



# Bright Spots & Landmines in Diabetes Tech & Mental Health

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Loop and Learn – January 16, 2025

How do you become  
more skillful at  
juggling?

# Juggling Coach #1

## Lou

# Lou Loves Data & Insights!

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Time-in-Juggling: **0%**

Goal: **70%**

Catches Per Minute: **20**

Goal: **100+**

# Juggling Coach #2

## Bob

What differences do  
you notice?



# Lou's Approach

Highlight & reinforce what they are doing wrong  
Tell them what to avoid or not do  
Alarm them each time something goes awry

Give data reports focused on 1–2 variables

Learn everything at once

Emphasize outcomes & goals

Be clinical & data-driven

Motivate via narratives around “control,” discipline,  
avoidance of bad outcomes

# Bob's Approach

Highlight & reinforce what they are doing right  
What works?  
Positive reinforcement

Understand context and broader influences

Skills & Scaffolding

Emphasize process, observation, noticing, tracking

Be kind, curious, warm, and compassionate

Motivate via values, flexibility, and what matters  
most in life

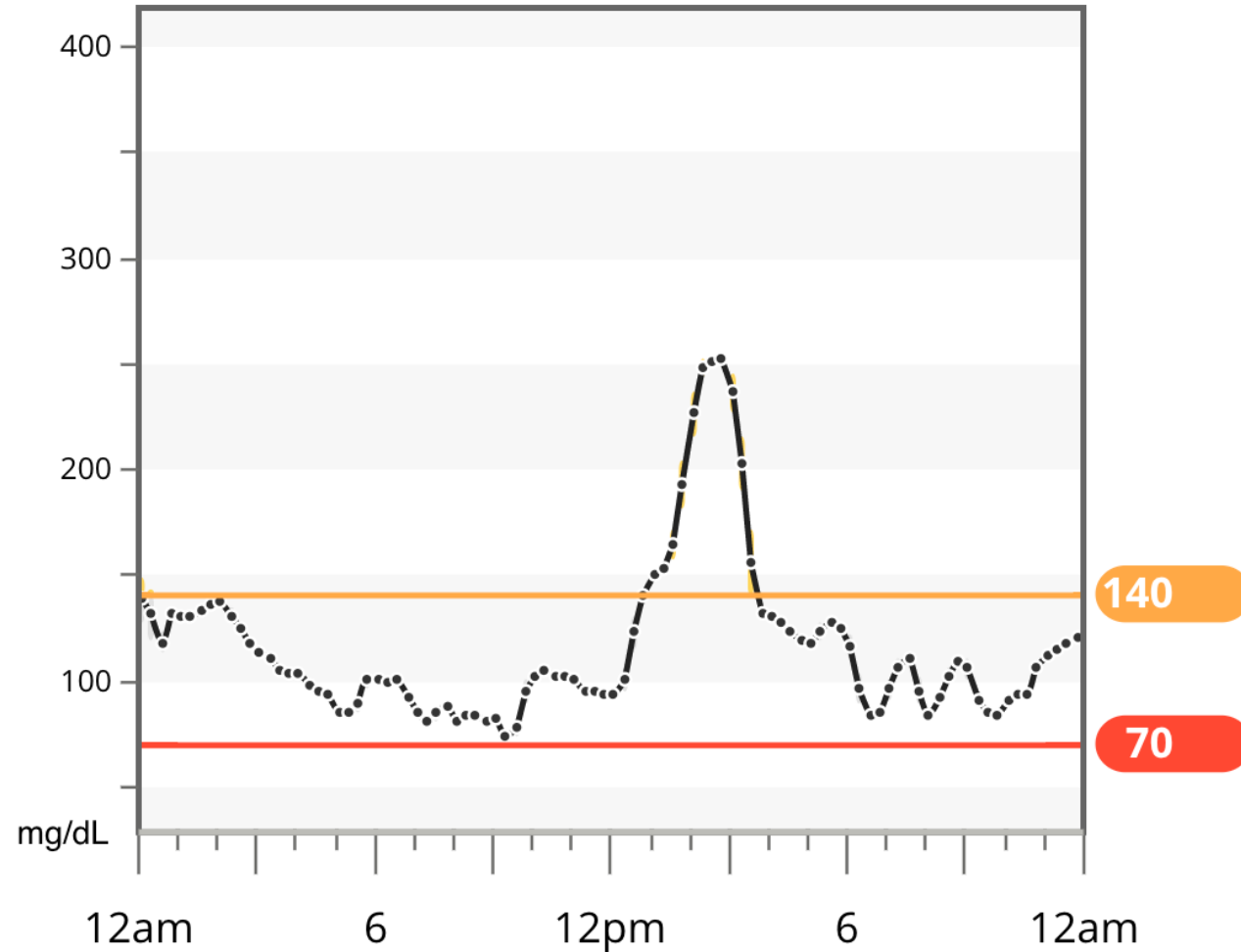
How can diabetes technology  
be more like **Bob**?



