

Physical Activity and Behavior Change Guidelines

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Small Changes in Behavior Impact Weight Over the Lifespan

- Average U.S. adult gains weight up to age 55
- 1 - 2 lbs per year
- Weight gain, *independent of BMI*, associated with increased cardiovascular and diabetes risk

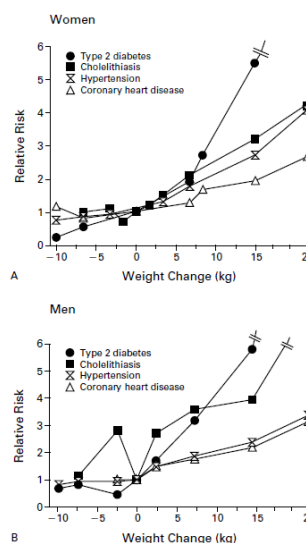


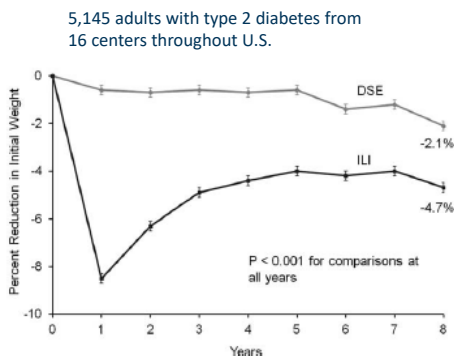
Figure 3. Relation between the Change in Weight and the Relative Risk of Type 2 Diabetes, Hypertension, Coronary Heart Disease, and Cholelithiasis. Panel A shows these relations for change of weight from 18 years of age among women in the Nurses' Health Study, initially 30 to 55 years of age, who were followed for up to 19 years.^{14,21} Panel B shows the same relations for change of weight from 20 years of age among men in the Health Professionals Follow-up Study, initially 40 to 65 years of age, who were followed for up to 10 years.²²

Williamson, D 1993 Ann Intern Med; Willett et al. 1999 N Engl J Med

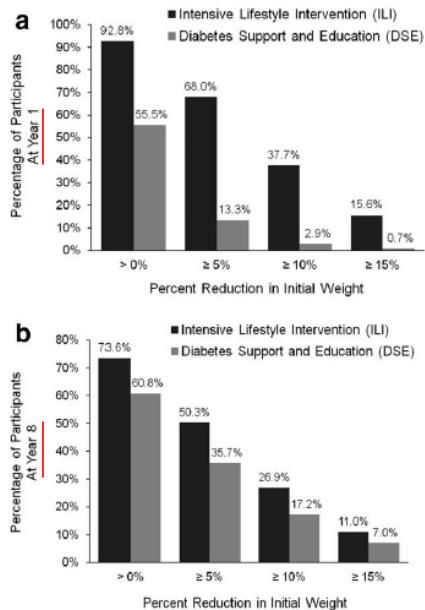


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Lifestyle intervention can help: Look AHEAD trial 8-year results



The Look AHEAD Research Group; 2014 *Obesity*



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Treatment Guidelines: Comprehensive lifestyle intervention program plus adjunctive therapy

Circulation
Volume 129, Issue 25, suppl_2, 24 June 2014; Pages S102-S135
<https://doi.org/10.1161/01.cir.0000437739.71477.e2>

AHA/ACC/TOS PREVENTION GUIDELINE

2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society

- 5-10% weight loss within 6 months
- Weight loss maintained for 1 year or longer
- Aim for 2-3% weight loss within 1 month

Participants failing to achieve ≥ 2% weight loss at 1 month are 5-6 times more likely not to achieve 10% loss at 1 year

Unick et al., 2014, *Obesity*

- Intensive behavior therapy includes 3 components

- **Reduced-calorie diet:** In comprehensive lifestyle interventions, overweight/obese individuals typically are prescribed a diet designed to induce an energy deficit of ≥500 kcal/d. This deficit often is sought by prescribing 1200 to 1500 kcal/d for women and 1500 to 1800 kcal/d for men. Alternatively, dietary energy deficits can be determined by one of the methods described in CQ3.
- **Increased physical activity:** Comprehensive lifestyle intervention programs typically prescribe increased aerobic physical activity (such as brisk walking) for ≥150 min/wk (equal to ≥30 min/d most days of the week). Higher levels of physical activity, approximately 200 to 300 min/wk, are recommended to maintain lost weight or minimize weight regain in the long term (>1 year).
- **Behavior therapy:** Comprehensive lifestyle interventions usually provide a structured behavior change program that includes regular self-monitoring of food intake, physical activity, and weight. These same behaviors are recommended to maintain lost weight, with the addition of frequent (ie, weekly or more often) monitoring of body weight.
- **Strength of Evidence: High** Jensen et al., 2014, *Circulation*



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Standard Physical Activity Guidelines for Adults

MOVE YOUR WAY. Adults need a mix of physical activity to stay healthy.

