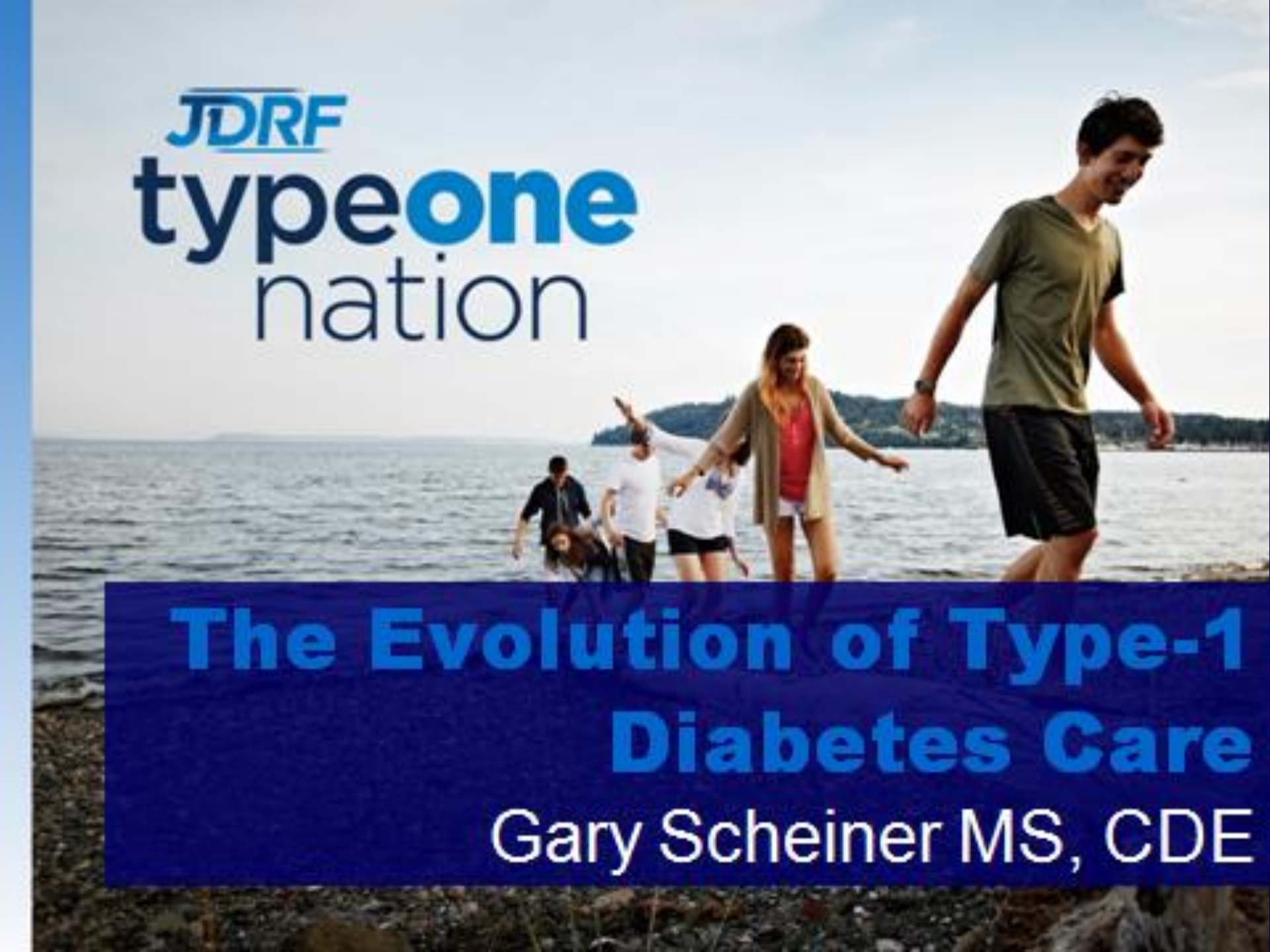




JDRF
typeone
nation

The Evolution of Type-1 Diabetes Care

Gary Scheiner MS, CDE

“Until There’s A Cure”

**Making the most of modern
 diabetes treatments &
technologies**

Gary Scheiner MS, CDE

Owner & Clinical Director, Integrated Diabetes Services

2014 AADE Diabetes Educator of the Year

(877) 735-3648; (610) 642-6055

gary@integrateddiabetes.com

30 Years Ago...



30 Years Ago...



30 Years Ago...



30 Years Ago...

WHAM!