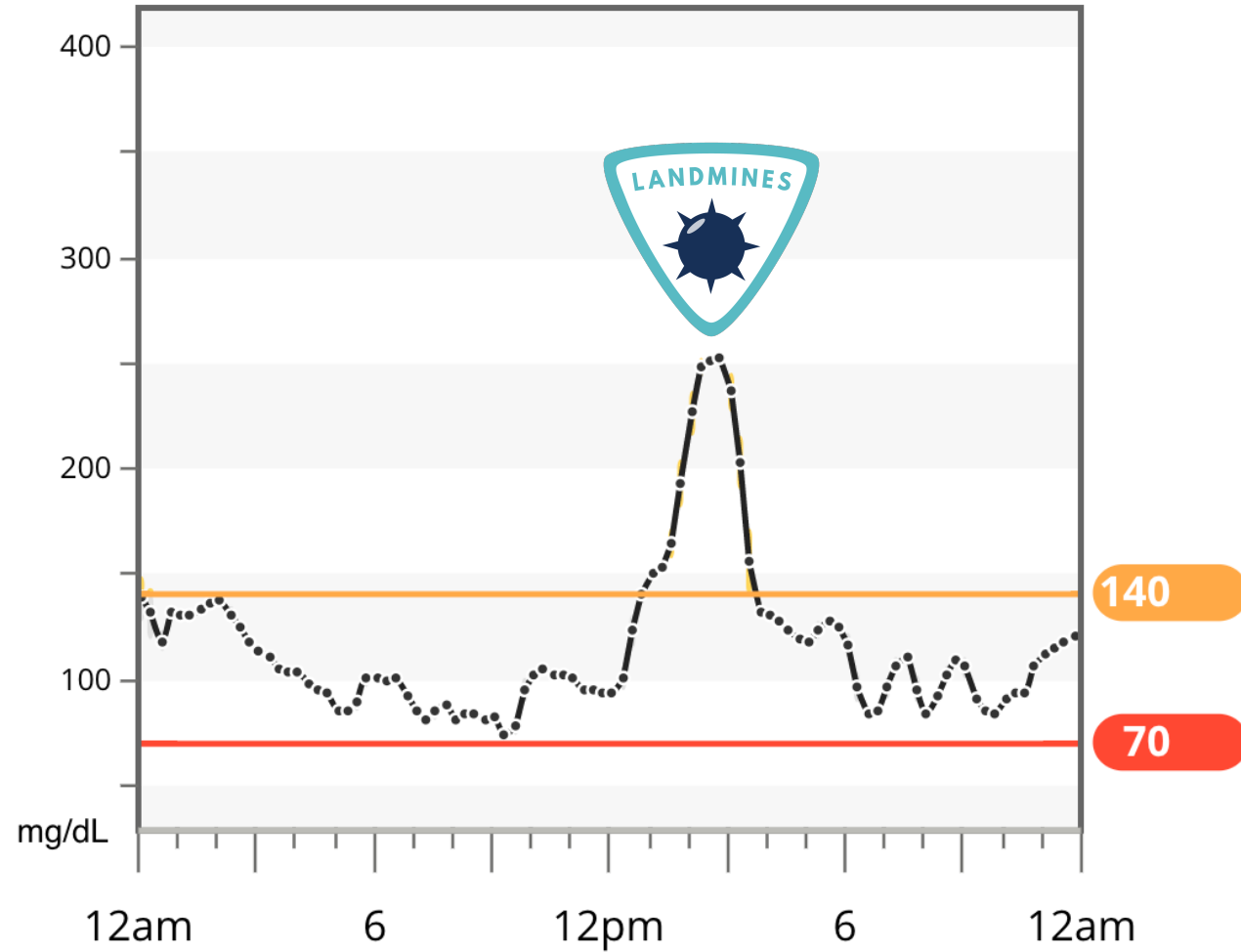
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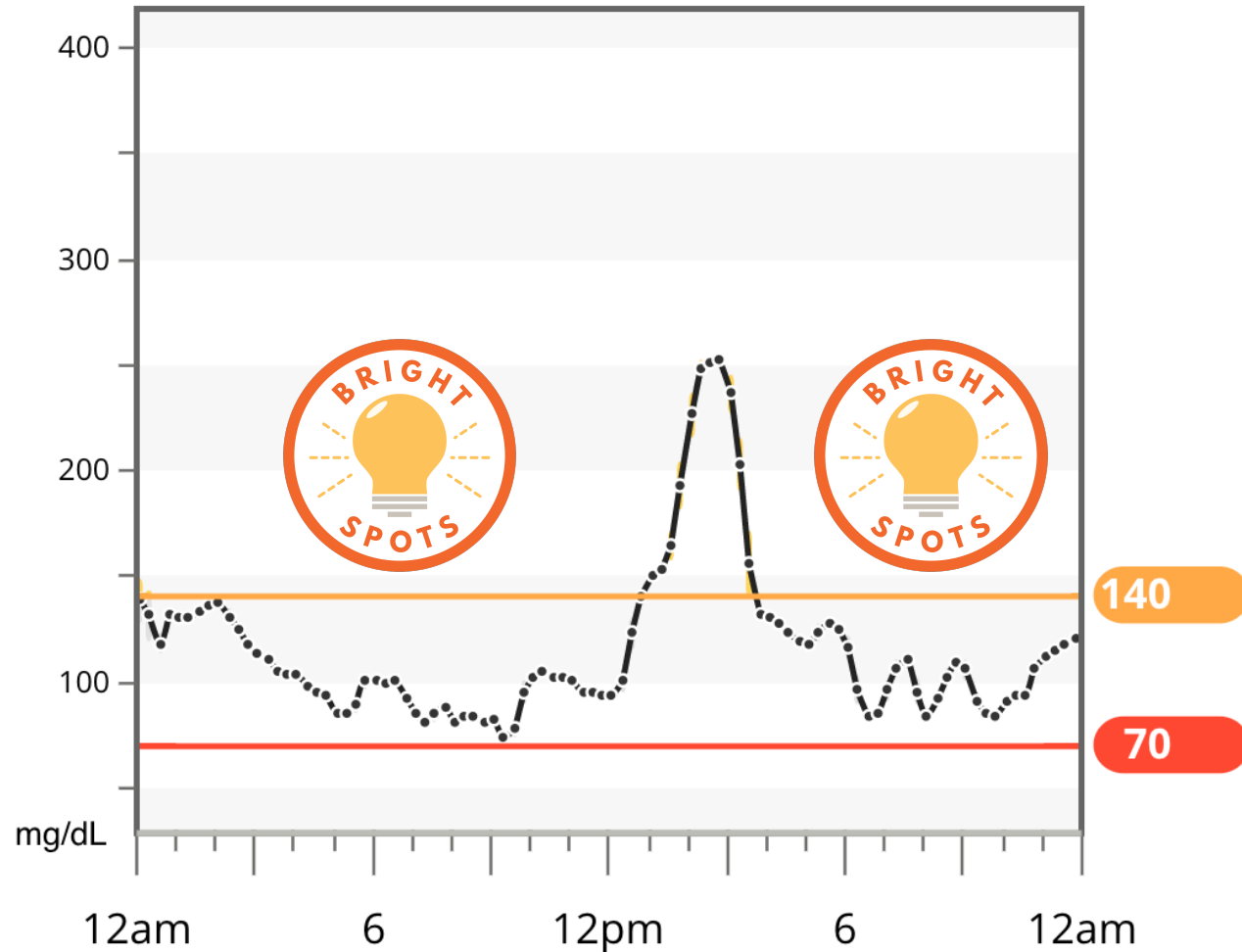
# What is the story behind these 24 hours of diabetes? What can I learn? What might I change?



