





The Weight is Over:

Strategies to Assist with Weight Management Following Breast Cancer Diagnosis and Treatment

Presented by: Lauren Fay, RD, CSO, CNSC

Created in collaboration with: Drucilla Brethwaite, MSW, LCSW





Objectives

- Identify factors that influence weight management, as well as the scope and impact of overweight/obesity BMI on breast cancer survivor outcomes
- Review evidence based diet/nutrition, physical activity, and behavioral strategies that help support healthy weight loss for breast cancer survivors
- Provide tools for breast cancer survivors successfully achieve weight loss goals





- Research for the prevention on cancer occurrence and outcomes has long focused on lifestyle interventions given their inherent ability to be altered
- It has become increasingly evident that there is increased risk of multiple cancer types due to elevation in adipose (fat) tissue



(American Institute for Cancer Research, 2018)





 The connection between having overweight/obese BMI measurements in women before, during, and after breast cancer diagnosis contributing to increased risk for second primary breast cancer and mortality has been well documented



(Azard, 2014; Chan, 2014; World Cancer Research Fund, 2018).





 Identifying if successful weight loss in breast cancer survivors does in fact decrease occurrence of second primary occurrence and increase survival in breast cancer survivors is currently being investigated

NPJ Breast Cancer. 2017 Sep 21;3:37. doi: 10.1038/s41523-017-0040-8. eCollection 2017.

Randomized phase III trial evaluating the role of weight loss in adjuvant treatment of overweight and obese women with early breast cancer (Alliance A011401): study design.

<u>Liqibel JA</u>¹, <u>Barry WT</u>², <u>Alfano C</u>³, <u>Hershman DL</u>⁴, <u>Irwin M</u>⁵, <u>Neuhouser M</u>⁶, <u>Thomson CA</u>⁷, <u>Delahanty L</u>⁸, <u>Frank E</u>¹, <u>Spears P</u>⁹, <u>Paskett ED</u>¹⁰, <u>Hopkins J</u>¹¹, <u>Bernstein V</u>¹², <u>Stearns V</u>¹³, <u>White J</u>¹⁰, <u>Hahn O</u>¹⁴, <u>Hudis C</u>¹⁵, <u>Winer EP</u>¹, <u>Wadden TA</u>¹⁶, <u>Goodwin PJ</u>¹⁷.





How does Adipose Tissue (fat) impact cancer risk?

Factor	Mechanism
Sex Steroid Hormones (eg, estrogen, testosterone, progesterone)	Fat tissue is the main site of estrogen synthesis in postmenopausal women. High levels of estrogen are associated with postmenopausal breast and endometrial cancers and may impact other cancers. Lower testosterone levels in obese men may impact prostate cell differentiation.
Growth Factors (eg, insulinlike growth factor 1 [IGF-1], insulin)	Obesity increases levels and bioavailability of growth factors such as insulin and IGF-1, which can increase cell proliferation, inhibit cell death, and may promote the growth of certain cancers, such as tumors of the endometrium, kidney, and pancreas.
Adipocytokines (eg, leptin, adiponectin)	Leptin promotes cell growth. It's secreted by fat cells, and blood levels are higher in obese people. It's also an inflammatory factor. Blood levels of adiponectin, which may have antiproliferative effects, are lower in obese people.
Inflammatory Factors (eg, tumor necrosis factor, interleukin-6, C-reactive protein, leptin)	Obese people often have chronic low-level inflammation, which may contribute to the initiation and progression of cancer and has been associated with increased risk.
Health Conditions	Overweight and obesity raise the risk of conditions such as type 2 diabetes, gastroesophageal reflux disease, and gallstones, which are associated with higher cancer risk.

RESOURCES

WORLD CANCER RESEARCH FUND; AMERICAN INSTITUTE FOR CANCER RESEARCH. FOOD, NUTRITION, PHYSICAL ACTIVITY, AND THE PREVENTION
OF CANCER: A GLOBAL PERSPECTIVE. HTTP://WWW.WCRF.ORG/SITES/DEFAULT/FILES/SECOND-EXPERT-REPORT.PDF. PUBLISHED 2007.





- As of January 2019, there are more than 3.1 million women with a history of breast cancer in the U.S.
 - This includes women currently being treated and women who have finished treatment
- Weight gain following breast cancer diagnosis has been observed as early as 1978, with increased rates of weight gain in comparison to disease free women
- It is been estimated 66% of breast cancer survivors are overweight or obese





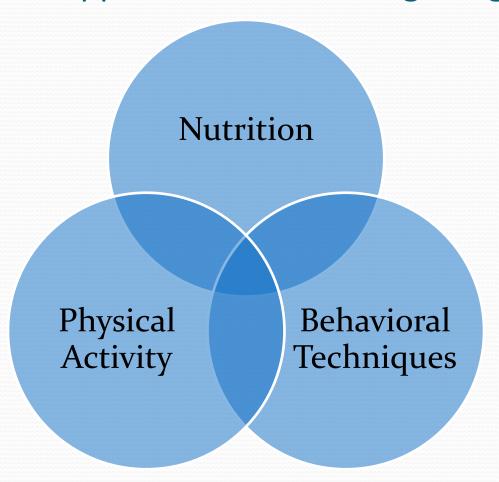
What factors influence weight management after breast cancer diagnosis?