Diabetes Changes: The Evolution of Glucose Monitors



Diabetes Changes: Blood Glucose Monitoring

30 Years Ago



- 10+ microliter square sample
- 2-3 minutes
- Coding, wiping, blotting, etc...
- Many interferences

Today



- 0.3-0.5 μ l sample
- 5 seconds
- Code-free
- LED, color screen
- Improved accuracy
- Data storage/downloadable
- Plug & Play, mobile device link
- Ketone test capability

Diabetes Changes: Lancing

30 Years Ago



- Spring-Loaded AutoLancet
- 25-gauge lancets

Today



- 30-33 gauge lancets
- 38g, .75mm peds lancet
- Depth adjustment
- Multi-lancet head option
- Alternate site head option

Diabetes Changes: Continuous Glucose Monitoring

30 Years Ago



Today



- Dexcom G4, G5
- Medtronic Sensor-Augmented Pump

Diabetes Changes: Continuous Glucose Monitoring

30 Years Ago



Tomorrow?



LIBRE

Diabetes Changes: CGM Alarms

Last Year



Today

- Medtronic Connect



- Dexcom Share



What Does CGM Provide?

- ✓ Numbers
- ✓ Alerts
- ✓ Trends
- ✓ Retro-Analysis

REPORT CARD				
GRADING PERIOD	1	2	3	4
READING	A			
WRITTEN COMMUNICATION	A			
MATHEMATICS	C			
SCIENCE/HEALTH	B			
SOCIAL STUDIES	B			
ART	A			
MUSIC	A			
PHYSICAL EDUCATION	C			
Grade Average	B			
Attendance:	Present	48		
	Absent	0		
	Tardy	1		
A = Excellent • B = Good • C = Satisfactory • N = Needs Improvement U = Unsatisfactory • I = Insufficient / Incomplete				
Student: _____ Grade: _____ Year: _____				

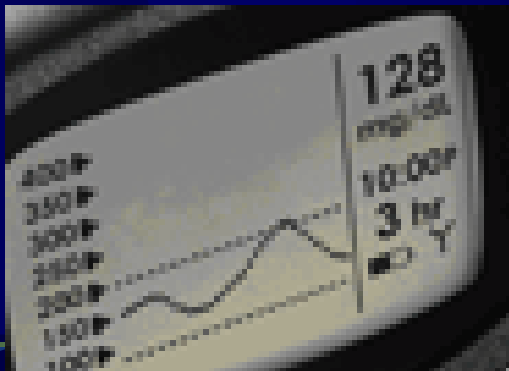
The Value of CGM Alerts: Keeping You Out Of The Gutter!



Decision-Making Based on Trend Information

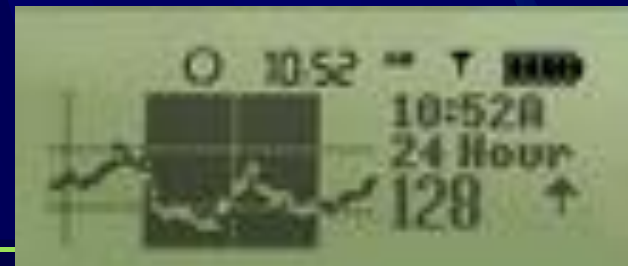
- **Self-Care Choices**

- To snack?
- To check again soon?
- To exercise?
- To adjust insulin?



