



# WEIGHT MANAGEMENT PROGRAM

UNIVERSITY OF MICHIGAN HEALTH SYSTEM

## Program Orientation

This program originated in the University of Michigan, Metabolism, Endocrinology and Diabetes Clinic.

It is being adopted at your primary care center.

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### University of Michigan Weight Management Clinic

Our weight management program employs a multidisciplinary team consisting of physicians and dietitians specializing in obesity and metabolic diseases, to provide ongoing education and guidance towards making intensive lifestyle interventions that result in sustained weight loss. We are dedicated to providing patients with a personalized, systematic approach to achieve this goal.

To maximize the possibility of achieving lifestyle change and commitment to change, a structure of frequent contact with our physician and dietitian will be employed. Patients will have 11 clinic appointments with the physician and 26 visits to the dietitian, the latter which occur 1 week intervals during the first month and then every 4-6 weeks during the rest of the 24 month program. We consider patients to be enrolled in the program once they have completed their 6 month visit (week 24/Program Visit 8). Patients unable to attend 80% of their visits or who do not complete Program Visit 8 will be determined to be ineligible to continue in the Program.

Program Plan	Week	MD	Nutritionist
Assessment Visit	0	X	
Program Visit 1	Baseline		X
Program Visit 2	2	X	X
Program Visit 3	3		X
Program Visit 4	4	X	X
Program Visit 5	8		X
Program Visit 6	12	X	X
			X
		X	X
			X
		X	X
			X
Program Visit 13	44		X
Program Visit 14	48	X	X
Program Visit 15	52		X
Program Visit 16	56		X
Program Visit 17	60	X	X
Program Visit 18	64		X
Program Visit 19	68		X
Program Visit 20	72	X	X
Program Visit 21	76		X
Program Visit 22	80		X
Program Visit 23	84	X	X
Program Visit 24	88		X
Program Visit 25	96		X
Program Visit 26	100	X	X

Please review the above.

Your signature below confirms that you have read and understand the above.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

This is the UM Weight Management Clinic Schedule of Visits.



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Program Visit 5	8		X
Program Visit 6	12	X	X
Program Visit 7	18		X
<b>Program Visit 8</b>	<b>24</b>	<b>X</b>	<b>X</b>
Program Visit 9	28		X
Program Visit 10	32		X
Program Visit 11	36	X	X
Program Visit 12	40		X
Program Visit 13	44		X
Program Visit 14	48	X	X
Program Visit 15	52		X
		X	X
			X
		X	X
			X
		X	X
			X
		X	X
Program Visit 24	88		X
Program Visit 25	96		X
Program Visit 26	100	X	X

The visits are more frequent during the first 3 months of the program. Thereafter, the visits to the physician are quarterly (every 12 weeks) and monthly to the dietician.

Please review the above.

Your signature below confirms that you have read and understand the above.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Weight Management Program: the Clinical Components

- 100 week program
  - *Participant signs contract agreeing to attend 80% of visits*
- Number of Physician Visits: 11
- Number of Dietician Visits: 26



# Energy Balance

## Body Weight

### Increase

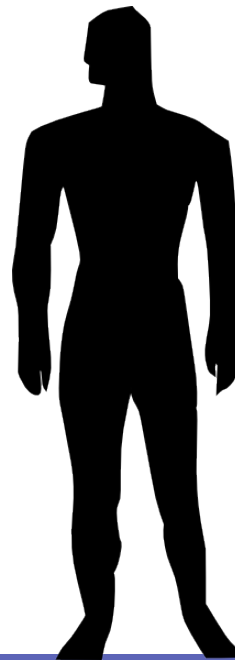
#### Energy Intake

Ingestion of:

Protein

Fat

Carbohydrate



### Decrease

Energy Expenditure (EE)

Physical Activity (exercise)

Diet-Induced Thermogenesis  
(energy needed to break  
down and metabolize food)

Basal Metabolic Rate (energy  
burned while at rest and the  
biggest contributor to EE)

Body weight is determined by the balance between the calories we consume and the calories we expend (aka: "burn").

# Obesity Health Risks:



What are the consequences of too much weight? Overnutrition leads to a number of metabolic problems that lead to diseases such as diabetes and heart disease.

