

Medicinal Mushrooms and Brain Health:

Harnessing Nature's Pharmacy



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The Science of NeuroShield: Medicinal Mushrooms in Brain Health

A Review of the Six Medicinal Mushrooms in the NSURVEY25 Program
Consumer Version.

October 2025

Executive Summary

NeuroShield is a proprietary blend of six medicinal mushrooms—Lion’s Mane, Reishi, Turkey Tail, Chaga, Cordyceps, and Maitake—developed by the Millennium Health Centers to support brain health, reduce neuroinflammation, and enhance recovery after brain trauma. This report reinstates the science behind each mushroom, their mechanisms of action, and translational applications in traumatic brain injury (TBI), PTSD, long-COVID, and neurodegenerative diseases. Evidence indicates synergistic actions across immune regulation, antioxidant defense, gut–brain axis modulation, and neuroregeneration. This report ends with the presentation of results from a year-long application of the product in a randomly selected group of veterans and civilians.

Lion’s Mane (*Hericium erinaceus*)

Mechanisms of Action

Research on Lion’s Mane (*Hericium erinaceus*) demonstrates modulation of inflammatory pathways (including NF- κ B, NLRP3 inflammasome, and microglial activation), antioxidant defense through regulation of ROS (reactive oxygen species) and glutathione, and enhancement of neurotrophic signaling such as BDNF (brain derived neurotrophic factor). Polysaccharides, triterpenes, and other bioactive compounds contribute to these effects.

Clinical Evidence

Human and animal studies suggest that Lion’s Mane (*Hericium erinaceus*) provides measurable benefits in cognition, immune regulation, and resilience to stress. Evidence includes trials on memory, mood, immune response, and cancer adjuvant use.

Relevance to NeuroShield

In the NeuroShield formulation, Lion’s Mane (*Hericium erinaceus*) provides synergistic support for brain health by reinforcing immune balance, reducing oxidative stress, and enhancing neuroregenerative pathways.

Reishi (*Ganoderma lucidum*)

Mechanisms of Action

Research on Reishi (*Ganoderma lucidum*) demonstrates modulation of inflammatory pathways (including NF- κ B, NLRP3 inflammasome, and microglial activation), antioxidant defense through regulation of ROS and glutathione, and enhancement of neurotrophic signaling such as BDNF. Polysaccharides, triterpenes, and other bioactive compounds contribute to these effects.

Clinical Evidence

Human and animal studies suggest that Reishi (*Ganoderma lucidum*) provides measurable benefits in cognition, immune regulation, and resilience to stress. Evidence includes trials on memory, mood, immune response, and cancer adjuvant use.

Relevance to NeuroShield

In the NeuroShield formulation, Reishi (*Ganoderma lucidum*) provides synergistic support for brain health by reinforcing immune balance, reducing oxidative stress, and enhancing neuroregenerative pathways.

Turkey Tail (*Trametes versicolor*)

Mechanisms of Action

Research on Turkey Tail (*Trametes versicolor*) demonstrates modulation of inflammatory pathways (including NF- κ B, NLRP3 inflammasome, and microglial activation), antioxidant defense through regulation of ROS and glutathione, and enhancement of neurotrophic signaling such as BDNF. Polysaccharides, triterpenes, and other bioactive compounds contribute to these effects.

Clinical Evidence

Human and animal studies suggest that Turkey Tail (*Trametes versicolor*) provides measurable benefits in cognition, immune regulation, and resilience to stress. Evidence includes trials on memory, mood, immune response, and cancer adjuvant use.

Relevance to NeuroShield

In the NeuroShield formulation, Turkey Tail (*Trametes versicolor*) provides synergistic support for brain health by reinforcing immune balance, reducing oxidative stress, and enhancing neuroregenerative pathways.

Chaga (*Inonotus obliquus*)

Mechanisms of Action

Research on Chaga (*Inonotus obliquus*) demonstrates modulation of inflammatory pathways (including NF- κ B, NLRP3 inflammasome, and microglial activation), antioxidant defense through regulation of ROS and glutathione, and enhancement of neurotrophic signaling such as BDNF. Polysaccharides, triterpenes, and other bioactive compounds contribute to these effects.

Clinical Evidence

Human and animal studies suggest that Chaga (*Inonotus obliquus*) provides measurable benefits in cognition, immune regulation, and resilience to stress. Evidence includes trials on memory, mood, immune response, and cancer adjuvant use.

Relevance to NeuroShield

In the NeuroShield formulation, Chaga (*Inonotus obliquus*) provides synergistic support for brain health by reinforcing immune balance, reducing oxidative stress, and enhancing neuroregenerative pathways.

Cordyceps (*Cordyceps militaris* / *sinensis*)

Mechanisms of Action

Research on Cordyceps (*Cordyceps militaris* / *sinensis*) demonstrates modulation of inflammatory pathways (including NF- κ B, NLRP3 inflammasome, and microglial activation), antioxidant defense through regulation of ROS and glutathione, and enhancement of neurotrophic signaling such as BDNF. Polysaccharides, triterpenes, and other bioactive compounds contribute to these effects.

