



Keys to Metabolic Health: Blood Sugar & Insulin Resistance

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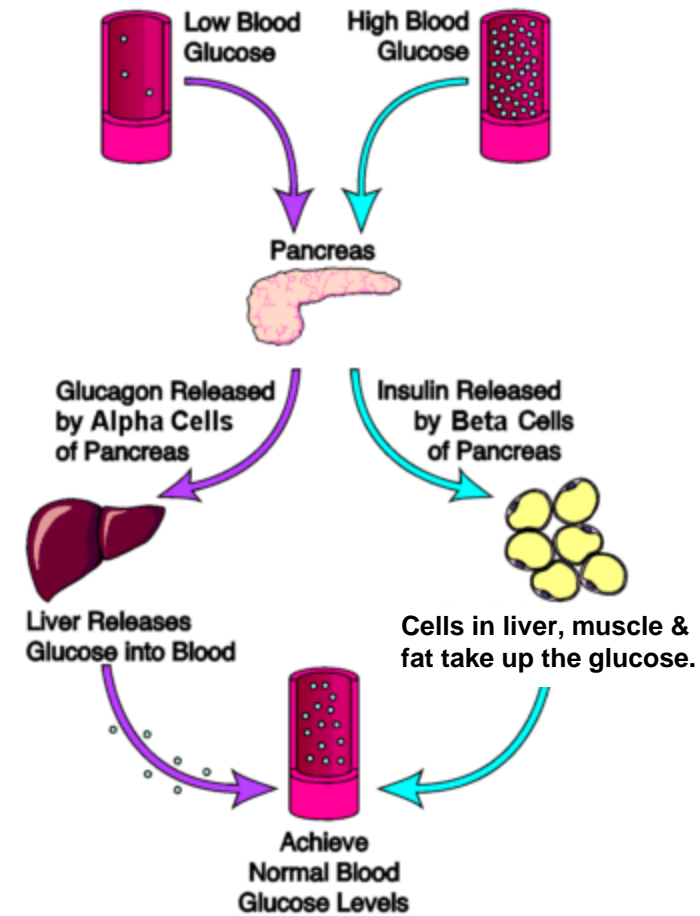
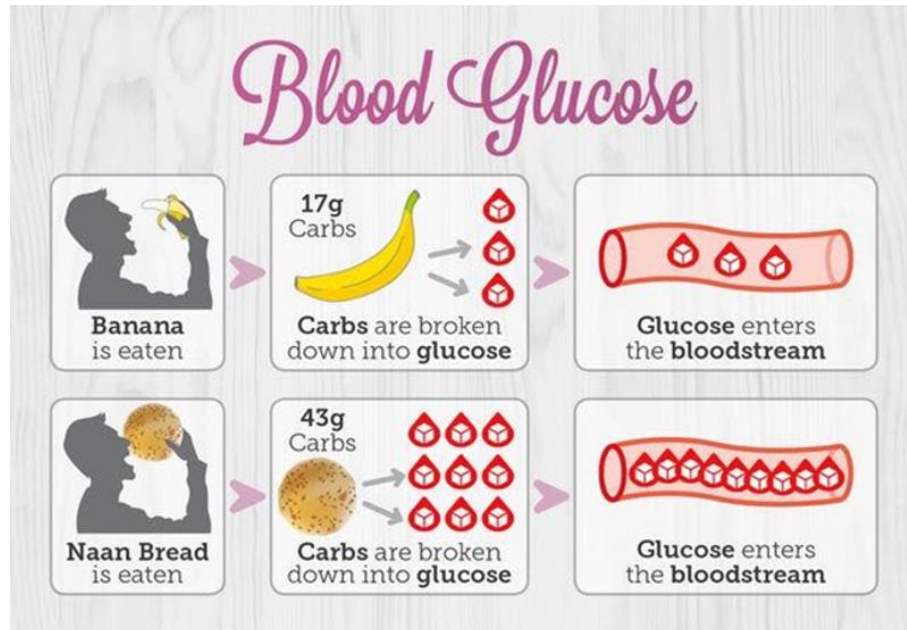
Quick Review



