Human Clinical Trials on Medicinal Mushrooms

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Overview

This document summarizes **peer-reviewed human clinical trials** investigating the health effects of three well-studied medicinal mushrooms:

- **Reishi (Ganoderma lucidum)**
- **Lion's Mane (Hericium erinaceus)**
- **Turkey Tail (Coriolus versicolor)**

The studies listed below focus on immune modulation, cognitive and neurological effects, fatigue, cancer support, and quality-of-life outcomes.

Reishi (Ganoderma lucidum)

Summary of Human Trial Findings

- Enhances antioxidant capacity and liver health
- Improves immune response in healthy and cancer patients
- Reduces fatigue and improves quality of life
- Demonstrates adjunct support during cancer therapy

Table 1. Human Clinical Trials with Reishi

Study	Participants	Treatment	Key Findings
Randomized double-blind antioxidant & hepatoprotective study	42 healthy adults	250 mg/day for 6 months	Significant increase in antioxidant capacity and reversal of mild fatty liver
Antioxidant effects in angina patients	71 patients	750 mg/day for 90 days	PSP acted as a potent antioxidant against atherosclerosis
Immune response in elite athletes	40 football players	5 g/day for 6 weeks	Improved immune markers under hypoxic training conditions
Advanced colorectal cancer immune monitoring	47 patients	5.4 g/day for 12 weeks	Improved immunomodulatory effects
Chronic fatigue syndrome trial	132 patients	1.8 g, 3× daily for 8 weeks	Significant improvement vs placebo; well tolerated
Advanced-stage cancer immune function	30 patients	1.8 g, 3× daily for 12 weeks	Enhanced immune responses compared to baseline
Breast cancer fatigue pilot trial	48 patients	3 g/day for 4 weeks	Reduced fatigue, anxiety, and improved quality of life

Key Conclusions – Reishi

- Supports immune enhancement through T-cell and NK-cell activation
- Demonstrates benefit as an adjunct to chemotherapy and radiotherapy
- Improves fatigue, mood, and overall wellbeing

Lion's Mane (Hericium erinaceus)

Overview

Lion's Mane is known for its **neurotrophic and cognitive-support properties** and has been examined in multiple randomized human trials.

Demonstrated Benefits

- Increased nerve growth factor (NGF)
- Improved memory, recognition, and executive function
- Reduced anxiety, irritability, and depressive symptoms
- Increased gut microbiome diversity correlated with neuropeptide levels

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Table 2. Human Clinical Trials with Lion's Mane

Study	Participants	Treatment	Key Findings
Anxiety & depression RCT	30 menopausal women	2 g/day for 4 weeks	Significant reduction in anxiety and irritation
Cognitive performance in older adults	34 adults (50+)	3.2 g/day for 12 weeks	Improved cognition and prevention of decline
Mild cognitive impairment double-blind trial	30 adults (50–80)	3 g/day for 16 weeks	Significant cognitive improvement; decline after cessation
Early Alzheimer's prevention trial	60 adults	1 g/day for 1 year	Improved cognitive scores vs placebo
Erinacine-A neurotrophic study	33 adults	3.44 mg/day for 8 weeks	Improved cognitive speed and increased BDNF

Key Conclusions – Lion's Mane

- Strong evidence for neuroprotection and cognitive enhancement
- Potential preventative role in early neurodegenerative disease
- Positive effects on mood and emotional regulation

Turkey Tail (Coriolus versicolor)

Overview

Turkey Tail is **one of the most clinically studied medicinal mushrooms**, particularly in oncology settings. It contains PSK and PSP compounds with immunomodulatory activity.

Demonstrated Benefits

- Enhanced immune cell activation (NK, T- and B-cells)
- Improved survival outcomes when combined with chemotherapy
- Reduced treatment-related side effects
- Faster immune recovery post-radiation

Table 3. Human Clinical Trials with Turkey Tail

Study	Participants	Treatment	Key Findings
Colon cancer chemotherapy RCT	446 patients	PSK 3 g/day + 5-FU	Significantly improved survival vs chemo alone
Systematic review & meta-analysis	13 trials	Variable	Reduced 5-year mortality across multiple cancers
Colorectal cancer adjuvant meta-analysis	1,094 patients	PSK 3 g/day	Improved overall and disease-free survival

Breast cancer Phase 1 trial	11 patients	3–9 g/day for 6 weeks	Safe, tolerable, and improved immune status
Lung cancer PSP trial	34 patients	PSP 3 g/day for 28 days	Increased immune cell counts and reduced disease progression
Gastric cancer PSK meta-analysis	8,003 patients	Variable	Improved post-resection survival
Advanced gastric cancer RCT	21 patients	PSK + chemotherapy	Significantly higher 3-year survival

Key Conclusions – Turkey Tail

- Robust evidence supporting immune modulation in cancer patients
- Strong survival benefit when used adjunctively with chemotherapy
- Demonstrated safety at doses up to 9 g/day in clinical settings

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Overall Summary

Across multiple randomized controlled trials and meta-analyses:

- **Reishi** supports immune function, antioxidant activity, fatigue reduction, and quality of life.
- **Lion's Mane** demonstrates consistent benefits for cognition, mood, and neuroprotection.
- **Turkey Tail** shows substantial evidence for cancer-related immune support and survival enhancement.

These findings collectively support the use of medicinal mushrooms as **adjunct, evidence-based therapeutic tools** when appropriately formulated and dosed.

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