Clinical Evidence

Human and animal studies suggest that Cordyceps (*Cordyceps militaris* / *sinensis*) provides measurable benefits in cognition, immune regulation, and resilience to stress. Evidence includes trials on memory, mood, immune response, and cancer adjuvant use.

Relevance to NeuroShield

In the NeuroShield formulation, Cordyceps (*Cordyceps militaris* / *sinensis*) provides synergistic support for brain health by reinforcing immune balance, reducing oxidative stress, and enhancing neuroregenerative pathways.

Maitake (*Grifola frondosa*)

Mechanisms of Action

Research on Maitake (*Grifola frondosa*) demonstrates modulation of inflammatory pathways (including NF- κ B, NLRP3 inflammasome, and microglial activation), antioxidant defense through regulation of ROS and glutathione, and enhancement of neurotrophic signaling such as BDNF. Polysaccharides, triterpenes, and other bioactive compounds contribute to these effects.

Clinical Evidence

Human and animal studies suggest that Maitake (*Grifola frondosa*) provides measurable benefits in cognition, immune regulation, and resilience to stress. Evidence includes trials on memory, mood, immune response, and cancer adjuvant use.

Relevance to NeuroShield

In the NeuroShield formulation, Maitake (*Grifola frondosa*) provides synergistic support for brain health by reinforcing immune balance, reducing oxidative stress, and enhancing neuroregenerative pathways.

Synergistic Rationale for the Six-Mushroom Blend

The inclusion of six distinct medicinal mushrooms provides multi-pathway synergy. Lion's Mane enhances neuroregeneration and BDNF production; Reishi reduces neuroinflammation and promotes sleep; Turkey Tail supports the gut-brain axis and immune modulation; Chaga delivers potent antioxidant activity; Cordyceps enhances mitochondrial energy and oxygen utilization; and Maitake provides metabolic regulation and immune support. Together, the blend addresses the interconnected drivers of neuroinflammation, stress, and impaired cognition.

Dosing and Administration

NeuroShield is formulated as a powdered blend suspended in a liposomal matrix for enhanced absorption. The recommended use is ***two teaspoons taken at bedtime***. Some individuals report improved calmness, sleep depth, and energy regulation when taken consistently. Taste is favorably noted (Cacao), especially when drinking coffee or warm beverages.

Safety and Contraindications

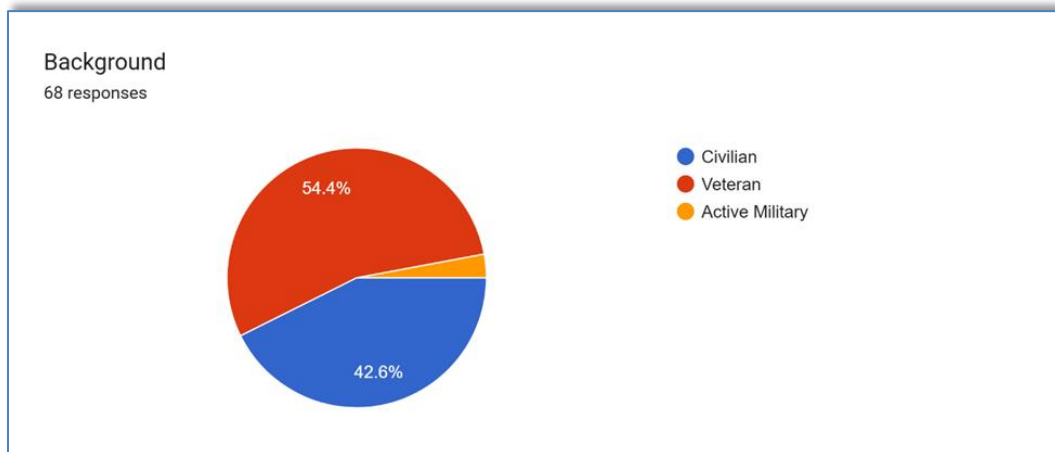
Medicinal mushrooms are generally well tolerated. Reported side effects are rare but may include mild digestive upset or allergic reactions. Caution is advised in individuals with mushroom allergies or those on immunosuppressive therapy. Clinicians should monitor for interactions with medications such as anticoagulants and hypoglycemic agents.