Moderate-intensity aerobic activity*
Anything that gets your heart beating faster counts.

at least **150** minutes a week

AND

Muscle-strengthening activity
Do activities that make your muscles work harder than usual.

at least **2** days a week

If you prefer vigorous-intensity aerobic activity (like running), aim for at least 75 minutes a week.
If that's more than you can do right now, **do what you can**. Even 5 minutes of physical activity has real health benefits.

Walk. Run. Dance. Play. **What's your move?**



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Physical Activity Recommendations for Weight Management

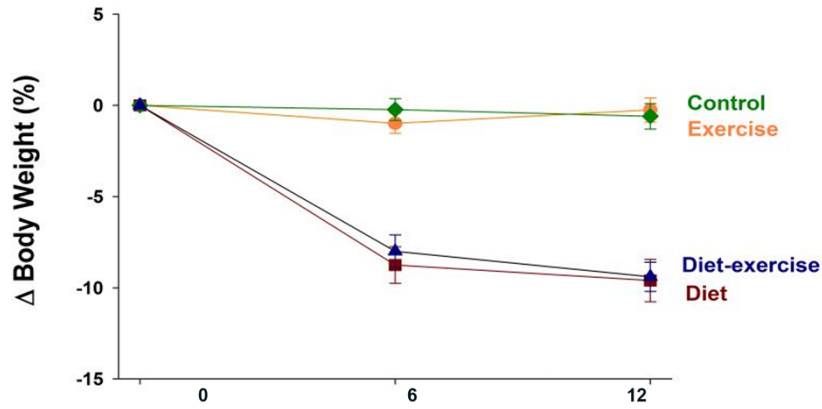
Goal	Guideline
To improve health	150/min week (e.g. 30 min/day, 5 days/wk) of moderate intensity PA
To prevent weight gain	150-250/min week
To lose weight	150-250 min/week with caloric restriction
To maintain weight loss	~250+min/week

Donnelly et al., 2009, MSSE



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Non-supervised Physical Activity Alone Does Not Produce High Levels of Weight Loss

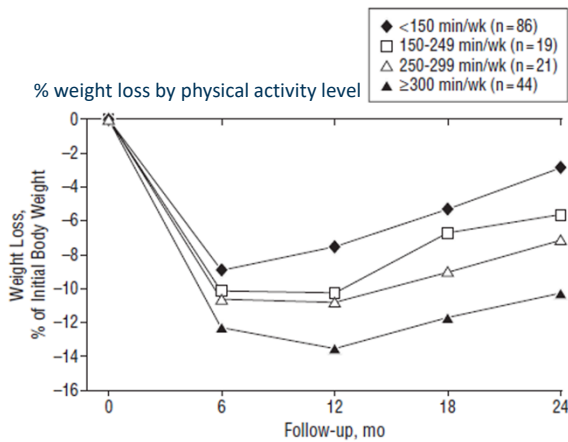


Bouchonville et al. Int J Obes. 2014

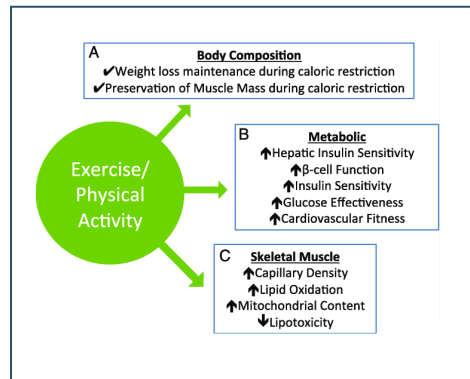


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But...Physical Activity Is Highly Predictive of Successful Weight Loss Maintenance



It's all about long-term commitment!