Foods That Increase Blood Sugar

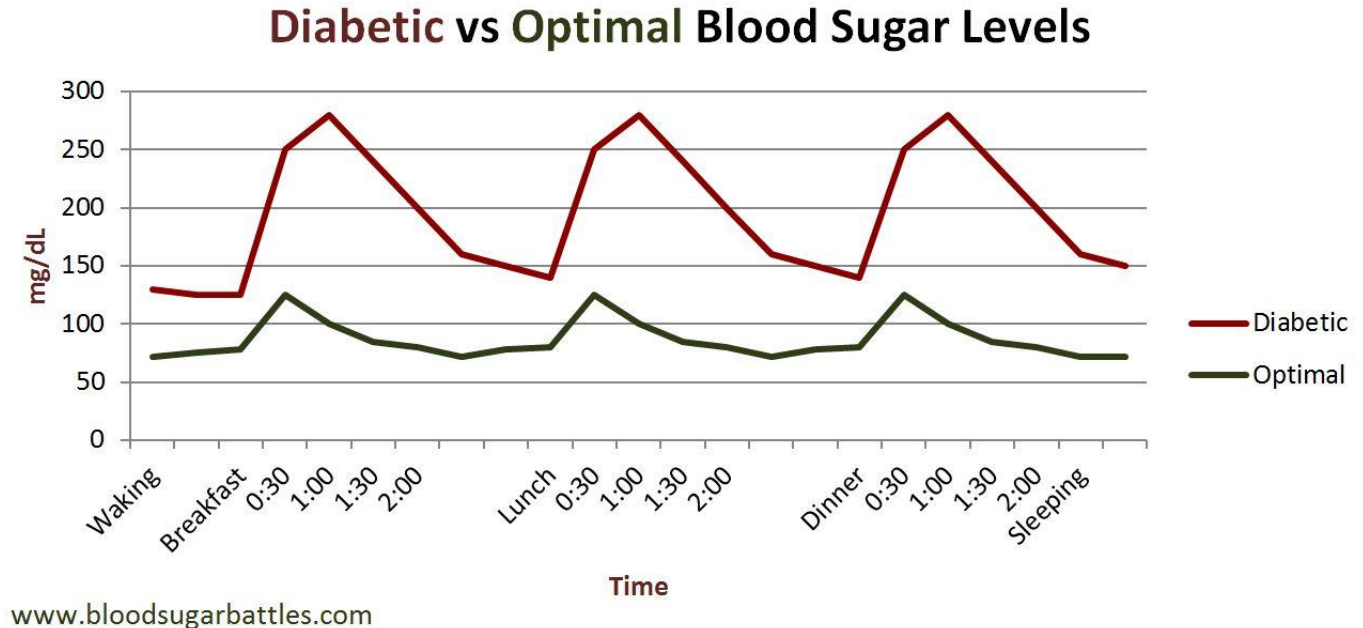


How Does Blood Sugar Work?



Does Blood Sugar Matter WITHOUT Diabetes?

- Satiety
- Cravings
- Hormone Balance
- Inflammation
- Weight & Fat
- Focus
- Energy
- Mood
- Sleep
- Skin
- Immunity



“The absence of disease does not guarantee the presence of health.”

Stats About Spikes

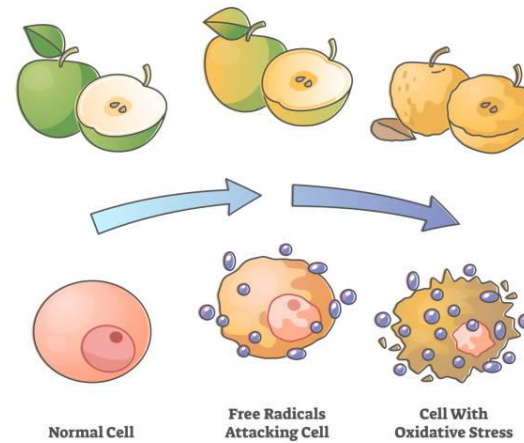
- 1 BILLION people worldwide have diabetes or prediabetes
- 8.5mill each year go undiagnosed (estimate)
- 80% of the US population has daily glucose spikes outside of healthy range
- United Nations Food & Agriculture Organization has called for a global emphasis on reducing sugar intake to combat the rise of non-communicable diseases
- Studies show increased risk of metabolic diseases and death with spikes in blood sugar levels even within “normal” ranges for diabetes, and even in those with no diabetes diagnosis
- Variability in glucose spikes leads to greater concern than slightly elevated, consistent levels.

