



Enabling Diabetes Management Through Technology

Gráinne Flynn

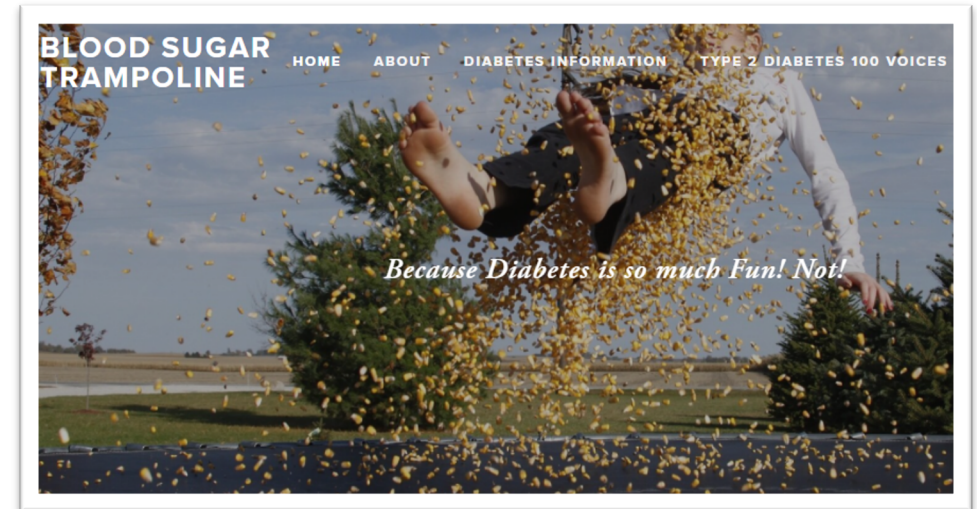
About Gráinne

Outside of Diabetes:

- Mother of 2, wife of 1
- 2nd year BA University of Limerick
- Background in Office Administration, Payroll & Graphic Design

Voluntary Diabetes Roles:

- Clare Diabetes Support Groups
- Diabetes Ireland: Volunteer & Advocacy
- Blog - www.BloodSugarTrampoline.com
- Thriveabetes.ie Conference Co-founder
With Christine Meehan, Rebecca Brannon & Ken Barclay
- National Blood Transfusion Advisory Group
- DSMA Diabetes Self Management Alliance organising committee.



My Diabetes Story Timeline

Total Years with Diabetes - 28

Diagnosis - 1993 - Age 20 years

Information

- 2000 Basal Bolus Insulin / Multiple Daily Injection MDI

Education

- 2003 Taking control - Adjusting Insulin doses

My Community (Peer Support)

- 2010 Insulin Pump
- 2015 Continuous Glucose Monitor CGM
- 2018 DIYAPS Closed Loop

Diagnosis & The Early Years

1993 - 1999

Diabetes Management

- Twice daily injections – Fixed Dose
- Twice daily Blood Glucose checks
- Meals at the same time every day
- So many snacks



Information



- Phil & The Internet 1999
- First Major Change in Treatment 2000
 - Multiple Daily Injections MDI (Basal / Bolus Insulin)
 - 4 Daily injections
 - 4 Daily BG checks
 - Flexible Lifestyle



Education

2003 Formal Diabetes Education

- Carb Counting
- BG checks 7 times per day
- Adjusting Insulin doses to meet my needs
- Some sense of control

| 42 Factors That Affect BG | |
|--|---|
| Food | Biological |
| + 1. Carbohydrate quantity | + 20. Insufficient sleep |
| + 2. Carbohydrate type | + 21. Stress and dieting |
| + 3. Fat | + 22. Recent hypoglycemia |
| + 4. Protein | + 23. During sleep blood sugars |
| + 5. Caffeine | + 24. Dawn phenomenon |
| + 6. Alcohol | + 25. Infusion set issues |
| + 7. Meal timing | + 26. Scar tissue and lipodystrophy |
| + 8. Dehydration | + 27. Intramuscular insulin delivery |
| + 9. Personal microbiome | + 28. Allergies |
| Medication | + 29. A higher glucose level |
| + 10. Medication dose | + 30. Periods of inactivity |
| + 11. Medication timing | + 31. Puberty |
| + 12. Medication interaction | + 32. Celiac disease |
| + 13. Steroid administration | + 33. Smoking |
| + 14. NADPH retention | |
| Activity | Environmental |
| + 15. Light exercise | + 34. Exposed insulin |
| + 16. High-intensity and moderate exercise | + 35. Inaccurate BG reading |
| + 17. Level of fitness/training | + 36. Outside temperature |
| + 18. Time of day | + 37. Sunburn |
| + 19. Food and insulin timing | + 38. Altitude |
| | Behavioral & Decision Making |
| | + 39. Frequency of glucose checks |
| | + 40. Default options and choices |
| | + 41. Decision making biases |
| | + 42. Family relationships and social pressures |

diaTribe

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Finding My Tribe - Community

Support Group 2007

#Diabuddies

Thriveabetes

Getting Pumped 2010





CGM; The Lights go on!

