



# Taking Control: Beyond Medications for Tension Headaches in Adolescents

From recognizing medication overuse to recommending non-pharmacologic interventions, specialists offer tips to help teens fight back against chronic headaches.

By Paul Winnington

**A**mong the patients presenting to physicians for management of chronic daily headache appears to be a growing contingent of adolescents. As North American teens and young adults grapple with anxiety, depression, and various stressors, rates of tension headaches apparently are climbing. Young patients with chronic daily headaches are at risk for medication overuse<sup>1,2</sup> psychiatric comorbidities, including anxiety and depression,<sup>1,4</sup> and perhaps even suicide.<sup>3</sup> Thankfully, neurologic intervention and follow-up has been associated with improvement in headache frequency and severity—particularly for tension headaches—and decrease in medication overuse.<sup>1</sup>

When the adolescent patient presents with chronic tension headaches, the neurologist confronts various diagnostic and treatment challenges. Teasing out the nature of a teen's headaches, identifying contributing factors, determining how to address these, and assessing medication overuse can be tough. Establishing an effective and compliance-promoting treatment plan in light of these findings can be an even greater challenge. A comprehensive approach to patient assessment and pain management can help. Below, specialists explain how.

## No “Typical” Adolescent Patient

“Chronic tension headache appears to be very common and

unfortunately overlooked” among adolescents, says Ann Pakalnis, MD, Director of the Pediatric Headache Clinic at Nationwide Children's Hospital in Columbus, OH. Migraine seems to receive more research attention, perhaps because of its genetic influences, its more well-documented disruptive effects on patients, and its greater susceptibility to pharmacologic therapy compared to tension headache, but tension headaches can have a significant effect on patients—particularly adolescents. When Dr. Pakalnis and colleagues evaluated emotional problems in pediatric chronic daily headache, they found that those patients with chronic daily headaches had significantly more symptoms of anxiety, depression, and somatization.<sup>2</sup> Furthermore, their investigation revealed a high rate of medication overuse: it was present in 60 percent of the population.

Medication overuse complicates the approach to management for adolescent patients—and the problem may be difficult to identify without thorough questioning and history-taking. Even then, Dr. Pakalnis says, medication overuse may not come to light until the second or third office visit. “We were very surprised that medication overuse is such a significant problem in the adolescent population and patients generally weren't aware of it.” Particularly among older adolescents, Dr. Pakalnis says, it's essential to question patients directly about use of medications, including OTC agents.

# Teen Tension Headaches

Don't expect parents, if present for the exam, to know what medications their children take; individuals old enough to work and drive may purchase non-prescription analgesics without their parents' knowledge. "I and the NPs on our staff and the psychologists we work with are more focused on getting information from the adolescent... Sometimes that means really probing the adolescent and even interviewing the adolescent alone, if necessary," Dr. Pakalnis says. "You have to be diligent about your detective work in that regard."

Caffeine consumption may also be an issue among adolescents who may be drinking "energy drinks," taking caffeine pills or coffee to stay awake to study, and/or taking OTC pain relievers that contain caffeine. Again, questioning about caffeine consumption, supplement use, and diet along with education are important.

And then there is the issue of underlying stress and anxiety. "It is very important to evaluate these children and take into account the possibility of some of these psychological comorbidities," Dr. Pakalnis says. "I think that anxiety probably impacts on these kids more than depression," she observes, adding that anxiety has a tendency to evolve and become cyclic. For example, she says, a patient prone to tension headaches may become anxious about developing a headache prior to a big game or the SATs. This anxiety may itself produce a headache.

"Lifestyle issues become very important," Dr. Pakalnis notes. Many adolescent chronic daily headache patients present with significant stressors and may be prone to poor sleep habits/sleep disturbances. In fact, Dr. Pakalnis urges referral for sleep studies in any patient who appears to have an underlying sleep disorder.

Sometimes the clinician may need to advise the patient about changes to his/her schedule or lifestyle. "We may make recommendations as far as activities and trying to avoid promoters or triggers of headache," Dr. Pakalnis says. In some instances, direct and specific recommendations may be indicated. "If we feel and the psychologist feels they're really overscheduled and not getting enough sleep and they are under a lot of stress, then the patient may need to give up some things."

Sometimes adolescents won't recognize the degree of stress they endure. And rarely is stress evident in their mien. In fact, teens may even deny they are under stress because they are high-achievers who don't want to give the suggestion that they "can't cut it." Their status as hard-working students and/or high-performing athletes, musicians, etc. may be integral to their self-identity and differentiates them from peers. However, Dr. Pakalnis says, over time some patients may begin to acknowledge that they need some lifestyle changes.