# What diabetes tech naturally does: Find Landmines



# What diabetes tech could do more often: Notice & Reinforce **Bright Spots!**



# What are my Diabetes Bright Spots?

What's going well in my diabetes that I should **keep** doing?

What happens on my **best** days?  
What actions and choices make such days possible?

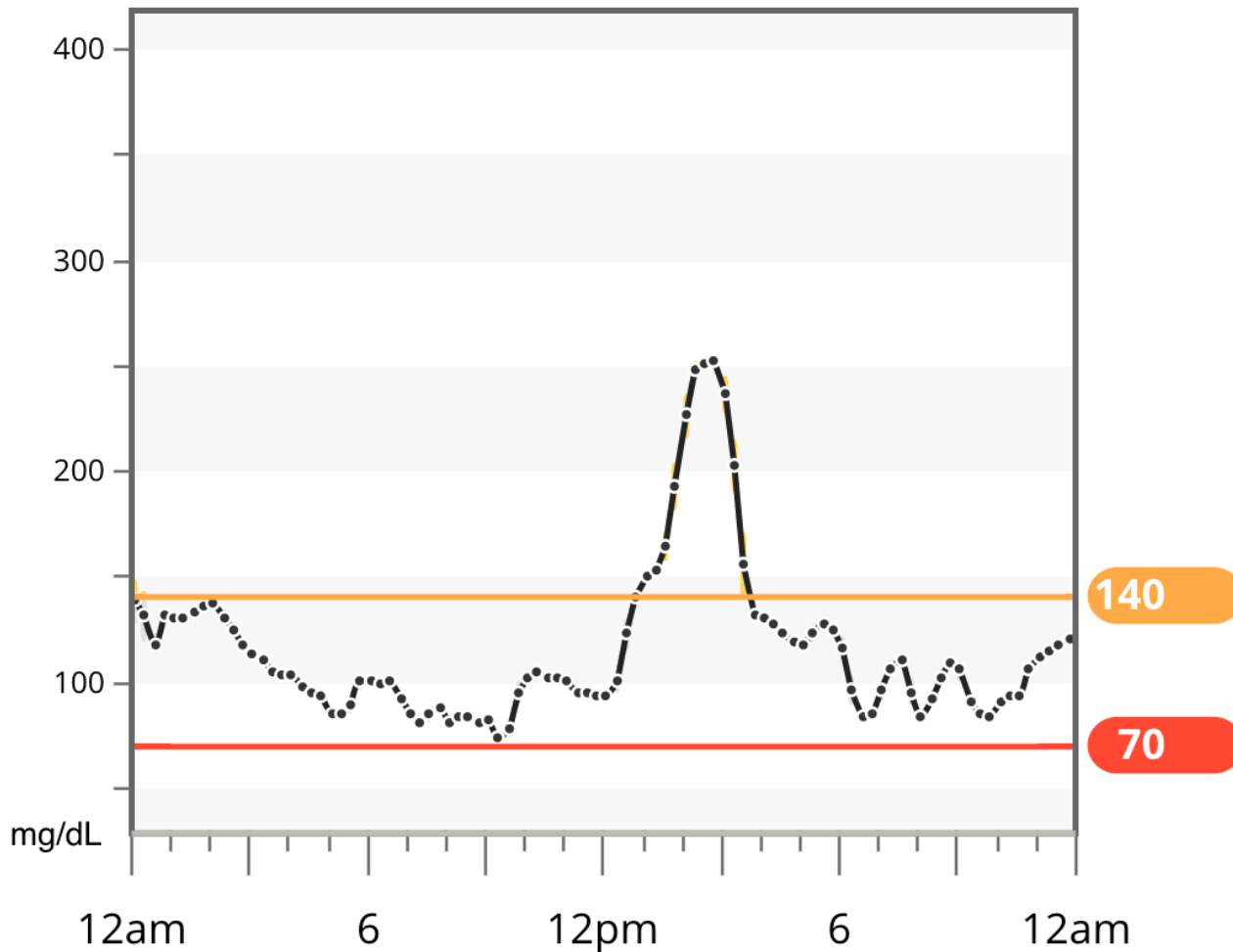
What behaviors (specific!) tend to keep my BG in-range?

