

DISEASE MANAGEMENT

1. Conservative treatment

Watchful waiting

Watchful waiting (WW) is usually a safe alternative for men with non-bothersome LUTS or who wish to delay treatment.

85% of men with mild LUTS are stable on WW.

Behavioural and dietary modifications: Evidence exists that self-management as part of WW (reduction of fluid intake at specific times, avoidance/moderation of intake of caffeine or alcohol, use of relaxed and double-voiding techniques, reviewing the medication and optimising the time of administration...) reduces both symptoms and progression.

Recommendations	Strength rating
Offer men with mild/moderate symptoms, minimally bothered by their symptoms, watchful waiting.	Strong
Offer men with LUTS lifestyle advice and self-care information prior to, or concurrent with, treatment.	Strong

2. Pharmacological treatment

Alpha 1-Adrenoceptor antagonists (α 1-blockers)

Alpha 1-blockers are effective in reducing urinary symptoms (IPSS) and increasing the peak urinary flow rate (Q_{max}) compared with placebo.

Alfuzosin, terazosin and doxazosin showed a statistically significant increased risk of developing vascular-related events compared with placebo.

Ejaculatory dysfunction is significantly common with α 1-blockers, particularly with tamsulosin and silodosin and its exposure has been associated with an increased risk of Intra-operative floppy iris syndrome.

Recommendation	Strength rating
Offer α 1-blockers to men with moderate-to-severe LUTS.	Strong

5 α -reductase inhibitors

Finasteride inhibits only 5 α -reductase type 2, whereas dutasteride inhibits both 5 α -reductase types (dual 5-ARI).

The 5-ARIs induce apoptosis of prostate epithelial cells leading to prostate size reduction of about 18-28% and a decrease in circulating PSA levels of about 50% after 6 to 12 months of treatment and reduce the long-term risk of acute urinary retention (AUR) or need for surgery. The most relevant adverse effects of 5-ARIs are related to sexual function.

Recommendations	Strength rating
Use 5 α -reductase inhibitors (5-ARIs) in men who have moderate-to-severe LUTS and an increased risk of disease progression (e.g., prostate volume > 40 mL).	Strong
Counsel patients about the slow onset of action of 5-ARIs.	Strong

Muscarinic receptor antagonists

Antimuscarinic monotherapy can significantly improve urgency, urgency urinary incontinence (UUI), and increased daytime frequency.

Recommendations	Strength rating
Use muscarinic receptor antagonists in men with moderate-to-severe LUTS who mainly have bladder storage symptoms.	Strong
Do not use antimuscarinic overactive bladder medications in men with a post-void residual volume > 150 mL.	Weak

Beta-3 agonist

Mirabegron improves storage LUTS, including urinary frequency, urgency and UUI. Patients prescribed mirabegron remained on treatment longer than those prescribed antimuscarinics.

Recommendation	Strength rating
Use beta-3 agonists in men with moderate-to-severe LUTS who mainly have bladder storage symptoms.	Weak

Phosphodiesterase 5 inhibitors

Phosphodiesterase 5 inhibitors significantly improve IPSS and IIEF score, but not Q_{max} . Only tadalafil 5 mg once daily has been officially licensed for the treatment of male LUTS with or without ED.

Plant extracts – phytotherapy

Hexane extracted *Serenoa repens* improves Q_{max} and results in fewer voids/night compared to placebo and has a very limited negative impact on sexual function.

Recommendations	Strength rating
Offer hexane extracted <i>Serenoa repens</i> to men with LUTS who want to avoid any potential adverse events especially related to sexual function.	Weak
Inform the patient that the magnitude of efficacy may be modest.	Strong

Combination therapies

Alpha 1-blockers + 5 Alpha reductase inhibitors: Long-term data from the MTOPS and CombAT studies showed that combination treatment is superior to monotherapy for symptoms and Q_{max} , and superior to α 1-blocker alone in reducing the risk of AUR or need for surgery.

Recommendation	Strength rating
Offer combination treatment with an α 1-blocker and a 5 α -reductase inhibitor to men with moderate-to-severe LUTS and an increased risk of disease progression (e.g. prostate volume > 40 mL).	Strong

Alpha 1-blockers + muscarinic receptor antagonists: Combination treatment with α 1-blockers and antimuscarinics is effective for improving LUTS-related quality of life impairment and is more effective for reducing urgency, UUI, voiding frequency, nocturia, or IPSS compared with α 1-blockers or placebo alone.

Recommendations	Strength rating
Use combination treatment of a α 1-blocker with a muscarinic receptor antagonist in patients with moderate-to-severe LUTS if relief of storage symptoms has been insufficient with monotherapy with either drug.	Strong
Do not prescribe combination treatment in men with a post-void residual volume > 150 mL.	Weak

Adverse events of both drug classes are seen with combined treatment.

Alpha 1-blockers + beta-3 agonist: Combination treatment with α 1-blockers and mirabegron results in a slight decrease of number of voids and urgency episodes per day compared with α 1-blockers alone.

Recommendations	Strength rating
Use combination treatment of a α 1-blocker with mirabegron in patients with persistent storage LUTS after treatment with α 1-blocker monotherapy.	Weak