The Muscle-Heart Connection Nobody Talks About With GLP-1 Weight Loss

6 MIN READ

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The heart benefits of GLP-1s are real. So is an under-appreciated risk that could quietly undermine them.

By now, most people have heard the headline: GLP-1 medications like Ozempic and Wegovy produce meaningful, sustained weight loss at a scale that diet and exercise alone rarely do. And the **cardiovascular benefits** — lower blood pressure, reduced inflammation, better blood sugar control — have made them genuinely exciting to cardiologists.

But there's a conversation happening in the research community that hasn't fully reached the rest of us yet. It's about the muscle loss that often accompanies rapid weight loss, and it goes far beyond obvious concerns about frailty, mobility, or fall risk. It turns out that quickly losing muscle mass also impacts your metabolic resilience, an important driver of heart health.

How GLP-1s Shape Heart Health

First, the good news — and it is genuinely good.

According to Dr. Shahzeb Khan, MD, MSc, a **cardiologist** and co-author of a **new study** examining GLP-1s and body composition, these medications do far more than shift the number on the scale. "GLP-1–based therapies deliver substantial cardiometabolic and cardiovascular benefits that extend beyond weight reduction alone," he says. "These agents improve insulin sensitivity, lower blood pressure,

favorably modify atherogenic lipoproteins, reduce systemic inflammation, and have demonstrated reductions in major adverse cardiovascular events in large outcome trials."

The mechanism is multifaceted. GLP-1s reduce visceral fat, the deep abdominal fat wrapped around organs that drives so much cardiovascular risk, while also working directly on the heart and blood vessels. They improve how the heart uses glucose for energy, reduce the kind of fat buildup that damages heart muscle, and support healthier arterial function. The result, in large **clinical trials**, has been a meaningful reduction in heart attacks, strokes, and cardiovascular death.

For people at high cardiovascular risk, that's not a small thing. It's potentially life-changing.

Why Muscle Loss Is Also a Heart Concern

Here's where the story gets more complicated. GLP-1 medications work by suppressing appetite. People eat less — often significantly less. And when caloric intake drops sharply, the body doesn't just burn fat. It can also break down muscle. In clinical trials, a meaningful proportion of weight lost on GLP-1s has been lean mass, not just fat.

Dr. Khan explains why that distinction matters far beyond aesthetics. "Weight loss, skeletal muscle loss, metabolic resilience, and cardiovascular risk are closely linked because skeletal muscle is not only responsible for movement, but also a major regulator of metabolic health. It is the principal site of insulin-mediated glucose disposal and an important determinant of cardiorespiratory fitness," he tells Super Age.

In other words, muscle isn't just what lets you carry groceries or climb stairs. It's a metabolic organ — one that plays a central role in how your body manages blood sugar, burns energy, and responds to physical stress. When you lose it, you lose more

than strength.

The biological cascade Dr. Khan next describes is advanced, but worth understanding. Caloric restriction shifts muscle protein turnover toward breakdown. Key anabolic signals weaken. Genes that accelerate muscle loss become more active. From there, cardiovascular consequences follow, including impaired insulin sensitivity, lowered metabolic flexibility, and diminished exercise capacity.

Simultaneously, myokines — signalling proteins released when skeletal muscle contracts — can become impaired, interfering with chemical cross-talk between the muscles and heart. This can ultimately contribute to endothelial dysfunction —a problem in the inner lining of the blood vessels — and arterial stiffness. Over time, he says, “these mechanisms may increase cardiovascular vulnerability and lessen the durability of long-term heart risk reduction.”

Ultimately, some of the very heart benefits GLP-1s are celebrated for could be quietly undermined by the muscle loss that accompanies them.

What We’re Missing When We Talk About GLP-1 Weight Loss

Dr. Khan is careful to point out that not all weight loss is equal. And the way we currently measure it may be obscuring what’s actually happening in the body.

“Lean body mass and skeletal muscle mass are often used interchangeably, despite important distinctions between the two,” the cardiologist says, noting that declines in lean mass on a body composition scan can reflect changes in glycogen, organ mass, or water — not necessarily actual muscle tissue. “Thus, changes in lean mass alone may not reflect clinically meaningful outcomes, with muscle strength and functional capacity being of greatest relevance,” he adds.

