- **How would you define enuresis?**
  - It is the inability to control bladder when it is time to attain so.
- **Classification of enuresis: there are two main classifications**
  - **Diurnal and nocturnal (based on the timing of the day in which it occurs):**

Diurnal	Nocturnal
Associated with UTIs	Not associated with UTIs
Common in girls	Common in boys
Presence of psychological problem	No psychological or behavioral problem
Less common than nocturnal	More common

  - **Primary vs. secondary enuresis:**

Primary enuresis	Secondary enuresis
The child never had control of urination before	• The child had control of urination for at least 6 months → then, there was a relapse • This occurs around the age of 5-6 years • It occurs following a stressful event within the family or secondary to an infection

- **Epidemiology:**
  - **Prevalence**: males are slower than females in achieving control or urination and are more likely to relapse:
    - ✓ 10% at the age of 6 years.
    - ✓ 1% at the age of 16 years.
- **Etiology of enuresis:**
  - Notice that enuresis is not inherited but usually there is a positive family history!
  - In girls, the first thing which must come to your mind when there is enuresis is Urinary Tract Infection (UTI).
  - Stressful events are associated with secondary enuresis (as mentioned above). These stressful events include: divorce, moving from house to another, domestic violence and admission to hospital.
- **Factors which are associated with enuresis (but not considered to be etiological):**
  - Poverty.
  - Crowded places and large families.
  - Those who live in institutions (they develop enuresis because there is improper training of how to use toilet).
  - ↑ risk of language and motor delay.
- **It is (UNLIKELY) that enuresis is due to:**
  - Deep sleep.
  - Structural abnormalities of urinary tract.
  - Epileptic equivalent.
- **The relation of enuresis to psychiatric problems:**
  - Psychiatric problems are 2-6 times more common among enuretic children (but not always found. The child might be normal ☺).
- **Assessment of enuresis:**
  - History (to rule-out if there is any organic cause of enuresis).
  - Family history (usually positive as mentioned previously).
  - Urinalysis and urine culture.
  - Blood sugar (which is done if the urinalysis shows elevated glucose level).

- Urological investigations according to history.
- Fecal soiling as well.
- Is the child or his parents are motivated to get rid from this issue?

- **Prognosis of enuresis: it is usually good except in**
  - Secondary type.
  - When the child is coming from a poor family.
  - If the patient is not cooperating with the treatment.
  - If enuresis is more frequent (occurring every night).
- **Management of enuresis:**
  - **Start with general principles which are applied to all cases:**
    - ✓ Increase the motivation of the child (let him fell of responsibility; support him) and correct wrong conceptions (when present) among the family. If this doesn't work after 1 month → move to medical treatment
  - **DDNVP (Antidiuretic Hormone)** can be taken as puffs or tablets and is very effective BUT there is a high relapse rate because it is not treating the child's behavior (which is more important!).
  - **Tricyclic antidepressants (e.g. imipramine)** BUT they express adverse effects on the heart.
  - **Notice that there is no surgical treatment for this condition.**