



NOTES

BLADDER PATHOLOGY

NEUROGENIC BLADDER

osms.it/neurogenic-bladder

PATHOLOGY & CAUSES

- Impaired control of bladder emptying due to nerve damage
- Bladder fills → damaged S2-S3 nerves → impaired signal transmission, lack of voluntary control → incontinence

Overflow incontinence

- Bladder reaches maximum capacity, releases urine involuntarily all at once
- Results from impaired capacity to detect bladder filling

Urge incontinence

- Small amount of urine initiates micturition reflex involuntarily
- Results from impaired capacity to inhibit micturition reflex

CAUSES

Overflow incontinence

- Diabetes mellitus (most common); ischemic, metabolic, endothelial damage
- Syphilis → tabes dorsalis; inflammation, scarring of dorsal root nerves
- Herpesvirus → latent in dorsal nerve roots
- Spinal injury → micturition center (S2-S3 level) affected
 - Once shock resolves → normal micturition reflex
 - May also lead to urge incontinence; impaired transmission of inhibitory signal for micturition reflex

Urge incontinence

- Multiple sclerosis (MS) → autoimmune damage to nerve myelin sheath in S2-S3 level in spinal cord
- Spinal shock
- Stroke
- Chronic processes affecting central nervous system (CNS): Parkinson's disease, brain tumor

RISK FACTORS

- Any disease affecting central, peripheral nervous system
 - Diabetes, syphilis, herpes, spinal birth defects, spinal cord injuries, stroke, traumas

COMPLICATIONS

- Rashes/skin infections
- Recurrent urinary tract infections (UTIs)

SIGNS & SYMPTOMS

- Depends on nerves damaged, extension
- Urge, overflow incontinence

DIAGNOSIS

LAB RESULTS

- Post-voiding residual measuring: amount of urine in bladder after urination
- Pressure, flow of urine measurements

TREATMENT

MEDICATIONS

- Urge incontinence: anticholinergic drugs to relax detrusor muscle

OTHER INTERVENTIONS

- Overflow incontinence: catheter to drain urine

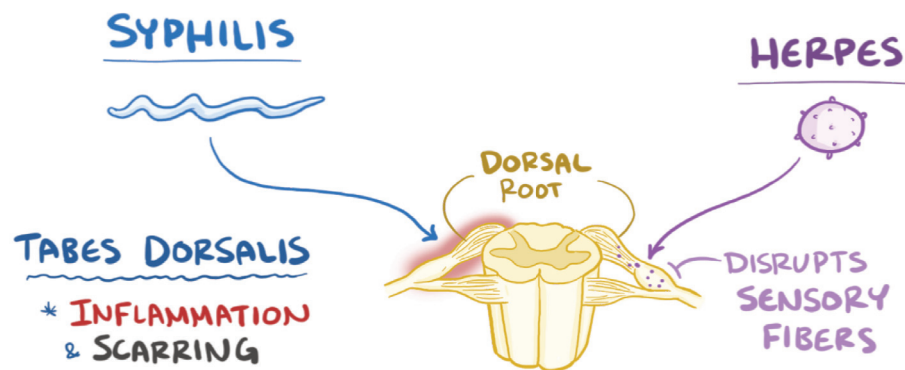


Figure 109.1 Illustration of syphilis and herpes viruses attacking the nerves of the bladder, which ultimately leads to overflow incontinence.

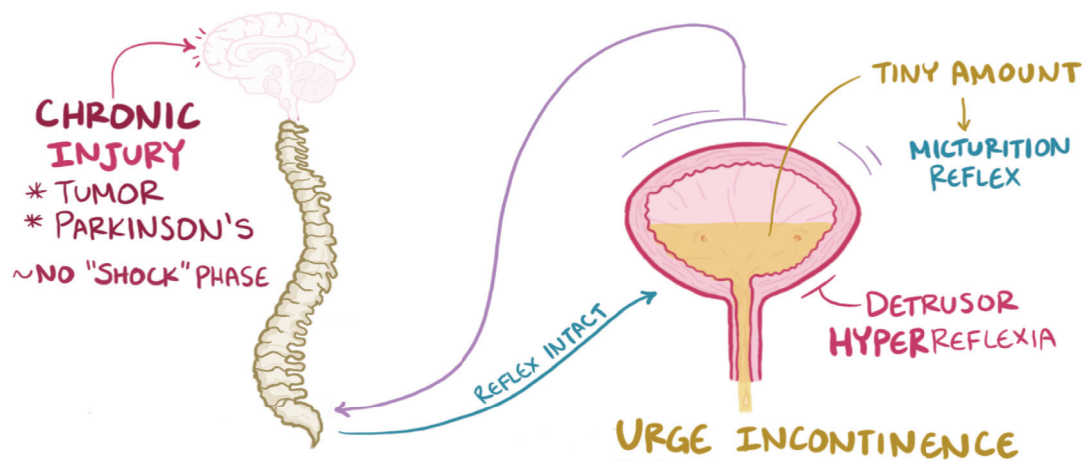


Figure 109.2 Illustration of causes of overflow incontinence. Spinal injuries can temporarily impair bladder functioning, while chronic conditions affecting the nervous system, like Parkinson's disease, have more permanent effects.