Gokhru / Tribulus

Tribulus terrestris L. — gokhru, gokshura, puncturevine, caltrop

Tribulus is the clearest example in this series of a supplement whose commercial success is inversely related to its evidence. A 2025 systematic review found no robust effect on testosterone across ten clinical trials, and the US Department of Defense's supplement-safety program states flatly that no strong evidence supports the marketed claims. What Tribulus does have is a small but genuinely alarming case literature of liver and kidney injury.

SUMMARY TABLE

Attribute	Summary
Primary uses	Marketed for raising testosterone, muscle and athletic performance — none supported. Most defensible use: erectile dysfunction/sexual function in men with existing dysfunction (weak evidence).
Evidence strength	Very weak for testosterone: 8 of 10 trials in a 2025 review found no significant change. Low for erectile dysfunction: 3 of 5 trials showed improvement. None for muscle, strength or performance.
Effective dose	400–750 mg/day of standardized extract for 1–3 months is the typical trial range. Doses above 1,000 mg/day associated with sleep disruption, fatigue and elevated heart rate.
How to take	Capsules with water and food, split across 2–3 daily doses. Avoid proprietary "test booster" blends — Tribulus is a common carrier ingredient in products later found adulterated with anabolic agents.
Time to effect	Trials ran 1–3 months; erectile-function improvement, where present, emerged over 4–12 weeks. No reliable testosterone timeframe exists because there is no reliable testosterone effect.
Serious risks	Documented case reports of severe liver and renal injury, including acute renal failure with elevated liver enzymes; also reported: priapism requiring surgery, and seizures — rare, but disproportionate to demonstrated benefit.
Who should avoid it	Liver or kidney disease; prostate cancer or active surveillance; pregnancy/breastfeeding; clopidogrel use (stent thrombosis reported); competitive athletes subject to drug testing (adulteration risk).
Quality markers	Stated protodioscin or saponin percentage; plant part and country of origin declared; NSF Certified for Sport or Informed Sport; recent certificate of analysis; single-ingredient product.

THE TESTOSTERONE CLAIM DOES NOT SURVIVE TESTING

A 2025 Nutrients systematic review (10 studies, 483 participants, 400–750 mg/day for 1–3 months) found 8 of 10 studies showed no significant testosterone change; the two that did were in hypogonadal men, with increases the reviewers themselves called of low clinical significance. The US DoD's Operation Supplement Safety reaches the same conclusion in blunter language: no strong evidence supports Tribulus's marketed sexual or athletic performance claims.

A STANDARDIZATION PROBLEM COMPOUNDS THE EFFICACY PROBLEM

Active saponins are concentrated differently in fruit, aerial parts and root, and content varies with geography and extraction. Bulgarian aerial-part material differs chemically from Indian root material, and analytical work has repeatedly found protodioscin content in commercial products far below what "95% saponins" labels imply — a broad chemical-class claim, not a specific-compound one.

THE SAFETY CASE IS THE REAL STORY

Case reports document severe combined liver and renal injury, acute renal failure with hyperbilirubinemia, priapism requiring surgical intervention, and seizures. Terrestrosin D, a saponin in the plant, has been proposed as a candidate for hepatorenal toxicity — meaning potency and toxicity may track together in a product where saponin content is often unverified. Tribulus has also been associated with increased clotting risk in patients on clopidogrel, including a reported stent thrombosis.

BOTTOM LINE

There is no good reason for a healthy man to take Tribulus for testosterone, muscle or athletic performance — eight of ten trials found no hormonal effect and the athletic literature is uniformly negative. The narrow exception is a man with existing erectile dysfunction, not on clopidogrel or antihypertensives, with healthy liver and kidney function, willing to try a single-ingredient standardized extract for no more than three months — and even then the supporting evidence is graded low against a background of rare but serious organ-injury case reports.

SOURCES

1. "Effects of Tribulus Supplementation on Erectile Dysfunction and Testosterone Levels in Men." Nutrients, 2025.
2. Operation Supplement Safety (US DoD). "Tribulus terrestris as an ingredient in dietary supplements."
3. Memorial Sloan Kettering Cancer Center. "Tribulus terrestris" — About Herbs.
4. "Severe Liver and Renal Injury From Tribulus Terrestris." 2024.
5. European Medicines Agency. "Assessment report on Tribulus terrestris L., herba."