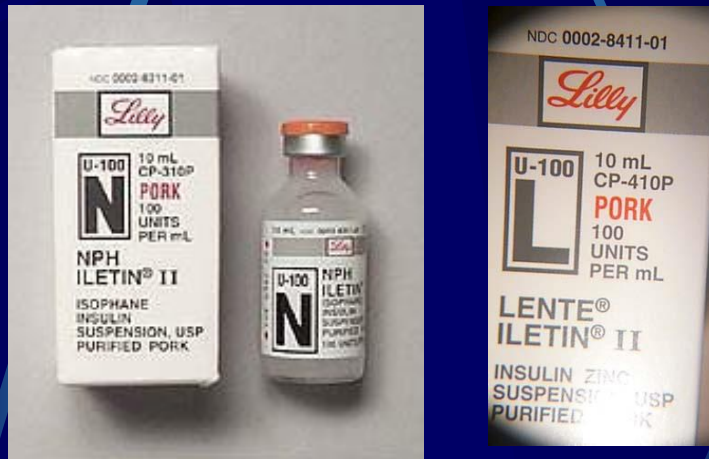
- **Key Situations**

- Driving
- Sports
- Tests
- Bedtime



Diabetes Changes: Insulin

30 Years Ago



- Animal-Derived
- NPH, Lente, Ultralente
- Regular

Today



- Basal (Lantus, Levemir)
- Bolus (Humalog, Novolog, Apidra)
- U-200 H, U-300 Lantus

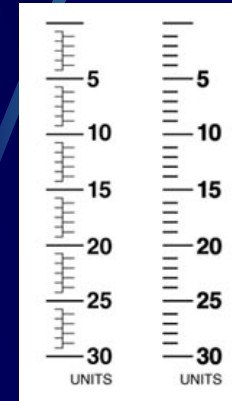
Diabetes Changes: Insulin Injection

30 Years Ago



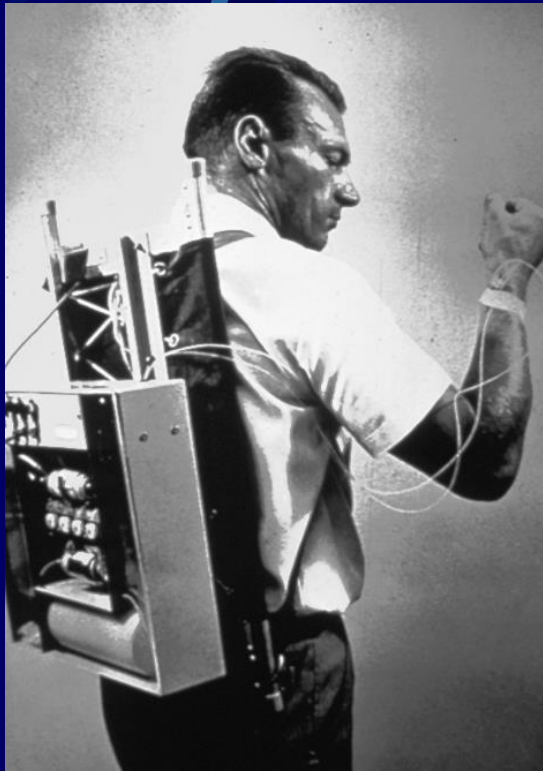
- Syringes only
- 28-gauge, 1/2" needles
- 1 or 2-unit markings

Today



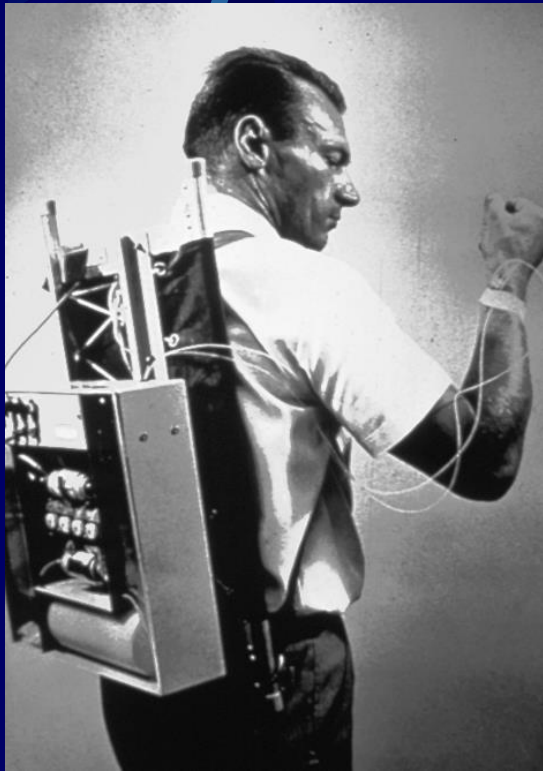
- Pens
- Ports
- Mini syringes

Pump Evolution...