Outside Our Control	WITHIN Our Control
 Treatment or medication side effects Hormone changes (both naturally occurring and medication induced) Diet habits prior to diagnosis Stress* 	 Diet: Quantity Quality Physical activity: Frequency Type Stress*





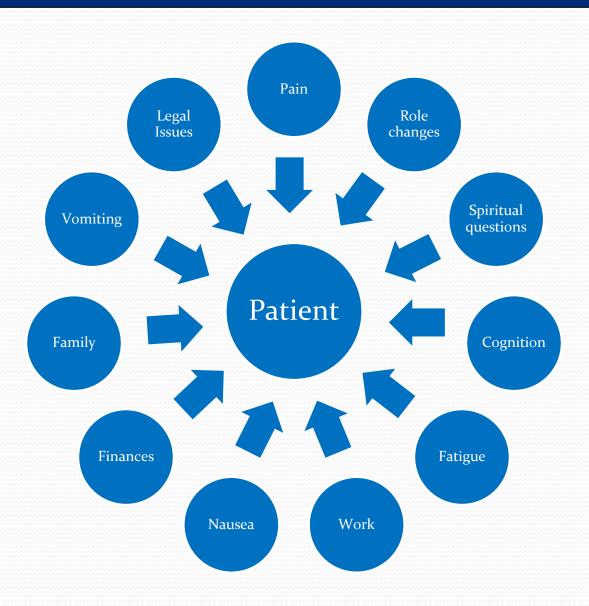
Comprehensive Approach to Addressing Weight Loss





Stress Management







Cancer is Unpredictable

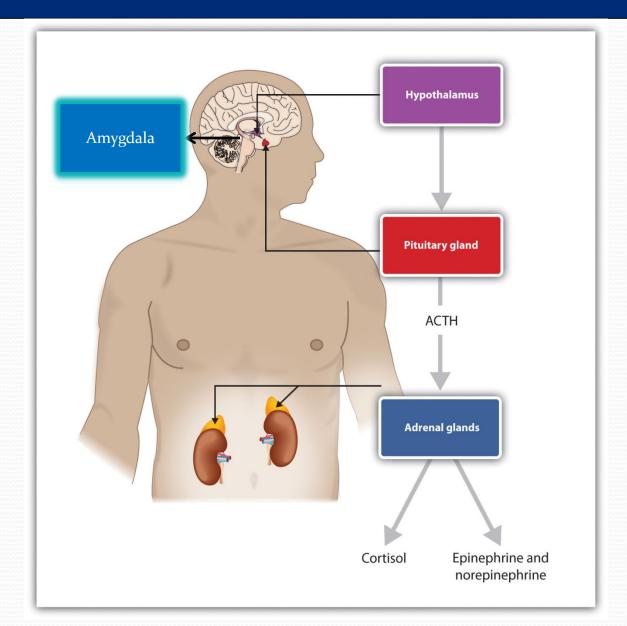






Stress Response







Impact of Stress on Weight Management



 Cortisol is a steroid hormone, in the glucocorticoid class of hormones (cortisone, dexamethasone etc.)



- Increased cortisol levels have the potential to increase appetite
- Higher cortisol, insulin, and chronic stress can be a contributing factors for future weight gain

(Chao, 2017; Harvard Health, 2018)



Why is stress management important?



Physical

- Decreased shortterm memory
- Decreased concentration
- Increase cardiac/pulmonary symptoms
- Decrease in libido
- Frequent colds viral infections
- Skin rashes

Psychological

- Fearfulness
- Anxiety
- Vulnerability
- Sadness
- Numbness
- Agitation
- Depression



Behavioral

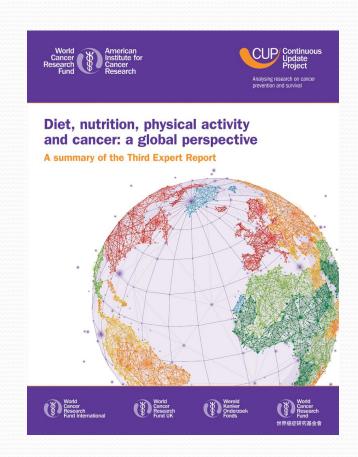
- Crying
- Outbursts
- Changes in eating
- Changes in sleeping
- Decreased exercise
- Increase use alcohol/drugs
- Nervous habits
- Increased isolation
- Impacts relationships





In 2018, World Cancer Research Fund & American Institute for Cancer Research published their 3rd report:

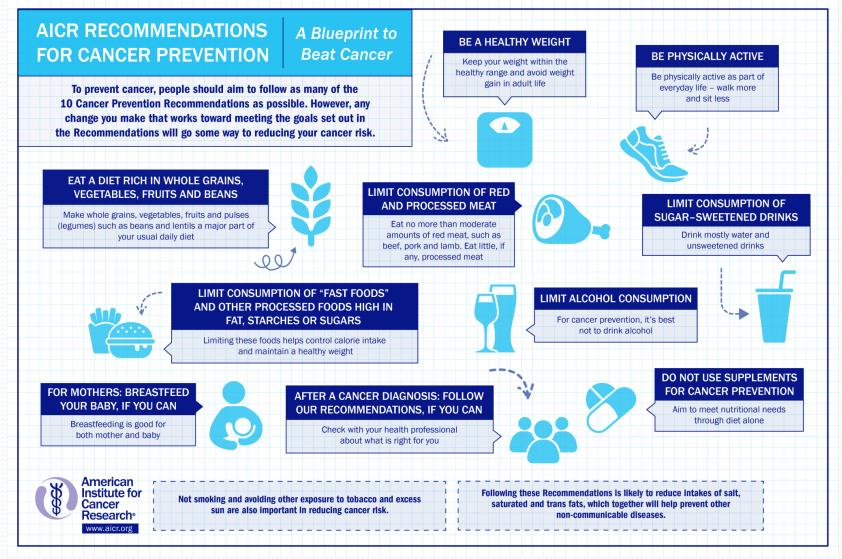
"Diet, Nutrition, Physical Activity, and Cancer: a Global Perspective"



(World Cancer Research Fund/American Institute for Cancer Research, 2018)



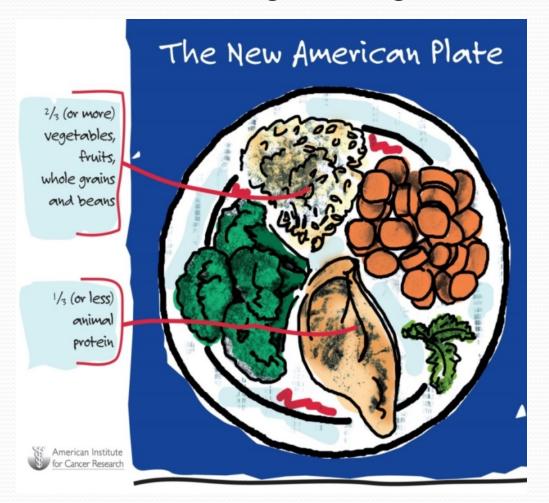








Plant based diet eating for weight loss







How do plant based diets promote weight loss?

High Fiber Content + Low Calorie Content=
SATIETION for LESS CALORIES





Low calorie-dense foods include:

- Oatmeal, brown rice and whole-grain pastas and legumes like lentils and beans
- Most vegetables and fruits
- Other low-calorie dense foods include brothbased soups and plain nonfat yogurt

Medium calorie-dense foods include:

Whole-grain bread, lean meat, poultry and fish

High calorie-dense foods:

- Contain high amounts of added fat, such as chips and other fried foods like French fries
- Are made with high amounts of added sugar and fat, such as cookies, candy and rich desserts
- Contain little fiber, such as processed breads, cereals and snack foods
- Are naturally high in fat, such as cheeses and high-fat meats like bacon







Beverage recommendations:

- Aim to consume no added sugar containing beverages:
 - Water (can flavor with fresh fruit/herbs for flavor)
 - Unsweetened tea/ice tea
 - Unsweetened coffee







Daily caloric intake recommendations:

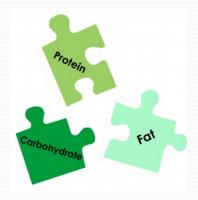
- Creating a calorie deficit of 500-750 kcal per day should promote weight loss
- Journaling can help stay within a caloric goal to promote weight loss*





Low Fat or Low Carb?

- Research shows a diet that allows you reduce your overall caloric intake is the most effective for long term, successful weight loss
- Severe restriction of any macronutrient (fat, protein, carbohydrate) is unlikely to be sustainable overtime







Eating Pattern Recommendations:

- There is no 'perfect' diet pattern that is ideal for everyone
- However, going long periods of time between meals while awake can result in becoming excessively hungry and overeating at meal time
 - 3 meals per day spread out at even time intervals when awake is ideal
- Using hunger signals to help establish the best pattern for you ideal





Eating Pattern Recommendations:

"Should I be fasting?"

JAMA Oncol. 2016 Aug 1;2(8):1049-55. doi: 10.1001/jamaoncol.2016.0164.

Prolonged Nightly Fasting and Breast Cancer Prognosis.

Marinac CR1, Nelson SH2, Breen Cl3, Hartman SJ4, Natarajan L4, Pierce JP4, Flatt SW3, Sears DD5, Patterson RE4.

