Why Blood Glucose Matters During Prostate Cancer Treatment: Part II

UREF Prostate Cancer Support Group Meeting

Tuesday, May 26, 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

Mark Moyad MD and Mark Scholz, MD

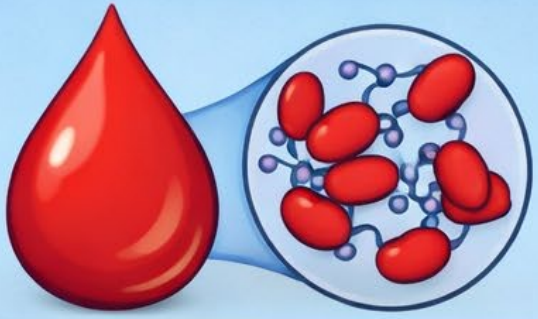
Click link to play video: https://youtu.be/-PyqazlkpCE?si=jXw8z3l4UlLtbTzS

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.”

HþA1c Test
(Glycated Hemoglobin)



MEASURES:

- Average Blood Sugar over 2-3 months

RESULTS:

- Normal < 5.7%
- Pre-diabetes 5.7% - 6.4%
- Diabetes ≥ 6.5%

LONG-TERM BLOOD SUGAR CONTROL

VS.

2-Hour Glucose Tolerance Test

MEASURES:

- **Blood Sugar Response** after 2 hours

RESULTS:

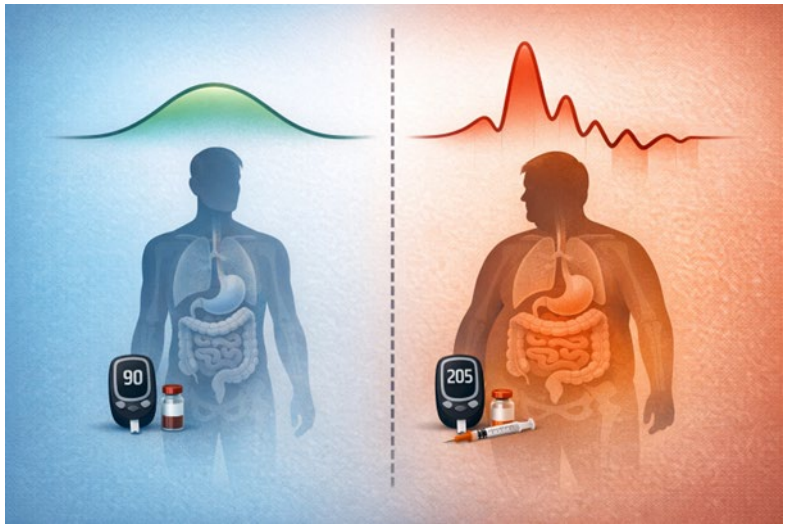
- Normal < 140 mg/dL
- Pre-diabetes 140-199 mg/dL
- Diabetes ≥ 200 mg/dL

SHORT-TERM GLUCOSE RESPONSE

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**

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)