Aftermath of Glucose Spikes

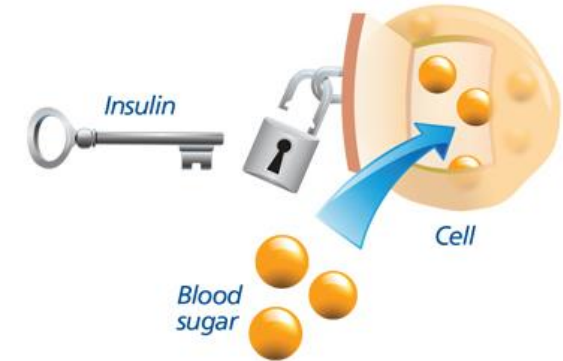
Mitochondrial Fatigue



Oxidation



Insulin Release

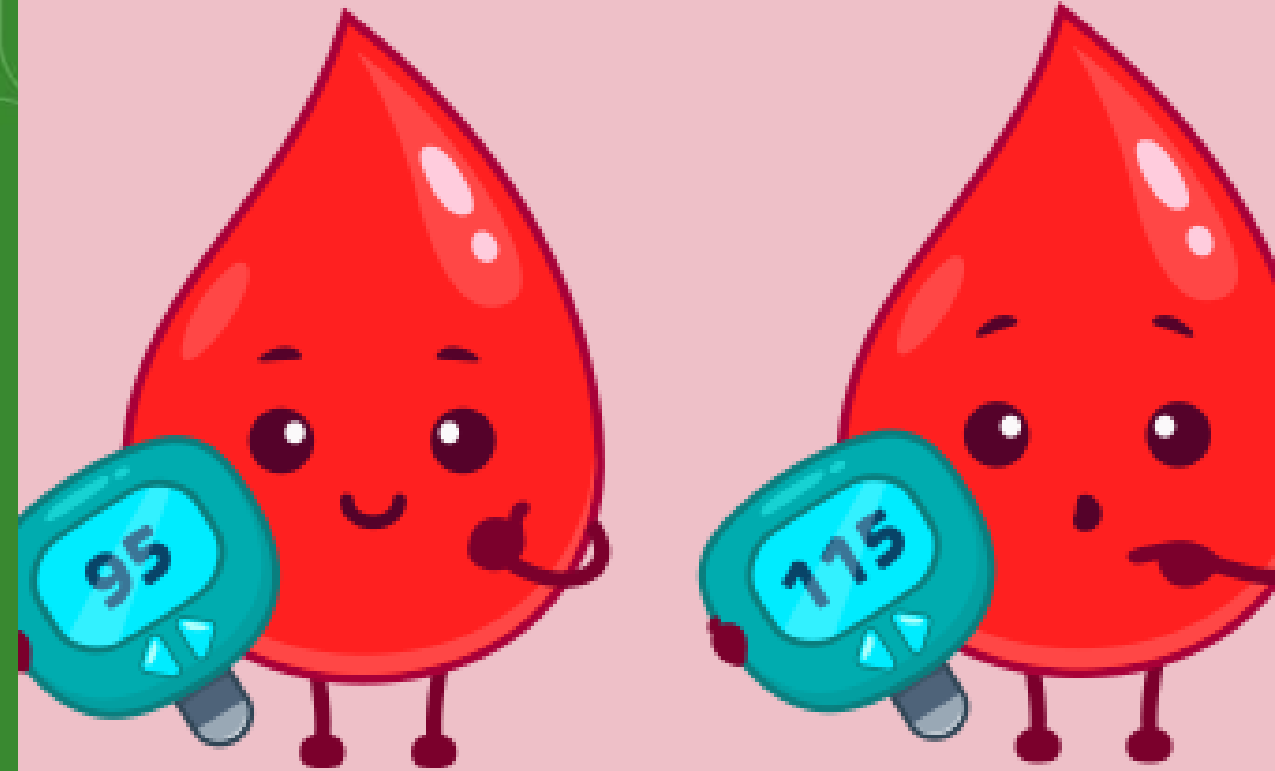


Symptoms of Insulin Resistance

- ✓ Overweight
- ✓ Excessive visceral fat
- ✓ Weight loss resistance
- ✓ Frequent thirst
- ✓ Insatiable appetite
- ✓ Cravings for sweets
- ✓ Chronic fatigue
- ✓ Acne, skin tags
- ✓ Blurred vision
- ✓ Tingling in hands/feet
- ✓ High blood pressure
- ✓ High triglycerides
- ✓ Hormone imbalance
- ✓ PCOS
- ✓ Diabetes
- ✓ Risk cardiovascular events

Keys to Blood Sugar Management

1. Eat more fiber
2. Partner carbs with protein or fat
3. Minimize added sugar
4. Hydrate
5. Move more
6. Build muscle
7. Monitor your stress and sleep
8. Know your numbers



Fiber

A type of carbohydrate that the body cannot digest & absorb.

- **Benefits**

- Satiety
- Regulates blood sugar
- Improves bowels/digestion
- Improved microbiome

- **Recommendations**

- 25-30g/day minimum (~5 cups)
- Most Americans get closer to 14g/day
- Many traditional food cultures eat ~40g/day



Hot Tip!

Eat a salad or crudite plate as an appetizer before meals or even while prepping your meal!



Partner Your Carbs

- **Proteins**