# Obesity Health Risks:



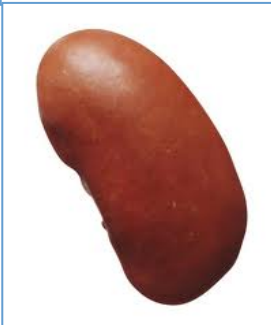
Heart disease



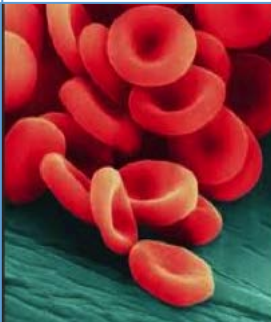
Stroke



Diabetes



Kidney disease

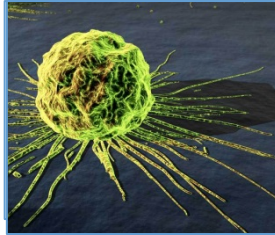


Blood clots

# Obesity Health Risks:



Breathing problems



Cancer



Pregnancy  
complications



Fatty liver disease



Premature death



What are some of the factors contributing to the rise in obesity?

# Economic and Environmental Factors

- Hours spent in our cars commuting
- Hours spent at our desks
- Reduction in food prices introduced by technological change
- Central air/heating



# Economic and Environmental Factors

- Increased demand for inexpensive convenience food and one-stop shopping
- Habit/pattern of food consumption
- Food away from home
- “Addiction” to macronutrients
- Domestic appliances
- Increase in tobacco prices leading to smoking cessation (yeah!) but leading to increase in food intake



# Caloric Density

- Think of food in terms of calories per pound
- The lower the caloric density, the greater the volume and the fewer the calories



490



1000



2450

Fresh corn has far fewer calories than a similar serving size of tortillas (made from corn) and Tostito's® (a product of corn)



There are parts of the brain involved in mediating the **motivational** (ie: drive to eat), **cognitive**, and **emotional** components of food intake. Gaining a better **understanding of the brain's** role in weight is one of our goals.

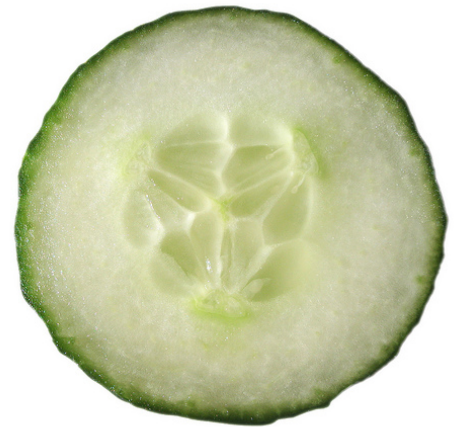
# Comprehensive Adult Weight Management Clinic: Personalized Weight Management Program

- Goal: Identify strategies that will result in long-term weight management for obese individuals, using the latest research and clinical strategies.
- We are dedicated to educating, motivating, and empowering individuals to make healthy lifestyle choices!



## Comprehensive Adult Weight Management Clinic: Personalized Weight Management Program

- Multidisciplinary approach to weight loss and weight maintenance
- Intensive induction phase
- Advice regarding activity/exercise/conditioning
- Individual one-on-one sessions
- Focus on prevention of weight regain
  - Behavioral
  - Nutritional
  - Pharmacological



# Stepped Obesity Treatment Regimen

*What happens at the first visit to the physician?*

- Health and weight history is obtained
- A physical exam is performed
- Current medication list is reviewed
- Research is discussed and consent to participate is obtained (if patient is interested)





# 1

## Change Medication Regimen

- Eliminate 'weight positive' medications
- Substitute weight neutral or weight negative medications



# 2

## Initiate Caloric Restriction

- Initial very-low-calorie diet (VLCD) (800 cals/day) or low-calorie-diet (LCD) (1000-1200 cals/day)
- Meal substitution/replacement
- Dietary counseling: One-on-one with RD
- Initial emphasis on calories and caloric density, not fuel

The meal replacement diet will not start until patient meets formally with the program's dietitian.



