

DIABETES RESEARCH BULLETIN

UPDATES FROM THE INSTITUTE FOR DIABETES, OBESITY &
METABOLISM TRANSLATIONAL RESEARCH PROGRAM



UNIVERSITY OF PENNSYLVANIA
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FAST IN

Once inhaled, Afrezza® passes quickly through your lungs and enters your bloodstream in less than 1 minute. The ultra rapid-acting insulin allows Afrezza® to start controlling blood sugars in about 12 minutes.



FAST OUT

Afrezza® stops lowering blood glucose after 1.5 to 3 hours, depending on the dose.* This gives you the flexibility to take additional doses if needed, based on your blood glucose level after meals.

*For the 4-unit and 12-unit cartridges, respectively.



FITS YOUR LIFESTYLE

Afrezza®'s ultra rapid-action allows you to inhale your insulin right when food arrives, even unexpectedly, so you can be spontaneous but still in control, without the need for injections at mealtime.

FEATURED CLINICAL TRIAL: INHALE-AIDEX

What is INHALE-AIDex

- Insulin on board (IOB) is a key driver of exercise-induced hypoglycemia. Exercising within 4 hours of a meal often causes sharp glucose declines even with AID systems. With its rapid on/off profile, Technosphere insulin (Ti) dissipates within an hour. This study tests whether using Ti for the last meal before exercise lowers hypoglycemia risk.

Why refer patients for INHALE-AIDEX

- This trial gives patients with T1D an opportunity to test a novel approach to reduce exercise-induced hypoglycemia, **enabling safer exercise and its full health benefits.**
- Have someone in mind? We'd love to connect!

RECENT UPDATES:

Now enrolling:

- Adults 18-60 yo with T1D
- Using Tandem t-slim X2 insulin pump with CIQ for at least 90 days
- Physically active with at least 3 moderate exercise sessions per week
- Usual prandial bolus ≤ 12 units

Did you know?

- UPenn has extensive expertise in researching exercise-induced hypoglycemia and was one of the primary sites for the TIDEXI trial, the largest real-world study on the glycemic effects of exercise.



<https://clinicaltrials.gov/study/NCT06880835>



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Clinical trials open for enrollment

Type 1 Diabetes

- **CLEAR- Use of technology and education for restoration of hypoglycemia unawareness**
 - Ideal for patients with T1D struggling with severe hypoglycemia and hypoglycemia unawareness
- **INHALE-AIDEx -technosphere insulin to reduce hypoglycemia associated to exercise**
 - Ideal for active T1D patients struggling with hypoglycemia during or after exercise
- **Stem cell derived islet transplantaton**
 - **Vertex** - Ideal for patients with T1D that already received a kidney transplant
 - **Seraxis -SUGR**: Ideal for patients with T1D struggling with recurrent severe hypoglycemia
- **CATT1 - oral selective hepatic glucokinase activator as adjunctive therapy for T1D**
 - Ideal for patients with T1D on MDI who are struggling with hypoglycemia and glycemic variability where insulin adjustment alone is not enough

Type 2 Diabetes

- **TWIIST-AID - innovative automated insulin delivery system for type 2 diabetes**
 - Ideal for patients with T2D who want to try new technologies and or struggling with the burden of care with T2DM

Cystic Fibrosis related studies

- **Emergence and Progression of Abnormal Glucose Tolerance in Cystic Fibrosis**
 - The purpose of this research study is to test how high blood sugar develops and worsens over time in some people with cystic fibrosis. Participation can last for up to 5 years.
- **Effect of GLP-1 Agonist Therapy on Insulin Secretion in Adults with Pancreatic Insufficient Cystic Fibrosis and Abnormal Glucose Tolerance: a randomized, open-label, cross-over trial.**
 - The study is looking at Cystic Fibrosis Related Diabetes (CFRD) and the effects of a gut hormone GLP-1 / Dulaglutide on participants with abnormal glucose tolerance in order to understand and develop treatments for CFRD.
- **Pharmacokinetic and Pharmacodynamic Effects of Dorzagliatin in Pancreatic Insufficient-Cystic Fibrosis: A randomized, double-blind, cross-over trial.** **New!**
 - This study investigates the effects of the glucokinase activator dorzagliatin in individuals with cystic fibrosis and pancreatic insufficiency with abnormal glucose tolerance, with the goal of improving glucose tolerance and, in the future, preventing or providing a new way to treat cystic fibrosis-related diabetes (CFRD).

**FOR QUESTIONS OR REFERRALS PLEASE CONTACT:
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