Individualized diet and exercise instruction has been shown a 58% reduction in the incidence of diabetes 

*Halting the progression of diabetes*


Halting the progression of diabetes:

- 5% weight reduction
- Fat intake less than 30% of calories
- Saturated fat < 10% of calories
- Fiber intake 15g per 1000 kcal or more
- Exercise 150 per week

The Goal of any exercise program

- Personal
- Safe
- Minimizes Risk and Long Term Complications

“Younger Next Year” – Chris Crowley

The Goal for the Diabetic Participant

- Controlling HbA1c < 7%
- 1% reduction decrease heart risk 15-20%
- Blood pressure 129/79 mm/hg
- Cholesterol HDL < 40 mg/dl
- Triglycerides < 150 mg/dl
Effects of Exercise in Diabetes Mellitus

- Cardiovascular
- Lipid and Lipoprotein Alterations
- Anthropometric Measures
- Metabolic Parameters
- Psychological Aspects

SEE PHYSICIAN BEFORE STARTING AN EXERCISE PROGRAM

- Cardiovascular risk
- Glucose–related medication requirement will change with activity
- Potential limitation secondary to lower extremity neuropathies

Common Risks

- Hypoglycemia - Blood Sugars < 100 ml/dl
- Hyperglycemia – Blood Sugars > 250 ml/dl

Self-blood glucose monitoring (SBGM)

- Primary mechanism to prevent hypoglycemia
- Reduction in insulin dosage 50-90% of daily dosage
- Based on the intensity, duration and personal experience

Do SBGM – Check before and after each session

- > 250 ml/dl – Exercises should be postponed
- < 100 ml/dl – Eat snake before beginning exercise program
- 100-240 exercise recommended

Beginning an exercise program

- Do SBGM – Check before and after each session
- Keep a daily log of SBGM
- Begin Gradual
- Plan for exercise sessions
  - Time
  - Intensity
  - Need to carry extra carbohydrates for potential hypoglycemia
  - Hydrate before, during and after exercise
- Consider working with a health provider to begin exercise program
- Adjust insulin accordingly
- Exercise with a partner
- Modify caloric intake accordingly
- Wear a diabetic identification tag
- Wear good shoes
EXERCISE HEART RATE

• Determine Maximum Heart Rate
• 220 – AGE = maximum heart rate
• Exercise Heart Rate (60-80% maximum heart rate)

Determining Heart Rate

• Neck
• Wrist
• 10 seconds and multiple by 6 will equal heart beats per minute

Exception to the Rule for Exercise Heart Rate

• Heart Medication which regulates you heart rate
• Use Perceived Exertion scale

How Much Exercise Should I do?

• 150 min/week
• 20 min/day
• Prolonged exercise > than 30 min gradual shift from carbohydrate toward an increasing reliance on fat as a substrate

What type of exercise should I do?

• Aerobic vs. resistive
  – moderate-intensity aerobic exercise
  – resistance exercise three times a week.

Exercise will improve your QUALITY OF LIFE
Exercise will SAVE YOUR LIFE

- The life expectancy of uncontrolled type 2 diabetes patients is reduced between 30-40 percent for those in the age range of 40-70 years of age, a loss of 8-10 years of life.