



# **PATH TO PEPTIDES GLP-1 AND YOUR HEART**

## **WHAT A 2-MILLION-PATIENT STUDY REVEALED**

**Diabetes drugs are showing surprising heart benefits. The research is massive — and hard to ignore.**

**An Educational Overview of Emerging Scientific Research**

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**FOR RESEARCH AND EDUCATIONAL PURPOSES ONLY**

## A STUDY OF OVER 2 MILLION PATIENTS FOUND THAT GLP-1 DRUGS WERE LINKED TO LOWER RISK OF 42 DIFFERENT HEALTH CONDITIONS — INCLUDING HEART ATTACK, STROKE, AND HEART FAILURE.

That's not a typo. Medications originally designed to manage blood sugar are now at the center of one of the most exciting areas of heart research in years. Here's what the science shows — and why cardiologists are paying close attention.

### WHY THIS MATTERS

Heart disease is the **leading cause of death** worldwide. In the United States alone, someone has a heart attack every **40 seconds**.<sup>1</sup> Despite decades of progress in treatments, heart disease still kills more Americans than cancer, accidents, and respiratory disease combined. That's why any medication that shows significant heart benefits gets serious attention from researchers. And GLP-1 drugs are delivering some of the most compelling cardiovascular data scientists have seen in years.

## THE SCIENCE: HOW GLP-1 DRUGS MAY PROTECT THE HEART

GLP-1 receptors aren't just in your gut and brain. They're also found in your heart and blood vessels.<sup>2</sup> Think of GLP-1 receptors like locks on a door. When the right key (a GLP-1 drug) turns that lock, it triggers helpful changes inside the cell.

Scientists believe GLP-1 drugs may protect the heart in several ways:

**Reducing inflammation:** Chronic inflammation damages blood vessels over time. Research shows

GLP-1 drugs lower key markers of inflammation throughout the body.<sup>3</sup>

**Improving blood vessel function:** These drugs appear to help blood vessels relax and expand more easily, which improves blood flow and lowers blood pressure.<sup>4</sup>

**Reducing arterial plaque:** Early studies suggest GLP-1 drugs may slow the buildup of fatty deposits in arteries — the root cause of most heart attacks.<sup>5</sup>

**Weight loss:** Losing excess weight reduces strain on the heart. But researchers believe the heart benefits go beyond weight loss alone.<sup>6</sup>

**Did You Know?** In the landmark SELECT trial, semaglutide reduced major cardiovascular events by 20% in people with obesity — even those who did NOT have diabetes. That was the first time a weight loss drug showed this kind of heart protection.<sup>6</sup>

## WHAT THE RESEARCH SAYS

### THE SELECT TRIAL (2023)

This was the game-changer. Published in the New England Journal of Medicine, the SELECT trial studied over **17,600 adults** with obesity and existing heart disease — but without diabetes.<sup>6</sup>

Participants who received semaglutide had a **20% lower** risk of major heart events (heart attack, stroke, or cardiovascular death) compared to those on placebo. This finding led the FDA to approve semaglutide specifically for reducing cardiovascular risk in adults with obesity.<sup>7</sup>

## THE SUMMIT TRIAL — HEART FAILURE (2024)

The SUMMIT trial, published in the New England Journal of Medicine in December 2024, studied tirzepatide in **731 patients** with heart failure and obesity.<sup>8</sup>

Results showed tirzepatide reduced the combined risk of worsening heart failure or cardiovascular death by **38%** compared to placebo. Participants also reported significant improvements in their ability to exercise and in their quality of life.