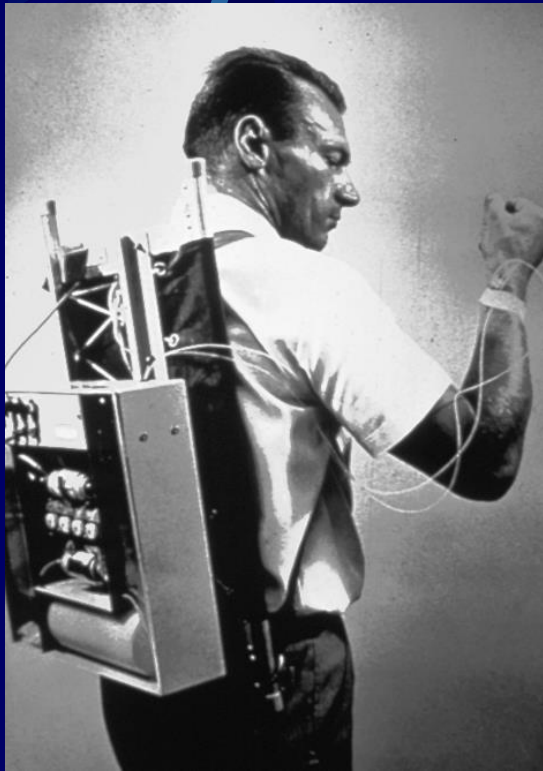
1960s

Pump Evolution...



1970s

Pump Evolution...



1960s/70s

1980s

Pump Evolution...



Modern Day Insulin Pumps

Pump Innovations

- Minute Basal Adjustments/Temps
- Bolus Calculators w/IOB
- Prolonged Bolusing
- Custom Reminders
- Meter & CGM Links
- Remote Programming
- Tubeless Option
- Color/Touch Screen
- Databases, Downloading
- U-500 Capacity
- New Infusion Devices

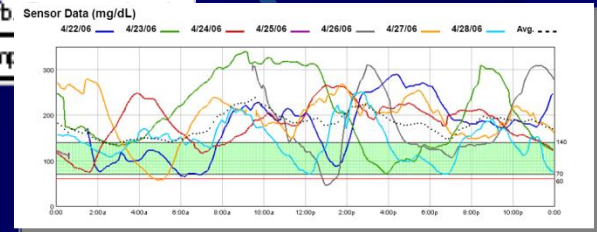
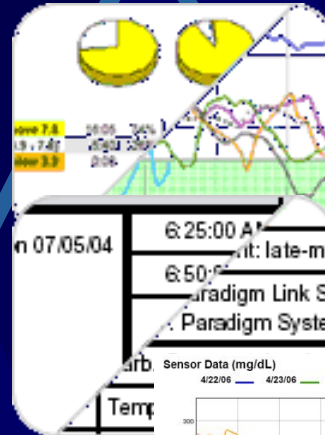


Diabetes Changes: Data Collection/Analysis

30 Years Ago



Today



- Web-Based Programs
- Computer Software
- Mobile Device Apps

Diabetes Changes: Medical Treatments (other than insulin)

30 Years Ago



Today



- Amylin
- GLP-1s
- Metformin
- SGLT-2s
- Insulin “cocktails”

Diabetes Changes: Nutritional Approaches

30 Years Ago

1 STARCH + 1 FAT

(15 gms carbohydrate, 3 gms protein, 0-1 gm fat, and 80 calories.)

FOOD	PORTION
Biscuit (2 ½")	1
Chow mein noodles	½ cup
Corn bread (2")	1 (2 oz)
Crackers, butter type	6
CROUTONS	1 cup
French fried potatoes	16-25 (3 oz)
Granola	¼ cup
Muffin, small	1 (1 ½ oz)
Pancake (4")	2
Popcorn, microwave	3 cups
Purries	2 (5")
Paratha or Thepala	1 (6")
Dhansak	½ cup
Dhokla	1 "Square
Poha	1 cup
Matki usal	½ cup
Sandwich crackers (cheese)	3
Stuffing, bread	1/3 cup
Taco shell (6")	1
Waffle (4 ½")	1

1 STARCH+ 1 VERY LEAN MEAT

FOOD	PORTION
Beans and peas (garbanzo, pinto, kidney, white, split black-eyed)	½ cup
Lima beans	2/3 cup
Lentils	½ cup
Miso	3 Tbsp
Tomato dhal	½ cup
Toor dhal, ckd	½ cup
Rasam	1 cup
Mung dhal, ckd	½ cup

