

Why Blood Glucose Matters During Prostate Cancer Treatment

UREF Prostate Cancer Support Group Meeting

Tuesday, April 28, 2026

5:30-7:00 pm

Campisis Egyptian Restaurant
5610 E. Mockingbird, Dallas

Angela Clark

Disclaimer

I am not a healthcare provider. I am providing advice based on what I have learned in my healthcare journey and online educational tools

My goal is to educate you about potential risks of elevated glucose

Talk with your primary care doctor or urologist about your glucose management

Questions

- Do you know your glucose and A1c?
- Did your urologist educate you about glucose management or refer you to your primary care doctor?

Hormone therapy (ADT) pushes your body toward prediabetes

- Lower testosterone → more insulin resistance
 - More fat gain, especially abdominal
 - Higher risk of diabetes and heart disease
 -
- “So even if your cancer is controlled, your metabolism becomes the next battle.”**



ADT increases insulin resistance

- Low testosterone makes the body **less responsive to insulin**, meaning:
 - Muscle and fat cells don't take up glucose as effectively
 - The pancreas has to produce **more insulin** to compensate
 - Over time → higher fasting insulin and eventually higher glucose
 - Men typically gain 15 lbs when starting on ADT
- 👉 This is one of the strongest links: low T is independently associated with **insulin resistance and type 2 diabetes risk**.
- Not everyone with low testosterone develops diabetes, but it **raises risk ; worsens glucose variability**, even if A1c looks “okay”

Rapid development of insulin resistance on ADT

Can occur within **weeks to a few months** of starting ADT

- Know your baseline glucose and HbA1c before starting ADT
- 3 mo Lupron or Eligard – check glucose and HbA1c **3 months** after first injection
- Orgovyx – check glucose and **HbA1c 8 weeks** after starting

Fasting insulin rises early on, even before glucose changes

Tissues (especially muscle) become less responsive to insulin

Common Signs of Insulin Resistance

- **Common signs (often subtle)**
 - Higher fasting glucose or A1c
 - Blood sugar spikes after meals
 - Increased belly fat
 - Fatigue after eating
 - Skin changes (like darkened areas on neck—acanthosis nigricans)

Why It Matters

If not managed, diabetes and pre-diabetes can lead to serious health problems like:

- Heart disease
- Kidney damage
- Nerve damage
- Vision loss

Prediabetes

- **“Prediabetes is not ‘almost diabetes’—it’s early damage already happening.”**
- Blood sugar may look “almost normal”
- But **blood vessels, nerves, and metabolism are already under stress**

What is diabetes?

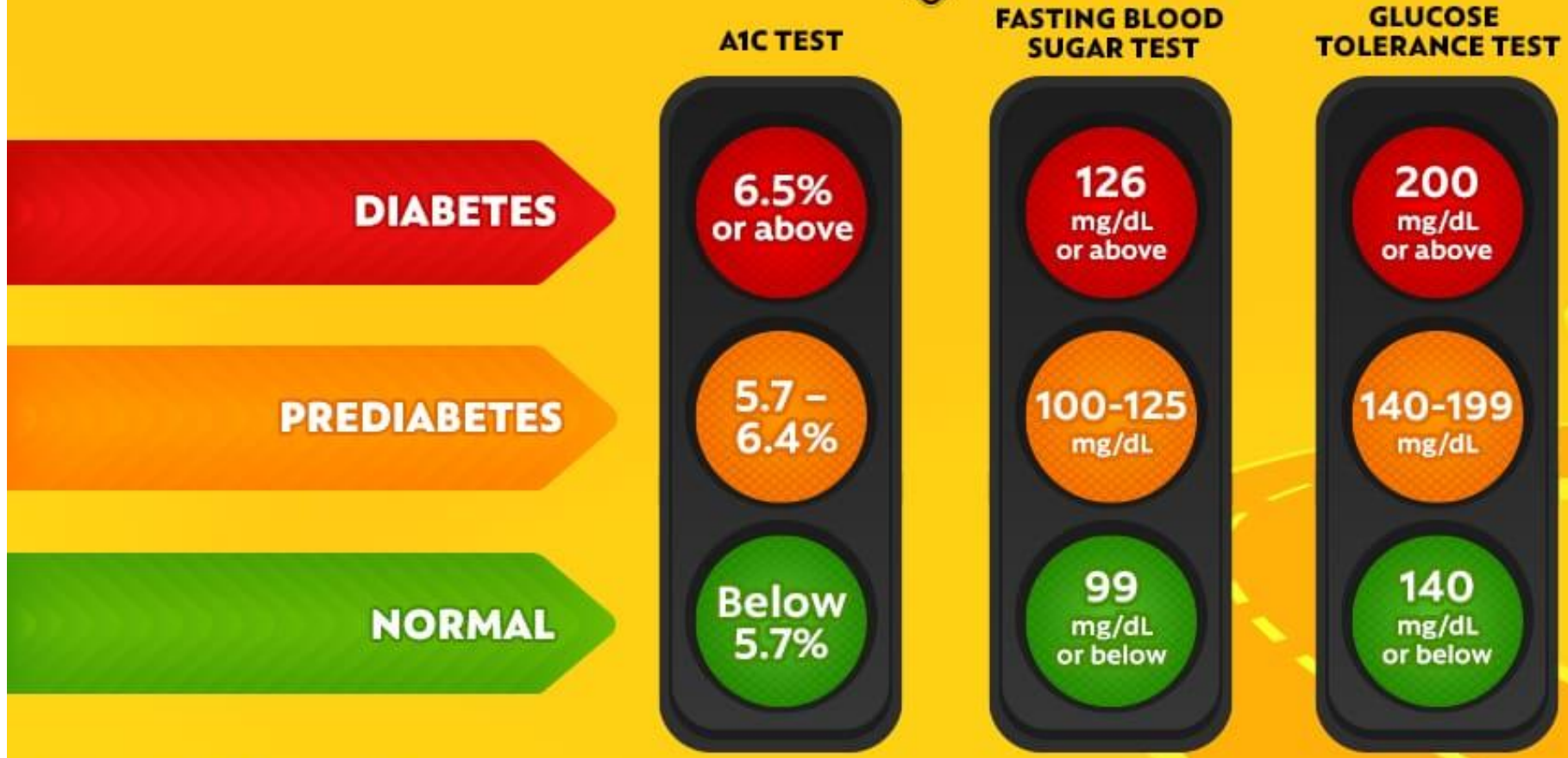
Diabetes is a **long-term medical condition** that affects how your body uses sugar (glucose), which is an important source of energy.