- Poultry, meat, eggs, dairy, legumes, soy, protein powder

- **Fats**

- Nuts, nut butters, seeds, avocado, olive, coconut, oils, butter, full fat dairy



Hot Tip!

Every time you eat, stop first to identify the protein or fat source.



Minimize Added Sugar

No more than 6-9 tsp. added sugar per day.

- 6 tsp = 24g; 9tsp = 36g
 - Kids get max 4tsp (16g) per day
 - Babies and toddlers get 0g per day
- Read labels
 - Less than 7g sugar per serving
 - Less than 4g added sugar per serving
 - Ingredients should not have any sugar word in top 3



Hot Tip!

Buy UNSWEETENED items and add your own, low glycemic sugar instead.



Hydrate

- **½ body weight in water daily**
- **Electrolytes**
 - ½ tsp. sea salt + 2 Tbls. lemon juice
 - Coconut water



Move & Build

- **Zone 2 Cardio:** 30 minutes per day
- **High Intensity Cardio:** 10 minutes max per week
- **Resistance Training:** 2-3 days per week minimum



Hot Tips!

Don't sit down for 15-30 minutes after eating.

Eat those sugary carbs before or after resistance training session.



Stress & Blood Sugar Research

Multiple studies have shown that taking part in regular stress management techniques can significantly lower A1C.

