Is Evidence-Based Treatment Sufficient to Manage Nighttime Wetting Problems (Enuresis)?

*Yes and No*

The study by Touchee et al in this issue of the Archives presents the intriguing conclusion that bed-wetting could be part of a delay in the development of the central nervous system. But, it also raises the issue of how to treat bed-wetting when it does occur. Do evidence-based treatments exist for treating nighttime wetting problems?

The concept of “evidence-based medicine” has been widely accepted in the medical and pediatric community. In simplest terms, it refers to the preference for treatments and/or procedures that have a sound empirical base—procedures that have been shown to be superior to alternative treatments by using experimental designs that include random assignment to treatment conditions. With evidence-based treatments, once a procedure is shown to be more effective than the available alternatives, physicians usually adopt it. With nocturnal enuresis, this has not always been the case.

The diagnosis of nocturnal enuresis is relatively straightforward: one or both parents report that their child is wetting the bed and, when possible, this is confirmed by the child. A careful medical history and physical examination, including urinalysis, usually provide sufficient information for the physician to arrive at a diagnosis for nocturnal enuresis. Evidence-based treatments for enuresis have been available for a long time. One such treatment, the urine alarm, was first reported in the literature in 1938 and involves the use of a device that is placed either on the child’s bed or sewn into his or her undergarment. An audible alarm sounds when the child has passed urine. When the alarm sounds, the child either wakes up from the sound or a parent wakes the child and escorts him or her to the bathroom. Depending on the specific treatment protocol, the child cleans himself or herself and the bed and returns to sleep.

Forsythe and Butler reviewed 50 years of research on urine alarms in the treatment of enuresis. The majority of the 34 studies that they cited had a criterion of 13 to 14 consecutive dry nights as their measure of success. If nothing else, the studies they reviewed certainly document the efficacy of urine alarms in the treatment of nocturnal enuresis. The 2 major additions to the urine alarm that have produced better long-term outcome data are overlearning and dry-bed training. These are discussed at length in Moffatt.

**PHARMACOLOGICAL TREATMENT OF NOCTURNAL ENURESIS**

Moffatt, in a review of pharmacotherapy for enuresis, stated that desmopressin acetate can reduce the number of wet nights by approximately 25% but that only 5.7% remained dry after withdrawal of the drug. However, Moffatt also stated that all of the studies on the use of desmopressin acetate have been uncontrolled. He stated that “it is generally thought to be a second line of management when the (urine) alarm has failed or is impractical. It is not curative.” Similarly, Mikkelsen stated that, “The widespread use of DDAVP (desmopressin acetate) has been the primary addition to treatment strategies over the past decade. The bell-and-pad method of conditioning, the only major treatment that has enduring benefit after being withdrawn, is the most cost-effective and appears to be underutilized.” Until well-controlled research documents the efficacy of pharmacological treatments for enuresis, urine alarms remain the most effective option available to the parent.

Although most pediatricians acknowledge that the urine alarm is the most successful procedure available for treating enuresis, many do not recommend it in their practice. Foxman et al reported that pediatricians prescribed urine-alarm treatment for only 3% of their patients but prescribed medication for more than one third of their patients. Shelov et al, in a study of parent and physician attitudes about enuresis, reported that although many physicians prescribe medication, only 6% of parents thought that medicine was a “very good way” to treat enuresis. In fact, in 1 recent American Academy of Pediatrics publication, urine alarms were preferred by parents for correcting bed-wetting when compared with medication.

**IF BEHAVIORAL PROCEDURES ARE SO EFFECTIVE, WHY AREN’T THEY USED MORE OFTEN?**

The only discussion I could find in the literature concerning the reasons why physicians do not recommend urine alarms was from a monograph published by the Duke University School of Medicine in 1989. The authors speculated that physicians’ low rate of recommending the urine alarm was due to the fact that the alarm requires a large time commitment on the parents’ part to be successful, whereas drug therapy often yields quick
results. This same monograph suggested that I reason for physicians' low rate of recommending behavioral procedures for enuresis may be that pediatric residents don't have the opportunity to become familiar with them during training. "Many (pediatric) residents have never seen a bell and pad system. Since they are not familiar with it, they aren't trained in its use. When patients do request information about it, physicians are often more comfortable recommending drug therapy than the bell and pad (urine alarm)." Of course, 1 solution to increasing the use of urine alarms is to train residents how to use it and to view it as a first-line treatment. Other possible reasons why physicians do not recommend urine alarms more frequently are discussed next, along with suggestions on how to encourage such a recommendation.

1. It takes the pediatrician much longer to educate parents on the use of a urine alarm than it does to give them a prescription, and there isn't a billing code that adequately compensates the pediatrician for the added time for such education. The use of nursing and/or allied health professionals to educate patients and their parents is well preceded, and once the diagnosis of enuresis has been made, the use of nonphysicians to educate parents about the options that are available for the treatment of enuresis is certainly a viable and cost-effective option.

2. Parent preference is often not investigated by the physician, decreasing the likelihood of compliance. Some parents would clearly prefer to medicate their child rather than put in all of the effort necessary to implement the urine alarm training or dry-bed training, and some parents would clearly prefer behavioral procedures to medicating their children. Parents should be informed of both options, especially with respect to efficacy. And, as both Moffatt and Mikkelsen have stated, the urine alarm should probably be the first-line treatment when it is practical.

If parents are never given the option of using a urine alarm, however, they will never have a choice between pharmacological interventions and behavioral interventions. The family of a child with enuresis is entitled to identify a resource in their community who can do so.

Long-term Sequelae of Ventilating Tubes

Implications for Management of Otitis Media With Effusion

The article entitled “Hearing Thresholds and Tympanic Membrane Sequelae in Children Managed Medically or Surgically for Otitis Media With Effusion” by Stenstrom, et al. published in this issue of the Archives increases our understanding of the long-term adverse effects of ventilating tubes (VTs) for otitis media with effusion (OME). The Ottawa, Ontario, study describes the findings of a 6- to 9-year follow-up assessment in 113 of 125 children enrolled in a randomized, controlled trial that compared the surgical insertion of T-type VTs with antibiotic prophylaxis to manage OME. This initial trial

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enrolled children aged 2.5 to 7 years who had evidence of unilateral or bilateral OME for at least 3 months and a hearing threshold greater than 25 dB in at least 1 of the