Be Your Own First Patient

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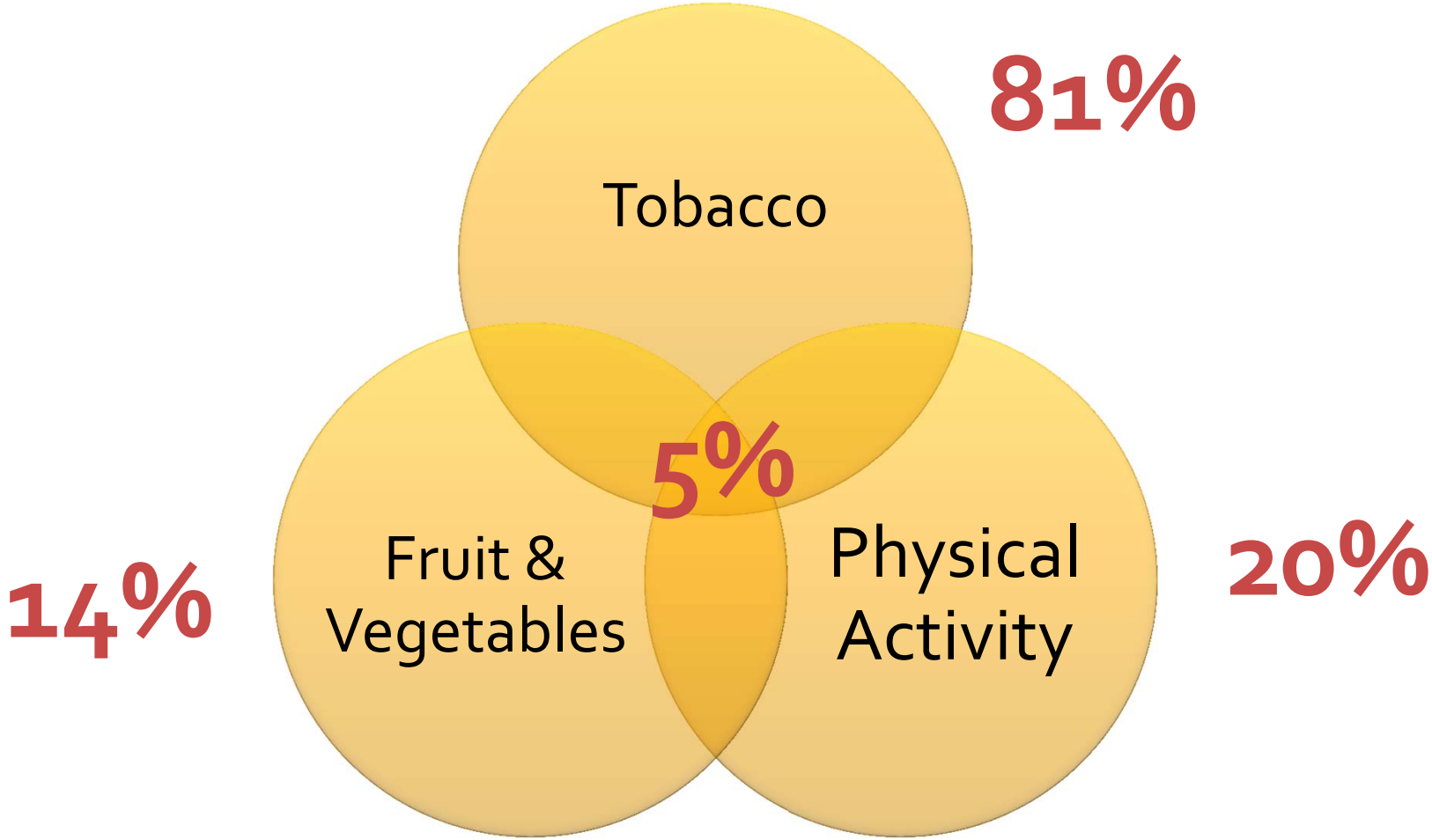
Where do you stand?



