

# Elimination Disorders

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# Elimination Disorders

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# Elimination Disorders – Introduction

- Inappropriate elimination of urine or feces
  - Usually first dx in **childhood or adolescence**
- Minimum age requirements
  - Based on **developmental age** (not solely chronological)
- Both may be **voluntary or involuntary**
- Typically occur **separately** → but may co-occur

# Enuresis

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# Enuresis – Diagnostic Criteria

- A. **Voiding of urine into bed/clothes** (involuntary or intentional)
- B. Clinically significant, **either**:
  - 1. Frequency of **2+ times per week** for **3+ consecutive months**
  - 2. Significant distress or impairment in functioning
- C. At least **age 5** (chronological or developmental)
- D. Not due to substance or AMC

# Enuresis – Diagnostic Specifiers

- *Specify subtype:*
  - **Nocturnal only:** only during nighttime sleep
    - MOST COMMON subtype → typically **first third of night**
    - *“monosymptomatic enuresis”*
  - **Diurnal only:** only during waking hours
    - *“urinary incontinence”* → 2 groups
      - “urge incontinence” → sudden urge sx + detrusor instability
      - “voiding postponement” → defer urges until incontinence results
  - **Nocturnal and diurnal**
    - *“non-monosymptomatic enuresis”*

# Enuresis – Diagnostic Features

- Repeated voiding of urine into bed/clothes, during day or night
  - Most often **involuntary** → may be intentional

# Enuresis – Associated Features

- Nocturnal enuresis
  - May be **during REM sleep** → child **may recall dream** involving urinating
- Daytime enuresis
  - **May defer voiding** until incontinence, due to reluctance to use toilet
    - Result of **social anxiety** or **preoccupation with activity**
  - Typically in **early afternoon on school days**
    - May be assoc with disruptive behavior
- Enuresis **often persists after treatment of UTI**



# Enuresis – Prevalence

- Age 5 → 5 – 10%
- Age 10 → 3 – 5%
- Age 15+ → 1%

# Enuresis – Development & Course

- “Primary enuresis” → NEVER established urinary continence
  - Begins at **age 5** (by definition)
- “Secondary enuresis” → develops after established continence
  - Most common onset at **age 5 – 8** → may occur anytime
  - No differences in prevalence of comorbid mental disorders
- Course
  - After age 5 → **5-10% spontaneously remit per year**
  - Most become continent by adolescent → **1% continue into adulthood**
  - Diurnal incontinence more common if **persistent nocturnal enuresis**
  - If persists into late childhood or adolescence → frequency may increase
  - If continence in early childhood → frequency of wet nights decreases

# Enuresis – Risk & Prognostic Factors

- Environmental

- Delayed or **lax toilet training**
- **Psychosocial stress**

- Genetic & Physiological

- Delays in development of **normal circadian rhythms of urine production**
  - **Nocturnal polyuria**, or abnormal **central AVP receptor sensitivity**
- Reduced functional bladder capacity with bladder hyperreactivity
  - **“Unstable bladder syndrome”**
- Genetically heterogenous disorder → **heritability shown** in studies
- Risk of childhood nocturnal/diurnal enuresis increased if:
  - Offspring of **enuretic mothers** → **3.6x**
  - Presence of **paternal urinary incontinence** → **10.1x**

# Enuresis – Culture-Related Issues

- Across nations → similar prevalence rates + course
- Very high rates in **orphanages + residential institutions**
  - Likely related to toilet training mode + environment

# Enuresis – Gender-Related Issues

- Nocturnal enuresis → more common in **MALES**
- Diurnal enuresis → more common in **FEMALES**
- Risk of child with enuresis
  - Greater if **previously enuretic FATHER** (vs mother)

# Enuresis – Functional Consequences

- Impairment/limitations/effects
  - Social activities
  - Self-esteem
  - Social ostracism by peers
  - Anger, punishment, rejection by caregivers

# Enuresis – Differential Diagnosis

- Neurogenic bladder or AMC
  - Also untreated diabetes mellitus, diabetes insipidus, acute UTI
- Medication side effect
  - Antipsychotics, diuretics, etc

# Enuresis – Comorbidity

- Most children do NOT have a comorbid mental disorder
  - Behavioral sx more common if enuresis
  - **Developmental delays** seen → speech, language, learning, motor skills
  - May have **encopresis, sleepwalking, sleep terror** (NREM arousals)
- Urinary tract infections
  - More common if enuresis → esp **diurnal**



# Encopresis

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# Encopresis – Diagnostic Criteria

- A. Passage of feces in inappropriate places
- B. 1+ times per month, for 3+ months
- C. At least **age 4** (chronological or developmental)
- D. Not due to substance or AMC (except constipation)

# Encopresis – Diagnostic Specifiers

- *Specify subtype:*
  - **With constipation and overflow incontinence**
    - Poorly formed feces, leakage (infreq to continuous)
    - Only part of feces is passed during toileting
    - Occurs mostly during day (rarely during sleep)
    - Resolves after **treatment of constipation**
  - **Without constipation and overflow incontinence**
    - Normal form/consistency feces, soiling intermittent + less common
    - May be deposited into prominent location
    - Usually assoc with **ODD/CD or anal masturbation**

# Encopresis – Diagnostic Features

- If involuntary feces → often related to **constipation + overflow**
- Constipation
  - Psychological reasons → leads to avoidance of defecation
    - **Anxiety about defecating**, general anxiety or **oppositional behavior**
  - Physiological reasons
    - **Ineffective straining**
    - **Paradoxical defecation dynamics** (contracts sphincter/pelvic floor)
    - **Dehydration** (febrile illness, hypothyroidism, medication side effect)
  - May be complicated by **anal fissure, pain, further fecal retention**
- Stool consistency varies

# Encopresis – Associated Features

- Often ashamed, wanting to avoid situations/embarrassment
  - Self-esteem, social ostracism, caregiver anger/punishment/rejection
- Smearing feces → may be deliberate/accident
  - May be attempt to clean or hide feces
- If clearly deliberate incontinence → may have ODD/CD features
- If encopresis + chronic constipation → often enuresis sx
  - Assoc urinary reflux in bladder/ureters → may lead to chronic UTIs
  - May remit with tx of constipation

# Encopresis – Prevalence

- Age 5 → 1%
  - More common in **MALES**

# Encopresis – Development & Course

- Not diagnosed until **age 4**
- Predisposing factors
  - Inconsistent toilet training
  - Psychosocial stress (school, birth of sibling)
- Primary vs secondary types
  - Whether fecal continence ever previously established
- Can persist for years → with intermittent exacerbations

# Encopresis – Risk & Prognostic Factors

- Genetic & Physiological
  - **Painful defecation** → can lead to constipation
    - Cycle of withholding behaviors → makes encopresis more likely
  - **Medications** that incr constipation
    - Anticonvulsants, cough suppressants



# Encopresis – Diagnostic Markers

- Physical exam
- GI imaging (AXR) → retained stool, gas in colon
- Barium enema
- Anorectal manography → rule out **Hirschsprung's disease**

# Encopresis – Differential Diagnosis

- If constipation or fecal continence related to AMC, do NOT dx

# Encopresis – Comorbidity

- UTI can be comorbid → more common in FEMALES

# **Other Specified Elimination Disorder**

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# Other Specified Elimination Disorder

- Does not meet any full criteria
- Clinical chooses to specify reason
- Low-frequency enuresis

# Unspecified Elimination Disorder

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# Unspecified Elimination Disorder

- Does not meet any full criteria
- Clinical chooses NOT to specify reason