Finally, given the prevalence of anxiety and stress among these patients and the challenges of medical therapy in the

milieu of analgesic overuse, clinicians may consider cognitive-behavioral interventions for adolescents with tension headaches, Dr. Pakalnis says. "When you already have medication over-use, you have to think outside the box," she says. "I encourage clinicians to be very open-minded about the problem of medication over-use in this patient population, to ask appropriate questions, and stress the importance of a multi-disciplinary approach in addition to appropriate pharmacologic management." Although she admits that some adolescents may be skeptical of psychologically-based approaches to pain management, Dr. Pakalnis also notes that a number of teens and young adults may be amenable to non-pharmacologic interventions because they prefer not to take medications on a regular basis.

## Support for Behavioral Interventions

The study of behavioral interventions for headache and other pain states dates back to the 1970s, notes Mark A. Lumley, PhD, Professor of Clinical Psychology in the Department of Psychology of Wayne State University in Detroit. Early investigations of biofeedback, including EMG-assisted biofeedback for tension headaches, and thermal biofeedback, particularly for migraine, for which it is still commonly employed, were promising and expanded to other behavioral interventions. "Relaxation tends to be the backbone of behavioral interventions" for both headache types, Dr. Lumley says. In general, studies show that about one-third to one-half of people will have a notable reduction in headache severity or frequency with properly applied behavioral interventions, he says.

In a recently published study,<sup>5</sup> Dr. Lumley and colleagues assessed the impact of behavioral interventions on headache frequency and severity among college students. Subjects with either tension (n=50) or migraine (n=90) headaches were randomly assigned to relaxation training (RT), written emotional disclosure (WED, for more on this, see the sidebar), or a neutral writing control group. Patients in the RT group participated in four 20-minute-long audiotape-based sessions over two weeks. RT produced an immediate increase in calmness and among tension headache sufferers led to improved headache frequency and disability compared to WED or controls. Among migraine patients, RT improved pain severity. Positive findings regarding RT are in line with previous research and further support the use of behavioral modification in management of headaches, particularly tension headaches.

Importantly, though, behavioral interventions may best be viewed as one element of a comprehensive approach to patient care. While they can benefit a number of patients, Dr. Lumley

emphasizes that they often will not obviate the need for medication and other lifestyle modifications (such as dietary and other behavioral changes), when indicated, for the majority of patients. This is because headache conditions are known to be influenced by genetic, dietary, stress, biologic, and environmental factors, he says. It's difficult to know which of these various factors is most contributory for any individual patient, so a multi-pronged approach to therapy is generally indicated.

In fact, Dr. Lumley suggests, "both pharmacological and behavioral studies typically overlook differences among people with a given headache type," by assuming similarities in headaches among all subjects.

### Encouraging Success

Not every patient will benefit from behavioral interventions for headache—or any pain condition, for that matter—but a number of patients can experience some degree of improvement that may augment other treatment strategies. "One of the best predictors of how a patient will benefit from behavioral interventions is how hard they work at it," Dr. Lumley says. "If people worked at behavioral interventions with regularity, more people would benefit more fully." Some patients "give a little bit of a try," he says, but they are unlikely to experience notable improvements.

Motivating patients to embrace behavioral interventions

## Exposing the Shortcomings of Exposure Therapy Research

Behavioral stress-reduction interventions may be categorized into three types, according to Dr. Lumley. One type is to change the environment (work, school, relationships, living location), but this can be cumbersome and impractical, and typically not appropriate for most headache patients. More common are interventions that seek to "calm the mind and calm the body," Dr. Lumley says. These include activities aimed at both avoiding arousal and promoting relaxation (biofeedback, meditation, different relaxation strategies) as well as those activities that may bring respite or positive emotion. Exercise is often a healthy distraction and something that builds confidence and self-efficacy.



Finally, an evolving area of research is in exposure therapy, in which individuals directly confront sources of significant stress and emotional conflict. According to Dr. Lumley, support for exposure therapy comes largely from the literature on post-traumatic stress disorder, phobias, and other anxiety problems. He says that exposure-based therapies, including confronting one's memory, have been used for patients who are "haunted by nightmares or have thought intrusions" of experiences "they don't want to think about, and they don't want to remember." Through a process that he acknowledges is difficult and emotionally draining, patients are forced to confront their memories and associated emotions. Dr. Lumley says the approach has even been effective for conditions like asthma and various chronic pain conditions, which are sometimes triggered or exacerbated by stress.

Based on this approach, a modified process of emotional processing through expressive writing, or written emotional disclosure, has been shown to "help a little bit on average, but not a lot" in patients with various health problems, including fibromyalgia, Dr. Lumley says.<sup>6</sup> His recent study<sup>5</sup> looked at the effects of such a writing-based emotional processing program on migraine frequency and severity in college students. Theoretically, the writing process could help individuals to identify and confront unresolved stress that might contribute to migraines. However, unlike patients with fibromyalgia, results of this small study in headache sufferers suggest no benefit of written disclosure. Dr. Lumley suggests that "these patients may have not had unresolved stress and/or did not want to deal with it." However, as noted above, given the multifactorial nature of headache, it's difficult to ascertain the potential benefit of the writing-based exercise based on this study. Perhaps in a particular subset of patients, such an intervention could provide more substantial results. Patients in this study were recruited solely on the fact that they had headaches; there was no attempt to assess the presence of unresolved stress or motivation to address it. Furthermore, Dr. Lumley suspects, greater facilitation of the writing process along with feedback could influence the effects of the intervention.

takes some finesse. “It is a different model for patients...they have to switch from a medical to a behavioral model of care,” Dr. Lumley explains. Or, as he puts it, they must embrace, “Skills rather than pills.”

