

Boron.

[No authors listed]

Abstract

OBJECTIVE: To evaluate the scientific evidence on boron including expert opinion, folkloric precedent, history, pharmacology, kinetics/dynamics, interactions, adverse effects, toxicology, and dosing. This review serves as a clinical support tool.

METHODS: Electronic searches were conducted in nine databases, 20 additional journals (not indexed in common databases), and bibliographies from 50 selected secondary references. No restrictions were placed on language or quality of publications. All literature collected pertained to efficacy in humans, dosing, precautions, adverse effects, use in pregnancy/lactation, interactions, alteration of laboratory assays, and mechanisms of action. Standardized inclusion/exclusion criteria are utilized for selection. Grades were assigned using an evidence-based grading rationale.

RESULTS: There was a lack of systematic study on the safety and effectiveness of boron in humans. However, based on popular use and supportive scientific data, nine indications are discussed in this review: hormone regulation, improving cognitive function, osteoarthritis, osteoporosis, vaginitis (topical), bodybuilding aid (increasing testosterone), menopausal symptoms, prevention of blood clotting (coagulation effects), and psoriasis (topical).

CONCLUSION: Although studies assessing the use of boron for osteoarthritis and osteoporosis are in preliminary stages, reports are promising. There is conflicting evidence to support the use of boron in hormonal regulation and cognitive function. Future randomized controlled trials are warranted. There is fair negative evidence regarding the use of boron as an anticoagulant, a bodybuilding aid, for menopausal symptoms, or for psoriasis. Excessive use may be harmful, and caution is advised.