Simple explanation

- When you eat food, your body turns it into glucose. A hormone called **insulin** helps move that glucose from your blood into your cells for energy.

In diabetes, this process doesn't work properly, so **too much sugar stays in your blood.**

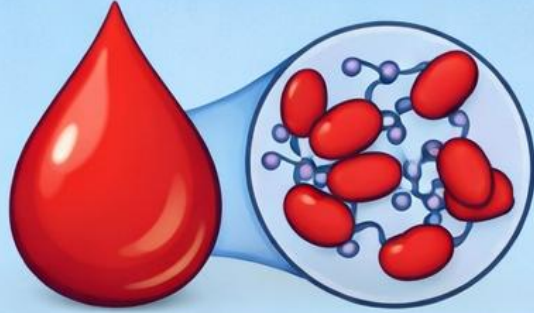
THE ROAD TO TYPE 2 DIABETES



Source: American Diabetes Association

HbA1c Test

(Glycated Hemoglobin)



VS.

2-Hour Glucose Tolerance Test



MEASURES:

- Average Blood Sugar over 2-3 months

RESULTS:

- Normal < 5.7%
- Pre-diabetes 5.7% - 6.4%
- Diabetes \geq 6.5%



MEASURES:

- Blood Sugar Response after 2 hours

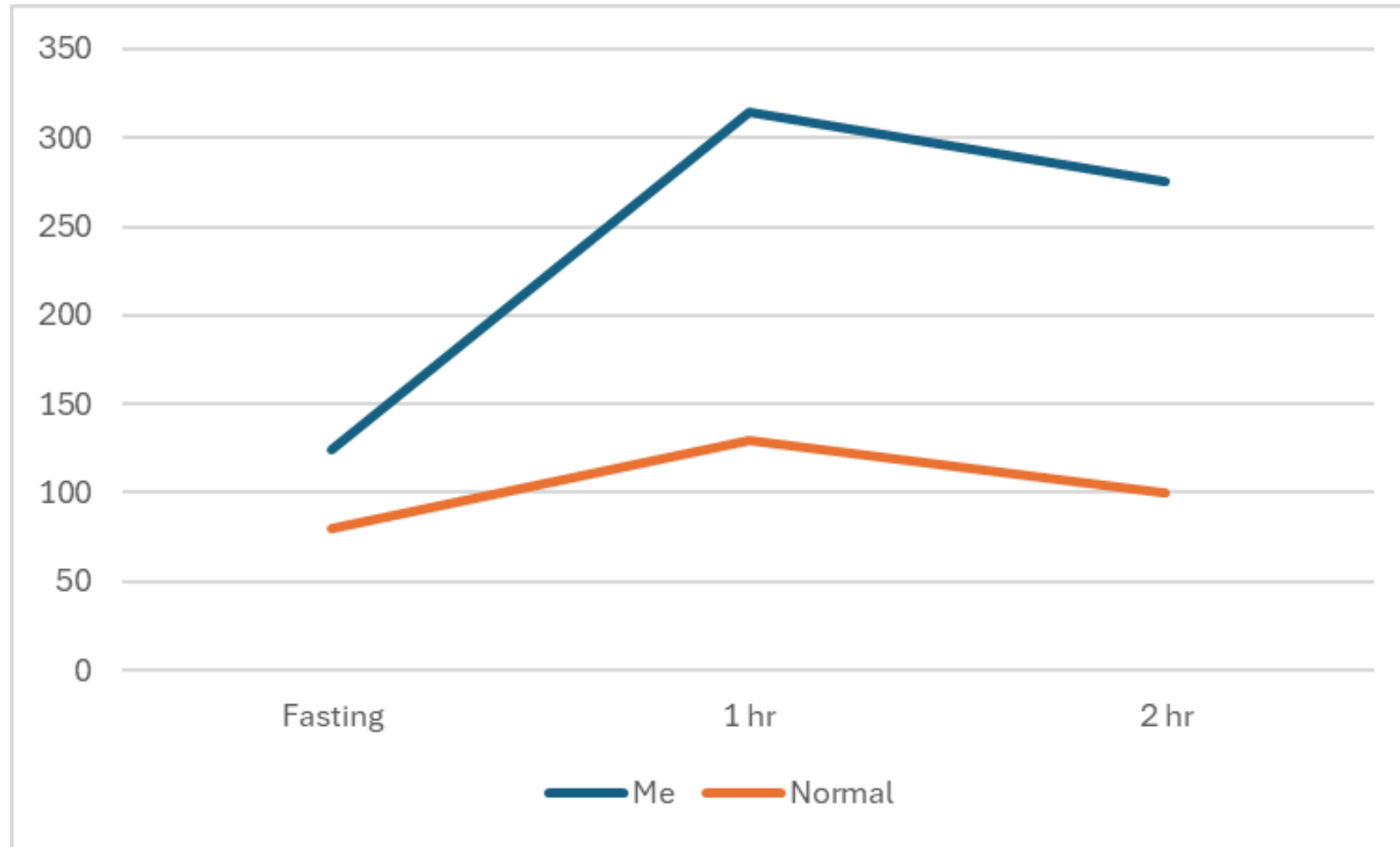
RESULTS:

- Normal < 140 mg/dL
- Pre-diabetes 140-199 mg/dL
- Diabetes \geq 200 mg/dL

LONG-TERM BLOOD SUGAR CONTROL

SHORT-TERM GLUCOSE RESPONSE

Oral GTT: Normal vs Diabetes



Lengthy appt. Have to be fasting and stay in lab area for 2 hours.

Problem with Standard Glucose Testing (A1c)

- What A1c Measures
 - Average blood sugar over ~3 months
 - Does NOT show daily spikes

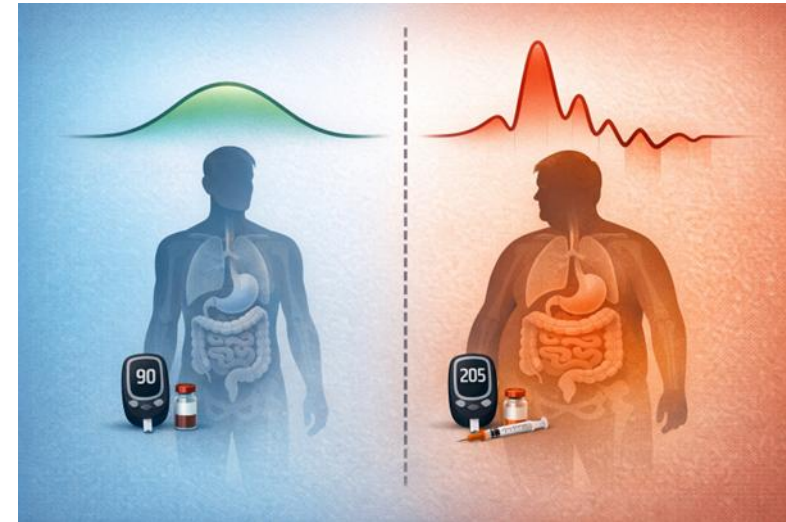
“It’s like averaging your speed over a whole trip—you might miss the moments you were speeding.”