Daily meditation

Consistent sound bath sessions

Restorative yoga

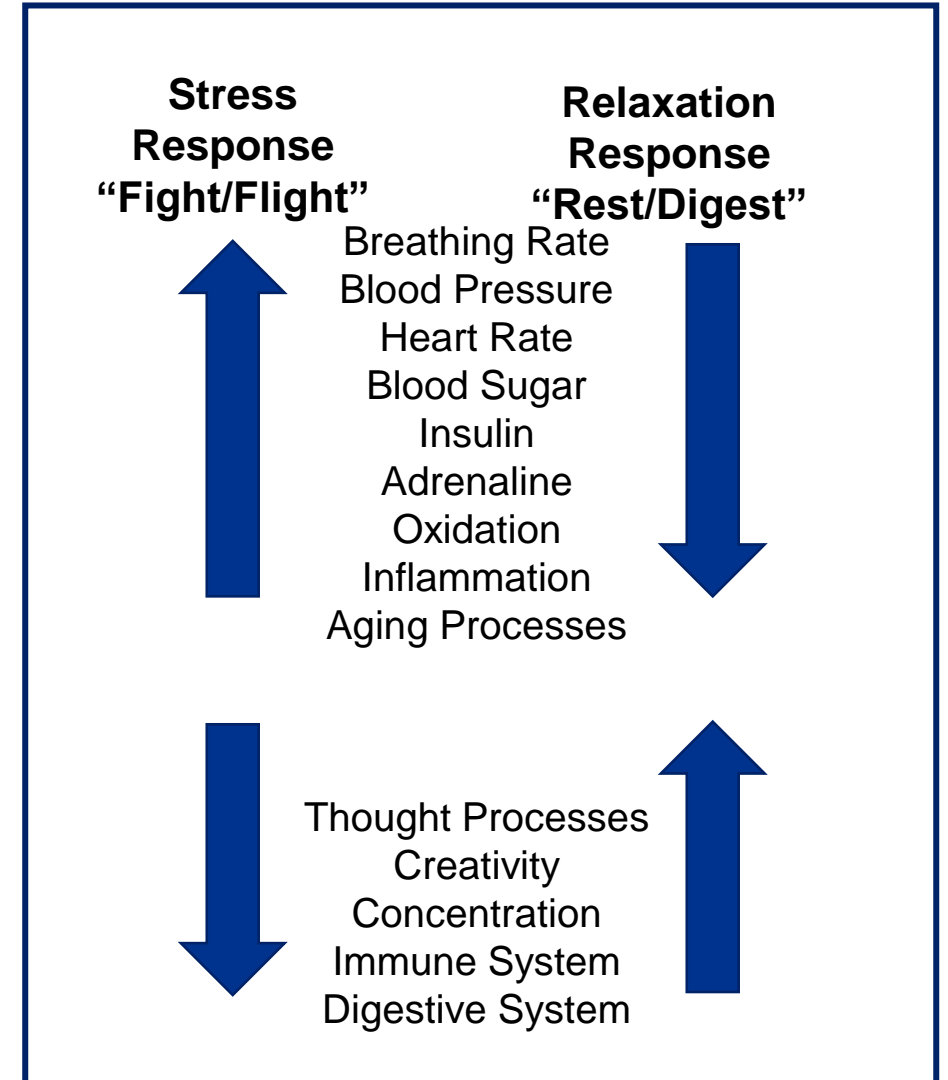
Tai chi

Meditative walks

Deep breathing exercises

Water therapy

The simple act of smiling while eating improved metabolic uptake of food, resulting in improved blood sugar and insulin levels after the meal.



Sleep & Blood Sugar Research

AGE	RECOMMENDED	NOT RECOMMENDED
School-aged Children 6-13 years	9 to 11 hours	Less than 7 hours More than 12 hours
Teenagers 14-17 years	8 to 10 hours	Less than 7 hours More than 11 hours
Young Adults 18-25 years	7 to 9 hours	Less than 6 hours More than 11 hours
Adults 26-64 years	7 to 9 hours	Less than 6 hours More than 10 hours
Older Adults ≥ 65 years	7 to 8 hours	Less than 5 hours More than 9 hours

PREDICT 1 UK cohort
953 healthy individuals

Sleep timing, quality & duration
Using actigraphy
> 320,000 hours

Blood glucose
Using continuous glucose monitoring
> 1,750,000 glucose measurements