Objectives

- Assess personal cardiovascular disease (CVD) risk
- Design a personalized lifestyle medicine program
  - Identify lifestyle medicine interventions that can reduce personal CVD risk
  - Evaluate barriers to healthy behaviors and formulate strategies to increase adherence to your personalized lifestyle program

Assessment

- Framingham Assessment of Cardiovascular Risk
  - 10 year CHD calculator
  - 10 year CVD calculator

Patient Case

- 54 y/o woman
- 5/5", 175 lb
- BP: 145/82
- TC: 189, HDL: 43, GLU 88 (fasting)
- Smoker
- Sedentary
- Meds: Lisinopril 10mg daily

Framingham 10-yr CVD Risk Women

Points	Age
0	30-34
2	35-39
4	40-44
5	45-49
7	50-54
[illegible]	[illegible]
9	60-64
10	65-69
11	70-74
12	75+

Points	HDL
-2	60+
-1	50-59
0	45-49
1	35-44
2	<35

Points	Total Cholesterol
0	<160
1	160-199
3	200-239
4	240-279
5	280+

Points (treated)	Points (untreated)	Systolic BP
-1	-3	<120
2	0	120-129
3	1	130-139
5	2	140-149
6	4	150-159
7	5	160+

Points	Smoker?
0	No
3	Yes

Points	Diabetes?
0	No
4	Yes

7 + 1 + 1 + 5 + 3 + 0 = **17**

7 + 0 + 1 + 2 + 0 + 0 = **10**

Framingham CVD Risk and Heart Age-Women

Points	Risk %	Points	Risk %
<-1	<1%	10	6.3%
-1	1%	11	7.3%
0	1.2%	12	8.6%
1	1.5%	13	10%
2	1.7%	14	11.7%
3	2%	15	13.7%
4	2.4%	16	15.9%
5	2.8%	17	18.5%
6	3.3%	18	21.5%
7	3.9%	19	24.8%
8	4.5%	20	28.5%
9	5.3%	21+	>30%

Points	Heart Age	Points	Heart Age
<1	<30	8	51
1	31	9	55
2	34	10	59
3	36	11	64
4	39	12	68
5	42	13	73
6	45	14	79
7	48	15+	>80

Lifestyle IS Medicine

- Identifying which lifestyles may prevent or treat chronic disease
  - Lifestyle is medicine for Hypertension
  - Lifestyle is medicine for Hypercholesterolemia
  - Lifestyle is medicine for Diabetes

