

# Nutrition and Physical Activity in Survivorship

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# Disclosures

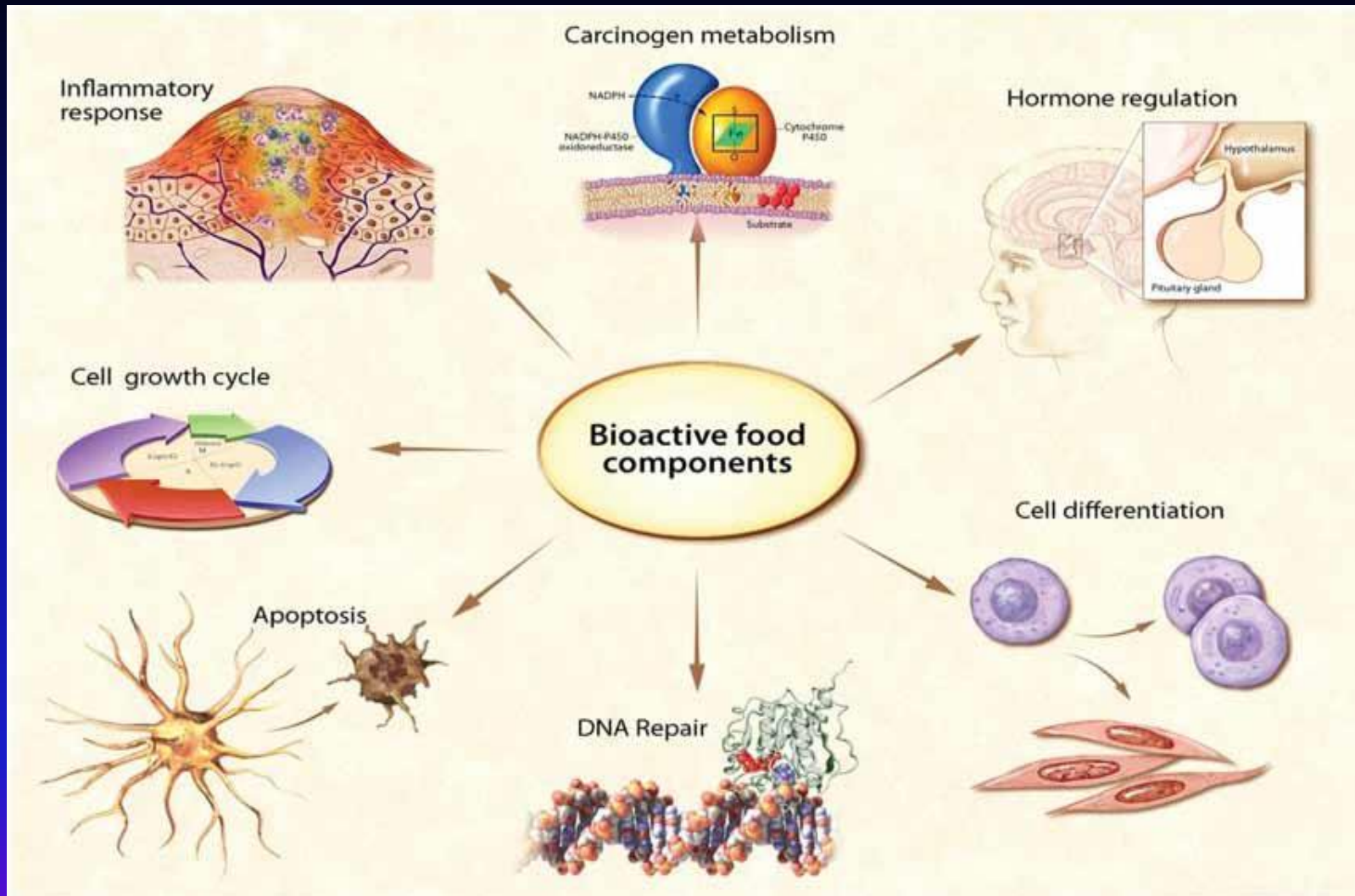
None

# Learning Objective

Guidelines for lifestyle behaviors that promote health after a breast cancer diagnosis