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

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

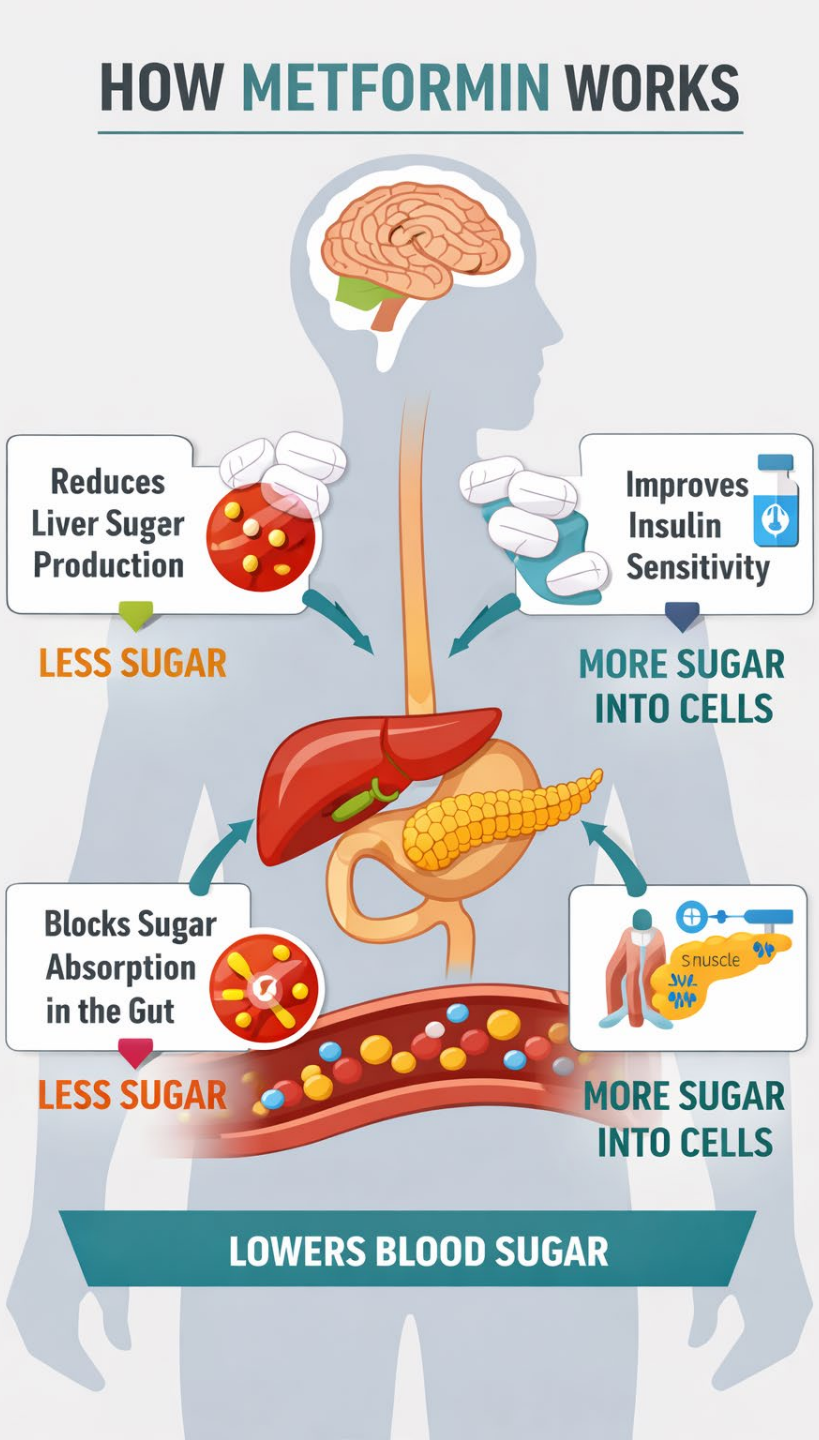
Tissues (especially muscle) become less responsive to insulin

