



# LOW INTENSITY FOCUSED ULTRASOUND FOR TREATMENT-RESISTANT DEPRESSION

## Portable Non-Invasive Therapeutic Device

### URGENT NEED

#### EFFECTIVE, ACCESSIBLE SOLUTION FOR DEPRESSION

Depression affects over 280 million people worldwide, with many experiencing treatment-resistant symptoms despite medication and therapy. Current options often require long durations with high dropout rates, or potentially addictive pharmaceuticals with lasting side effects.

Now more than ever, there is a critical need for rapid, effective, and accessible treatments that improve outcomes and quality of life for those struggling with persistent depression; one that doesn't require medications, invasive procedures, or intense psychotherapy.

*Significant Mood Improvement  
in Under Two Hours;  
No Drugs, No Surgery*

### Solution: Open-LIFU

Open-LIFU is a wearable low intensity focused ultrasound (LIFU) device with potential for major advances in depression treatment, especially for those unresponsive to traditional therapies.

Delivering precise, low-intensity focused ultrasound to targeted brain regions, Open-LIFU provides rapid, non-invasive relief. In a clinical trial, participants experienced improved mood and well-being much faster than with conventional treatments, without drugs or hospitalization.

#### KEY BENEFITS:

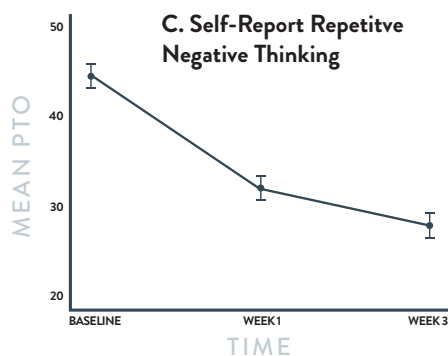
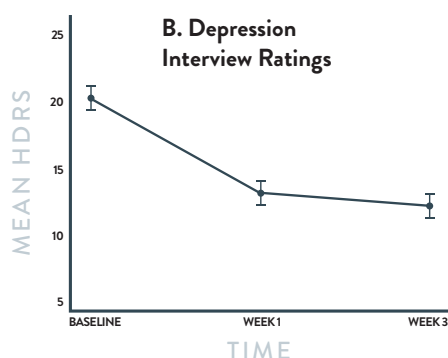
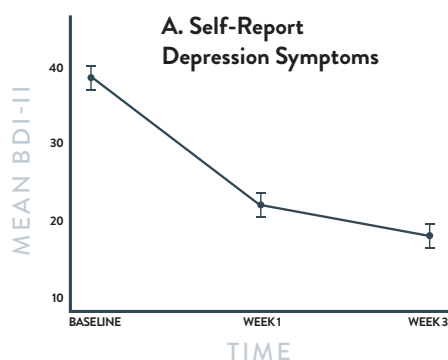
- ◆ **RAPID, EFFECTIVE RELIEF:** Significantly reduces depressive symptoms in under two hours, with 45–60% showing improvement and 35% reaching clinical remission.
- ◆ **PRECISION NEUROMODULATION:** Uses an advanced, electronically steerable array to target the anterior medial prefrontal cortex—linked to persistent negative thoughts—without invasive procedures or long hospital visits.
- ◆ **WELL-TOLERATED AND SAFE:** Minimal side effects and a low dropout rate demonstrated the therapy's acceptability and ease of use.

## Open-LIFU

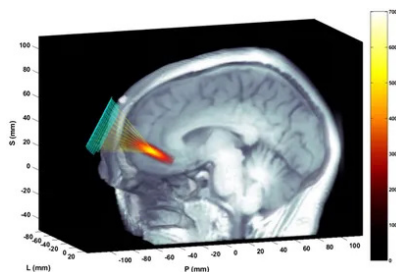
- ◆ **DEVELOPMENT KIT:** Pre-assembled, rapid prototyping
- ◆ **PORTABLE:** Lightweight, small footprint
- ◆ **NON-INVASIVE:** External wearable devices
- ◆ **RAPID RESULTS:** Significant improvement in just weeks



*Rapid symptom reduction achieved in less than two hours of total treatment time*



## Clinical Study Shows Significant Reductions in Depression



Participants receiving non-invasive transcranial focused ultrasound (Open-LIFU) showed substantial, clinically meaningful decreases in:

- ◆ Depression severity measured by the Beck Depression Inventory–II (BDI-II) and Hamilton Depression Rating Scale (HDRS)
- ◆ Repetitive negative thinking assessed by the Perseverative Thinking Questionnaire (PTQ)

Outstanding safety profile:

- ◆ No significant heating of skin or skull, all safety benchmarks met throughout the study
- ◆ Post-treatment MRI (including susceptibility-weighted imaging) showed no signs of micro-hemorrhages or tissue damage

Source: *Frontiers in Psychiatry*: “Transcranial focused ultrasound targeting the default mode network for the treatment of depression”, Apr 3, 2025.



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