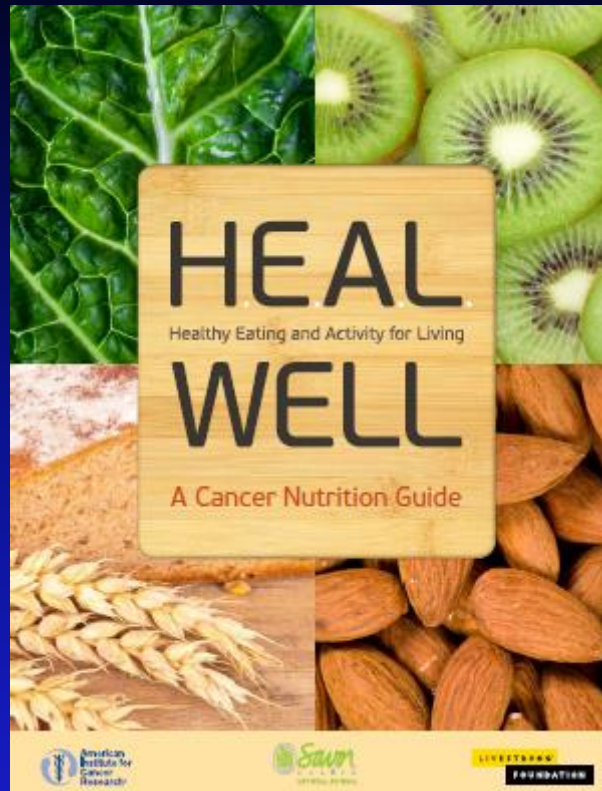
# Cancer Process

- Acquired factors:
  - Internal factors
    - Hormones
    - Immune system
- External factors
  - Infection
  - Environmental toxins
  - Smoking, sunlight exposure, **unhealthy diet, obesity or overweight, low physical activity**



## What We Know

- **No single food or food component, including sugar, can cause cancer by itself.**
- **No single food or food component can protect you against cancer by itself.**
- **There is strong evidence that a diet filled with a variety of plant foods such as vegetables, fruits, whole grains, and beans can lower the risks for many cancers and increase overall health and immunity.**



<http://www.aicr.org/assets/docs/pdf/education/heal-well-guide.pdf>

Keep it Simple



- ◆ **Keep consumption of alcohol to a minimum**
- ◆ **Take any nutrients through food rather than supplements as much as possible. There is a concern that supplements might do more harm than good.**
- ◆ **Consume as few trans fats as possible (e.g., margarines, baked goods, snack foods with partially hydrogenated oil).**
- ◆ **Consumption of foods high in fiber (e.g., beans, vegetables, whole grains, nuts and fruits) is recommended.**

- ◆ **A greater combination of vegetables and fruits has been associated with lower risk of cancer. It is unclear which compounds in fruits and vegetables are the most protective, thus it is best to eat a variety of colorful vegetables.**
- ◆ **No studies have shown a particular benefit of a vegetarian diet. A diet full of vegetables, legumes and nuts, fruits and grains and fish is recommended.**

- ◆ **Limit consumption of processed and red meats and discourage the practice of cooking these and other higher sources of protein at high temperatures.**
- ◆ **Best to consume whole foods rather than processed (packaged) fast food.**
- ◆ **Sugar intake has not been shown to directly increase the risk of progression of cancer, but limiting the consumption of foods and beverages with added sugar is recommended.**

# Juicing

- ◆ While juicing can add fruits and vegetables to the diet and offer help for those who have difficulty swallowing or chewing:
  - ◆ juices are less filling than whole fruits and vegetables and can add substantial number of calories.
  - ◆ If buying juices, make sure that they are 100% juice and pasteurized.

# BMI Chart

Start where you are

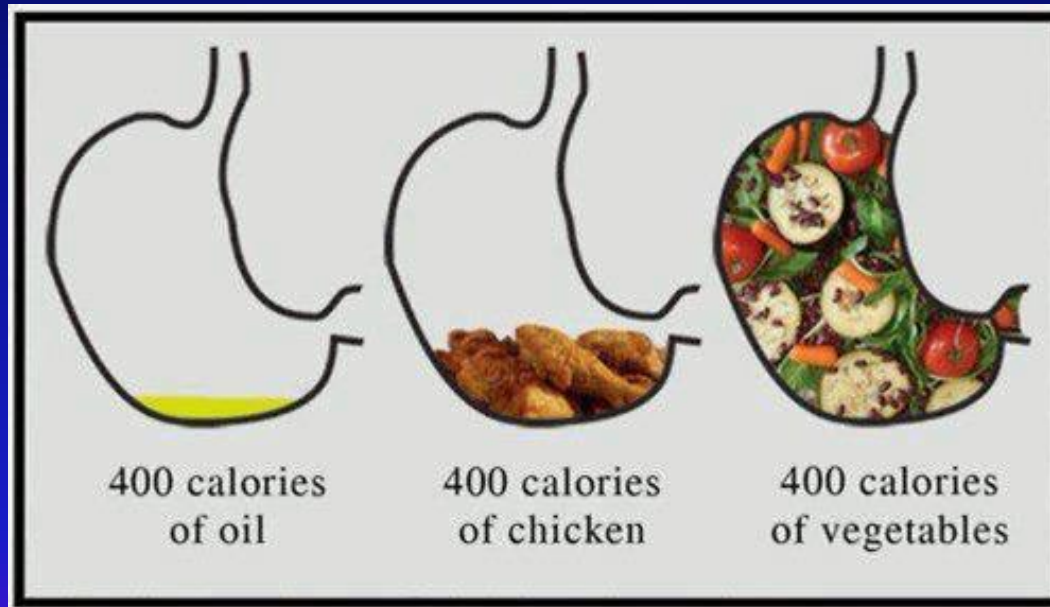
If you need to lose or gain weight  
the goal is to go down or up 1 BMI  
category at a time