# 3

## Exercise Prescription

- Individual preference/Get moving
- Bouts of exercise versus all at once



## Early Weight Loss Predicts Long-term Weight Loss

- We know that weight loss at 2 weeks is associated with the amount of weight loss at 4 weeks
- Therefore, if the weight loss goal at 2 weeks is not what is expected, we will reassess any barriers or issues related to diet and help navigate through any challenges
- If the weight loss at 4 weeks is again less than expected, this may not be the right program for the patient



# The University of Michigan's Weight Management Program (WMP): Overview

# Program Design



- Highly structured to make weight loss easier and more successful.
- Shakes and soups replace meals and snacks (ie: liquid diet).
- Support provided through individual appointments with physician and dietitians.
- Daily physical activity aids in weight loss.

# The First 12 Weeks of the Program:



# Very Low Calorie (VLCD) Phase: The “Liquid” Diet

- Initial 12 weeks: ~800 calories/day
- Foods allowed:
  - ✓ Optifast 800 (or Optifast HP) Shakes  
(select circumstances: Ready-to-Drink Shakes)
  - ✓ Optifast Chicken or Tomato Soup





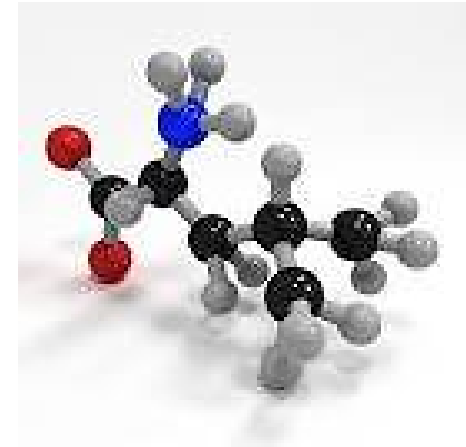
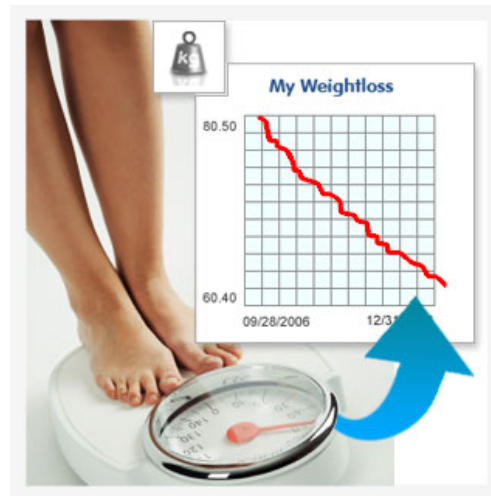
# Meal Replacement Plan

- *Personalized*: will be tailored to match patient's starting weight and hunger
- *Average prescription*: 4 - 5 Optifast Shakes + 1 Optifast Soup



# Why use a Very-Low Energy Diet (VLED)?

- Short term only
- Medically supervised, guaranteed weight loss
- Divorce yourself from unhealthy food habits by making meals “decision free”
- Learn nutrition information, lifestyle and behavioral skills