What is working?

**How can I do *more* of these things each day?**



# What's working? How can I do more of those things?



Avg BG: 117 mg/dl

Time-in-Range: 87%

- 2-Hour Bike Ride
- Took action on CGM Data
- Stuck to my eating plan
- Waited to eat until BG ↓
- 7+ Hours of Sleep
- Meditation







# How can diabetes tech emphasize Bright Spots?

- Draw attention to what is working in real-time and retrospective data – when are things going right?
  - Bright Spots notifications/kudos with context & specifics
  - Badges and encouragement
  - Help users notice the link between actions and in-range outcomes (tracking)
  - Bursts of tracking (e.g., track more over 7 days)
-

“Tools don’t make  
discoveries;  
people do.”

– *Genius: Einstein* (Ch. 4)

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# Skills, Scaffolding, & Experiential Learning

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How do you become  
more skillful at  
juggling?


Juggling is a progression of skills learned experientially.



You cannot learn everything at once!  
Conceptual knowledge is not enough.

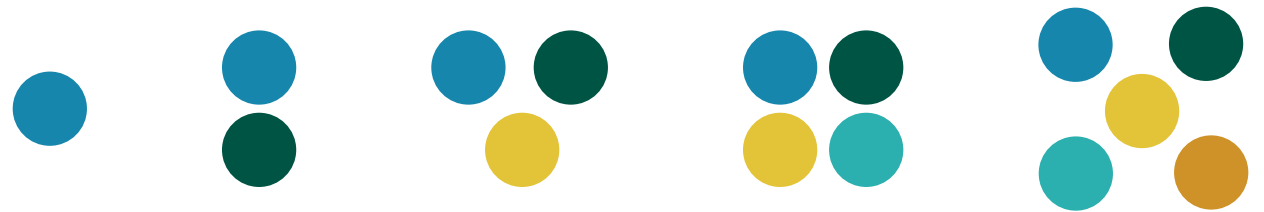
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Imagine if we  
approached **diabetes**  
this way...



# Diabetes is a progression of skills (ideally) learned experientially.

- Medication
- Devices & Data
- Food
- Exercise
- Sleep
- Psychological Flexibility



# Diabetes is a progression of skills (ideally) learned experientially.



Eggs



Pizza & Sushi

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# How would diabetes tech look different if we designed around skills development?

- Structure & Scaffolding
    - One skill at a time!
    - Within each domain, what are the diabetes skills needed?
    - How can we scaffold skills development – providing gradual support at increasing levels of difficulty?
  - Diabetes tech does not make it easy to learn from *experience*
    - What happened the last time I was in this situation?
    - It is easy to keep making the same systematic errors without improvement
    - Practice, Observe Results, Integrate Feedback, Repeat
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Context

Curiosity

Compassion

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**Let's do an experiment:**

**“Control” your diabetes**

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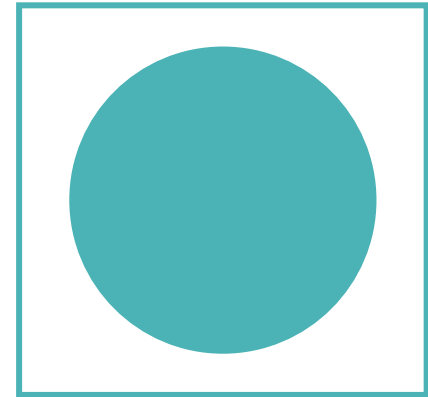
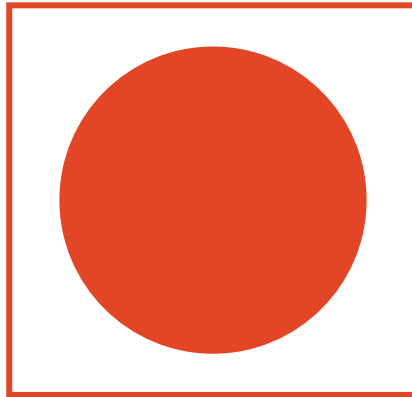
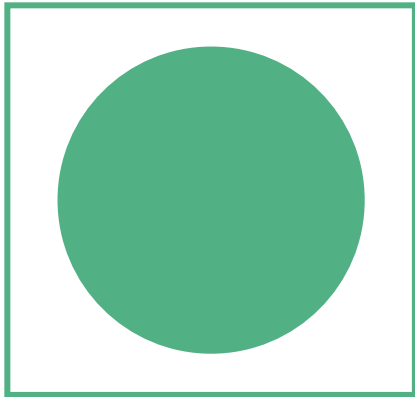
**54**