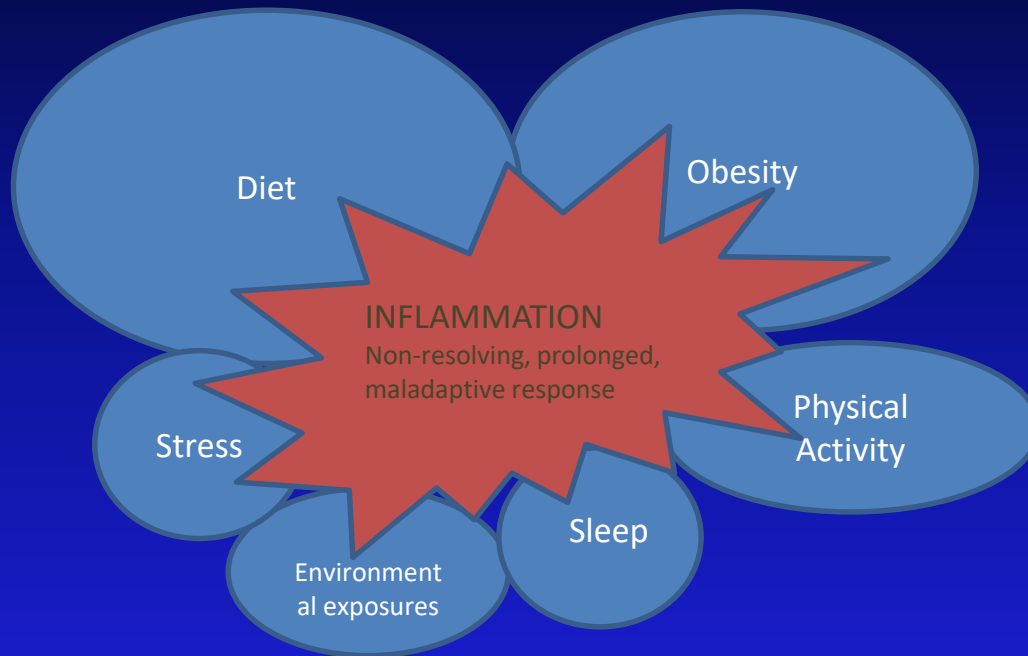
## Body Mass Index Table

	Normal						Overweight					Obese						Extreme Obesity																		
BMI	19	20	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	50	51	52	53	54
Height (inches)	Body Weight (pounds)																																			
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289	295
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338	344
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401	408
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443

Source: Adapted from *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*.

# Energy Density: Satiety





# Modifying inflammation



# FOODS THAT FIGHT INFLAMMATION

Chronic inflammation has been linked to cancer, heart disease, diabetes, arthritis, depression, and Alzheimer's. Fight inflammation with a healthy diet.



## ANTI-INFLAMMATION FOODS



**Tomatoes**



**Fruits**

Strawberries, blueberries, oranges and cherries.



**Nuts**

Almonds, walnuts, and other nuts.



**Olive oil**



**Leafy greens**

Spinach, kale, collards, and more.



**Fatty fish**

Salmon, mackerel, tuna, and sardines.

## INFLAMMATION FOODS



**Fried foods**



**Sodas**



**Refined carbs**



**Lard**



**Processed meats**

# Guidelines for Healthy Eating

- Beans (lentils, pea beans, chickpeas etc.) at least 2x/week ( 1 1/2 cups)
- 2-3 servings of lowfat dairy products/day
- Fish at least 2x/week (size of deck of cards)
- nuts (in small amounts if avoiding weight gain)
- Use caution with vitamin supplements and herbal

# Guidelines for Healthy Eating

- 5 servings vegetables/day (size of ~3 baseballs)
- 2-3 servings fruit/day (~2 baseballs)
- 4-6 ounces protein/day
  - 3 ounces is about a deck of cards

# Protein Portions

- 4-6 ounces of chicken, fish, meat  
or
- 1 1/2 cup of cooked beans (lentils, kidney beans etc)  
or
- 1 cup cottage cheese  
or
- 3 egg whites

**Goal is 4-6 ounces/day**

# Protein at Each Meal

- 2-3 ounces at each meal
- 1 oz at each snack
- include plant proteins: beans & lentils; nuts seeds

# Fruit Portions

- 1 medium apple
- 1/2 cup of chopped cooked or canned fruit
- 3/4 cup of fruit juice