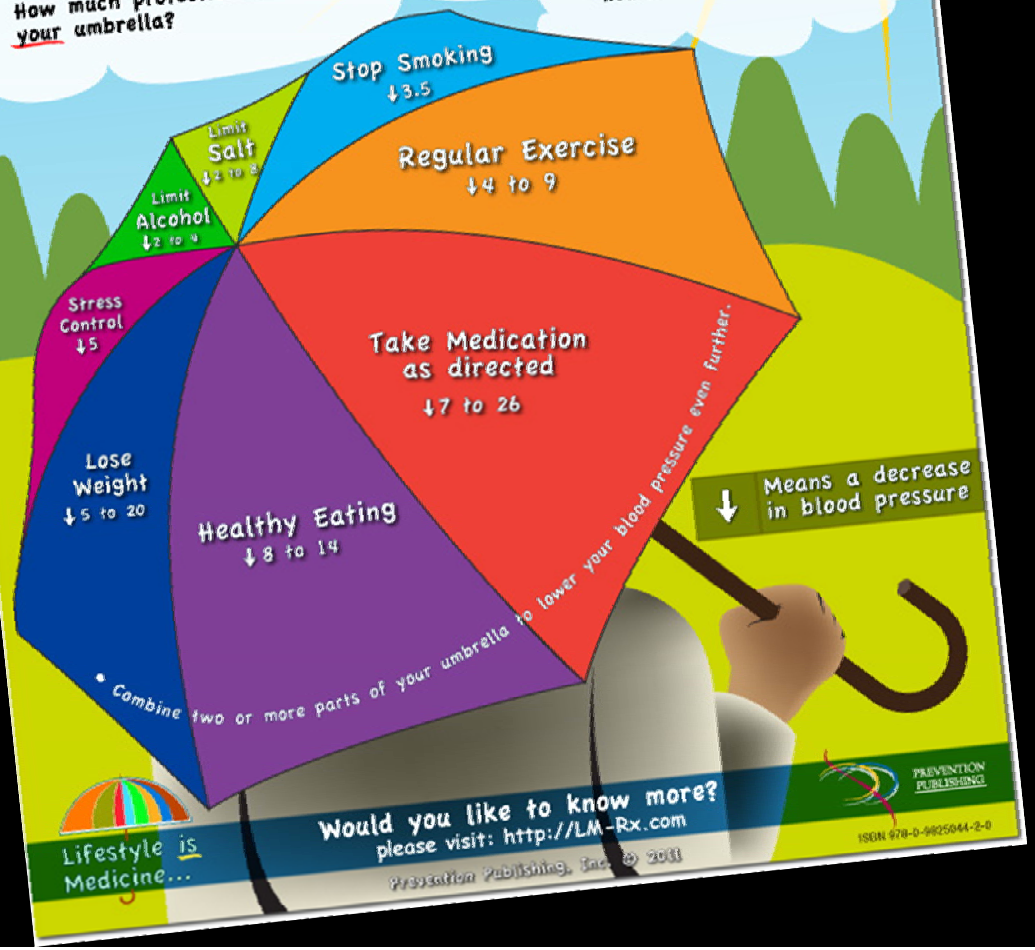
Lifestyle is Medicine...

for the treatment of High Blood Pressure

Medication can help lower your blood pressure, but so can your lifestyle. This umbrella shows some of the healthy lifestyle choices you can make. PROTECT yourself from heart disease, stroke, kidney disease and other health problems by taking your blood pressure medications and by living a healthy lifestyle. How much protection are you getting from your umbrella?

▶ Lowering blood pressure to less than 140/90 can reduce your risk of:

* Stroke by 35 to 40%
* Heart attack by 20 to 25%
* Heart failure by 50%



↓ Means a decrease in blood pressure

Lifestyle is Medicine...

Would you like to know more?
please visit: http://LM-Rx.com

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Lifestyle is Medicine...

for the treatment of High Cholesterol

Medication can help lower your cholesterol, but so can your lifestyle. This umbrella shows some of the healthy lifestyle choices you can make. PROTECT yourself from having a heart attack by taking your cholesterol medication and by living a healthy lifestyle. How much protection are you getting from your umbrella?

▶ Regular exercise and avoiding tobacco greatly reduces your risk of having a heart attack.

Lose Weight
↓5 to 8%

Decrease Saturated Fat
↓8 to 10%

Add Soluble Fiber
↓3 to 5%

Take Medication as directed
↓5 to 55%

Decrease Dietary Cholesterol
↓3 to 5%

Add plant sterols/stanols
↓5 to 15%

* Combine two or more parts of your umbrella to lower your cholesterol even further.

↓ Means a decrease in LDL (bad cholesterol)