 Fasting less than 13 hours per night was associated with an increase in the risk of breast cancer recurrence compared with fasting 13 or more hours per night



Physical Activity





- Research indicates reduction in caloric intake from diet is a more important factor in creating caloric deficit to promote weight loss
- *However*, physical activity is critical to maintaining weight loss, and ensuring weight loss is predominantly from adipose tissue, rather than lean body mass



Physical Activity



 Recommended goal for physical activity is 150 minutes per week of moderate physical activity

Moderate Physical Activities

- Walking briskly (a 15-minute mile)
- Light yard work (raking/bagging leaves or using a lawn mower)
- Actively playing with children
- Biking at a casual pace
- Hiking



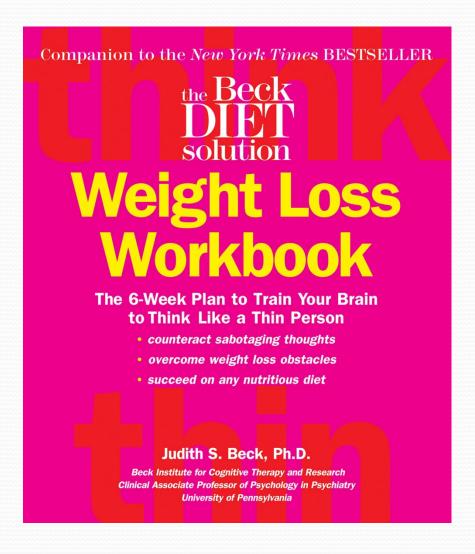


Tools for Weight Loss Success







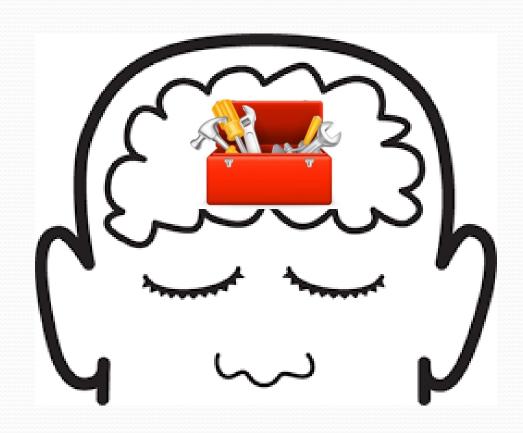




Tools



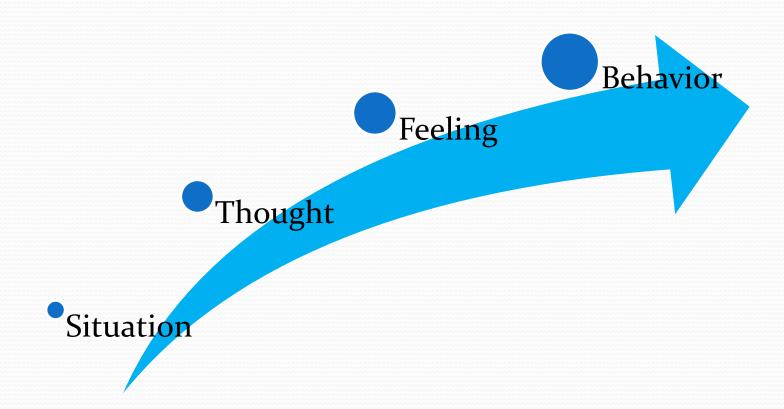
- Goals
- Bathroom Scale
- What am I thinking?
- Monitoring Chart
- Priority Chart
- Exercise Program
- Daily Schedule
- Today's To-Do List
- Daily Food Plan Chart
- Journal
- Distraction Techniques Chart
- Response Cards





Cognitive Behavioral Therapy







Automatic Thoughts







Sabotaging Thoughts



- "I worked so hard today, I deserve this."
- "I won't look at the scale."
- "I really want to eat _____ or eat more of ____."
- "I already blew it today, so I'll just keep eating and begin again tomorrow."
- "I'd rather just see how things go instead of planning."







"Between stimulus and response There is a space.

In that space is our power To choose our response.

In our response lies our Growth and our freedom"



Viktor Frankl



Mind-Body Approaches

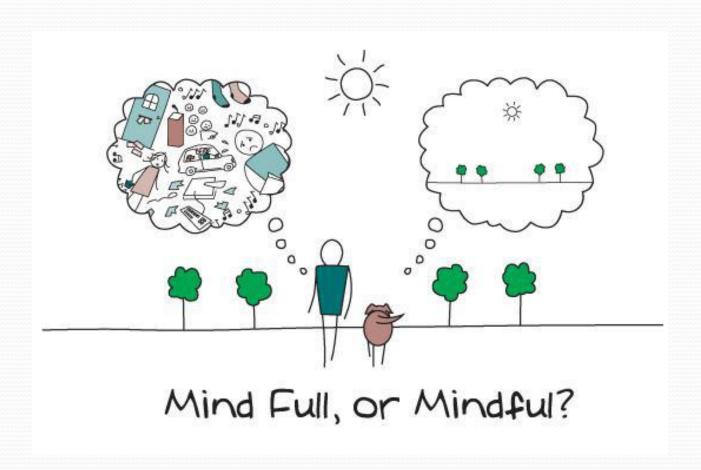


- Breathing
- Guided Imagery/Visualization
- Meditation
- Biofeedback
- Mindfulness
- Progressive Muscle Relaxation
- Movement (Yoga, Tai Chi, Feldenkrais, Pilates)
- Hypnosis/Hypnotherapy
- Aromatherapy
- Music
- Expressive Arts









