

DIABETES SELF-MANAGEMENT
PROGRAM

EXCERPTS FROM THE
PATIENT EDUCATION MANUAL

Glossary of Terms

A1C: A blood test that tells the average blood sugar over a 3 month period. Normal A1C= 4.0-6.0%.

Blood Glucose Monitor: Machine used to check blood sugar levels.

Check Strip and control solution: used to check accuracy of blood glucose monitor and of test strips.

Diabetes Mellitus: A lifelong disease in which the body does not use glucose properly, resulting in high blood sugars. A fasting blood sugar greater than or equal to 126 will result in a diagnosis of diabetes mellitus.

Gestational Diabetes: Diabetes during pregnancy.

Glucose: Sugar

Hyperglycemia: High Blood Sugar

Hypoglycemia: Low Blood Sugar

Impaired Glucose Tolerance: Blood sugars greater than 140 but less than 200 after a 75 g oral glucose test. This is not considered diabetes, but many people with impaired glucose tolerance will develop type 2 diabetes later in life.

Impaired Fasting Glucose: Fasting blood sugars greater than 110 but less than 126. This is not considered diabetes, but many people with impaired fasting glucose will develop type 2 diabetes later in life.

Insulin: A protein and hormone made by the pancreas of the body that helps to lower blood sugar. Insulin can also be made in a lab to be used for injection purposes.

Ketones: Acid in the blood that result when fat cells break down in large amounts. When blood sugars are very high (250 or greater), ketones may be produced.

Maximum Heart Rate: The safest and fastest rate that your heart should beat. Max heart rate will vary depending on your age and fitness level. One easy method used to determine max heart rate is 220-age. Your heart rate should not stay at max when you exercise.

Nephropathy: Kidney damage.

Neuropathy: Nerve cell damage

Pancreas: The organ in the body that makes and secretes insulin.

Pulse: The number of times your heart beats in 1 minute. Your pulse is lower when you are at rest and increases when you exercise, because more oxygenated blood is needed by the body when you exercise.

Target Heart Rate: A safe rate for your heart to beat when you exercise. A safe target heart rate is usually 65%-85% of your maximum heart rate. One easy method used to determine the target heart rate is: $220 - \text{age}$, multiplied by the heart rate percentage at which you choose to exercise (65-85%).

Type 1 Diabetes: Diabetes in which the pancreas doesn't make insulin.

Type 2 Diabetes: Diabetes in which the pancreas makes some insulin but not enough for glucose to be used properly. Also the body's cells may not use insulin very well in Type 2 Diabetes.

What is Diabetes??

Diabetes is a lifelong disease in which the pancreas either:

1. Doesn't make any insulin (Type 1 Diabetes)
2. Doesn't make enough insulin (pooped out pancreas—just can't do its job to make more insulin)
3. Liver makes too much sugar even when blood sugar is high enough (runaway liver-doesn't recognize when you have had a meal and have enough sugar in your blood stream).
4. Muscle cells in the body can not use the insulin well (insulin resistance—cells won't let the sugar and insulin inside).

Insulin is the hormone that helps to lower blood sugars.

Diabetes is diagnosed if:

1. Fasting blood sugar is greater than 126mg/dL* or
2. Blood sugar checked 2 hours after an oral glucose tolerance test is greater than or equal to 200 or
3. Blood sugar checked any time with hyperglycemic symptoms is greater than 200.

* Dr. should confirm by repeating either of these tests on one other day

Risk Factors

- Family history of diabetes
- Age greater than 45
- Overweight
- Lack of physical activity
- Race/ethnicity—Hispanic and African American
- History of gestational diabetes or having a baby that weighed more than 9 pounds.
- Hypertension (140/90)
- High cholesterol/triglycerides
- Smoking
- History of vascular disease

Tests:

- Self monitoring systems. Patients can check blood sugars at home. 1-2 times a day recommended at minimum.
- In office: Hemoglobin A1c. This number tells us how well your blood sugar has been controlled (or not) over the past 3 months. The number should be less than 7% indicating an average of 150 or less.

Normal:

- Normal range is 70-135.

Our Targets

	People with Diabetes: Ideal
BS Before Meals	70-135 MG/DL
BS 2 Hours After Meals	70-135 MG/DL
HB A1C	< 7% ADA* ≤ 6.5% AACE**
Blood Pressure	< 130/80
Lipid Panel	Total Cholesterol < 200 LDL < 100 If CVD exists <70 HDL > 50 Triglycerides < 150 If CVD exist < 130
Microalbumin	0 - 17
BMI	< 24

It is acceptable for a person's blood sugar to increase approximately 40 points after meals.

***ADA American Diabetes Association**

****AADA American Association of Clinical Endocrinologists**

A1C Conversion Table

A1c	Glucose
14	421
> 14	Egads!!