“The notion that there’s something they can do with their mind rather than an activity, like taking a pill, is foreign or uncomfortable to many patients,” Dr. Lumley says. Most people recognize that headaches are stress related; they may not believe behavioral interventions can provide sufficient benefit.

Furthermore, the physician must avoid any implication that the patient is at fault. The physician “must not convey a message such as ‘There’s nothing I can do for you because you’ve caused this problem yourself,’” Dr. Lumley says. Instead, the physician can take the tack that, “Stress changes the physiology of the body and your experience of pain, and here’s something we can try together that might reduce stress and improve your headaches.” Dr. Lumley highlights the advice of a colleague to always emphasize that you are providing a “referral”—not pronouncing a psychological diagnosis.

Dr. Pakalnis reminds her patients that the cognitive-behavioral therapies she recommends “may help them with other areas of their life, such as conquering test anxiety or fear of speaking in front of a class, for example.” She introduces the concept of behavioral therapy at the first appointment during the discussion of medication overuse and allows the message to sink in over time if necessary. Additionally, she says, getting patients to agree to just one session on a trial basis with no commitment to further sessions is helpful.

Of course, patients aren’t the only ones who need encouragement. Behavioral therapy takes time and may not



pay well or at all for physicians, Dr. Lumley notes. To offset the time commitment, an allied health professional, such as a nurse, may offer training. Alternatively, the doctor could hold regularly scheduled (usually after-hours) group sessions that are more efficient. Smoking cessation programs offer a viable model.

If a physician can’t dedicate time to interventional training or feels inadequately prepared to do so, referral to a pain management program may be helpful, particularly if the local center offers behavioral intervention training. Some CD or DVD materials are available, too, but due to the lack of one-on-one interface, adherence may be diminished. Importantly, collaboration with or referral to a trusted mental health pro-

fessional such as a clinical psychologist can be helpful (see below).

Dr. Lumley sees no absolute contraindications to the effective use of behavioral interventions for adolescent and young adult patient with tension headaches and believes such an approach can be helpful. However, he points out some important considerations.

**1. Consider Home/Family Influences.** “An important thing to think about with adolescents is the role of family and the social situation they’re in,” Dr. Lumley says. A teen’s tension headaches could link back to stresses of family life, including a parent’s job loss or substance abuse. “A good clinician will be mindful that the teen’s symptoms may be part of a family pattern or of a family dynamic,” he reminds.

**2. Think About Motivations.** As noted, the success of behavioral interventions often depends on the patient’s dedication to the process, and, Dr. Lumley notes, an adolescent’s motivations “may be suspect.” If the patient agrees to behav-

ioral interventions only due to pressure from a parent, then he or she may be less invested and therefore experience less benefit than a patient who makes a personal decision to pursue the intervention.

**3. Look Out for “Good Kid Syndrome.”** Some high-achieving adolescents seem to be prone to migraines. Along with pressure to perform well, these patients may also be encouraged not to display emotions such as anger, potentially contributing to headaches.

### Stack the Odds

Most patients will not follow-through on a physician’s recommendation that a patient obtain mental health treatment, Dr. Lumley says. To improve this, “I would encourage neurologists to develop a relationship with a couple of mental health professionals in the area,” he says. Patients may be more likely to follow-up if they learn that their neurologist has a rapport with and first-hand knowledge of the mental health provider. If possible, invite mental health professionals to visit the practice from time-to-time, perhaps for practice open houses, educational programs, or simply a “meet and greet,” Dr. Lumley suggests.

An in-clinic psychologist may not be feasible, but Dr. Lumley notes a recent study among cardiology patients (*Psychosomatics* 49:386-391) found that no patients followed up on a psychological referral, even when they were guaranteed an appointment within the week. But when the psychologist was on-site, 76 percent of patients followed up.

Offering office-based education and support groups may be productive. For example, the neurology practice could

host a monthly teen headache group facilitated by a clinical psychologist. Patients who attend receive potentially valuable information and coping tips and are exposed to the mental health professional with whom they may then choose to follow-up one-on-one.

If a psychologist is located in your office building or nearby, and you have a good relationship with him or her, consider sending patients directly to the office at the conclusion of your office visit or, if possible, call the provider to see if he or she might be able to come to your practice to meet the patient.

Finally, whenever possible, offer to facilitate the appointment with the psychologist. “Just say to the patient, ‘Why don’t I give Dr. So-and-so a call right now and we’ll get you on the schedule?’,” Dr. Lumley says. Making that call cures a lot of the stigma of mental health referral, he says, and you don’t have to wonder whether or not the patient will make the call. **PN**

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