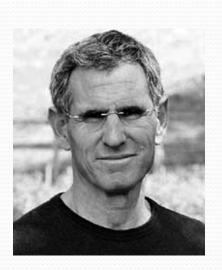


Mindfulness



Mindfulness means paying attention in a particular way:

on purpose in the present moment non-judgmentally



Jon Kabat-Zinn



Mindful Eating



- Food selection; appreciate your food
- Meal preparation
- Setting/Environment
- Intention
- Eat with others/eat sitting down
- Eat slowly without distraction
- Listen to hunger cues
- Distinguish between actual hunger vs. non-hunger triggers for eating
- Engage your senses by noticing colors, smells, sounds, textures, tastes





Benefits



- Increase weight loss
- Helps to recognize emotions and physical sensations
- Decrease response to inappropriate cues for eating such as advertising, boredom or anxiety
- Gain control over eating habits







Mindful Eating Questionnaire

Question	NA	Never/ Rarely	Sometimes	Often	Usually/ Always
I eat so quickly that I don't taste what I'm eating.				0	
When I eat at "all you can eat" buffets, I tend to overeat.	☐ I don't eat at buffets.			0	
 At a party where there is a lot of good food, I notice when it makes me want to eat more food than I should. 					
I recognize when food advertisements make me want to eat.	☐ Food ads never make me want to eat.				
When a restaurant portion is too large, I stop eating when I'm full.				0	
6. My thoughts tend to wander while I am eating.					
7. When I'm eating one of my favorite foods, I don't recognize when I've had enough.		0			
I notice when just going into a movie theater makes me want to eat candy or popcorn.	☐ I never eat candy or popcorn.			0	
9. If it doesn't cost much more, I get the larger size food or drink regardless of how hungry I feel.				b	
10. I notice when there are subtle flavors in the foods I eat.					
11. I there are leftovers that I like, I take a second helping even though I'm full.	4 Aug.				
12. When eating a pleasant meal, I notice if it makes me feel relaxed.					
13. I snack without noticing that I am eating.					
14. When I eat a big meal, I notice if it makes me feel heavy or sluggish.					

Mindful Eating Questionnaire (Page 2)

Question	N/A	Never/ Rarely	Sometimes	Often	Usually/ Always
15. I stop eating when I'm fulleven when eating something I love.		0			
16. I appreciate the way my food looks on my plate.					
17. When I'm feeling stressed at work, I'll go find something to eat.	☐ I don't work.				
18. If there's good food at a party, I'll continue eating even after I'm full.					
19. When I'm sad, I eat to feel better.					
20. I notice when foods and drinks are too sweet.					
21. Before I eat I take a moment to appreciate the colors and smells of my food.				· 🗆	Ô
22. I taste every bite of food that I eat.	☐ I never eat when I'm not hungry.				
23. I recognize when I'm eating and not hungry.					
24. I notice when I'm eating from a dish of candy just because it's there.					
25. When I'm at a restaurant, I can tell when the portion I've been served is too large for me.					
26. I notice when the food I eat affects my emotional state.					Π.
27. I have trouble not eating ice cream, cookies, or chips if they're around the house.					
28. I think about things I need to do while I am eating.					





Tools for Weight Loss Success: Cognitive Behavioral Journaling

- What did I do today to avoid unplanned eating?
- If I deviated, what happened?
- What thinking mistakes did I make?
- What can I learn from this for next time?



Challenge Thoughts



- What is the effect of continuing to have this thought?
- What could happen if I changed my thinking?
- What would I tell a friend in the same position?
- What should I do next?

- Am I truly hungry?
- It's ok to feel anxious or fearful sometimes.
- Just because I see it, doesn't mean I have to eat it.
- Do I need second helpings?
- Is this what my body really needs?





"Oh, well..." Technique



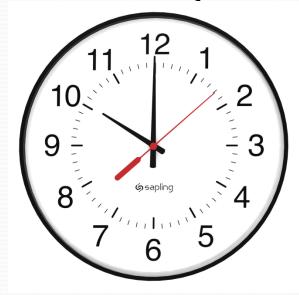
Term used for accepting a bad situation or disappointment.



Monitoring Chart



- Every hour: "Do I feel hungry right now?"
- If yes, notice mouth, throat and body



- Hungry: At least a couple of hours since you last ate, stomach feels empty, and you could feel satisfied if you at a range of foods
- **Desire**: Stomach feels reasonably comfortable, but you just *feel* like eating
- Craving: A strong urge to eat a particular food or kind of food, with a yearning in your mouth throat or body



Priority Chart



Essential Activities	Highly Desirable	Desirable
Work	Work in garden	TV
Food shopping	Clothes shopping	Manicures



(Beck, 2017)





do it anyway

Even if I don't feel like using a diet skill, I have to do it anyway. If I do only what I feel like doing, I won't be able to lose weight and keep it off.

give myself credit

I deserve credit EVERY TIME I exercise. I deserve credit EVERY TIME I practice a dieting skill. I deserve credit EVERY TIME I stick to my plan.

eat mindfully

I need to eat slowly and mindfully while sitting down—EVERY SINGLE TIME.

it's okay to disappoint people

I'm entitled to do what I have to do to lose weight, as long as I am nicely assertive.

say no to extra food

Get rid of extra food. It'll be wasted in the trash can or in my body. Either way, it's wasted.

put dieting first

I have to plan my life around exercise and dieting activities, not vice versa. I deserve to put myself first.