Standardised breakfast meals
Varying macronutrient composition
> 8000 meals

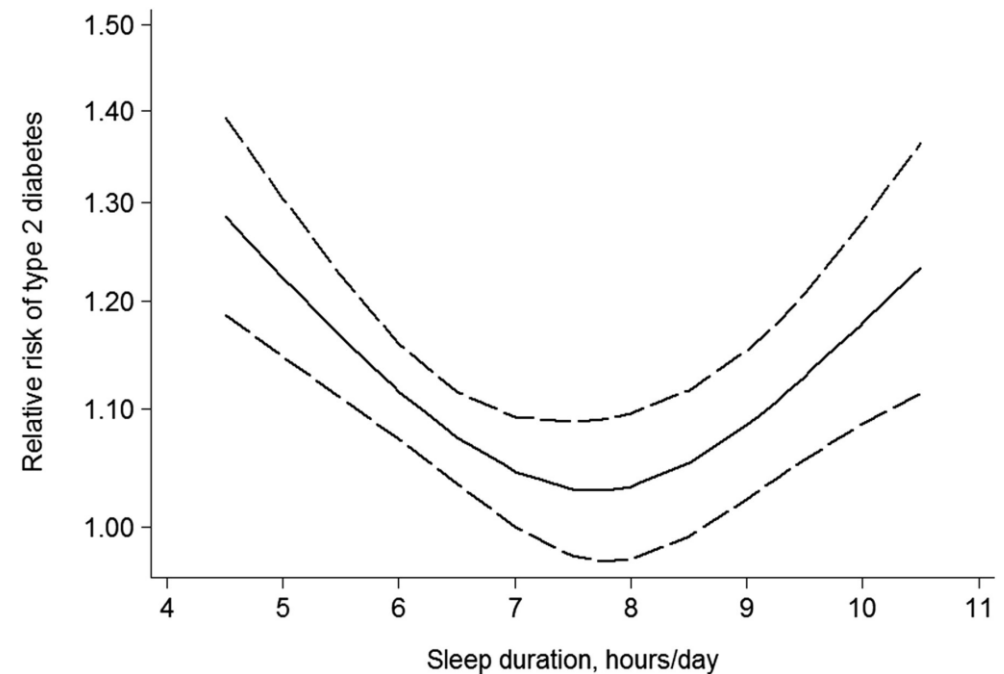
Poor sleep quality & later bedtime routines



Pronounced postprandial blood glucose level & poorer glycemic control

↑ Sugary breakfasts

↓ Higher fat, protein & complex carbohydrate breakfasts



Hot Tips!

Take 3 deep, slow breaths before and after every meal.

Choose protein or fat if nighttime snack is needed.



Monitoring Your Blood Sugars

- Reduce occurrence of significant highs and lows → reduce risk of insulin resistance.
- Identify your own patterns of glucose fluctuation along with physical and mental symptoms based on food choices.

Continuous Glucose Monitor (CGM)



Single Reading Glucose Meter



Symptom & Food Tracker

Food Symptom Diary

Date: _____

Meal	Food&Drinks	Symptoms(1 -10)	Mood
Breakfast			
Snack			
Lunch			
Snack			
Dinner			
Snack			
Comments			

Date: _____

Meal	Food&Drinks	Symptoms(1 -10)	Mood
Breakfast			
Snack			
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Snack			
Dinner			
Snack			
Comments			

Ultimate Strategy: Know Your Numbers!

Test at different times

- Fasting (AM)
- Pre/Post Meal (1 & 2 hours post)
- Bedtime

Test with various kinds of carbs

- High vs. Low Glycemic Index
- Same carbs paired with various meal/snack combinations
- Same carbs at different times of the day or with stress/sleep changes.

Continuous Glucose Monitor*

- Rx: Freestyle Libre, Dexcom
- Levels, Zoe

Target Blood Sugar Values

Fasting

Person without diabetes	70-99 mg/dl
ADA recommendation with diabetes	80-130 mg/dl

2 Hours Post-Meal

Person without diabetes	Less than 140 mg/dl
ADA recommendation with diabetes	Less than 180 mg/dl

A1C

Person without diabetes	Less than 5.7%
ADA recommendation with diabetes	7% or less

What Can You Do Today?

- Order a green salad before your next meal.
- Identify a source of protein, fat or fiber every time you eat today.
- Walk after your next meal.
- **Wellness Assistance**
 - Dietitian consults
 - Personal training
 - Restorative massages, facials, aquatic bodywork & sound baths
 - **Online Module: Optimal Blood Sugar, Optimal Health**



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