age group. Prior to FDA approval, efficacy and safety of topiramate had been established. In a randomized, double-blind, placebo-controlled trial, adolescents who received topiramate had a nearly 40 percent reduction in the monthly occurrence of migraine headache compared to those in the placebo group (Lewis et al., 2009).

Mechanism of Action

Topiramate is an antiepileptic drug that was first approved for the prevention of seizures in 1996 and received additional FDA approval for the prevention of migraines in adults in 2004 (FDA,

Box 1.

Titration Schedule for Migraine Prophylaxis for Adolescents Age 12 and Older*

	Morning (a.m.)	Evening (p.m.)
Week 1	None	25 mg
Week 2	25 mg	25 mg
Week 3	25 mg	50 mg
Week 4	50 mg	50 mg

*Suggested schedule, final dose and titration length dependent on patient tolerance and response to medication.

Source: Janssen Pharmaceuticals, Inc. (2009).

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2014). The exact mechanism by which topiramate works to prevent migraine headache is not known, but seems to be related to alteration of biochemical processes and a reduction in neurologic hyperexcitability that can precede headache development in certain individuals (Carmona & Bruera, 2009; Janssen Pharmaceuticals, Inc., 2009; Rothrock, 2012). The medication is absorbed rapidly from the gastrointestinal tract regardless of timing with meals. Peak plasma concentrations can be reached within 2 hours of an oral dose (Carmona & Bruera, 2009; Janssen Pharmaceuticals, Inc., 2009).

Dosage and Administration

When used for migraine prophylaxis, the starting dose for adolescents 12 years of age and older is 25 mg orally at bedtime for 1 week. Each subsequent week the dose is titrated up by 25 mg until either of two scenarios occurs: (1) the recommended daily dose of 100 mg in two divided doses is reached, or (2) the maximum tolerated daily dose is reached (Janssen Pharmaceuticals, Inc., 2009). See Box 1 for suggested titration schedule. The dosing guidelines are

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