## Who may benefit from a Very-Low Calorie Diet (VLCD)?

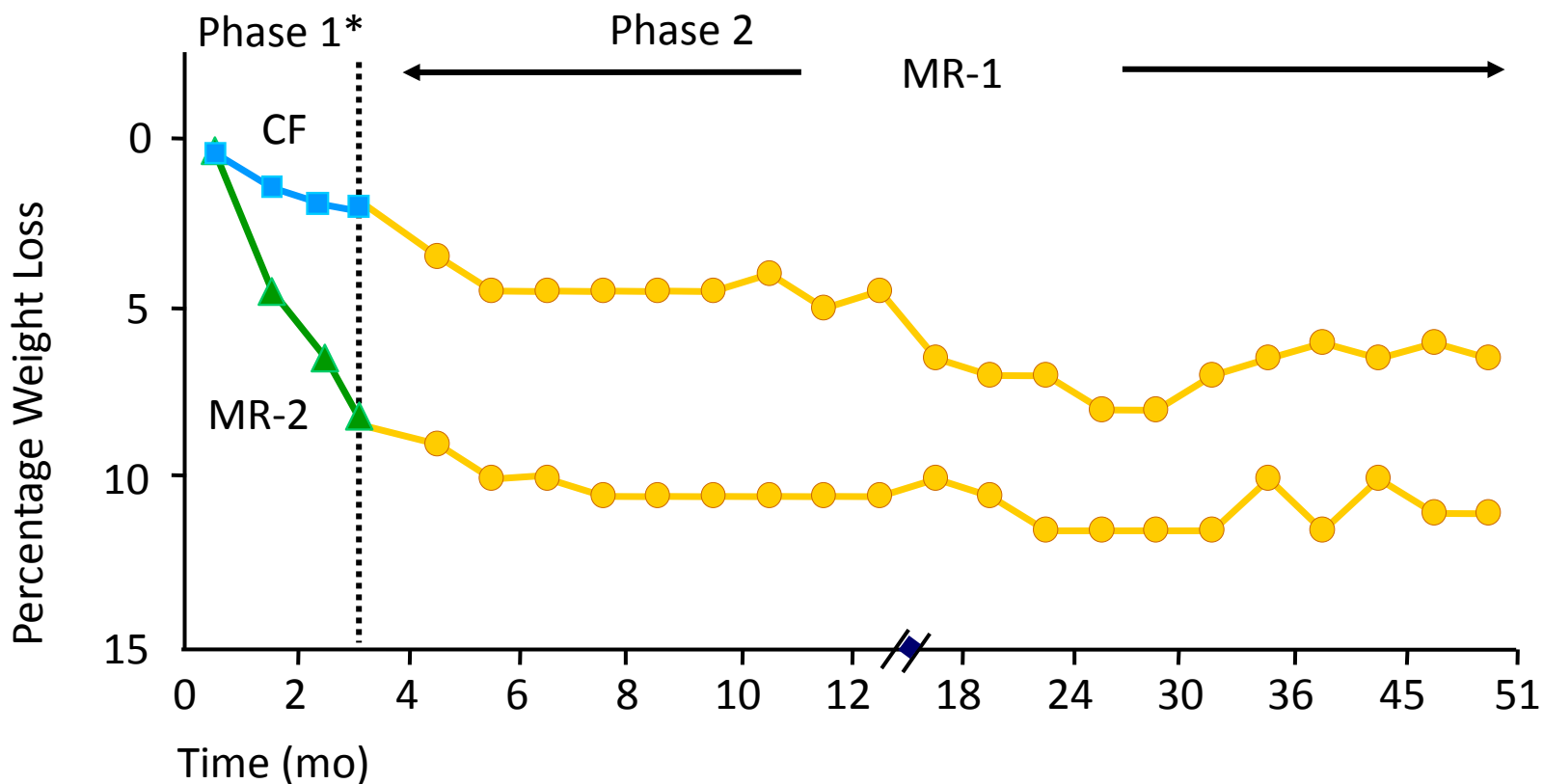
- Those who have a significant amount of weight to lose
- Those who have not lost weight through previous attempts at cutting back on food or following a reduced calorie meal



## Meal Replacements Enhance Initial and Long-term Weight Loss

- The following slide summarizes data from one scientific study that helps illustrate why we elect to use an aggressive meal replacement strategy
- The graph shows a comparison of a conventional diet versus a meal replacement diet (with eventual transition to food)
- The results show that at the end of the study period, despite both groups being on similar diets, the group that started with meal replacement lost more weight overall

# Meal Replacements Enhance Initial and Long-term Weight Loss



\*1200–1500 kcal/d diet prescription.

CF=conventional foods.

MR-2=replacements for 2 meals, 2 snacks daily.

MR-1=replacements for 1 meal, 1 snack daily.

Ditschuneit et al. *Am J Clin Nutr* 1999;69:198.

Fletcher-Mors et al. *Obes Res* 2000;8:399

# Transition Phase



# Weight Maintenance Phase

- Following 15% weight loss, food is reintroduced.
- An individualized low calorie diet plan is designed and implemented.
- Maintenance calorie amount is calculated and personalized.
- Structure is key.
- Remember the concept of energy density.