Why Spikes Matter (even if A1c looks okay)

Even short spikes:

- Increase **oxidative stress** (increase in free radicals)
- Cause **endothelial (blood vessel) damage**
- Contribute to:
 - Heart disease
 - Nerve damage
 - Inflammation
- Research suggests **spikes may be more damaging than steady mildly elevated glucose**



What's Considered a “concerning” spike?

For most people without diabetes:

- Peak glucose (usually 30–60 min after eating):
Typically **<140–160 mg/dL**
- 2-hour glucose:
<140 mg/dL (often back near baseline)

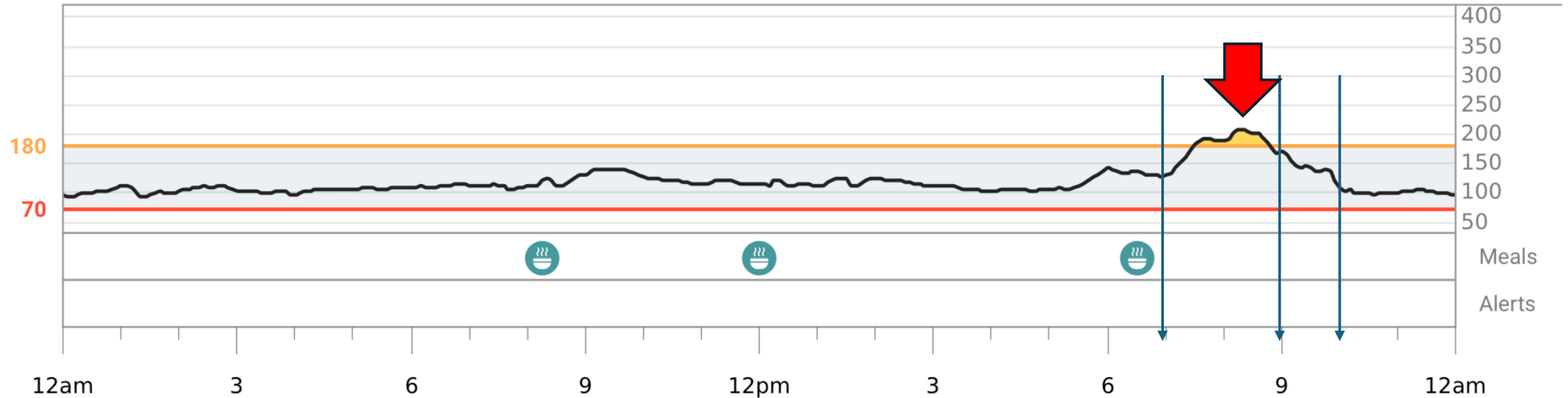
For people with insulin resistance or diabetes:

- Spikes can go **>180–200 mg/dL**
- But what matters is:
 - **How high it goes**
 - **How long it stays elevated**

My Glucose after Easter Dinner on Mounjaro

Spike to **205**, Dropped to around 120 at 2 hours

Sun, Apr 5, 2026



Practical Ways to Blunt Spikes

- Eat **protein/fiber first**, carbs last
- Walk **10–15 minutes after meals**
- Avoid **liquid sugars + refined carbs together**
- Pair carbs with fat/protein (not alone)
- Smaller portions of high-glycemic foods
- i.e. Mexican restaurant – Don't start eating the tortilla chips until you have eaten some protein. Order guacamole to have with chips.

Prevention of Diabetes

Exercise is critical (arguably the most important intervention)

- Resistance training → preserves muscle → improves glucose uptake
- Aerobic activity → improves insulin sensitivity

Diet adjustments

- Reduce large refined carb loads (like pasta + dessert together)
- Pair carbs with:
 - Protein
 - Fat
 - Fiber
- 👉 Blunts spikes significantly

Metformin

- Improves insulin sensitivity
- May reduce ADT-related metabolic effects
- (Some oncologists start it early in high-risk patients)

Good News

Diabetes can often be **managed or controlled** with:

Healthy eating

Regular exercise

Medication or insulin (if needed)