**70**



**180**

**250**



## FOOD



- ↑↑ 1 Carbohydrate quantity
- ↑ 2 Carbohydrate type
- ↑ 3 Fat
- ↑ 4 Protein
- ↑ 5 Caffeine
- ↓↑ 6 Alcohol
- ↓↑ 7 Meal timing
- ↑ 8 Dehydration
- ? 9 Personal microbiome

## MEDICATION



- ↓ 10 Medication dose
- ↓↑ 11 Medication timing
- ↓↑ 12 Medication interactions
- ↑↑ 13 Steroid administration
- ↑ 14 Niacin (Vitamin B3)

## ACTIVITY



- ↓ 15 Light exercise
- ↓↑ 16 High-intensity & moderate exercise
- ↓ 17 Level of fitness/training
- ↓↑ 18 Time of day
- ↓↑ 19 Food and insulin timing

## BIOLOGICAL



- ↑ 20 Too little sleep
- ↑ 21 Stress and illness
- ↓ 22 Recent hypoglycemia
- ↑ 23 During-sleep blood sugars
- ↑ 24 Dawn phenomenon
- ↑ 25 Infusion set issues
- ↑ 26 Scar tissue / lipodystrophy
- ↓↓ 27 Intramuscular insulin delivery
- ↑ 28 Allergies
- ↑ 29 A higher BG level (glucotoxicity)
- ↓↑ 30 Periods (menstruation)
- ↑↑ 31 Puberty
- ↓↑ 32 Celiac disease
- ↑ 33 Smoking

## ENVIRONMENTAL



- ↑ 34 Expired insulin
- ↓↑ 35 Inaccurate BG reading
- ↓↑ 36 Outside temperature
- ↑ 37 Sunburn
- ? 38 Altitude

## BEHAVIOR & DECISIONS

- ↓ 39 More frequent BG checks
- ↓↑ 40 Default options and choices
- ↓↑ 41 Decision-making biases
- ↓↑ 42 Family and social pressures

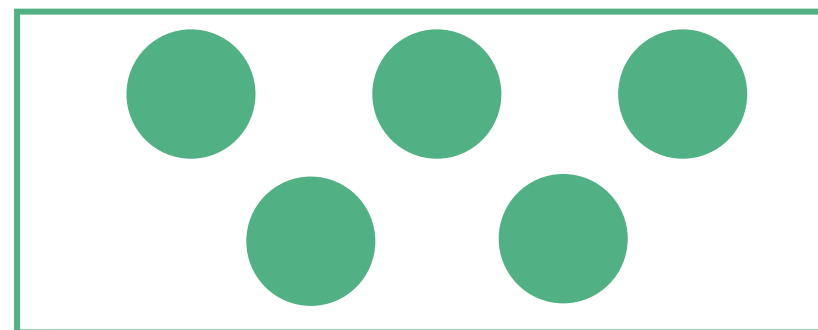
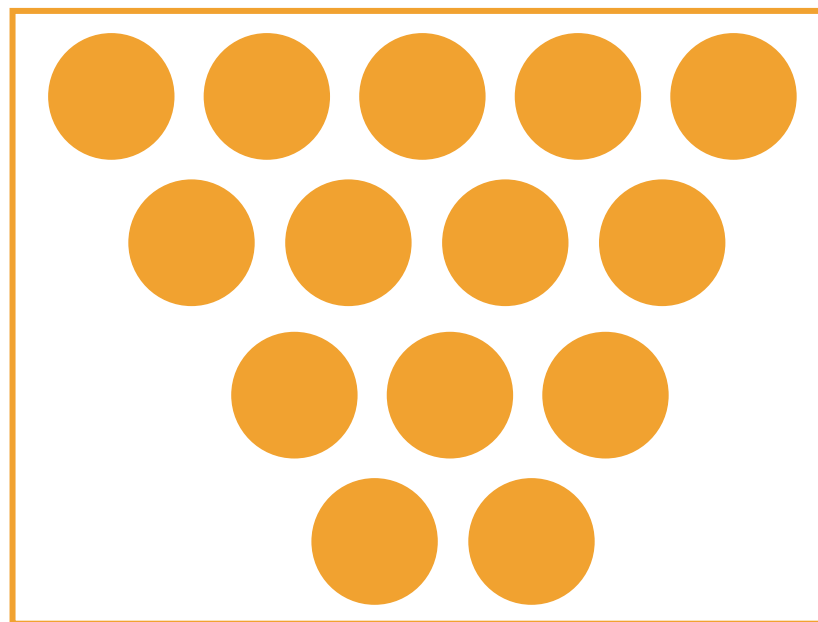
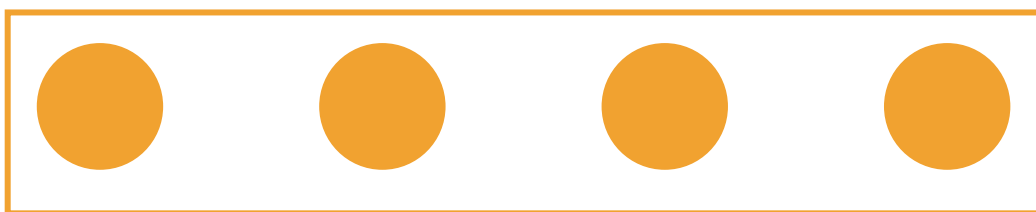
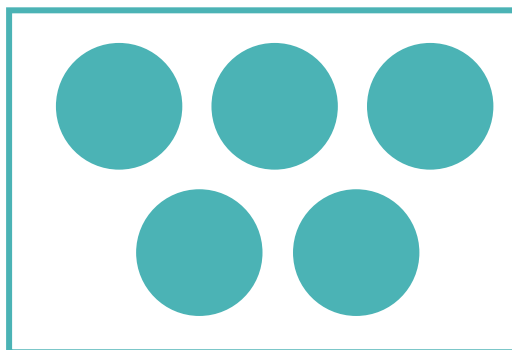
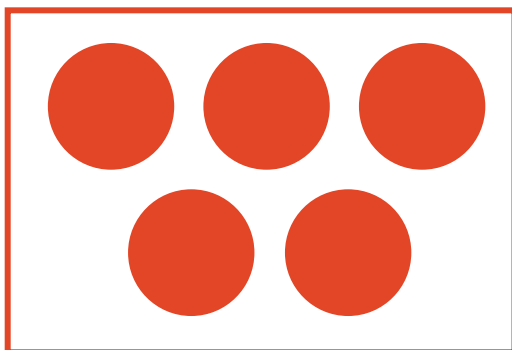
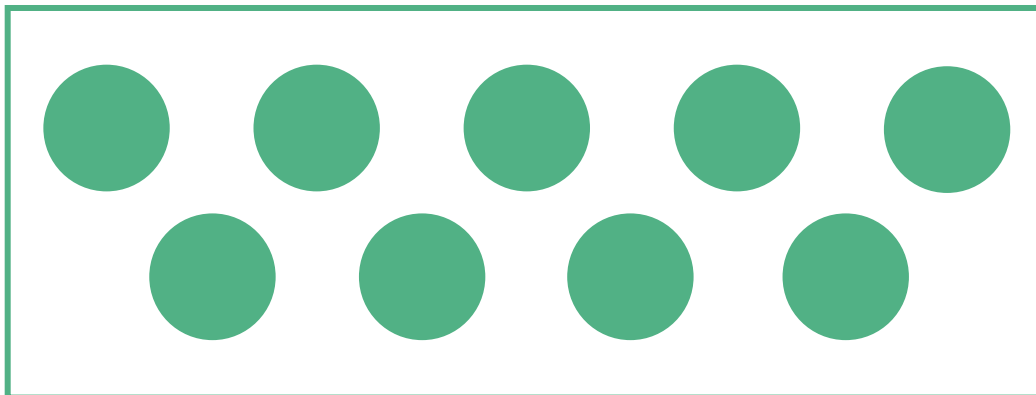
# 42+ Factors Affect Blood Glucose!

