



Overactive Bladder Medication



Overactive bladder (OAB) affects approximately 15% of the adult population. Diagnosis is based upon a medical history, and includes a focused physical exam (abdominal, neurological, pelvic in females and rectal in males) to eliminate other related conditions. Treatments include behavioural changes (*fluid intake and bladder retraining*), pelvic floor exercises (*contraction of muscles around the outlet of the bladder*), drug treatment and surgery.

OAB symptoms include urgency (*an urgent sensation to empty the bladder which is difficult to defer*), usually with urinary frequency (*8 or more void per 24h*) and nocturia (*one or more void during the night*), with or without urgency incontinence (*leakage of urine usually associated with a sudden urge to urinate*).

Many medicines are available to treat OAB, the majority of which are approved for use across Canada. Most of them belong to a type of medication called anticholinergics; they block the release of a chemical called acetylcholine at the junction of nerves and the bladder, reducing urgency and allowing greater control over bladder habits. Unfortunately, these drugs cause side effects that include dry mouth, constipation, blurred vision and sometimes they may be associated with confusion in older people. Some medications (IR: immediate release formulation) are rapidly absorbed, producing high blood levels for a short period of time hence producing more side effects and requiring multiple daily doses. Other products (ER: extended release formulations) are absorbed more steadily, have fewer side effects, and they require only daily dosing. Some other products are absorbed through the skin and may cause even fewer side effects.

The following list, (in order from oldest to newest), includes all products approved to treat this condition in Canada as of 2015. Cost coverage of these products varies according to provincial drug reimbursement (formularies) programs and private insurance programs.

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Oxybutynin, (Ditropan and generics)

Oxybutynin has been available in Canada for 30 years, and many generic products are available. Its immediate release forms are available in 2.5 and 5mg tablets and require up to 4 daily administrations. The maximum daily dosage is 20 mg. It is also available in a liquid formulation. Clinicians usually start the tablets at a low dosage (2.5 mg) two or three times a day and increase progressively to a maximally effective dosage. Drug adherence is poor at higher doses though due to the side effects. The majority of patients discontinue by 6 months because of these. It is on the drug reimbursement program in every province.

Flavoxate (Urispas and generics)

Flavoxate is now not recommended for the treatment of OAB according to both national and international guidelines. It is available in 200 mg tablets and requires administration three times a day. Maximum daily dosage is 600mg. It is on the drug reimbursement program in some provinces.

Tolterodine IR (Detrol)

Tolterodine is a non selective anticholinergic agent with proven efficacy in clinical trials versus oxybutynin. It has a reduced level of side effects compared to oxybutynin. It is available in 2mg and 4mg tablets and requires twice daily dosing. For certain people a dose of 1mg is recommended. It is reimbursed in the majority of provincial drug programmes.

Tolterodine ER (Detrol ER)

Introduced in Canada in 2001. Detrol LA contains tolterodine in a prolonged release formulation with proven efficacy over placebo. Better efficacy and improved tolerability have been documented when compared to regular Detrol. It is available in 2 and 4 mg tablets, and requires a single daily administration. Detrol LA 4mg has been shown relatively similar to Ditropan XL 10 mg regarding efficacy and side effects. Maximum daily dosage is 4 mg. It is recommended to start with maximal dosage (4 mg) and to decrease if needed to 2 mg. Drug compliance is acceptable at maximum dosage but anticholinergic side effects may limit compliance. In case of hepatic or renal impairment, maximum dosage should be reduced to 2mg once a day. Precaution is recommended if using with cardiac antiarrhythmic drugs. It is on the drug reimbursement program in some provinces.



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Oxybutynin ER (Ditropan XL)

Introduced in Canada in 2001. Ditropan XL contains Oxybutynin in a prolonged release formulation. It has improved efficacy and tolerability when compared to immediate release oxybutynin. It is available in 5 and 10 mg tablets. Ditropan XL 10 mg has been shown relatively similar to Detrol LA 4 mg regarding efficacy and side effects. Maximum daily dosage is 30 mg, taken once a day. Drug adherence is acceptable at 10 mg dosage but anticholinergic side effects may limit compliance. Some patients with severe OAB conditions will tolerate increase in dosage up to 30 mg. It is on the drug reimbursement program in some provinces.

Oxybutynin TDS (Oxytrol)

Introduced in Canada in 2002. Oxytrol contains Oxybutynin in a transdermal delivery system which reduces the drug related side effects. Transdermal oxybutynin appears to have equal effectiveness to Detrol LA 4 mg but with less dry mouth. Skin irritation occurs in 15-20% of patients. It is available in 36 mg patches which must be applied twice weekly to the thighs, buttocks or lower abdomen. Skin irritation may limit compliance. It is on the drug reimbursement program in some provinces.