Monitoring blood sugar levels

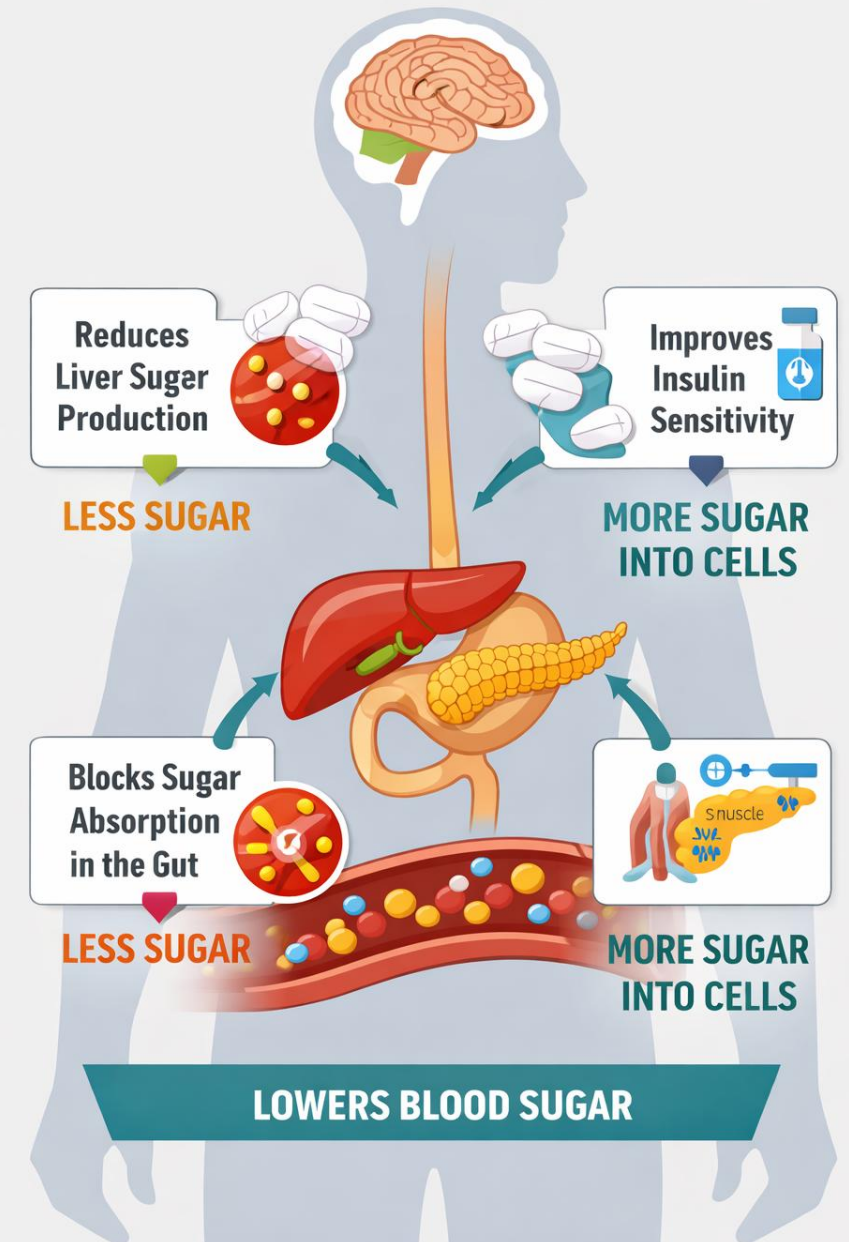
Not everyone with low testosterone develops diabetes, but:

It **raises risk** and It **worsens glucose variability**, even if A1c looks “okay”

Metformin

- **Reduces liver glucose output**
 - The liver “dumps” glucose (especially overnight and between meals)
 - Metformin **turns down that faucet**
- **Improves insulin sensitivity**
 - Your muscles and tissues respond better to insulin
 - Glucose gets into cells more efficiently
- **Blunts post-meal spikes (somewhat)**
 - Not as strong as drugs like GLP-1s, but still helpful