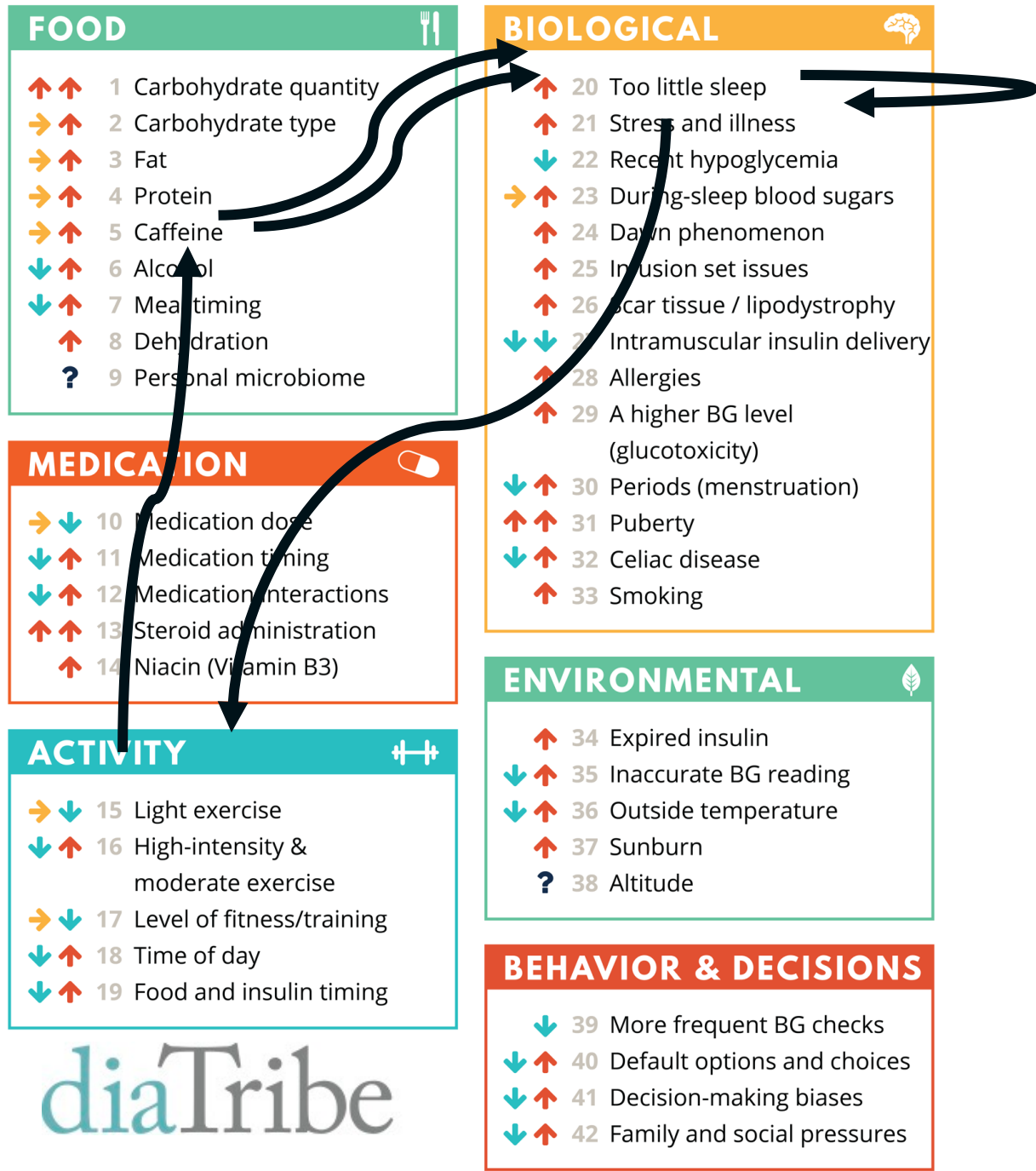
54

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# The 42+ Factors are Interrelated!

**Diabetes control  
is an illusion.**

**And accepting this is important for mental health.**

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**I don't "control" my diabetes;**

