

Enuresis

DSM-5-TR 307.6 | ICD-10-CM F98.0

Repeated voiding into bed or clothes at or beyond age 5, usually nocturnal, and driven by physiology rather than by defiance.

PREVALENCE

~5-10% at age 5; ~1% at 15

TYPICAL ONSET

Primary in 75-80% of cases

SEX RATIO

~2:1 male:female (nocturnal)

COURSE

~15% remit spontaneously/year

CLINICAL PICTURE

- Most children wet only at night, sleep through the event, and are extremely difficult to rouse, which reflects a high arousal threshold rather than laziness.
- Primary enuresis, meaning continence was never achieved for 6 months, accounts for roughly three quarters of cases and is strongly familial.
- Secondary enuresis follows a dry period and should prompt evaluation for urinary infection, diabetes, constipation, sleep apnea, and psychosocial stressors.
- Daytime wetting points instead toward overactive bladder, voiding postponement, or dysfunctional voiding, and needs a different treatment pathway.
- Around three quarters of children have an affected first-degree relative, and telling families this openly reduces blame more effectively than reassurance does.
- The main harm is social: missed sleepovers and camp, secrecy, low self-esteem, and punitive parental responses that make treatment adherence worse.

DIAGNOSTIC CRITERIA AT A GLANCE

- Urine is repeatedly voided into bed or clothes, and the behavior counts whether it is involuntary or, far less commonly, intentional.
- Frequency must reach at least twice weekly for 3 consecutive months, or else cause clinically significant distress or functional impairment.
- Chronological age must be at least 5 years, or the equivalent developmental level, which is why the diagnosis is not applied to younger children.
- The wetting is not attributable to a substance such as a diuretic or antipsychotic, or to a medical condition like diabetes or spina bifida.
- Specify the subtype as nocturnal only, diurnal only, or nocturnal and diurnal, since each implies a different mechanism and treatment plan.

NEUROBIOLOGY & PHYSIOLOGY

- Three mechanisms combine: nocturnal polyuria from a blunted overnight vasopressin rise, reduced functional bladder capacity, and failure to wake to a full bladder.
- Heritability is around 70%, with autosomal dominant transmission described in large pedigrees and linkage to loci on chromosomes 12q and 13q.
- Obstructive sleep apnea with adenotonsillar hypertrophy is an underrecognized driver, and adenotonsillectomy resolves wetting in a meaningful subset.
- Constipation with rectal distension mechanically compresses the bladder and reduces functional capacity, so it must be treated before anything else.
- ADHD is two to three times more common in children with enuresis and predicts poorer adherence to alarm therapy and higher relapse rates.
- Medical causes to exclude include urinary tract infection, diabetes mellitus and insipidus, hypercalciuria, neurogenic bladder, and posterior urethral valves.

PSYCHOLOGICAL MECHANISMS

- In most children this is a maturational and physiological condition, and framing it as a psychological problem increases shame without improving dryness.
- Guilt, social withdrawal, and low self-esteem are consequences of the wetting rather than its cause, and they resolve as continence improves.
- Secondary enuresis correlates with identifiable stressors including parental separation, a new sibling, hospitalization, bullying, and maltreatment.
- Punishment and shaming reliably worsen outcomes, reduce disclosure, and predict dropout from alarm treatment, so removing them is an early intervention.
- Alarm therapy works through classical and operant conditioning, pairing bladder fullness with waking until inhibition or arousal becomes automatic.

DIFFERENTIAL & COMORBIDITY

- Screen every child with urinalysis and culture for infection and glycosuria, and take a constipation history, since these change management immediately.
- Neurogenic bladder is suggested by sacral dimples, hair tufts, abnormal gait, or lower limb reflex changes, and warrants imaging of the spine.
- Constant dampness in a girl who is otherwise dry raises suspicion of an ectopic ureter, which requires urological imaging rather than behavioral treatment.
- Comorbid ADHD, oppositional defiant disorder, anxiety, and developmental delay are common and each reduces the odds of completing alarm therapy.
- Deliberate wetting is rare and, when present, should prompt assessment for maltreatment, severe oppositionality, or significant psychiatric illness.

Treatment EVIDENCE-BASED MANAGEMENT

PHARMACOLOGIC

- Desmopressin 0.2-0.6 mg** orally at bedtime works quickly for nocturnal polyuria, but relapse on discontinuation is high and it is not curative.
- Restrict fluids from 1 hour before to 8 hours after each desmopressin dose, since hyponatremia with seizures is the serious adverse effect.
- Intranasal desmopressin is contraindicated for enuresis in the United States because of reported hyponatremic seizures at that route and dose.
- Imipramine 25-75 mg** at bedtime achieves roughly 40% response but is third-line, requires ECG screening, and is lethal in overdose.
- Anticholinergics such as **oxybutynin** or solifenacin target detrusor overactivity in daytime wetting; monitor constipation and heat intolerance.

PSYCHOTHERAPY

- The **bedwetting alarm** is first-line with the highest durable cure rate, around two thirds, but requires 8-16 weeks and a committed family.
- Urotherapy establishes timed voiding every 2-3 hours, proper toilet posture with foot support, double voiding, and daytime fluid loading.
- Reward systems should reinforce behaviors the child controls, such as following the routine and helping with bedding, never dry nights themselves.
- Dry-bed training and overlearning, in which fluids are increased once dryness is achieved, reduce relapse after successful alarm treatment.
- Parent education that removes punishment and explains the physiology is the single most reliable step toward completing any treatment course.

ADJUNCT & SUPPORTIVE

- Start with a 48 to 72 hour bladder and bowel diary recording voided volumes, wet nights, stool pattern, and fluid timing across the day.
- Treat constipation aggressively with **polyethylene glycol** and confirm resolution, because this alone resolves wetting in a substantial minority.
- Screen for snoring, mouth breathing, and witnessed apneas, and refer for sleep evaluation when obstructive sleep apnea is suspected.
- Practical supports include waterproof bedding, a bedside light, and absorbent pants as a bridge for camps and sleepovers without abandoning treatment.
- Set expectations against the natural history of roughly 15% spontaneous remission per year, so families can judge whether treatment is adding value.

CLINICAL PEARLS

- Treat the constipation and the snoring first; a share of bedwetting resolves without anything else.
- The alarm cures, desmopressin controls. Choose by what the family can actually sustain.
- Reward the routine, never the dry night. Children cannot control the outcome you are paying for.

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NOTE

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