HOW METFORMIN WORKS



GLP-1 Medications

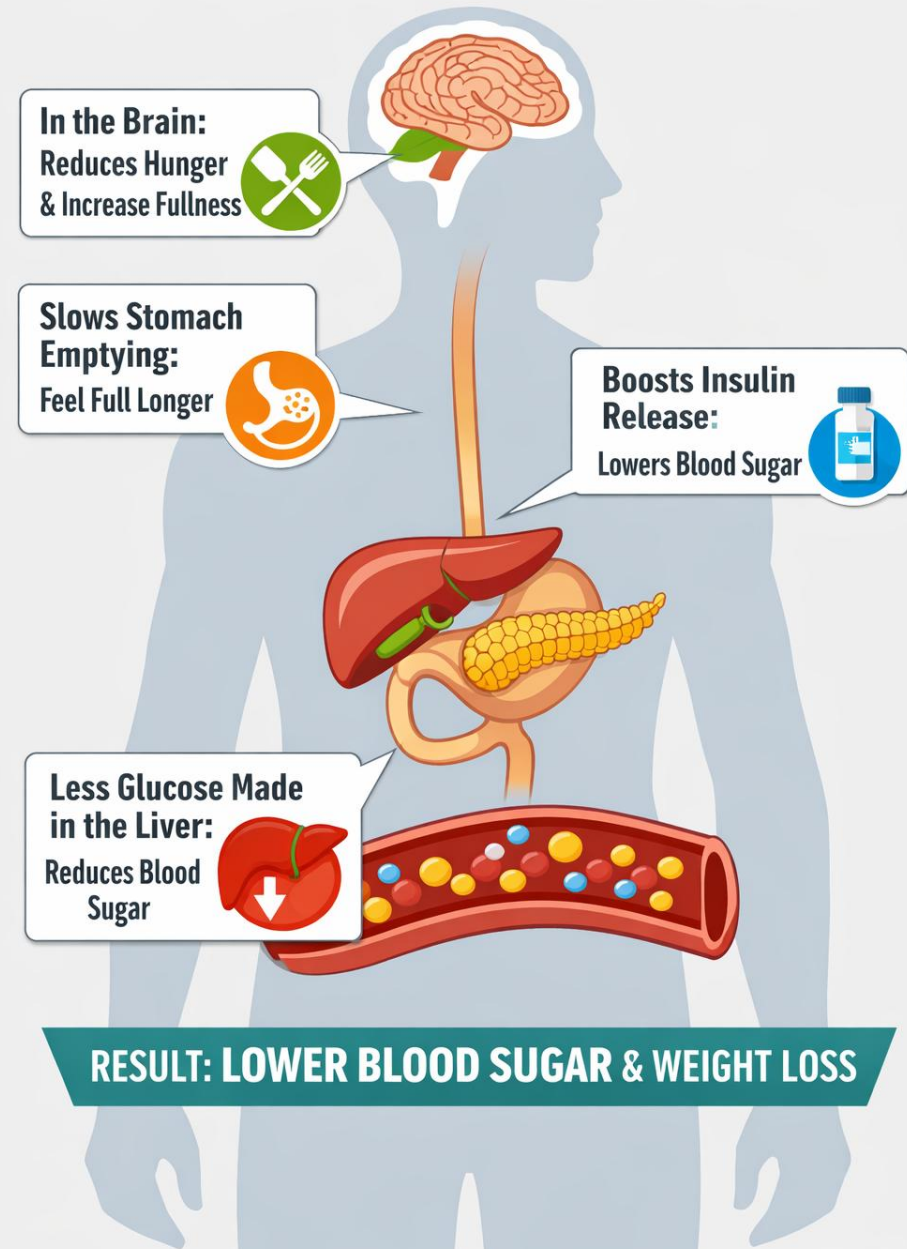
- **Long-acting GLP-1 receptor agonists**
 - **Examples:** Semaglutide (Ozempic, Wegovy)
 - **Key effect:**
 - Better control of fasting glucose
 - Sustained insulin signaling
 - Moderate effect on:Weight loss
- **Dual incretin (GLP-1 + GIP)**
 - **Example:** Tirzepatide (Mounjaro, Zepbound)
 - **Key effect:**
 - Strongest effects on:
 - Weight loss
 - Insulin sensitivity
 - Glucose lowering

How GLP-1 Medications Can Help

GLP-1 receptor agonists (like **Semaglutide** and **Tirzepatide**) are one of the most powerful tools for improving insulin sensitivity and supporting weight loss.

Studies show that GLP-1s not only lead to **significant weight loss**, but also **improve metabolic health**, lower inflammation, and can even help prevent progression to type 2 diabetes.

HOW GLP-1 MEDICATIONS WORK



What You Can Do

- Ask your doctor about:
 - A1c and fasting glucose
 - 2-hour OGTT
 - Know your baseline before starting ADT and get it checked regularly
 - If abnormal, talk to doctor about Metformin or GLP-1s
- Get annual eye checkups (diabetes affects eyes)
- Purchase a continuous glucose monitor to understand how your body handles sugar and carbs, especially if starting or on ADT.
- Lifestyle changes:
 - Strength training (preserve muscle)
 - Walk after meals (even for just 10 minutes)
 - Balanced meals (protein + fiber + carbs)

Resistance Training

Resistance Training (MOST important)

Goal: Preserve muscle + bone

Frequency: 2–3 days per week

Exercises: 8–10 major muscle groups

Sets/Reps: 2–3 sets 8–12 reps per exercise

Intensity: Moderate to heavy (last 2 reps should feel challenging)

Focus areas:

