**What is Nocturnal Enuresis?**

Nocturnal Enuresis (or bedwetting) is involuntary urination during sleep. There are two types of nocturnal enuresis:

- **Primary Nocturnal Enuresis**: refers to enuresis that happens early in a child's development when a child has never been dry.
- **Secondary Nocturnal Enuresis**: refers to enuresis that happens between 6 months and several years after the child has been dry.

Bladder control (day and night) is generally achieved by 4 years of age.

**How common is it?**

Nocturnal enuresis is prevalent in 10% of 5 year olds, 4% of 8 year olds and 1% of 14 year olds children. Nocturnal enuresis is more common in boys.

Nocturnal enuresis is diagnosed through:

- Medical history
- Physical examination
- Asking about sleep patterns, bowel habits and urinary symptoms
- Discussing any stressful situations contributing to the problem
- Urinalysis and urine culture
- Sleep studies

**How is Nocturnal Enuresis Treated?**

- **Family education**: parents and the affected child need to know that bed-wetting is a common problem, and parents should be instructed not to blame their child when such incidence happens. In fact family education is one of the most important components of the treatment.

- **Physical cause**: treatment of any underlying physical cause is another approach in treatment of nocturnal enuresis.

- **Sleep disorders**: treatment of an underlying sleep problem can help treat nocturnal enuresis.

- **Medication**: the following two medications are usually prescribed:
  - **DDAVP (desmopressin)**: comes in a nasal spray or tablet
  - **Imipramine**: tablets

**What Causes nocturnal Enuresis?**

- **Hormonal Problems**: a hormone called antidiuretic hormone, or ADH, causes a person's body to produce less urine at night. When the body does not make sufficient amounts of ADH, excess urine is produced during sleep. Therefore, it can lead to involuntary urination or nocturnal enuresis.

- **Bladder problems**: weakness of the muscles of the bladder might also be responsible for nocturnal enuresis.

- **Genetics**: studies have shown that 70% of first degree relatives also have nocturnal enuresis.

- **Sleep problems**: presence of any sleep disorders is likely to increase the occurrence of nocturnal enuresis.

- **Medical conditions**: certain medical conditions such as Urinary Tract Infection, diabetes or epilepsy increase the likelihood of developing nocturnal enuresis.

- **Psychological problems**: rigid toilet training, parent's negative attitudes towards child's behavior, stressful life events as well as having anxiety, attention deficit hyperactivity disorder and mental retardation are all among the psychological risk factors that increase the likelihood of developing nocturnal enuresis among children.
Behavioral Management in treatment of Nocturnal Enuresis

1) **Bladder training**: provide proper bladder training.

2) **Star charts to reward success**: reward the child by giving stickers for every night he or she remains dry. Once a certain number of stickers or points have been earned, the child is given a prize.

3) **Responsibility Training**: give the child age-appropriate responsibilities.

4) **Fluid restriction**: restrict the amount liquid a child consumes before bedtime and encourage using the bathroom before going to bed.

5) **Enuresis alarm** (pad and buzzer) with these alarms, a bell or buzzer goes off when a child begins to wet the bed. Then, the child can quickly turn the alarm off, go to the bathroom, and go back to sleep without wetting the bed too much. However, it can take many weeks for the body to unlearn something it has been doing for years. Eventually, the child can train her/himself to get up before the alarm goes off or to hold his/her urine until morning.

6) **Enuresis log**: keeping an active log can help monitor the progress of the child throughout the treatment, sense of love and security as well as provide a time to calm down.

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