

Beta Glucan & Cold & Flu: Clinical Protocol

Adjunctive immunomodulatory protocol utilizing yeast-derived 1,3/1,6-beta-glucan to support innate immune responsiveness and mitigate upper respiratory tract infection (URTI) symptom burden. Caution: Use in patients taking immunosuppressants should be monitored due to innate immune priming mechanisms.

Clinical Objective

- Goal: To mitigate the physical severity, duration, and functional burden (e.g., missed work or training days) of URIs during peak seasonal exposure or following extreme physiological stress.
- Rationale: Targets the innate immune system by priming macrophages and neutrophils (trained immunity) to respond more efficiently to viral challenge, promoting disease tolerance and tissue repair without inducing an unprovoked inflammatory spike.

The Role of Beta Glucan

- Glucan Type: Immune modulation in this context is specific to yeast-derived (*Saccharomyces cerevisiae*) 1,3/1,6-beta-glucan; linear oat- or barley-derived 1,3/1,4 forms mediate metabolic effects (e.g., lipids) and do not reliably replicate these immune-priming outcomes.
- Mechanism: Operates via pathogen-associated molecular pattern (PAMP) recognition at receptors like Dectin-1 and Complement Receptor 3 (CR3), functioning as a modulator that "trains" immune cells rather than a direct antimicrobial or continuous immune stimulator.
- Limits: Adjunctive support only; does not replace infection control, antivirals, or vaccination.

Dosing Framework

- Adult Dosing: 250 mg to 900 mg daily of yeast-derived 1,3/1,6-beta-glucan for general seasonal support or during periods of intense physical stress (e.g., endurance training).
- Pediatric Dosing: 35 mg to 75 mg daily has demonstrated efficacy in children aged 1 to 4 years.
- Duration: Typically initiated 10 to 45 days prior to peak stress or seasonal exposure and maintained consistently for 12 to 26 weeks.

Clinical Application & Evidence

- Symptom Severity: Significantly reduces physical symptom severity during the first 7 days of illness and decreases total URTI days, particularly in physically stressed adults like marathoners.
- Incidence (Mixed): Adult data on preventing URTI onset is inconsistent; several trials show no significant reduction in infection frequency versus placebo.
- Pediatrics: Daily supplementation (35–75 mg) in toddlers significantly reduced both the incidence and duration of URTI episodes.
- Multi-Ingredient Limits: Reduced URTI episodes occurred in children consuming formula with yeast beta-glucan, DHA, and prebiotics; attributing efficacy solely to beta-glucan in this matrix is limited.
- Vaccine Adjuvant: Enhanced influenza A antibody titer response in older adults, but did not uniformly increase inflammatory cytokines beyond the vaccine's baseline effect.

The Bottom Line

- Yeast-derived 1,3/1,6-beta-glucan reliably supports mucosal immunity and mitigates the severity, duration, and functional impairment of URTI symptoms, particularly under conditions of physical stress.
- It does not guarantee the prevention of cold and flu acquisition and should not replace standard prophylactic measures or primary clinical treatments.