A1c	Glucose
12	350
12.1	353
12.2	357
12.3	361
12.4	364
12.5	368
12.6	371
12.7	375
12.8	378
12.9	382
13	386
13.1	389
13.2	393
13.3	396
13.4	400
13.5	403
13.6	407
13.7	410
13.8	414
13.9	418

A1c	Glucose
10	279
10.1	282
10.2	286
10.3	289
10.4	293
10.5	297
10.6	300
10.7	304
10.8	307
10.9	311
11	314
11.1	318
11.2	321
11.3	325
11.4	329
11.5	332
11.6	336
11.7	339
11.8	343
11.9	346

A1c	Glucose
8	208
8.1	211
8.2	215
8.3	218
8.4	222
8.5	225
8.6	229
8.7	232
8.8	236
8.9	240
9	243
9.1	247
9.2	250
9.3	254
9.4	257
9.5	261
9.6	264
9.7	268
9.8	272
9.9	275

A1c	Glucose
6	136
6.1	140
6.2	143
6.3	147
6.4	151
6.5	154
6.6	158
6.7	161
6.8	165
6.9	168
7.0	172
7.1	175
7.2	179
7.3	183
7.4	186
7.5	190
7.6	193
7.7	197
7.8	200
7.9	204

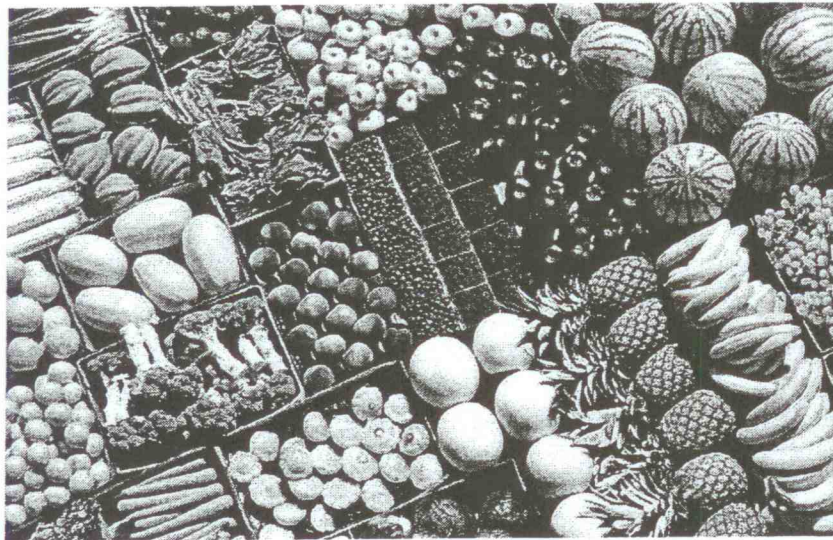
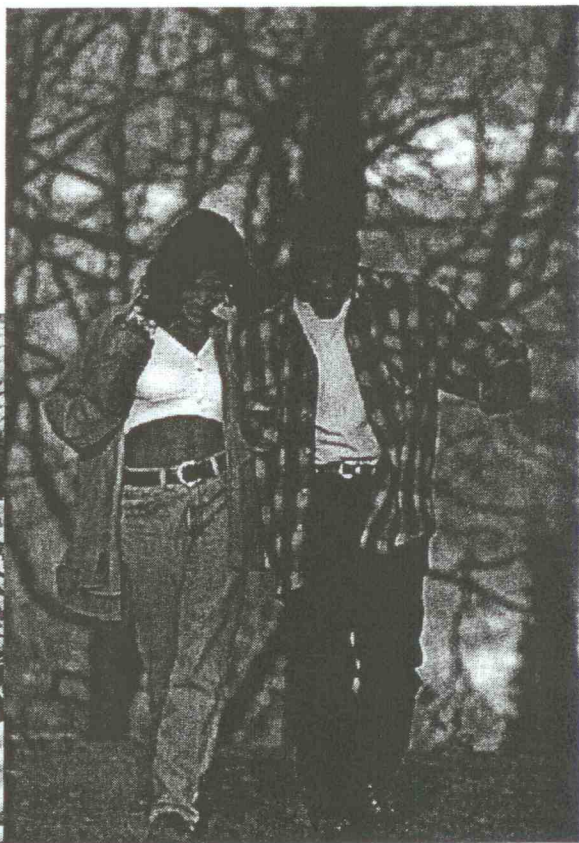
A1c	Glucose
4	65
4.1	69
4.2	72
4.3	76
4.4	79
4.5	83
4.6	86
4.7	90
4.8	94
4.9	97
5	101
5.1	104
5.2	108
5.3	111
5.4	115
5.5	119
5.6	122
5.7	126
5.8	129
5.9	133

Based on the formula:

Mean glucose for the previous 2 months = HbA1c X 35.6 - 77.3

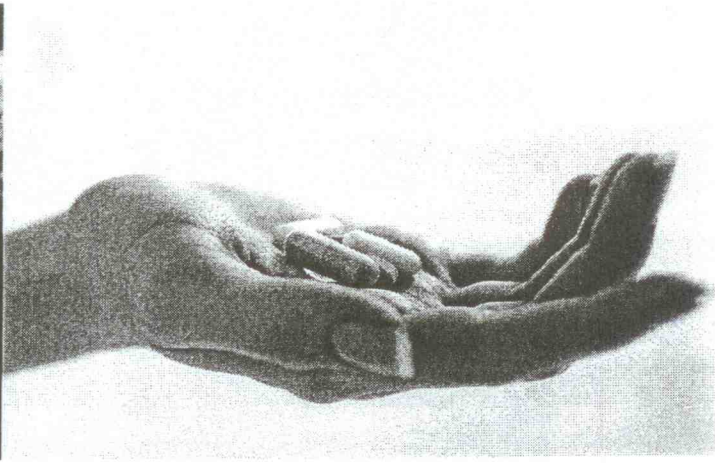
2002 (Goldstein Diabetes Care :25:275)

Diabetes Survival



Eat Vegetables

Exercise



Monitoring

Medications

