



# From the Lab to the Clinic: Insights into Depression and Future Treatments

## Depression

Depression can be a cluster of symptoms including:

- Depressed mood most of the day, nearly every day
- Weight/appetite changes
- A slowing down of thought and a reduction in physical movement
- Fatigue
- Feelings of worthlessness
- Executive dysfunction
- Suicidal ideations

**Impact of COVID-19:**

- Manifests in detrimental effects on mental health outcomes.
- Increase in professionals facing mental health and suicide.
- Symptoms of depression, anxiety, and trauma increased.

## Treatment Resistant Depression

TRD is a form of depression that does not get better after a patient has tried **at least two antidepressant therapies**.

**44%** of patients do not respond to two antidepressants

Factors associated with increased risk of TRD include:

- older age
- chronic depression
- high level of anxiety symptoms
- comorbidity with anxiety disorder

## Future Treatment

### Treatment Options

- Psychosocial
  - Exercise augmentation
  - Mindfulness CBT
  - Behavioral activation
- Pharmacological
  - Standard antidepressants
  - Ketamine, esketamine
- Neurostimulation
  - TMS
  - ECT

### Multi-Modal Approach for Developing Novel Therapeutics for TRD & Suicide

#### Level 1: Molecular/Cellular

- Pre-clinical data and mechanistic investigations that inform clinical studies

#### Level 2: Circuits and Systems

- Proof of concept trials augmented by multimodal biological measures enhance understanding of disease, treatment, and response

#### Level 3: Human Clinical Trials

- Knowledge of biological subgroups, clinical efficacy, and biomarkers to ultimately improve patients' lives

Data adapted from "From the Lab to the Clinic: Insights into Depression and Future Treatments", a webinar originally held on 5/27/2021. Presented by Mani Yavi, MD.



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