

# Improving In Vitro Fertilization Success Rates

Tech ID: 34448 / UC Case 2025-155-0

## INVENTION NOVELTY

## VALUE PROPOSITION

## TECHNOLOGY DESCRIPTION

Researchers at UCSF have developed groundbreaking biophysical screening and treatment methods to significantly improve In Vitro Fertilization (IVF) success rates, particularly for women over 35 years of age who experience dramatically reduced fertility due to age-related embryo implantation failures. The technology comprises three complementary approaches currently in proof-of-concept stage: a functional mechanical screening test using standard trophectoderm biopsies already collected during IVF procedures, therapeutic interventions that restore youthful embryo mechanics through targeted contractility modulation, and an AI-powered non-invasive screening platform that analyzes embryo development patterns using existing FDA-approved imaging equipment. Unlike current IVF protocols that rely primarily on genetic testing and subjective morphological grading, this technology addresses the previously unknown mechanical causes of implantation failure by measuring and correcting the physical forces within embryos that determine successful pregnancy outcomes. The innovation represents the first mechanically-based diagnostic and therapeutic approach to fertility treatment, offering standardized, objective metrics that can seamlessly integrate into existing clinical workflows while potentially revolutionizing success rates for the millions of women undergoing IVF worldwide.

## APPLICATION

## LOOKING FOR PARTNERS

## STAGE OF DEVELOPMENT

## RELATED MATERIALS

## DATA AVAILABILITY

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### OTHER INFORMATION

#### KEYWORDS

In Vitro Fertilization, Embryo

#### CATEGORIZED AS

- ▶ **Biotechnology**
- ▶ Health
- ▶ **Medical**
- ▶ Disease: Women's Health

#### RELATED CASES

2025-155-0

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