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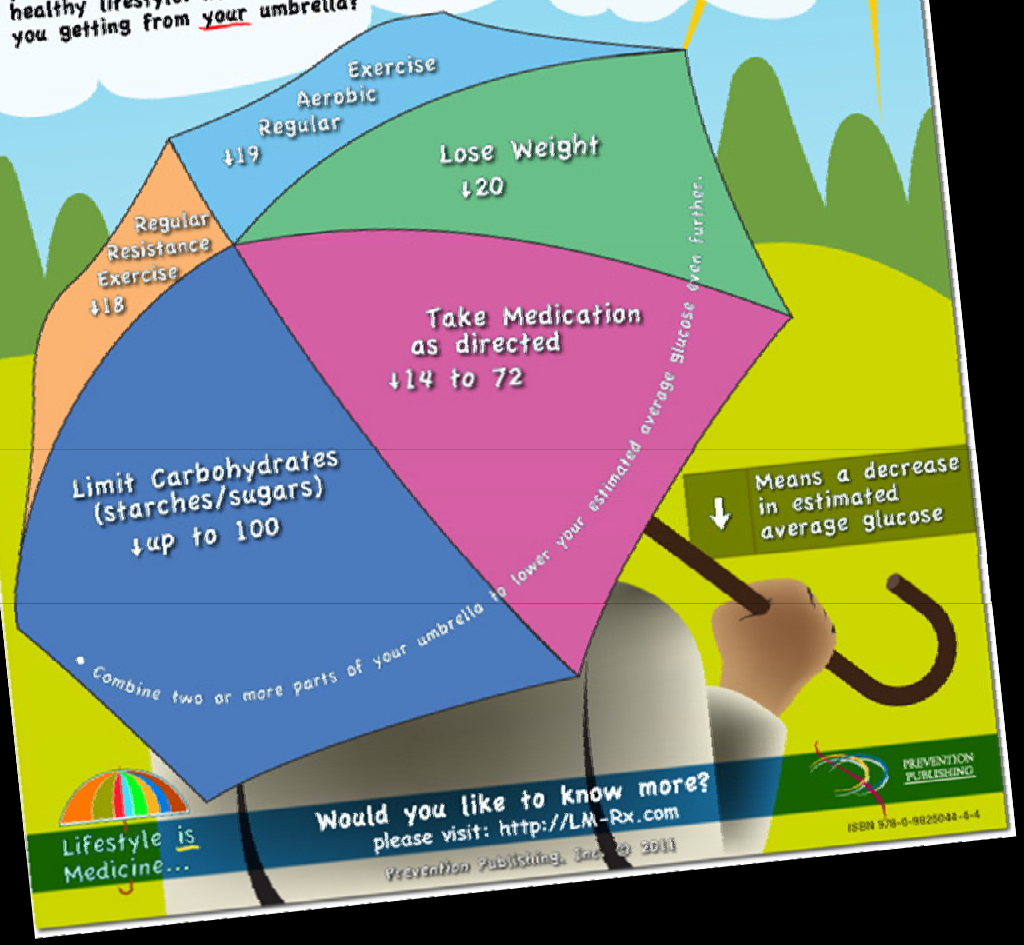
ISBN 978-0-9825044-3-7

Lifestyle is Medicine...

for the treatment of Diabetes

Medication can help lower your blood sugar (also known as blood glucose), but so can your lifestyle. This umbrella shows some of the healthy lifestyle choices you can make. PROTECT yourself from heart, kidney, and eye damage and other health problems by taking your diabetes medications and by living a healthy lifestyle. How much protection are you getting from your umbrella?

- Each time you reduce your estimated average glucose by 28 points, you reduce your risk for:
  - Blindness, kidney damage and possibly nerve pain by 25%
  - Diabetes related death by 25%
  - Heart attack by 18%



↓ Means a decrease in estimated average glucose

Lifestyle is Medicine...

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Creating a Personalized Lifestyle Program

Physical Activity
Nutrition
Sleep
Stress
Alcohol
Tobacco
Weight Loss

hysical Activity

150 minutes of moderate activity OR 75 minutes of vigorous activity weekly

- Can be broken into increments of 10 minutes or greater

Resistance training 2d/week on non-consecutive days

Increased activities of daily living

lutrition

What we eat

- Increase fruits and vegetables to at least 5 daily
- Reduce salt, sugar, saturated fat and trans fat

