

# Serenoa repens and its effects on male sexual function. A systematic review and meta-analysis of clinical trials

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## Characteristics of included studies

COMPARISON TO PLACEBO					
Author, year	Population	Intervention	Control	Follow up	Outcome
Gerber 2001	Symptomatic BPH > 45 years	160 mg twice daily, Nutraceutical, Ogden, Utah  136-152 mg fatty acids and sterols	Serenoa 39  Placebo 40	6 months	O'Leary Sexual function questionnaire Serenoa Pre 20.7 (11.3) Post 20.6 (11.2) Delta - 0.1 (8.0) Placebo Pre 21.7 10.1 Post 21.6 10.7 Delta - 0.1 (6.8) P = 0.75
Willetts 2003	Symptomatic BPH < 80 years  74 men sexually active	Serenoa repens extract 160 mg of CO <sub>2</sub> extract; Blackmores Ltd, Sydney, Australia BID	Serenoa 46  Placebo 47	12 weeks	IIEF score Serenoa 51.5 (43.9-59.1) 55.11 (48.4-61.8) Delta 3.6 ± 1.49 Placebo 49.4 (43.3-55.4) 48.7 (41.9-55.4) Delta 0.7 ± 1.33
Zhang 2021	CP/CPPS 18-50 years	Serenoa 160 mg soft capsule BID; supercritical carbon dioxide extract, provided by TAD Pharma GmbH	Serenoa 148  Placebo 73	12 weeks	IIEF-5 Serenoa Pre 18.82 ± 4.47 Delta + 1.32 ± 2.95 Placebo Pre 17.89 ± 5.50 Delta + 1.01 ± 3.07 P = 0.4778
Ye 2019	354 patients with LUTS/BPH from 19 institutions	Serenoa repens extract (320 mg) or placebo groups for 24 weeks	Serenoa 150  Placebo 154	24 weeks	MSF-4 Serenoa Pre 12.01 +/- 3.98 Delta + 1.15 +/- 3.47 Placebo Pre 11.70 +/- 3.66 Delta + 0.23 +/- 2.69 0.0096  IIEF Serenoa Pre 32.06 +/- 16.47 Delta - 2.61 +/- 11.22 Placebo Pre 34.69 +/- 15.63 Delta + 0.88 +/- 9.72 0.0068

<i>Avins 2009</i>	Symptomatic BPH > 50 years	Saw palmetto berry extract, 160 mg twice daily	Serenoa 112  Placebo  113	12 months	O'Leary Brief Sexual Function Inventory Serenoa 22.34 ± 0.471 22.45 ± 0.477 Delta 0.11 ± 0.063 Placebo 22.27 ± 0.471 22.19 ± 0.475 Delta 0.08 ± 0.063
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**COMPARISON WITH TAMUSULOSIN**

<i>Latil 2015</i>	Symptomatic BPH 45-85 years	Serenoa repens 320 mg  Hexanic extract	Serenoa 83  Tamsulosin 0.4 mg 86	3 months	MSF4 score Serenoa 7.4 (4.5) 7.7 (4.8) Delta 0.36 (0.35) Tamsulosin 6.9 (4.5) 7.7 (4.7) Delta 0.64 (0.35)
<i>Debruyne 2002</i>	Symptomatic BPH 50-85 years	Serenoa  Hexanic extract	Serenoa 267  Tamsulosin 266	12 months	MSF4 Serenoa 8.3 (5.5) 8.8 (5.4) Delta 0.5 (3.3) Placebo 7.7 (5.0) 8.2 (5.0) Delta 0.4 (3.5) 0.69
<i>Debruyne 2004</i>	Severe symptomatic BPH  The mean (S.D.) patient age was 65.2 (7.5) years	Serenoa	Serenoa 65 Tamsulosin 59		Ejaculation disorderd 0/65 1/59  MSF4 Serenoa 8.9 (5.70) Delta + 0.2 (3.7) Placebo 8.0 (5.55) Delta + 1.0 (4.0) P = 0.46  "achieving ejaculation" rather worsened in the tamsulosin group p = 0.087
<i>Hizli 2007</i>	43 years and 73 years, with symptomatic BPH were included in the study. This open-label	Serenoa  Open label	Serenoa 20 Tamsulosin 20 Association 20	6 months	Ejaculation disorders Serenoa 0 Tamsulosin 7 Association 3

**COMPARISON WITH FINASTERIDE**

<i>Carraro 1996</i>	Patients with symptomatic BPH > 50 years	Serenoa hexane extract 160 mg bid  Finasteride 5 mg	467  484	26 weeks	Sexual function score Serenoa 8.4 (5.5) 7.9 (5.4) (NS) Finasteride 8.6 (5.5) 9.3 (5.7) P < 0.001
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## Risk of Bias

	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other biases
<b>Serenoa extract compared to placebo</b>							
Avins 2009	?	L	?	?	L	L	L
Gerber 2001	L	L	L	L	L	L	L
Willettts 2003	L	L	L	?	L	L	L
Ye 2019	?	L	L	?	L	L	L
Zhang 2021	L	L	L	?	L	L	L
<b>Serenoa extract compared to tamsulosin</b>							
Debruyne 2002	?	L	L	?	L	L	L
Debruyne 2004	?	?	?	?	L	L	L
Hizli 2007	?	H	H	H	L	L	L
Latil 2015	?	H	H	H	L	L	L
<b>Serenoa extract compared to finasteride</b>							
Carraro 1996	L	L	L	?	L	L	L