(Beck, 2017)





Setting a Weight Goal

- Maintain body mass index (BMI) within normal range:
 18.5-24.9 kg/m²
 - Body mass index= Weight (kilograms)/Height (meters) ^2
 - Calculator:

https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm





WEIGHT (pounds)	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250
HEIGHT (ft-inch)	nch) BODT MASS INDEX (BMI)																														
5'0"	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
5'1"	19	20	21	22	23	24	25	26	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	43	44	45	46	47
5'2"	18	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	37	38	39	40	41	42	43	44	45	46
5'3"	18	19	19	20	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	35	36	37	38	39	40	41	42	43	43	44
5'4"	17	18	19	20	21	21	22	23	24	25	26	27	27	28	29	30	31	32	33	33	34	35	36	37	38	39	39	40	41	42	43
5'5"	17	17	18	19	20	21	22	22	23	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	37	38	39	40	41	42
5'6"	16	17	18	19	19	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32	33	34	35	36	36	37	38	39	40	40
5'7"	16	16	17	18	19	20	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32	33	34	34	35	36	37	38	38	39
5'8"	15	16	17	17	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34	35	36	36	37	38
5'9"	15	16	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31	32	32	33	34	35	35	36	37
5'10"	14	15	16	17	17	18	19	19	20	21	22	22	23	24	24	25	26	27	27	28	29	29	30	31	32	32	33	34	34	35	36
5'11"	14	15	15	16	17	17	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	29	29	30	31	31	32	33	33	34	35
6'0"	14	14	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	30	31	31	32	33	33	34
6'1"	13	14	15	15	16	16	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	30	30	31	32	32	33
6'2"	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	28	28	29	30	30	31	31	32
6'3"	12	13	14	14	15	16	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	27	28	29	29	30	31	31
6'4"	12	13	13	14	15	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	24	25	26	26	27	27	28	29	29	30	30





Setting a Weight Goal

- Short term, small weight loss goals is often a more effective way to work towards achieving a larger weight loss goal
 - Weight loss between 5-10% is likely to produce health benefits, such as improvements in blood pressure, blood cholesterol, and blood sugar
 - Breast cancer survivors who achieved ≥5% weight loss demonstrated significant improvements in indices of insulin resistance
- 5-10% of your current body weight is a reasonable weight loss goal to begin with, making incremental changes as your weight loss progresses





Other Measurements of Weight Loss

- Waist Circumference
 - Abdominal fat is more likely to be visceral fat (rather than subcutaneous) which can have more negative health consequences and contribute to chronic inflammation
 - Recommend weight measurement for women is 31.5 inches



(American Institute for Cancer Research, 2011)



Nutrition



Plant based, reduced calorie recipe resources ideas:

- www.aicr.org/healthyrecipes
- www.elliekrieger.com/recipes/
- www.cookinglight.com
- www.eatingwell.com

AICR Healthy Recipes





Nutrition



Tools for Weight Loss Success: **Food Journaling**

- Pen & Paper
- Electronic:
 - Myfitnesspal
 - WW (Weight Watchers)
 - Loseit!







Homework





Physical Activity



Support and Accountability









Tools for Weight Loss Success: Phone Check-In's

 Telephone delivered lifestyle intervention counseling has been shown to significantly improve weight loss and physical activity for breast cancer survivors

(Goodwin, 2014; Fazzino, 2017)





Tools for Weight Loss Success: Support Groups

 Research shows participants appreciate working in a group setting with other breast cancer survivors towards diet, physical activity, and weight loss goals

















Caitlin Benda, MBA, MS, RD, CSO Lauren Fay, RD, CSO, CNSC

Taylor Horne, RD, CSO

Angie Lord, RD

Kirsten Martinson, RD Sara Negron, MS, RD, CSO

Appointments can be made with Oncology Dietitians at Inova Schar Cancer Institute through the Life with Cancer website www.lifewithcancer.com or by calling the Life with Cancer Connect line: 703-206-5433 (LIFE)



More Questions?



Feel free to contact me!

Lauren.Fay@inova.org





Questions?