How much we eat

- Strategies for reducing portions

leep, Stress, Alcohol, Tobacco

Sleep

- Shoot for 7-9 hours nightly
- Sleep hygiene

Stress

- Incorporate stress reduction techniques

Alcohol

- ≤1 drink/day for women, ≤2drinks/day for men

Tobacco

- Cessation

Veight Loss

10% of body weight over 6 months

Energy balance

- Caloric deficit in food
- Caloric burn from physical activity

	Sedentary (ADL's only)	Low Active (ADL's + 30-60 minutes of daily moderate activity)	Active (ADL's + 60+ minutes of daily moderate activity)	Very Active (ADL's + 60 minutes daily moderate activity AND 60+ minutes of vigorous activity or 120 minutes of moderate activity
PA	1.0	1.11	1.25	1.48
le PA	1.0	1.12	1.27	1.45

es >19yoa

=662 - (9.53 x age (yrs)) + PA x [(15.91 x weight (kg)) + (5.39.6 x height (m))]

= 662-(9.53 x ___)+ ____ x [(15.91 x ____) + 5.39.6 x ____)]

=_____

nales >19yoa

= 354 – (6.91 x age (yrs)) + PA x [(9.36 x weight (kg)) + (726x height (m))]

= 354 – (6.91 x _54___) + __1___x [9.36 x _79.5___) + (726 x _1.65___)]

=_**1922**_____

Exercise Rx

y	MET
g	3.5
g mile)	10.0
g mile)	12.5
ly)	3.5
ning rate	4.5
c	5.0

- Mode: walking
- associated MET level: 3.5
- Duration: 30 minutes
- Frequency: 5 days/week

nergy Expenditure

MET x 3.5 x body weight (kg)) / 200 = kcal/min

3.5 x 3.5 x 79.5) / 200 = 4.9 kcal burned per minute walking

4.87 kcal/min x 30 minutes per session = 146 kcal burned per day

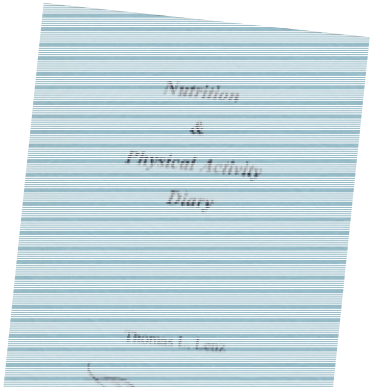
146 kcal session x 5 days/week = 730 kcal burned per week

Weight Loss Calculation

Current body weight: 175lbs
Weight loss goal: 10% or 18 lbs
Weekly calories decreased from food: 322 calories/day x 7 = 2254 calories/week
Weekly caloric expenditure from PA: 730 calories/week
Total caloric deficit: 2984 calories
Amount of body weight lost weekly: 2984/3500 calories/lb= 0.85 lb
Time to get to goal: 18/0.85= 21 weeks or 5 months

Tools to Increase Program Adherence

Nutrition and Physical Activity Diary
Lifestyle Journal
Pedometer
Glucometer
Blood Pressure Monitor



Strategies to Increase Program Adherence

Use personal motivation to increase healthy behaviors

Identify and address barriers to adherence

When Motivation is Lacking

Each person has unique driving forces for behavior

Use these motives to leverage healthy lifestyles

If you lack motivation to exercise but you are motivated by

- Family → Bike riding with your kids
- Social Contact → Join an exercise class
- Curiosity → Listen to podcast lectures as you walk

Strategies to Overcome Adherence Barriers

Simplicity
Convenience
Enjoyable
Variety
Rewards and Incentives
Frequent Contact
Social Support
Cost

lentifying Barriers and Applying dherence Strategies

Patient Case

- Patient is overwhelmed about making healthy nutrition choices, she doesn't understand how to read the labels and she is worried that healthier foods will break her budget.

mplicity: Label reading is too complex, focus on increasing fruits d vegetables and decreasing portion sizes

ost: fresh produce can be expensive, recommend frozen fruits and egetables and help identify other low cost healthy options

Questions?

eferences

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ramingham 10 Year CVD Risk
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ramingham 10-yr CVD Risk
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