Oxybutynin PR (Uromax)

Introduced in Canada in 2006. Uromax contains Oxybutynin in a prolonged release formulation. Better efficacy and improved tolerability has been documented when compared to immediate release oxybutynin. It is available in 10 and 15 mg tablets, and requires a single daily administration. Maximum daily dosage is 20 mg. It is recommended to start with a 10mg dosage and if needed to increase to 15 mg. Anticholinergic side effects may limit compliance. Some patients with severe OAB will tolerate increase in dosage up to 20 mg. Cost and simplicity of use at higher dosage (15 mg) are the main advantages. It is on the drug reimbursement program in some provinces.





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Solifenacin (Vesicare)

Vesicare contains solifenacin in an immediate release formulation. It is a long acting drug with a once daily dose. It is available in 5 and 10 mg tablets. At a starting dosage of 5 mg, efficacy and tolerability has been shown relatively similar to Detrol LA 4 mg, but at maximum dosage for both products, Vesicare *appears to be marginally more effective than tolterodine*. Maximum daily dosage is 10 mg. It is recommended to start with a 5 mg dosage and if needed to increase to 10 mg. Drug compliance is acceptable at 5 and 10 mg dosage but anticholinergic side effects may limit compliance. It is on the drug reimbursement program in most provinces.

Darifenacin (Enablex)

Introduced in Canada in 2006. Enablex contains Darifenacin in a prolonged release formulation with proven efficacy over placebo. It is available in 7.5 and 15 mg tablets and requires a single daily administration. Efficacy and tolerability is superior to Ditropan and relatively similar to Detrol LA. Its has proven cognitive safety in older patients but may cause higher rates of constipation. It is recommended to start with a 7.5 mg dosage and if needed to increase to 15 mg. Drug compliance is acceptable at 7.5 and 15 mg dosage but anticholinergic side effects may limit compliance. It is on the drug reimbursement program in some provinces.

Trospium chloride (Trosec)

Trosec contains Trospium chloride (*a quaternary amine with anticholinergic activity*) in an immediate release formulation with proven efficacy over placebo. It is available in 20 mg tablets and requires twice a day administration. Efficacy has been shown comparable to Ditropan, but with a better safety profile. Trospium doesn't cross the blood brain barrier and theoretically doesn't cause cognitive side effects. Maximum daily dosage is 40 mg. It is recommended to start with at maximum dosage and to reduce to 20 mg once a day if needed. Drug compliance is acceptable at maximal dosage but anticholinergic side effects may limit compliance. In case of renal impairment, maximum dosage should be reduced to 20 mg once a day. It is on the drug reimbursement program in some provinces.

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Oxybutynin chloride gel (Gelnique)

Gelnique contains oxybutynin chloride in an alcohol based gel. Efficacy has been shown over placebo. It is available in individual sachets or packets and is applied to the shoulder, abdomen (stomach area) or thigh once a day. The gel is clear and dries quickly and because it is delivered across the skin it avoids the high levels of side effects associated with taking oxybutynin by mouth. Drug compliance is very good and it has a low rate of anticholinergic side effects. It does not appear to cause cognitive side effects in the elderly. It is supplied in cartons of 30 individual 1 gm sachets. It is under review by different provinces.

Mirabegron (Myrbetriq)

Mirabegron is a new drug for the treatment of OAB which acts in a different way to the others. It acts on a different chemical receptor (the beta-3- receptor) in the bladder which causes relaxation of the bladder whilst it fills. This action is associated with a reduction in urinary urgency, frequency and urgency incontinence. Mirabegron is licensed for use in a 25mg and 50mg dose. Clinicians vary as to the way in which they use the drug as the effect is not always dose dependent. Its side effect profile is different from the other drugs and includes urinary tract infection and a raised pulse rate, although the significance of these is not clear. Mirabegron has been shown to be effective and safe in older people with OAB. Mybetriq is included in the majority of provincial drug programs.

Fesoterodine (Toviaz)

Fesoterodine is a medication which is converted into the same chemical as tolterodine is converted into by the body, but in a more dependable fashion. It is available in 4 and 8 mg doses and has been shown to be effective in the treatment of OAB against placebo and 8mg of fesoterodine is superior to 4mg of tolterodine. Fesoterodine has been extensively tested in older people and has proven effective and safe with no unexpected problems. Anticholinergic side effects may limit adherence. Fesoterodine is included in the majority of provincial drug programs.