Jakicic et al. 2008 Arch Intern Med



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Strategies to Improve Physical Activity Adherence

- Home-based equipment and resources
- High frequency (5+ days/week)
- Consistent time of day
- Moderate intensity

Heart Rate Zone	Effort	How Hard It Feels	Heart Rate	Talk Test
Zone 1	Very easy	5 out of 10	50-60% Max HR	Can Sing
Zone 2	Easy	6 out of 10	60-70% Max HR	Comfortable to talk
Zone 3	Medium	7 out of 10	70-80% Max HR	Can Talk, but breathing heavily
Zone 4	Hard	8 out of 10	80-90% Max HR	Too hard to talk
Zone 5	Very Hard	9-10 out of 10	90-100% Max HR	Unable to talk

Wing et al. 2005 *Am J Clin Nutr*
 Perri et al. 2002 *Health Psychol*
 Jakicic et al. 1999 *JAMA*
 Schumacher et al., 2019, *Obesity*



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RETOOL Physical Activity Recommendations

- 225 min/week
- 10,000 steps/day
- Gradual progression over 3 months
- Strength training (optional goal-setting)
- Accommodations for injury, chronic pain, poor fitness, function, or balance
- Goals for higher intensity and resistance training incorporated over time

PA min/week progression

Week of Program	Days of Week	Minutes Per Day	Total Minutes Per Week
2	3	15	45
3	4	15	60
4	4	20	80
5	4	25	100
6	4	30	120
7	5	30	150
8	5	30	150
9	5	35	175
10	5	35	175
11	5	40	200
12	5	40	200
13+	5	45	225

STEPS

Increase by 500 steps per day each week until you reach 10,000 steps.

- Less Than 5,000 Steps = Sedentary Lifestyle
- 5,000 - 7,500 Steps = Low Active Lifestyle
- 7,500 - 10,000 Steps = Somewhat Active Lifestyle
- Greater Than 10,000 Steps = Highly Active Lifestyle

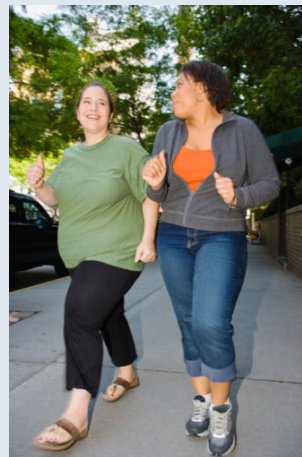


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Why Do People Change?

1. Disadvantages of status quo
2. Advantages of change
3. They believe they can

You can help them believe they can



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What Do Patients Want?

- Treatment options

I started losing weight, and sure I failed, but then he picked me up, dusted me off, and said "Well, we know that didn't work, so let's go another route and try something else." That's what I needed to hear.

- Accountability and feedback

Respect me, inform me, help me. Follow up on my progress, encourage me with realistic goals. Expect me to be accountable and responsible.

- Encouragement and understanding

We dread feeling judged or like a failure. So, we look for signs that we can trust you and your staff, that you will see us as people....

- Long-term follow up

I need you to be invested with me for the long haul... I need you to not give up on me. Once I had a doctor tell me "every failure means you're going to be more successful next time." I never had a doctor tell me that before.



Johnston et al. 2020, *Ann Fam Med*



Provider Competencies for the Prevention and Management of Obesity
June 2017



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Self-Monitoring: The Single Most Effective Strategy

1. Increases knowledge of portion size and calories
2. Provides accountability toward goals
3. Increases understanding of antecedents and consequences of behaviors
4. Promotes consistency in diet
5. Provides feedback to/from treating clinician

- Logging more days per week and at least 2 times per day → greater weight loss

The graph plots weight change in kilograms on the y-axis (ranging from 0 to -12) against the number of food records per week on the x-axis (ranging from 0 to 8). Four data series are shown: Non-AA men (dotted line with open squares), Non-AA women (dotted line with open circles), AA men (solid line with solid squares), and AA women (solid line with solid circles). All groups show a downward trend, indicating weight loss as the number of food records increases. AA men and AA women generally show the most significant weight loss, reaching approximately -6 kg at 8 records/week.

Food records/week	Non-AA men (kg)	Non-AA women (kg)	AA men (kg)	AA women (kg)
0	-3.5	-4.0	-3.5	-3.5
2	-4.5	-5.0	-4.5	-4.5
4	-5.5	-6.0	-5.5	-5.5
6	-6.5	-7.0	-6.5	-6.5
8	-7.5	-8.0	-6.5	-6.5

Harvey, J. et al. 2019, *Obesity*.

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Self-Monitoring = Major Predictor of Success!