**I influence it,**

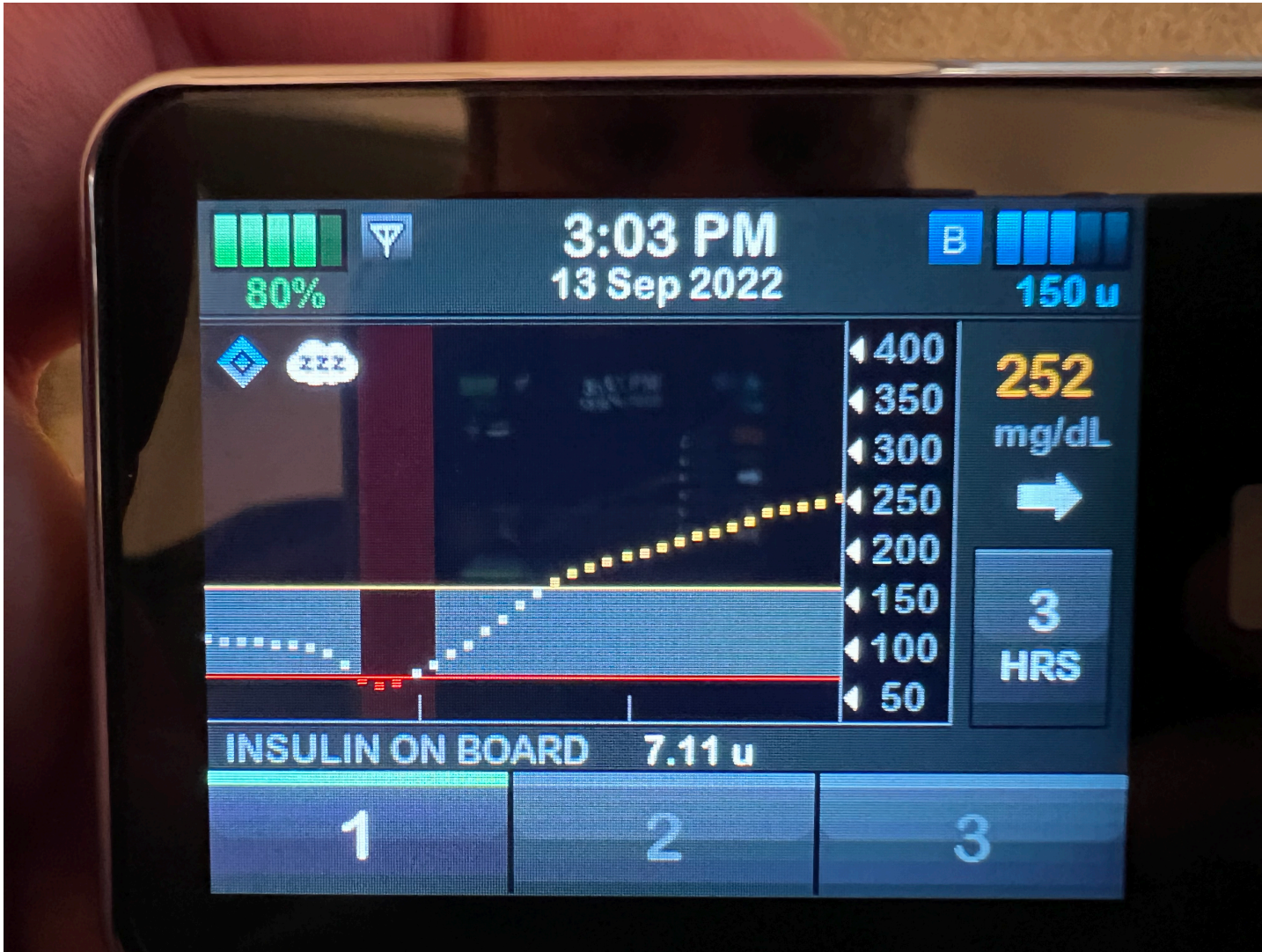
**I manage it,**

**I balance it,**

**I hold it,**

**I carry it.**

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!@#\$\$%%!

I'm the worst

I'm bad

I am a terrible PWD

I never do this right

I *shouldn't* have

I can't take it!