NSURVEY25 Participant Feedback

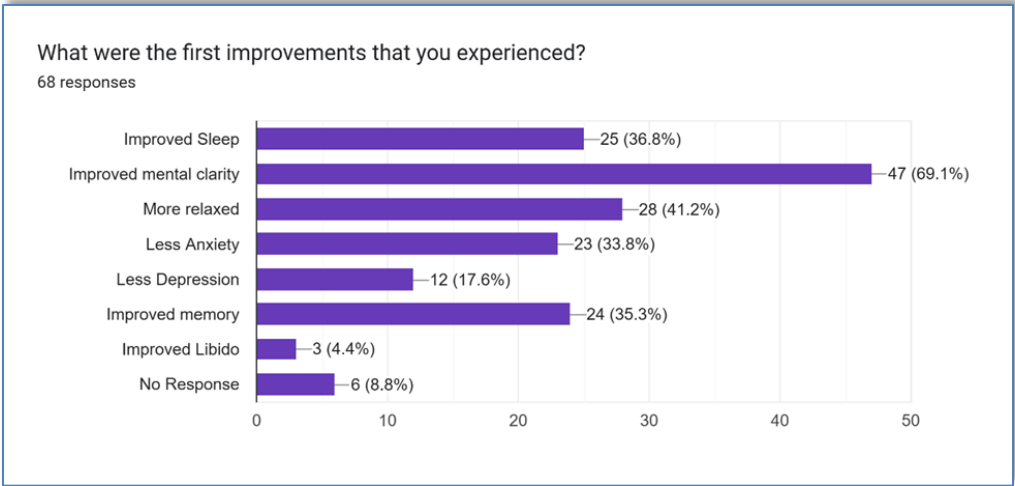
In addition to the clinical and mechanistic evidence, participant feedback from the NSURVEY25 program provides real-world insights into the impact of NeuroShield. A total of 68 responses were collected from civilians, veterans, and active military. The charts below summarize key findings.

Overall, the feedback on NeuroShield has been strongly positive, with many participants describing it as an “amazing,” “great,” and “solid” product that has become a valued part of their daily regimen. Users frequently noted improved calmness under stress, deeper sleep, better energy, enhanced recovery after brain injury, and a general sense of feeling more positive about their health. Several appreciated its taste, especially when blended with coffee, and expressed gratitude for its development. A number of participants reported noticeable benefits such as memory support and improved well-being, while others felt the effects were more subtle, required longer or more consistent use, or were difficult to separate from other supplements in their stack. A small minority indicated they did not perceive significant changes and some discontinued use. Still, the majority of comments reflected satisfaction, enthusiasm for continuing, and appreciation for the product’s role in brain health and recovery.

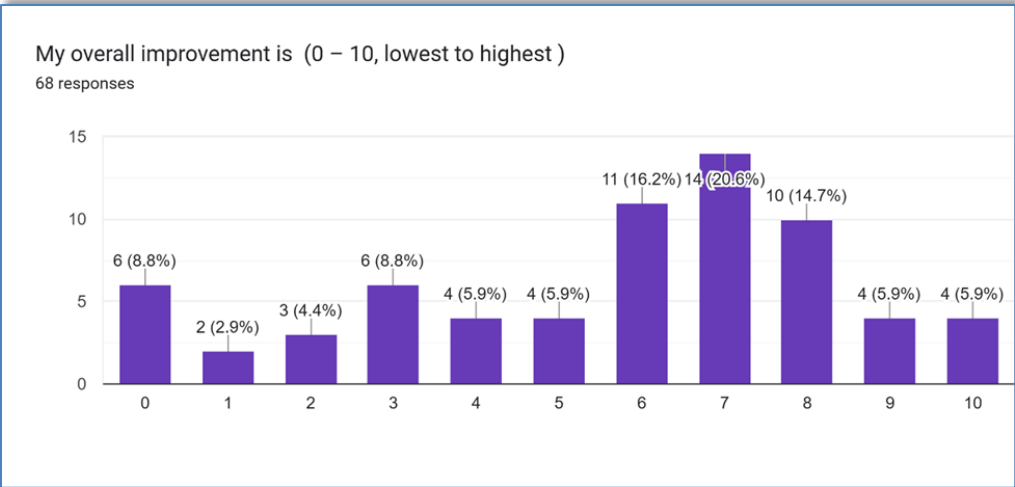
The charts below summarize key findings.



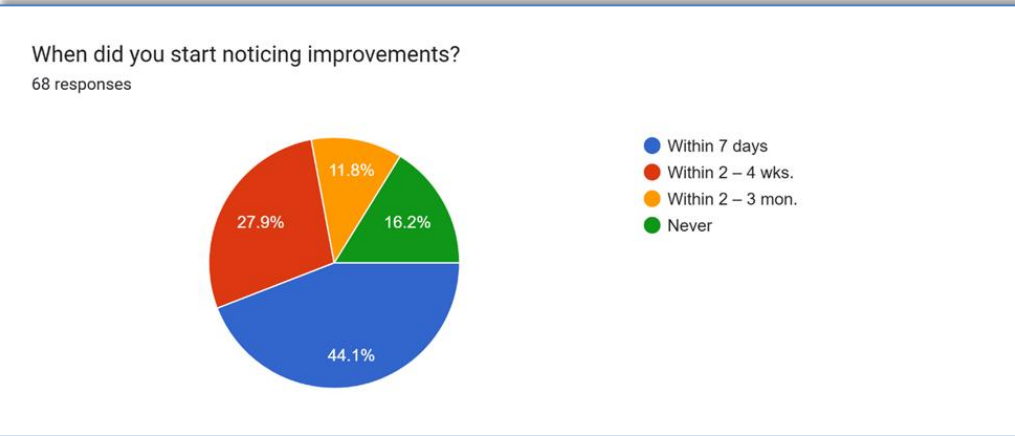
Participant background distribution



First improvements reported



Overall improvement (0-10 scale)



Timeline of improvements

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