Why Type One Diabetics are better at Math than You...

(Bloodsugar Analysis) (Potential Meal and Activity Impact)

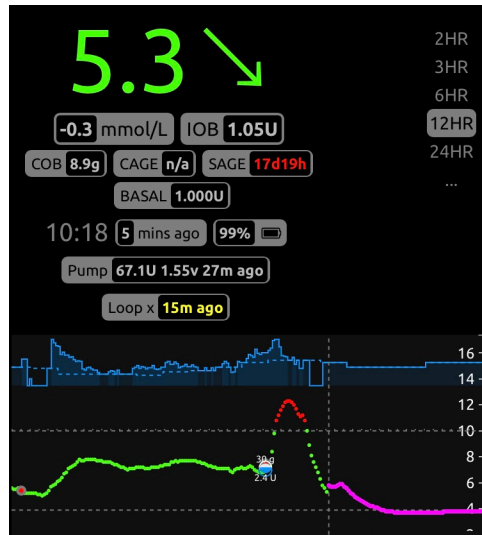
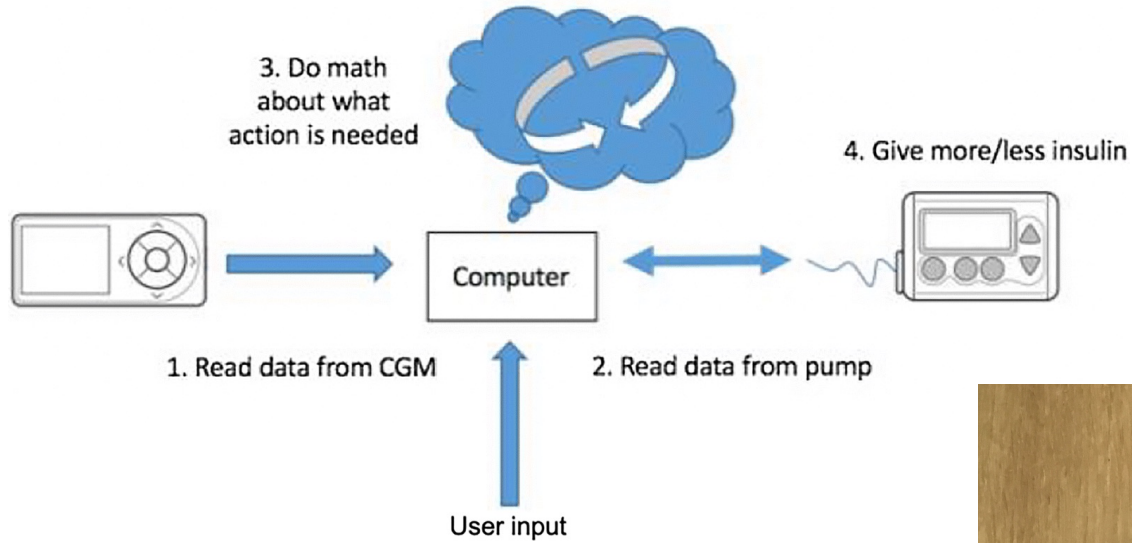
$$(193 - 140) \div 50 + (29 \times 2.5 \div 10) = 8.31$$

↑ Blood Sugar Reading Result ↑ Target Blood Sugar ↑ Individual Insulin Sensitivity ↑ Carbohydrates per serving ↑ Number of servings ↑ Carbs to units ratio ↑ Total number of units to inject or pump for meal and bloodsugar

Image credit: Jeffrey Brewer, Bigfoot Biomedical



Automated diabetes:



DIY Closed Loop
#WeAreNotWaiting
#DIYAPS



Thank You for Listening



- Email: Grainne@Thriveabetes.ie
- Web: BloodSugarTrampoline.com
- Twitter [@BSugrTrampoline](https://twitter.com/BSugrTrampoline)
- Facebook & Insta [@BloodSugarTrampoline](https://www.facebook.com/BloodSugarTrampoline)

The Irish Diabetes Community can be found at:

<https://thriveabetes.ie/diabetes-support-information/diabetes-support-groups>