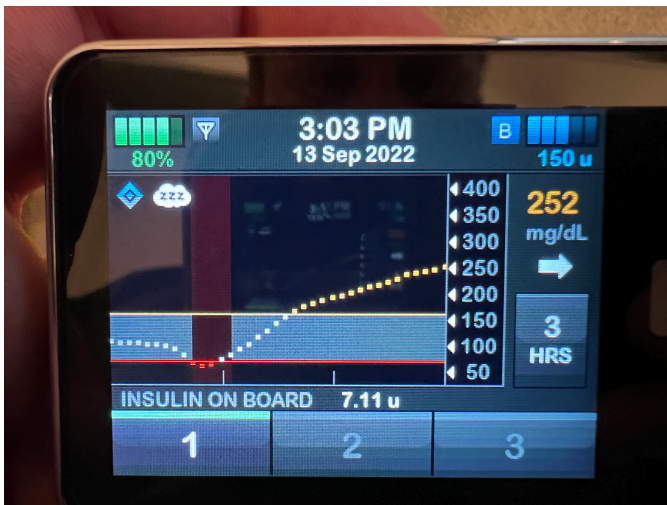
Will this ever end

#\$%^&\*^%\*!!!!!!!!!!!!



FOOD	BIOLOGICAL
<ul style="list-style-type: none"> <li>↑↑ 1 Carbohydrate quantity</li> <li>↑↑ 2 Carbohydrate type</li> <li>↑↑ 3 Fat</li> <li>↑↑ 4 Protein</li> <li>↑↑ 5 Caffeine</li> <li>↑↓ 6 Alcohol</li> <li>↑↓ 7 Meal timing</li> <li>↑ 8 Dehydration</li> <li>? 9 Personal microbiome</li> </ul>	<ul style="list-style-type: none"> <li>↑ 20 Too little sleep</li> <li>↑ 21 Stress and illness</li> <li>↓ 22 Recent hypoglycemia</li> <li>→ 23 During-sleep blood sugars</li> <li>↑ 24 Dawn phenomenon</li> <li>↑ 25 Infusion set issues</li> <li>↑ 26 Scar tissue / lipodystrophy</li> <li>↓ 27 Intramuscular insulin delivery</li> <li>↑ 28 Allergies</li> <li>↑ 29 A higher BG level (glucotoxicity)</li> <li>↓ 30 Periods (menstruation)</li> <li>↑ 31 Puberty</li> <li>↓ 32 Celiac disease</li> <li>↑ 33 Smoking</li> </ul>
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The arrows show the general effect these 42 factors seem to have on blood glucose based on scientific research and/or our experience or intuition. However, not every individual will respond in the same way, so the best way to see how a factor affects you is through your own data; check your blood glucose more often with a meter or wear a CGM and look for patterns.



- This is hard!
- Mistakes happen
- I'm human
- 42+ factors influence BG; I don't control all of them
- I can choose my response now: How do I want to be in this moment?
- Kindness & Self-compassion



**Disappointment =**  
**Expectations – Reality**

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# Disappointment = Expectations – Reality

## Diabetes Control

Diabetes is a control, data & tech, self-discipline, and motivation problem.

Four factors matter:

Medication  
BG Monitoring,  
Food  
Exercise

## Diabetes Complexity

Diabetes is a complex, biopsychosocial, contextual-behavioral condition intimately linked to the rest of my life. I cannot measure, predict, or influence every factor that impacts my diabetes. All of this changes every day. I simply have to respond to it.

## **Living with diabetes makes me an amateur ...**

Endocrinologist

Pharmacist

Dietitian

Exercise Physiologist

Therapist

Nurse

Data Scientist

Supply Chain/Inventory Manager

Risk Analyst

Teacher and Advocate

Executive Assistant

**Diabetes is not just a medical condition; it is a portfolio of part-time jobs.**

\*Disclaimers: unpaid, no health benefits, and no time off.

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# We need more context, curiosity, and compassion in diabetes tech

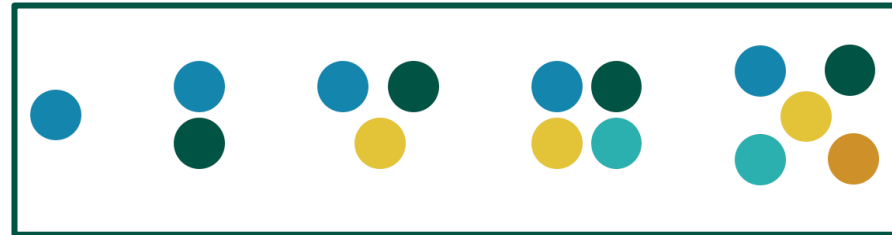
- **Dismantle the “diabetes control” narrative.** It sets expectations out of touch with reality and can drive distress, burnout, self-blame, and unnecessary judgment & frustration.
  - **Add context to diabetes data.** Help people slow down & notice the wide-ranging influences on their behavior – sleep, movement, eating, emotions, thoughts, situations, etc.
  - **Recognize d-data & d-tech are tools** – and tools can be used well or poorly depending on the context.
  - **Diabetes is a portfolio of part-time jobs.** How many are you helping with? How many are you making harder?
-

How can diabetes technology  
be more like **Bob**?



# Journal and reflect with your table: How can diabetes tech ...

Notice what is  
working



Design for Skills,  
Scaffolding, &  
Experiential Learning

Add more context,  
curiosity, & compassion

## 42

### Factors that affect Blood Glucose

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