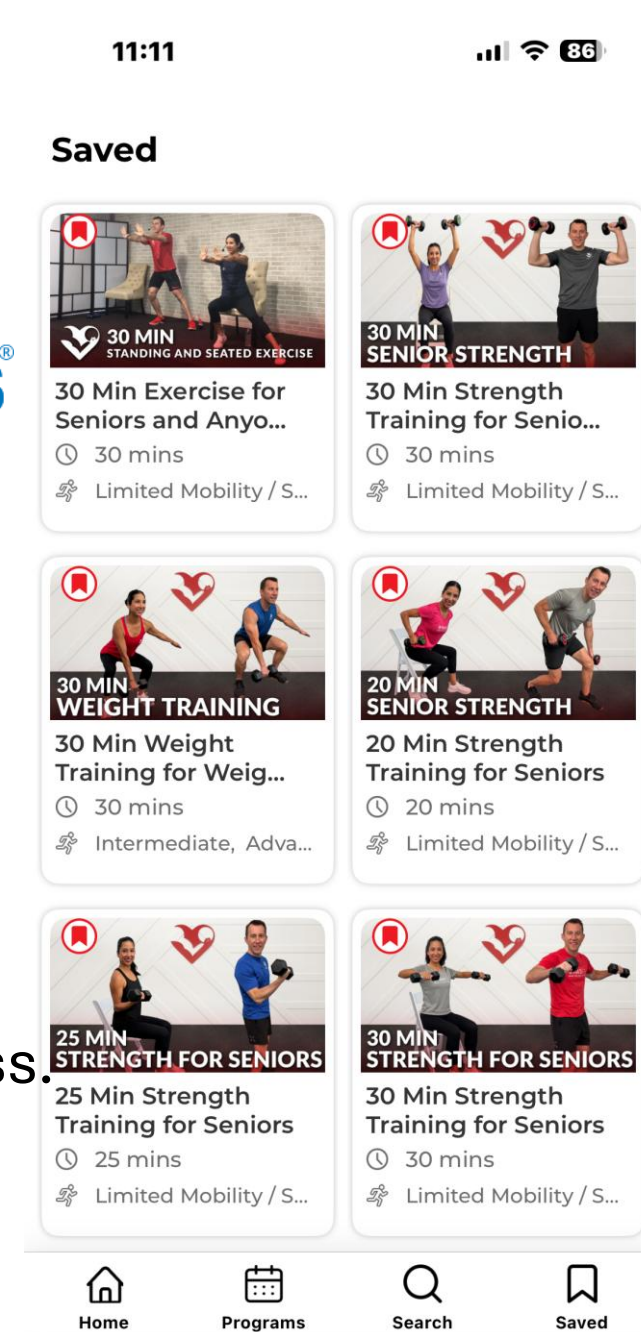
- Legs (squats, leg press) → critical for function & bone
- Core (planks, bridges)
- Back/chest (rows, chest press)
- Arms (biceps/triceps)

👉 This is the *most effective intervention* for ADT-related muscle loss.

Ideal: Work with a trainer for personalized workout plan.
Supervised exercise oncology programs (best outcomes)



SilverSneakers®




Continuous Glucose Monitor

- Dexcom
 - requires prescription
 - Insurance doesn't pay for it unless you have diabetes and on insulin
- Alternative (no prescription, self-pay)
 - Stelo Glucose Biosensor & App by Dexcom (available on Amazon) \$99.00 with two sensors (1 mo supply)
 - 1 sensor lasts 15 days


Sensor

Best Seller




Stelo
Glucose Biosensor & App by
Dexcom - A Leader in
Continuous Glucose...
3.0 ★★★★★ (3.2K)
\$99⁰⁰ (\$49.50/count)
FREE delivery **Mon, Apr 13**
Or fastest delivery **Tomorrow, Apr 9**
FSA or HSA eligible

