

Nettle Root: A Synergistic Partner for Prostate Health

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Benign prostatic hyperplasia (BPH) is a progressive, benign growth of the prostate gland that gradually narrows the urethra.¹ The clamping effect eventually obstructs the flow of urine. As a result, the bladder fails to empty completely. Urine remaining in the bladder stagnates, leaving the patient vulnerable to infections, bladder stones and kidney damage. The poor bladder capacity can cause frequent urination, especially at night. Therefore, associated with BPH is a set of lower [urinary tract symptoms](#) (LUTS). However, there is not always an exact correlation between the size of the prostate and the degree of LUTS, suggesting that other urodynamic factors are also involved.

The exact cause of BPH is not known and there have been various theories proposed.² The recent understanding downplays androgens, both testosterone and dihydrotestosterone; their role is said to be permissive. A higher estrogen:testosterone ratio could be a causative hormonal factor, and increased peripheral conversion of testosterone to estradiol by aromatase might be at play here.

Chronic inflammation is also a common finding² and one theory has proposed that BPH is an immune-mediated inflammatory disease caused either by infection or autoimmunity (more likely the latter).³ There is a strong link between chronic prostatitis and BPH.⁴ Another theory proposes that higher circulating insulin stimulates prostate growth and hence links BPH to insulin resistance.⁵⁻⁶



Indeed, multiple experimental, clinical and epidemiological studies demonstrate the link between hyperinsulinemia, elevated fasting blood glucose or type 2 diabetes and prostate enlargement and

LUTS.⁵ An association with obesity has also been observed.⁷ The sympathetic overactivity linked to obesity, metabolic syndrome and hypertension may increase the risk of expressing LUTS.⁸⁻⁹ LUTS and metabolic syndrome have been shown to be comorbid, as have LUTS and ED. Improving testosterone can help symptoms of LUTS¹⁰ and inflammation may also play a role (insulin resistance is a pro-inflammatory condition); elevated serum C-reactive protein correlates with the severity of LUTS.¹¹

Given this new understanding of BPH, emphasis needs to be placed on advising patients about appropriate weight-loss, dietary and exercise regimes for the management of insulin resistance and generalized [inflammation](#). However, herbs can also contribute to the symptomatic management of this disorder. While saw palmetto (*Serenoa repens*) is well-known, good evidence also has emerged for the root of the stinging nettle (*Urtica dioica*).

Nettle Root for BPH / LUTS: Results of Placebo-Controlled Trials

There are four key placebo-controlled trials that demonstrate the efficacy of nettle root in BPH / LUTS. Nettle root extract [1,200 mg (5:1) per day] demonstrated a significant decrease in urinary frequency ($p<0.05$) and serum levels of sex hormone-binding globulin (SHBG) in a double-blind, placebo-controlled trial with 40 patients.¹² In a second placebo-controlled clinical trial, involving 79 BPH patients, nettle root extract [600 mg (5:1) per day, for six to eight weeks] was superior to placebo in all parameters measured (urinary flow, urinary volume, residual urine).¹³

In a similar trial design, 50 patients (BPH stages I and II) treated with nettle root extract [600 mg (5:1) per day for nine weeks] demonstrated a significant decrease in SHBG ($p<0.0005$), and significant improvements in micturition volume and maximum urinary flow. There was also an improvement in average flow for the herbal group.¹⁴

A randomized, double-blind, placebo-controlled, partial-crossover trial of nettle root for the treatment of LUTS secondary to BPH was completed in 558 men.¹⁵ At the end of the six-month trial, 81 percent of patients in the active treatment group reported improvements in LUTS as compared to 16 percent in the placebo group ($p<0.001$). The International Prostate Symptom Score (IPSS) dropped from 19.8 to 11.8 in the nettle group and from 19.2 to 17.7 for the placebo group ($p=0.002$). Peak flow rate improved by 8.2 mL/s for treated patients and 3.4 mL/s for the placebo recipients ($p<0.05$).

Nettle Root and Saw Palmetto as Combination Treatment

The evidence also demonstrates that nettle root combines well with [saw palmetto](#) in the management of BPH. In fact, results for the combination seem to be particularly good, suggesting a possible synergistic relationship between the two herbs. As with nettle root alone, there are four key clinical trials for the combination, this time two against placebo and two against standard drug treatments.

In a placebo-controlled clinical trial, 40 patients with BPH were treated with a nettle and saw palmetto extract combination (240 mg/day of 10:1 extract of nettle root, 320 mg/day liposterolic extract of saw palmetto) or placebo over 24 weeks. Significant improvement was observed in the herbal treatment group, with peak flow up by 23 percent compared to 4 percent in the placebo ($p<0.05$) group and IPSS down by 40 percent compared to 7 percent in placebo ($p<0.05$).¹⁶ In a randomized, double-blind, multicenter clinical trial, the efficacy of the above combined nettle and

saw palmetto extract was compared with the drug finasteride in the treatment of BPH stages I—II. A total of 516 patients completed a 48-week treatment with the herbal combination or finasteride (5 mg/day).¹⁷⁻¹⁸ Both treatments significantly improved urinary flow and IPSS, and there was no significant difference between the two. Fewer adverse events were reported for the herbal combination.

The efficacy and tolerability of the same combination of saw palmetto and nettle root was investigated in 257 elderly male patients suffering from LUTS caused by BPH in a prospective multicenter trial.¹⁹ Patients treated with the saw palmetto / nettle root combination exhibited a higher reduction in IPSS after 24 weeks of double-blind treatment than patients in the placebo group (six points versus four points; $p=0.003$). This applied to obstructive as well as irritative symptoms, and in patients with moderate or severe symptoms at baseline. In a fourth study, the same combination of saw palmetto and nettle root reduced the subjective symptoms of BPH to an extent comparable to tamsulosin.²⁰ The two treatments were administered in a prospective, randomized, double-blind trial to patients suffering from BPH and not requiring surgery.

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