- Andersen, B.L. (Ed.). (2015). From Cancer to health: A Stress management and coping intervention.
 Stress and Immunity Cancer Projects. Columbus, OH.
- Azrad, M., & Demark-Wahnefried, W. (2013). The Association between adiposity and breast cancer recurrence and survival: A Review of the recent literature. Current Nutrition Reports, 3(1), 9-15. doi:10.1007/s13668-013-0068-9
- Balneaves, Lynda & Van Patten, Cheri & Truant, Tracy & Kelly, Mary & Neil-Sztramko, Sarah & Campbell, Kristin. (2014). Breast cancer survivors' perspectives on a weight loss and physical activity lifestyle intervention. Supportive care in cancer: official journal of the Multinational Association of Supportive Care in Cancer. 22. 10.1007/s00520-014-2185-4.
- Beck, J. (2017). The Diet trap solution: Train your brain to lose weight and keep it off for good. HarperOne.
- Beck, J. (n.d.). Cognitive therapy for weight loss: A Coaching session. PsycEXTRA Dataset. doi:10.1037/e507022011-001
- Beck, J. S. (2007, 7th Printing 2017). The Beck diet solution: Weight loss workbook. Birmingham, Ala.: Oxmoor House.
- Blackburn G. (1995). Effect of degree of weight loss on health benefits. Obesity Research 3: 211S-216S
- Castelnuovo, G., Pietrabissa, G., Manzoni, G., Cattivelli, R., Rossi, A., & Novelli, M. et al. (2017). Cognitive behavioral therapy to aid weight loss in obese patients: current perspectives. Psychology Research And Behavior Management, Volume 10, 165-173. doi: 10.2147/prbm.s113278
- Chan, D. S., Vieira, A. R., Aune, D., Bandera, E. V., Greenwood, D. C., Mctiernan, A., . . . Norat, T. (2014). Body mass index and survival in women with breast cancer—systematic literature review and meta-analysis of 82 follow-up studies. Annals of Oncology, 25(10), 1901-1914. doi:10.1093/annonc/mdu042
- Chao, A.M., Jastreboff, A.M., White, M.A., Grilo, C.M. & Sinha, R. (2017). Stress, cortisol and other appetite-related hormones: Prospective prediction of 6-month changes in food cravings and weight. Obesity, Apr; 25(4), 713-720.
- Christaki, E., Kokkinos, A., Costarelli, V., Alexopoulos, E., Chrousos, G., & Darviri, C. (2013). Stress management can facilitate weight loss in Greek overweight and obese women: a pilot study. Journal of Human Nutrition And Dietetics, 26, 132-139. doi: 10.1111/jhn.12086
- Chung, S., Zhu, S., Friedmann, E., Kelleher, C., Kozlovsky, A., & Macfarlane, K. et al. (2015). Weight loss with mindful eating in African American women following treatment for breast cancer: a longitudinal study. Supportive Care In Cancer, 24(4), 1875-1881. doi: 10.1007/s00520-015-2984-2





- D. Gardner, Christopher & Trepanowski, John & C. Del Gobbo, Liana & Hauser, Michelle & Rigdon, Joseph & Ioannidis, John & Desai, Manisha & C. King, Abby. (2018). Effect of Low-Fat vs Low-Carbohydrate Diet on 12-Month Weight Loss in Overweight Adults and the Association With Genotype Pattern or Insulin Secretion: The DIETFITS Randomized Clinical Trial. JAMA. 319. 667. 10.1001/jama.2018.0245.
- Dalen, J., Smith, B.W., Shelley, B.M., Sloan, A.L., Begay, D. (2010). Pilot study: Mindful eating and living (MEAL): Weight, eating behavior, and psychological outcomes associated with a mindfulness-based intervention for people with obesity. Complement Ther Med, Dec: 18(6), 260-264.
- Dawood S, Broglio K, Gonzalez-Angulo AM, Kau SW, Islam R, Hortobagyi GN, Cristofanilli M. Prognostic value of body mass index in locally advanced breast cancer. Clin Cancer Res. 2008;14(6):1718–25. https://doi.org/10.1158/1078-0432.ccr-07-1479.
- Dittus, K. L., Harvey, J. R., Bunn, J. Y., Kokinda, N. D., Wilson, K. M., Priest, J., & Pratley, R. E. (2018). Impact of a behaviorally-based weight loss intervention on parameters of insulin resistance in breast cancer survivors. *BMC Cancer*, 18(1). https://doi.org/10.1186/s12885-018-4272-2
- Dunn, C., Haubenreiser, M., Johnson, M., Nordby, K., Aggarwal, S., Myer, S., & Thomas, C. (2018). Mindfulness Approaches and Weight Loss, Weight Maintenance, and Weight Regain. Current Obesity Reports, 7(1), 37-49. doi: 10.1007/s13679-018-0299-6
- Fazzino, Tera & Fabian, Carol & Befort, Christie. (2017). Change in Physical Activity During a Weight Management Intervention for Breast Cancer Survivors: Association with Weight Outcomes. Obesity. 25. 10.1002/0by.22007.
- Framson, C. Kristal, A.R., Schenk, J., Littman, A.J., Zeliadt, S., \$ Benitez, D. (2009). Development and validation of the mindful eating questionnaire. J Am Diet Assoc, August; 109(8), 1439-1444
- Goodwin PJ, Segal RJ, Vallis M, et al: Randomized trial of a telephone-based weight loss intervention in postmenopausal women with breast cancer receiving letrozole: The LISA trial. J Clin Oncol 32:2231-2239, 2014
- Harvard Health Publishing. (2018, July). Why Stress Causes People to Overeat. Retrieved from https://www.health.harvard.edu/staying-healthy/why-stress-causes-people-to-overeat
- Lavalette C, Adjibade M, Srour B, et al. Cancer-Specific and General Nutritional Scores and Cancer Risk: Results from the Prospective NutriNet-Santé Cohort. Cancer Res. 2018;78(15):4427-4435.