Regular self-weighing

- Allows you to track your weight, stay on target and understand normal fluctuations.
- Creates a connection between what you are eating, how much exercise you are getting and how that impacts your weight.



Step and PA min tracking using a Fit Bit, cell phone or other fitness watch



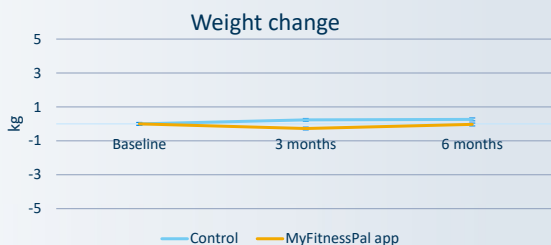
Nutrition apps like MyNetDiary, MyFitnessPal or Lose It! (most have free subscriptions available)

- Paper Trackers and journals work too!



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Just an App: no difference



Characteristic	Month					
	1	2	3	4	5	6
Participants who logged in, n (%)	94 (97)	53 (55)	46 (47)	42 (43)	22 (23)	34 (35)
Mean logins, n	20.9	8.6	6.5	6.3	4.3	6.2
Median logins, n	8	1	0	0	0	0
Interquartile Range	2-24	0-6	0-4	0-2	0-0	0-2
Range	0-114	0-108	0-114	0-88	0-100	0-138

Seekaew et al., 2015, *J Clinical Outcome Management*,



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SMART Goal Setting



- 10% weight loss sustained for > 1 year
 - 5%+ clinically meaningful
- Unrealistic goals = goals not met →
 - negative affect
 - negative self-perceptions
 - abandonment of goals
 - weight regain

Not-so-SMART goals	SMART-er goals
Stop eating out so much	Limit restaurant food to twice per month for the next 6 months
Lose 75 lbs in 3 months	Lose 10% of body weight in 6 months
Exercise more	Walk for 45 min/day, 5 days per week (225 min/week), every week for the next 6 months



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Stimulus Control: Skill Power NOT Will Power

- Environments heavily influence individuals' daily choices
- Follow principles of delay discounting
- Take charge of environmental triggers



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Accountability

✓ CHECK IN:
Thinking back since our last meeting, what went well for you?
Refer to MyNetDiary or paper tracker to fill in the table below for check-in.

CHECK-IN	TOTAL # FOR THE WEEK
Cups of Fruits and Vegetables	
Lean Proteins (# of servings)	

My other diet goal was _____;
Did you meet this goal? yes/no
If not, what was the barrier for not meeting this goal?

Physical Activity

Number of Steps on Fitbit (Average)	
Minutes of Planned Physical Activity:	
Minutes of Strength Training (optional)	

My other physical activity goal was _____; Did you meet this goal? yes/no
If not, what was the barrier for not meeting this goal?

✓ CHECK OUT
RETOOL Program Weekly Goals: Weight Loss Session 14

- Follow the Make and Measure plan (3 homemade meals plus 5 or more cups of fruits and vegetables per day). Focus on whole grains, lean proteins, and limit sugar and fat. Avoid caloric beverages.
- Engage in physical activity (45 minutes per day, 5 days per week).
 - swim
 - bike
 - walk briskly
 - aerobics class/video
 - hike
 - Other:
- Keep track every day by using MyNetDiary or paper log and Fitbit. Stay within your calorie goal.

Other Goals for This Week:

-
-



Use Intervention Tools



Provide accountability, feedback, and options at each visit

- Agree on short and long term goals for all 3: weight, diet, physical activity
- Help patients translate desires into SMART goals
- Recall and check in on progress toward goals
- Review self-monitoring logs with patient
- Link progress to specific health changes and labs

RETOOL
Setting and Short and Long-Term Goals

Weekly short terms goals chart progress, while long term goals help clarify your destination. Both short and long-term goals need to be revisited and revised every month along the journey.

My Long-term goal(s): _____
 My 3-month goal(s): _____
 My 6-month goal(s): _____
 My 12-month goal(s): _____
 My 18-month goal(s): _____

Diet physical activity behaviors to focus on:

- Setting a calorie goal
- Increasing fruits and vegetables
- Choosing lean proteins
- Adding steps to my day
- Scheduling physical activity
- Avoiding empty calorie beverages

My goals for this week include: _____

I will meet these goals by: _____

Potential barriers to meeting my goals: _____

Potential solutions to managing these barriers: _____

If I get off track, I will: _____



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Steer, encourage, provide options Patients do the work



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