Lunch = 3 starches + 1 ½ fruit
+ 1 milk + 2 lean meat

Today



Lunch = **Whatever**
1u=12g carb

Diabetes Changes: Social Support

30 Years Ago



Today

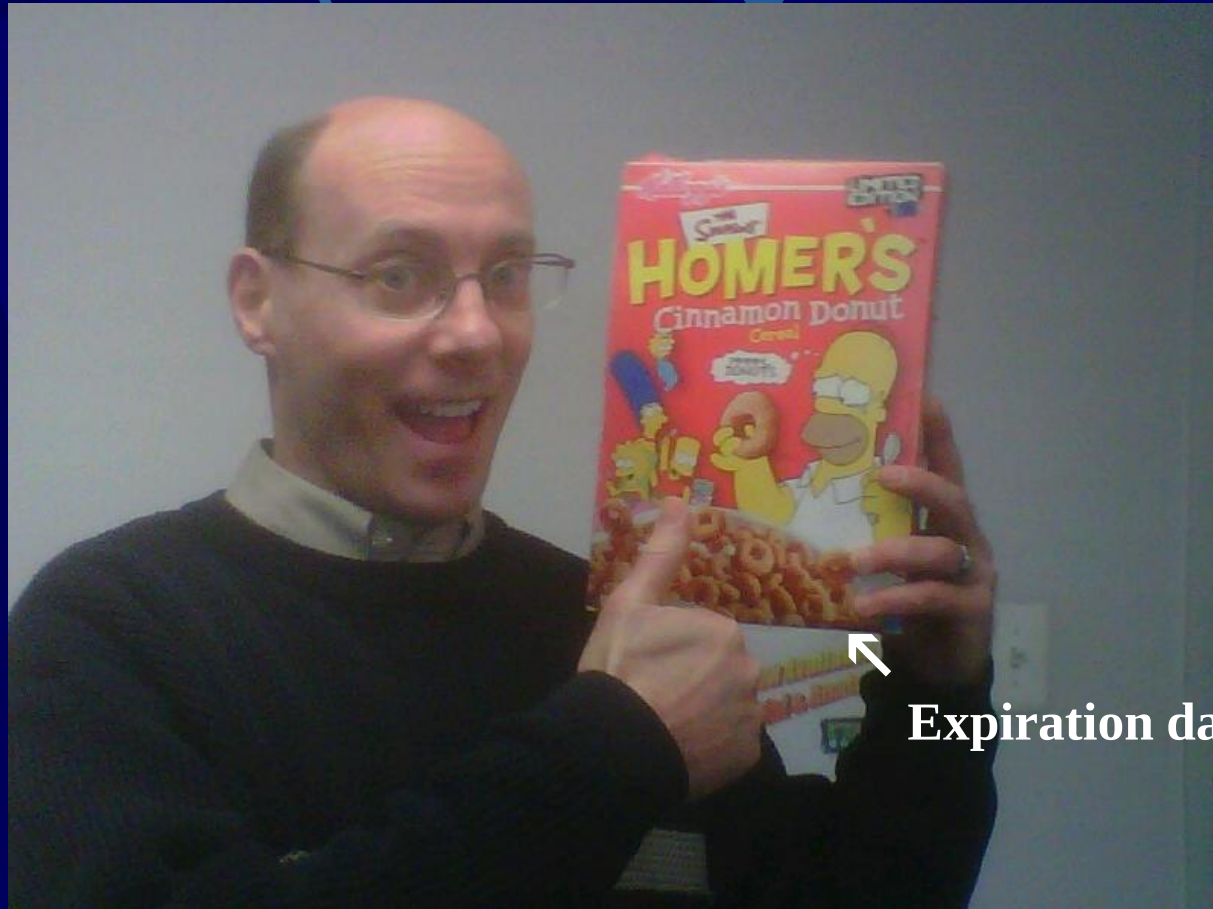
- **Diabetes Blogosphere**
- **Diabetes Online Community**
- **Web Journals**
- **Chat Rooms**
- **Webinars**
- **Podcasts**
- **Face-to-Face Conferences**

30 Years From Now...



You Did WHAT???

The Day We're Cured...



Expiration date: 1/08/2001

Work Towards a Cure... But Take Care Today!

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