- Ligibel JA, Barry WT, Alfano C, Hershman DL, Irwin M, Neuhouser M, Thomson CA, Delahanty L, Frank E, Spears P, Paskett ED, Hopkins J, Bernstein V, Stearns V, White J, Hahn O, Hudis C, Winer EP, Wadden TA, Goodwin PJ. Randomized phase III trial evaluating the role of weight loss in adjuvant treatment of overweight and obese women with early breast cancer (Alliance A011401): study design. NPJ Breast Cancer. 2017;3:37. doi: 10.1038/s41523-017-0040-8.
- Makari-Judson, G. (2014). Weight gain following breast cancer diagnosis: Implication and proposed mechanisms. World Journal of Clinical Oncology, 5(3), 272. doi:10.5306/wjco.v5.i3.272
- Marinac C.R., Nelson S.H., Breen C.I., Hartman S.J., Natarajan L., Pierce J.P., Flatt S.W., Sears D.D., and Patterson R.E.: Prolonged nightly fasting and breast cancer prognosis. JAMA Oncol. 2016 Aug 1; 2: pp. 1049-1055
- Mefferd, K., Nichols, J., Pakiz, B., & Rock, C. (2006). A cognitive behavioral therapy intervention to promote weight loss improves body composition and blood lipid profiles among overweight breast cancer survivors. Breast Cancer Research And Treatment, 104(2), 145-152. doi: 10.1007/s10549-006-9410-x
- Moonsammy, S., Guglietti, C., Santa Mina, D., Ferguson, S., Kuk, J., & Urowitz, S. et al. (2013). A pilot study of an exercise & cognitive behavioral therapy intervention for epithelial ovarian cancer patients. Journal Of Ovarian Research, 6(1), 21. doi: 10.1186/1757-2215-6-21
- NIH, NHLBI Obesity Education Initiative. (1998) Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults
- Pimenta, F., Leal, I., Maroco, J., & Ramos, C. (2012). Brief cognitive-behavioral therapy for weight loss in midlife women: a controlled study with follow-up. International Journal Of Women's Health, 559. doi: 10.2147/ijwh.s35246
- Playdon, M., Thomas, G., Sanft, T., Harrigan, M., Ligibel, J., & Irwin, M. (2013). Weight Loss Intervention for Breast Cancer Survivors: A Systematic Review. Current Breast Cancer Reports, 5(3), 222-246. doi: 10.1007/s12609-013-0113-0
- Publishing, H. (2019). 8 steps to mindful eating Harvard Health. Retrieved from https://www.health.harvard.edu/staying-healthy/8-steps-to-mindful-eating
- Saquib, N., Flatt, S. W., Natarajan, L., Thomson, C. A., Bardwell, W. A., Caan, B., . . . Pierce, J. P. (2006). Weight gain and recovery of pre-cancer weight after breast cancer treatments: Evidence from the women's healthy eating and living (WHEL) study. Breast Cancer Research and Treatment, 105(2), 177-186. doi:10.1007/s10549-006-9442-2
- Stolley, M., Sheean, P., Gerber, B., Arroyo, C., Schiffer, L., & Banerjee, A. et al. (2017). Efficacy of a Weight Loss Intervention for African American Breast Cancer Survivors. Journal Of Clinical Oncology, 35(24), 2820-2828. doi: 10.1200/jco.2016.71.9856





- Swift DL, Johannsen NM, Lavie CJ, Earnest CP, Church TS. The role of exercise and physical activity in weight loss and maintenance. Prog Cardiovasc Dis. 2014;56: 441–447. 10.1016/j.pcad.2013.09.012
- Thalheimer, J. (2017, January). Cancer's Link to Body Fat. Today's Dietitian, 19 (1). Retrieved from https://www.todaysdietitian.com/newarchives/0117p34.shtml
- Travier, N., Buckland, G., Vendrell, J. J., Fernandez-Veledo, S., Peiró, I., del Barco, S., ... Agudo, A. (2018). Changes in metabolic risk, insulin resistance, leptin and adiponectin following a lifestyle intervention in overweight and obese breast cancer survivors. *European Journal of Cancer Care*, 27(4), e12861. https://doi.org/10.1111/ecc.12861
- U.S. Breast Cancer Statistics. (2019) U.S. BreastCancer.org. Retrieved from https://www.breastcancer.org/symptoms/understand-bc/statistics
- Vicennati, V., Pasqui, F., Cavazza, C., Pagotto, U., & Pasquali, R. (2009). Stress-related Development of Obesity and Cortisol in Women. Obesity, 17(9), 1678-1683. doi: 10.1038/oby.2009.76
- World Cancer Research Fund/American Institute for Cancer Research. *Diet, Nutrition, Physical Activity and Cancer: A Global Perspective*. Continuous Update Project Expert Report 2018.
- World Cancer Research Fund/American Institute for Cancer Research, Continuous Update Report (2018). Diet, nutrition, physical activity and breast cancer survivors. Washington DC: WCRFI, 2018. Available at dietandcacnerreport.org