## Transition Phase

- The transition diet is typically 2 - 3 shakes or soup per day and a 400 calorie meal (usually dinner) occurring over 4-8 weeks
  - 4 ounces of lean protein
  - Non-starchy vegetables or salad
  - Continue vitamins





# Weight Maintenance Strategies

What will you need to do throughout the program:

- Weigh daily
- Track calories and physical activity
- Prepare shopping lists (once transitioned to 'regular' food)
- Prepare menus for 1-3 days in advance
- Review upcoming events or travel that may lead to dietary excursions and discuss with dietitian
- PLAN AHEAD
- Weight maintainers often use 2-14 meal replacements/week to maintain weight loss

# Can people with diabetes use Optifast shakes?

- **Yes.** Optifast is frequently recommended by doctors for their patients with diabetes because of the foods' nutritional formulation and low calories.
- Your medication(s) will be monitored by our physicians, and dosage may change throughout the program.



# Can I use Optifast shakes if I have food allergies?

- Optifast products are generally well tolerated by most people.
- Optifast POWDERED shake mix (chocolate, vanilla, and strawberry) DO contain lactose. All other products are lactose-free.
- Some of our products, however, contain common allergens such as **dairy, eggs, wheat, soy and peanuts**.
- Please let us know if you have any allergies prior to beginning the shake regime, or if any GI discomfort occurs.



# Shake Preparation

- Blender Instructions:
  1. Pour 6 oz. cold water into a blender. Begin mixing on lowest speed.
  2. While blender is on, add 1 packet Optifast shake mix and blend for 10 seconds.
  3. Add 2 ice cubes, 1 at a time (replace blender cover in between)
  4. Continue to blend on low speed for 1 – 1 ½ mins. until ice is crushed & shake is smooth



# Meal Replacement Prescription

- Add non-caloric flavorings for variety:
  - Spices or seasonings
  - Extracts
  - Diet soda
  - Sugar free pudding or Jell-O mix
  - Sugar free Crystal light
  - Sugar free coffee syrup



# Cost of Optifast

- You are responsible for purchasing the product (out-of-pocket)
  - ~\$2.75 per shake
  - ~\$14/day
  - ~\$90-100/week
  - ~\$400-420/month
- **Insurance does NOT cover the cost of meal replacements.**
- *Of note:* The average American spends **\$151/week** on food according to the US Bureau of Labor Statistics Consumer *Expenditure* Survey.



# Cost Comparison for Other Diet Programs or Products

- NutriSystem: \$12 - \$14 dollars/day, vitamins sold separately, \$30 cancellation fee
- Jenny Craig: \$7.50/month program fee + cost of food (\$15+/day) + shipping
- Weight Watchers: \$52/month + price of food (varies)
- South Beach: \$12/month (on-line community only) + price of food (varies)



\*\*Prices may vary, based on location and special promotional deals\*\*

# Cost Comparison for Convenience Foods/Meals

- Breakfast: Starbucks Bagel with cream cheese (~\$2) plus grande regular coffee (~\$1.70)
- Lunch: Wendy's Spicy Chicken Sandwich combo with fries and drink (~\$6.39)
- Dinner: Panera Fuji Apple Chicken Salad (~\$7.39) with iced tea (~\$2.39)
- Snack: Slimfast Shake (~\$2.25)



**TOTAL: \$22.12**

\*\*Prices may vary, based on location and special promotional deals\*\*



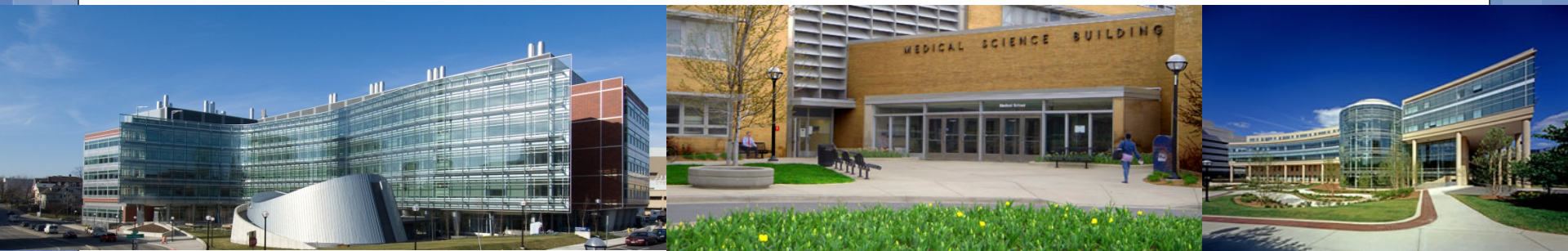
# Physical Activity

- Daily exercise is tracked
- Active lifestyle is encouraged
- Further recommendations will be based on the individual