Critically, the net effect still favors cardiovascular protection for most people, Dr. Khan notes. Modest muscle loss is often still offset by substantial cardiometabolic

gains like improved insulin sensitivity, lower visceral fat, better cholesterol profiles, and reduced inflammation.

The concern, he clarifies, “is therefore not pharmacologic weight loss itself, but whether the quality of weight loss prioritizes fat reduction while preserving muscle and physical function.” It’s a question of how you lose the weight, not just how much you’ve lost.

How to Know If Your Weight Loss Is “High Quality”

Dr. Meghan Garcia-Webb, MD, **a doctor triple board-certified** in internal medicine, lifestyle medicine, and obesity medicine, agrees that this distinction often gets lost. As a result, many people on GLP-1s have no idea whether their weight loss is “high quality” or not.

“One thing that rarely gets discussed when talking about muscle loss is that most studies measure body composition using a bioelectrical impedance analysis (BIA) scale or a **DEXA scan**,” says Dr. Garcia-Webb. These can distinguish between fat and non-fat mass — but not much beyond that. “You need an MRI or a CT to accurately measure skeletal muscle,” she says, adding that “assessments like grip strength are also helpful.”

3 Ways to Achieve “High Quality” Weight Loss

The tools for protecting muscle during GLP-1 treatment are not exotic or expensive. They’re the same ones that support healthy aging across the board.

1. **Exercise** is key, says Dr. Khan. “Resistance training remains the first-line and most clinically accessible approach as it stimulates muscle protein synthesis, improves

strength, neuromuscular function, and supports insulin sensitivity." The recommendation: two to three sessions per week during weight loss. Aerobic exercise rounds out the picture, improving fat oxidation and overall cardiovascular fitness, particularly when combined with resistance training.

2. 2 **Protein** matters just as much. Dr. Khan recommends a minimum of 1.2–1.5 grams per kilogram of body weight per day to support muscle protein synthesis and offset the catabolic effects of eating less. For people whose appetite is significantly suppressed by GLP-1 medications — one of the drug's primary mechanisms — hitting that target requires intention. It's generally best to get your nutrients from whole foods, but whey or casein supplementation can help fill the gap, he notes.
3. 3 **Medication** may soon play a greater role, too. "Emerging pharmacologic strategies targeting pathways of muscle preservation or anabolism, including myostatin/activin inhibitors, ligand traps, and selective androgen receptor modulators, represent promising avenues to complement incretin-based therapies and optimize body composition with pharmacological weight loss," Dr. Khan says.

Your Mindset Also Matters

Fear of muscle wasting shouldn't hold you back from discussing GLP-1s with your doctor if you believe you're a good candidate, Dr. Garcia-Webb emphasizes. "Clinically, I am really not seeing significant, extreme muscle wasting that is impacting someone's quality of life. If anything, with increased weight loss, a lot of my patients find it easier to go to the gym and start working out. It gives many of them positive momentum to make these other important life changes," she tells Super Age.

The goal, Dr. Khan says, should be a fundamental shift in how we think about weight loss success: "Move beyond pounds lost and focus on preserving lean mass, maintaining function, and achieving durable cardiovascular benefit." Or as he puts it even more directly: shift goals "from pounds lost to health gained."

For anyone in midlife or beyond who is taking or considering a GLP-1 medication, that reframe is everything. The drugs can do remarkable things for your heart. But

they work best when the rest of you — your muscle, your strength, your physical capacity — is being protected at the same time. That part comes down to you, Dr. Garcia-Webb adds: “I always tell people to remember that the medications don’t do everything.”

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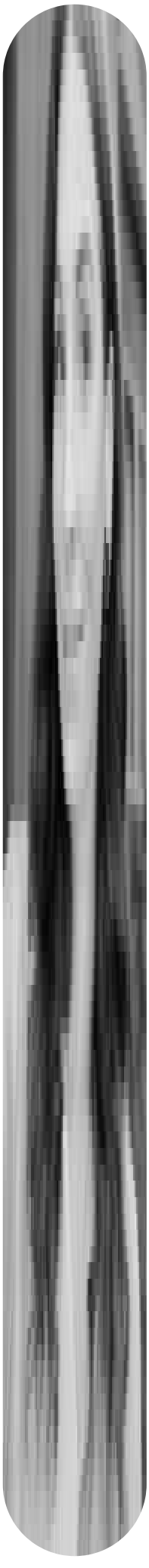

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