APPS



Stelo by Dexcom
Health & Fitness
★★★★☆ 1.4K

Monitors glucose



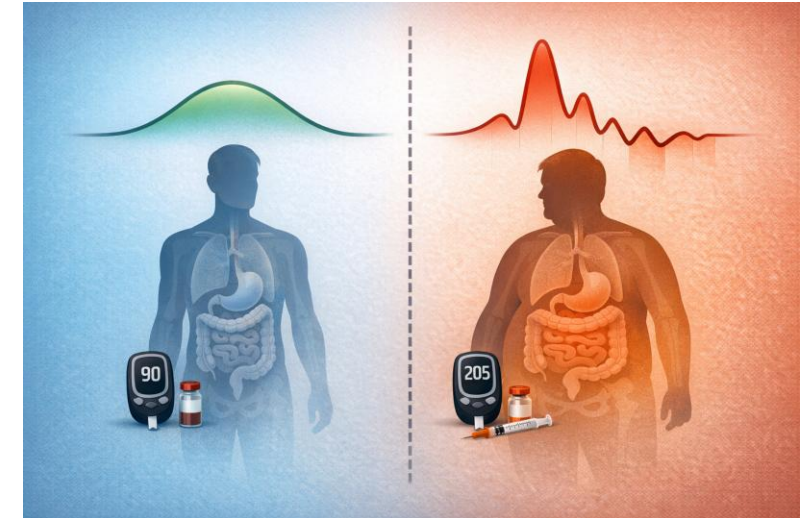
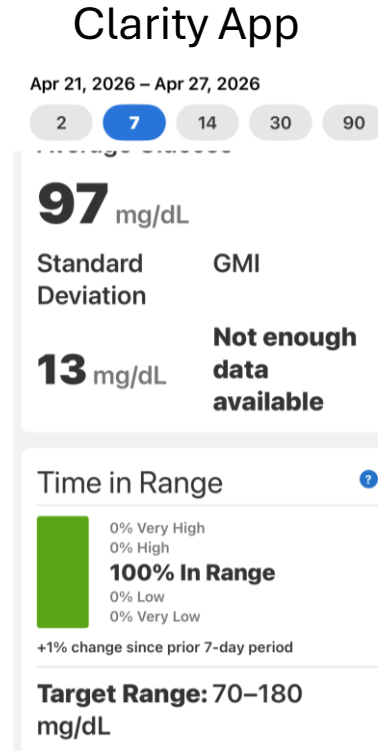
Dexcom Clarity
Medical
★★★★★ 13K
[Open](#)

Provides summary
Data. Can link to doctor so
they can see results

Data from Glucose Monitor Using Apps (Stelo & Clarity)

Standard Deviation (represents spikes in glucose)

Control Level	Standard Deviation
Excellent / very stable	≤ 20 mg/dL
Good	20–30 mg/dL
Acceptable	30–40 mg/dL
High variability (risk)	> 40 mg/dL



SD	Mean Glucose	=CV
40	112	40% X
13	97	13.4% ✓

Even more important: Coefficient of Variation (CV)

SD alone depends on your average glucose, so clinicians often use:

👉 **CV = SD ÷ mean glucose**

🎯 **Target:**

- **CV ≤ 36%** → considered stable (key international consensus threshold)
- **CV < 30%** → very stable (ideal)

How High Glucose Affects Radiation and Surgery

Aspect	External Beam Radiation	Radical Prostatectomy
Primary concern	Treatment effectiveness	Surgical recovery & complications
Effect of high glucose	May make cancer cells more resistant to radiation	Directly increases infection and poor healing risk
Oxygen & tissue response	High glucose → poorer tumor oxygenation → reduced radiation effect	Less relevant
Healing issues	Slower repair of bladder/rectal tissues	Major issue—affects incision + internal healing
Infection risk	Moderate increase	High impact (one of biggest risk factors)
Urinary symptoms	Can worsen irritation and frequency	Can delay continence recovery
Nerve function (sexual health)	Indirect effect	Direct impact on nerve healing post-surgery
Timing importance	Important throughout weeks of treatment	Critical immediately before & after surgery
Fatigue/energy	Glucose swings worsen radiation fatigue	Affects recovery energy and mobility

Chemotherapy

Factor	Chemotherapy
Main concern	Immune function + systemic stress
Biggest glucose trigger	Steroids (e.g., Dexamethasone)
Risk of infection	Very high if glucose uncontrolled
Timing	Spikes often occur on chemo days + 1–3 days after
Neuropathy link	Significant (worse with high glucose)

GLP-1 Agonist Use Among Men With Localized Prostate Cancer: A Narrative Review and Rationale for Prospective Clinical Trials

“We therefore put forth that GLP-1 agonist use offers many potential benefits to men who are diagnosed with prostate cancer, both in terms of prostate cancer disease biology modification and in improving men’s cardiovascular disease risk and surgical outcomes.”

To this end, our group (at MD Anderson) has initiated a pre-surgical study of tirzepatide (Mounjaro) in this population (NCT0675970)

Therefore, we conclude that GLP-1 agonists offer promise in mitigating both the risks of cardiovascular disease and other comorbidities that commonly afflict men with localized prostate cancer and those related to cancer progression.”

<https://doi.org/10.1016/j.urology.2025.04.056>

Key Takeaways

ADT increases diabetes risk

A1c alone may miss early disease

OGTT can detect problems sooner

You beat cancer—now protect your long-term health.”

Dietician Consultation

- **Dana B. Roseman, MPH, CDCES, RDN**

Director of Technology and Applied Research

Integrated Diabetes Services

Accredited by the American Association of Diabetes Educators

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