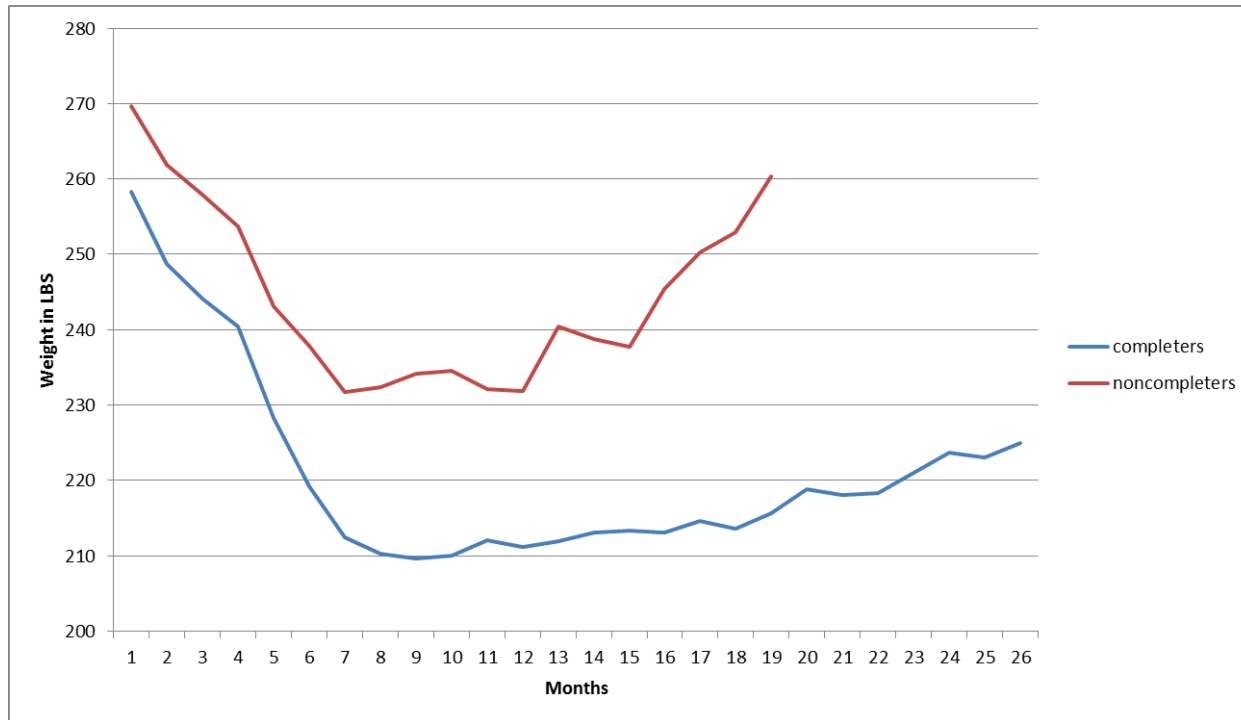


# How are participants doing in our clinic?

- What results have we seen from Weight Management Program?
- Individuals have lost substantial amounts of weight.
- This weight loss has continued past the initial 3 month period
- They have kept the weight off and, at 60 weeks, there is an average loss of 57 lbs for men and 46 lbs for women
- (see graph on the next slide)



# Weight Maintenance at 2 Years



Those who complete our 2 year program continue to have markedly reduced weight from baseline weight despite some weight regain (which we expect) and why we have aggressive weight loss goals early in the program. Those who withdrew, lost weight initially, but regained most of their weight lost.

# Program Website

- Please fill out “Initial Evaluation Form” and all the questionnaires BEFORE your first physician visit. Remember to mail, fax, or email them to the office BEFORE your first appointment. You will complete the questionnaires again following 15% weight loss and at the end of the 2 year program.





University of Michigan  
Health System

Thank you!



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