## THE 2-MILLION-PATIENT STUDY (2024)

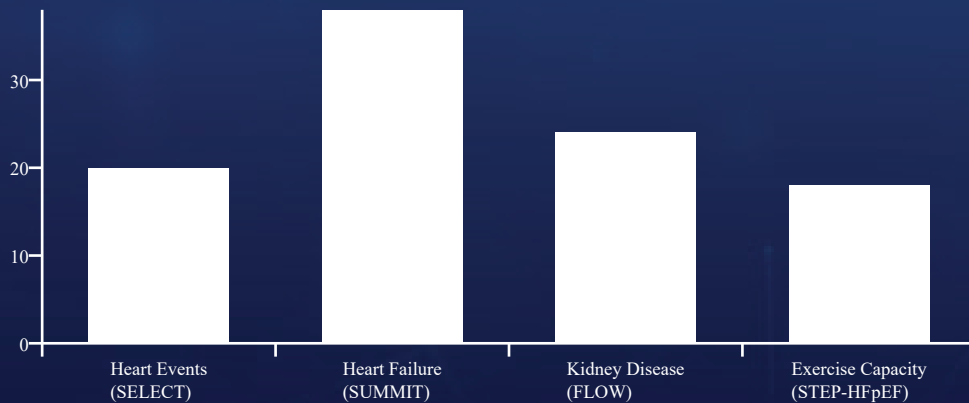
Published in Nature Medicine, this massive study analyzed electronic health records from over 2 million patients who had taken GLP-1 medications.<sup>9</sup>

The findings were striking: GLP-1 drug use was associated with reduced risk across 42 different conditions spanning 10 organ systems. Heart-related benefits included lower rates of heart attack, stroke, heart failure, and atrial fibrillation.

# KEY CARDIOVASCULAR FINDINGS

Study	Patients	Key Finding	Published
SELECT	17,604	20% lower major cardiovascular events	NEJM 2023
SUMMIT	731	38% lower worsening heart failure risk	NEJM 2024
Nature Medicine Analysis	2,000,000+	42 conditions with reduced risk	Nat Med 2024
FLOW (kidney)	3,533	24% lower kidney disease progression	NEJM 2024
STEP-HFpEF	529	Improved exercise capacity + symptoms	NEJM 2023

## RISK REDUCTION SEEN IN MAJOR GLP-1 CARDIOVASCULAR TRIALS (%)



## THE BIG PICTURE: BEYOND THE HEART

The cardiovascular findings are part of a bigger story. The 2-million-patient study found GLP-1 drugs were associated with benefits across nearly every organ system studied — including the brain, kidneys, liver, and lungs.<sup>9</sup>

Scientists are now debating whether GLP-1 drugs reduce disease risk only because they cause weight loss, or whether they have direct protective effects on organs. Growing evidence supports the idea that both mechanisms are at work.<sup>10</sup>

As one researcher put it: these drugs may be doing something fundamentally important at the cellular level — reducing inflammation and stress in ways that protect multiple organs at once.

## WHAT TO KNOW

### Key Takeaways:

- GLP-1 drugs like semaglutide and tirzepatide show significant heart benefits in large trials.
- The SELECT trial led to the first FDA approval of a weight loss drug for heart protection.
- Benefits appear to go beyond weight loss — direct effects on blood vessels and inflammation may play a role.
- A study of 2M+ patients linked GLP-1 drugs to lower risk across 42 different health conditions.
- These are prescription medications — always work with your healthcare provider.
- Research is ongoing. Larger and longer studies will continue to clarify these findings.

## WHAT TO KREFERENCESNOW

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## **FOR RESEARCH AND EDUCATIONAL PURPOSES ONLY**

This document is intended solely for educational purposes to increase awareness of emerging scientific research. It does not constitute medical advice and should not be used to make healthcare decisions.

**Regulatory Status:** Semaglutide (Ozempic/Wegovy) and tirzepatide (Mounjaro/Zepbound) are FDA-approved for type 2 diabetes and/or chronic weight management. Semaglutide (Wegovy) is FDA-approved to reduce cardiovascular risk in adults with obesity. Other cardiovascular applications described in this document are based on published research and may not yet be reflected in FDA-approved labeling.

All healthcare decisions should be made in consultation with qualified medical professionals.

This publication is part of an ongoing educational series designed to promote scientific literacy and awareness of developments in health research.





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