Metformin and Prostate Cancer

Click link to play video: https://youtu.be/rqks09JPFbY?si=h8tB_L01D2wLF2Ll

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



GLP-1 Medications

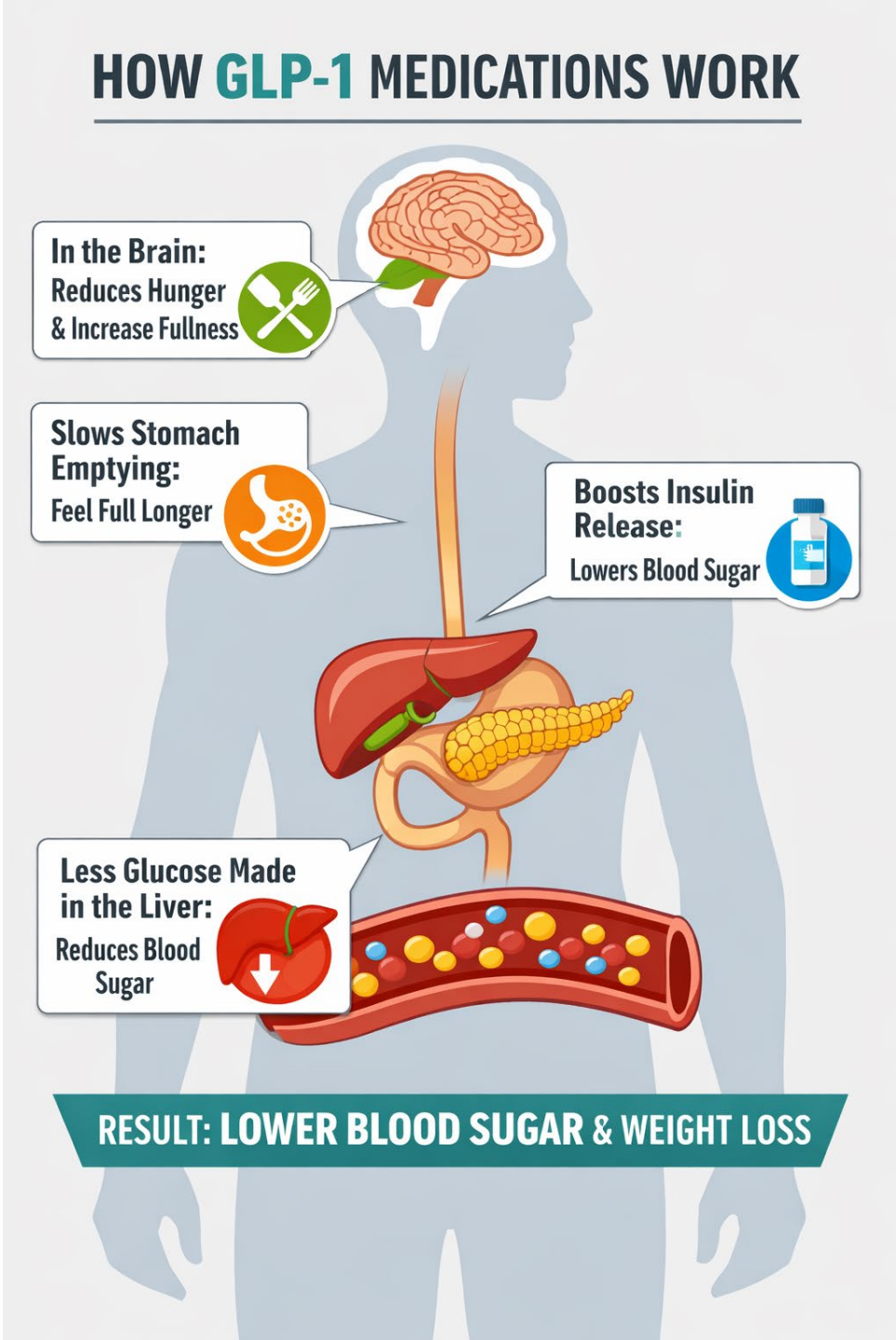
- **Long-acting GLP-1 receptor agonists**
  - **Examples:** Semaglutide (Ozempic, Wegovy)
  - Key effect:
    - Better control of fasting glucose
    - Sustained insulin signaling
    - Moderate effect on:Weight loss

- **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.



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:

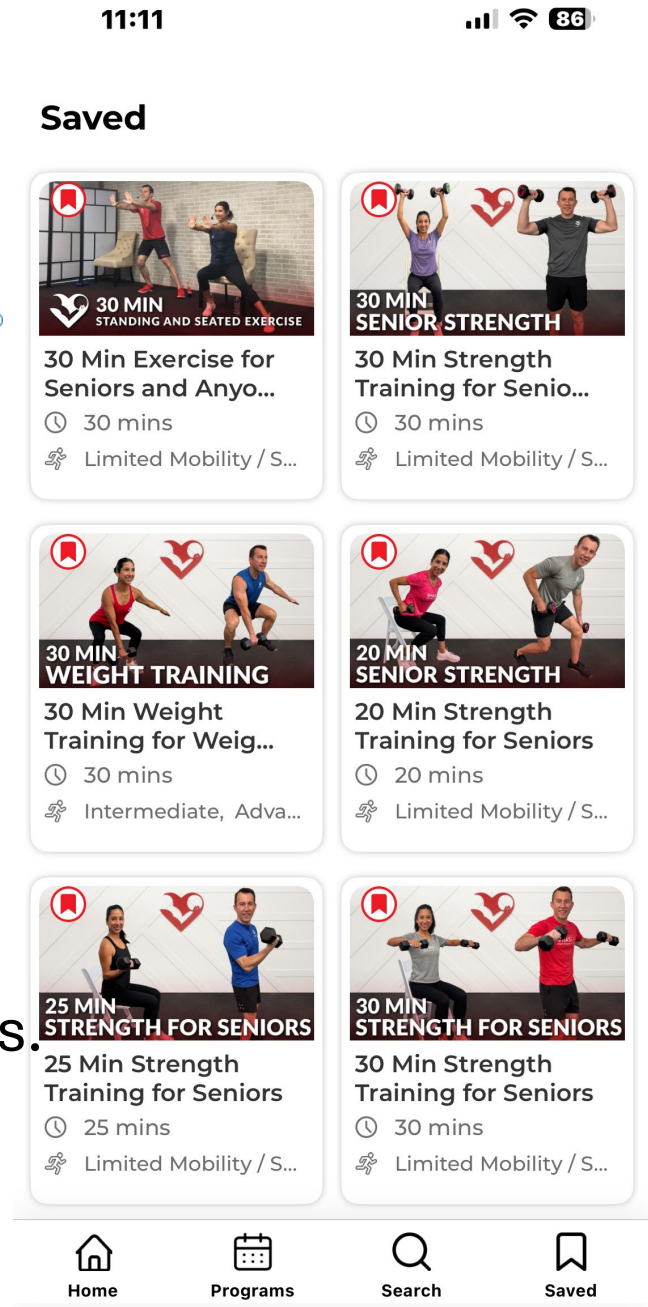
- Legs (squats, leg press) → critical for function & bone
- Core (planks, bridges)
- Back/chest (rows, chest press)
- Arms (biceps/triceps)

👉 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)

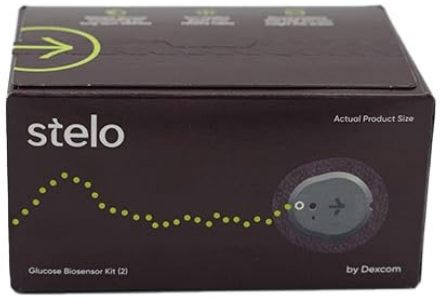
HASfit

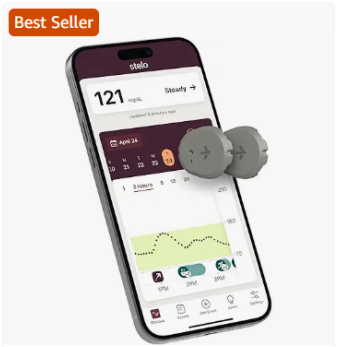
SilverSneakers®



Continuous Glucose Monitor (CGM)

- Stelo Glucose Biosensor & App by Dexcom (available on Amazon) $99.00 with two sensors (1 mo supply) 1 sensor lasts 15 days





Stelo
Glucose Biosensor & App by Dexcom - A Leader in Continuous Glucose…
3.0 ★★★☆☆ (3.2K)
$99.00 ($49.50/count)
FREE delivery **Mon, Apr 13**
Or fastest delivery **Tomorrow, Apr 9**
FSA or HSA eligible

- Lingo Lingo Continuous Glucose Monitor (CGM) & App (Pack of 2). Made by Abbott. Optimize Your Nutrition with Real-time Glucose Data & Insights. 1 Lingo biosensor lasts up to 14 Days. $87.92

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.”