



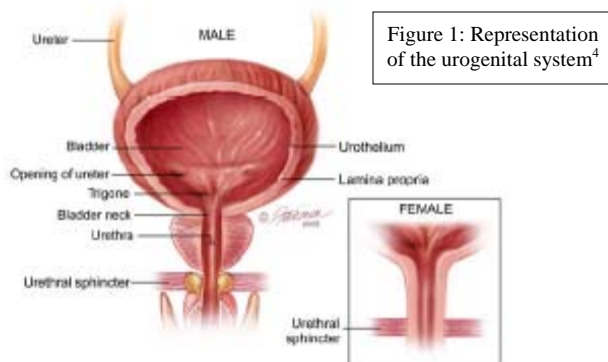
## “From The Pharmacist” – Serve You’s Educational Series on Disease States

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# Overactive Bladder: What You Need To Know

### What is OAB?

Overactive bladder (OAB) is a common urinary disorder associated with urinary urgency, frequency, repeated nighttime urination, and the possibility of urinary incontinence (UI).<sup>1,2</sup> Nearly one-half of patients with urgency also experience incontinence.<sup>2</sup> In the past, the terms OAB and UI were used interchangeably. The difference between the terms is that OAB involves urinary urgency with or without incontinence while UI pertains only to incontinence.<sup>2</sup> UI can be further divided into urge incontinence, stress incontinence, and overflow incontinence. The distinctions are important, as each affliction dictates a different treatment strategy. Urge incontinence involves involuntary bladder filling, stress incontinence is affiliated with physical activity, and overflow incontinence is associated with a full bladder that is unable to be emptied.<sup>3</sup>



Normal bladder function requires coordination between the brain and the urinary tract (See Figure 1). Think of bladder activity as the interaction between a key and a lock. Normal bladder function commences when the neurotransmitter acetylcholine - the key - binds to muscarinic receptors - the lock - located on the bladder. Consequently, the bladder contracts and empties any stored urine.<sup>2,3</sup> The urethral sphincter must maintain adequate pressure while the bladder is filling to prevent urine from leaving the bladder emptying process.<sup>3</sup>

involuntarily. The pressure is reduced during the emptying process.<sup>3</sup>

### What causes OAB?

The cause of OAB is not clear. Research suggests the involuntary contractions may be caused by a muscular dysfunction within the bladder or a malfunction involving the neurotransmitter acetylcholine.<sup>2</sup>

### Who is affected?

OAB is estimated to affect 33 million Americans or about 16.5% of the population, rendering OAB more prevalent than allergic rhinitis and heart disease.<sup>2,5,6</sup> In long-term care facilities it is estimated that as many as 50% of residents suffer from incontinence.<sup>7,8</sup> The incidence of OAB increases with age and has a profound effect on both subjective and objective quality of life measures and mental health.<sup>2</sup> Studies show incontinence is associated with urinary tract infections, pressure ulcers, falls, and fractures.<sup>9,10,11</sup> The estimated cost of OAB in 2000 was \$12.6 billion. Insurance claims analyses show annual spending for patients with OAB to be nearly 5-fold greater than for those without the condition.<sup>1,2,12</sup>

### Diagnosis and Screening for OAB

The greatest barrier to successful diagnosis of OAB is the patient’s reluctance to discuss the condition with his or her physician.<sup>2</sup> Medical history and physical exams are important in an initial OAB screening to rule out other potential causes such as diabetes mellitus, urinary tract infection, constipation, benign prostatic hypertrophy, prior surgery, and medication use.<sup>2,3</sup> Most diagnoses do not require further follow up with a urologist.<sup>2</sup>

### Non-pharmacologic Treatment

Non-pharmacologic approaches are usually initiated as first-line treatment or in conjunction with pharmacological treatment. Common nonpharmacologic treatments include lifestyle modifications, use of a bladder diary, bladder training, and kegel exercises.<sup>2,3</sup>

Lifestyle modifications that may ease OAB symptoms include weight reduction, caffeine and alcohol avoidance,

limited fluid intake, and restriction of large fluid intake in one sitting.<sup>2,3</sup> A bladder diary is a useful tool to help patients document patterns of OAB and outline improvements in symptoms over time. A diary may help patients become more attuned to OAB conditions and can serve as a basis for consultation between a patient and physician.<sup>2</sup> Bladder training involves emptying the bladder only at regularly timed intervals determined from the bladder diary to help the patient resist the urge to urinate at unscheduled times.<sup>2,3</sup> Finally, kegel exercises help strengthen muscles in the pelvic floor to improve external sphincter function and increase resistance when the urge to urinate occurs.<sup>2,3</sup>

### Pharmacologic Treatment

Medication treatment is often most effective when used in conjunction with behavioral therapies.

Anticholinergic/antimuscarinic drugs are considered first-line medications for the management of OAB.<sup>2,3</sup>

These drugs prevent the binding of acetylcholine - the key - to muscarinic receptors - the lock. Preventing this action decreases involuntary bladder muscle contractions

and improves the bladder's capacity to store urine.<sup>2</sup> Current drugs used to treat OAB differ in chemical structure and selectivity for muscarinic receptors but all are considered effective.<sup>2</sup>

Five subsets of muscarinic receptors are located throughout the body. Anticholinergic/antimuscarinic drugs that are specific for muscarinic receptors located in the urinary tract are thought to precipitate fewer side effects. To date, only Detrol® (tolterodine) has been shown to exclusively block muscarinic receptors within the urinary tract.<sup>2</sup> Ditropan XL®, Detrol XL®, Enablex®, and VESIcare® allow for once daily dosing. Oxytrol™, a transdermal patch requires the application of a new patch twice weekly. The most common side effect associated with these medications is dry mouth, but constipation, blurred vision, and drowsiness have also been reported. These drugs are not recommended for patients with narrow-angle glaucoma, and urinary or gastric retention. Table 1 lists the most common anticholinergic/antimuscarinic agents currently available.

**Table 1 – Common anticholinergic/antimuscarinic medications**

Brand Name	Chemical Name	Available Generically
Ditropan	Oxybutynin	Y
Ditropan XL®	Oxybutynin extended release	4Q05
Oxytrol(Patch)	Oxybutynin transdermal	N
VESIcare®	Solifenacin	N
Detrol	Tolterodine	N
Detrol/Detrol LA	Tolterodine extended release	N
Sanctura™	Trospium	N
Enablex®	Darifenacin extended release	N

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