**Goal is 2-3 pieces of fresh fruit/day**

# Vegetable Portions

- 1 cup of raw leafy vegetables
- 1/2 cup of other cooked or raw vegetables, chopped
- 3/4 cup vegetable juice

Goal is 5 servings/day

# Avoid or limit processed meats

- Sausage
- Bacon
- Ham
- Hot dogs
- Pepperoni
- Salami
- Pastrami
- Bologna
- Corned beef
- Deli/luncheon meats



# Tips for Grilling and Broiling meats, poultry and fish

- Cook smaller portions so they spend less time on the grill, turn frequently
- Marinate before grilling/broiling
- Pre-cook in microwave
- Remove all charred or burnt portions before eating

<http://ods.od.nih.gov/factsheets/list-all/>

# HEALTHY EATING PLATE

Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.



The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

Eat plenty of fruits of all colors.



**STAY ACTIVE!**

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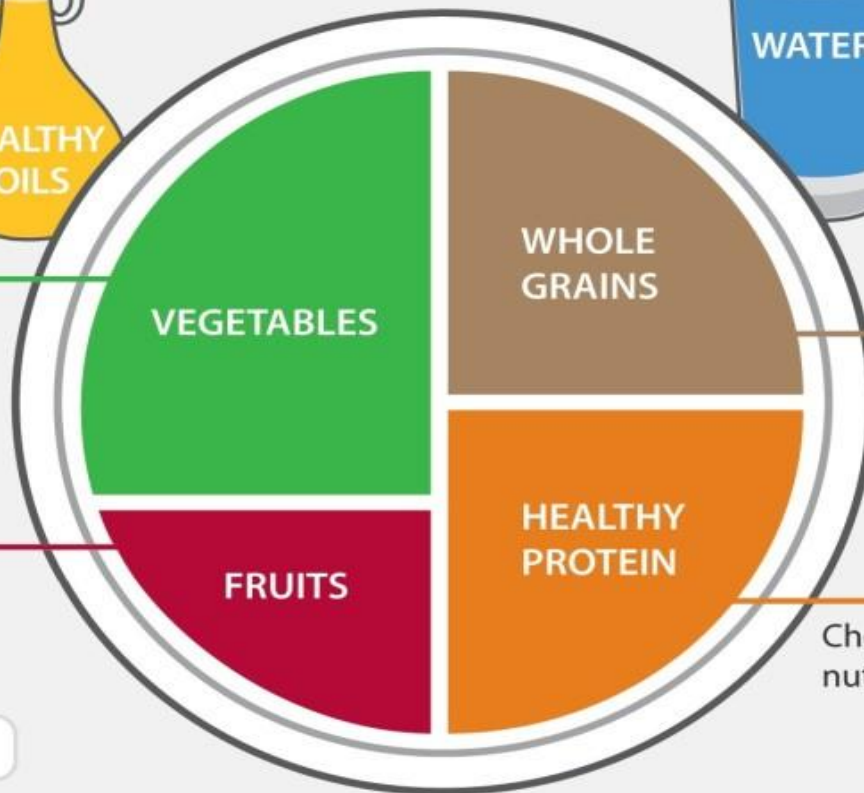
Harvard T.H. Chan School of Public Health  
The Nutrition Source  
[www.hsph.harvard.edu/nutritionsource](http://www.hsph.harvard.edu/nutritionsource)



Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.



Harvard Medical School  
Harvard Health Publications  
[www.health.harvard.edu](http://www.health.harvard.edu)



# Organic or Not?

- **The benefits of increasing fruits and veggies far outweigh any potential risks associated with pesticides**
- **Look for organic veggies and fruit that have been shown to be lowest in pesticides**

# Shopper's Guide to Pesticides in Produce



# Plastic Food Containers And Flexible Wraps

- Use glass to heat foods instead of shrink wraps or cling-type plastic wrap

## How to Avoid Phthalates and BPA:

- Do not microwave food/beverages in plastic
- Do not microwave or heat plastic cling wraps
- Do not place plastics in the dishwasher
- If using hard polycarbonate plastics (water bottles/baby bottles/sippy cups), do not use for warm/hot liquids
- Use safe alternatives such as glass or polyethylene plastic (symbol #1)
- Avoid canned foods when possible (BPA may be used in can linings)
- Look for labels on products that say “phthalate-free” or “BPA-free.”

# What about Soy?

- Soy supplements and powders contain very concentrated amounts of soy.
- You lose some of the other beneficial nutrients of soy when consuming processed versions.
- Consume whole soy foods.
- Soy lecithin, soybean oil and soy sauce do not contain concentrated soy.

# DOES SUGAR FEED CANCER ?

- Cells use sugar (glucose) the way cars use gas. Normal cells use a reasonable amount of gas, but cancer cells are gas guzzlers
- Cancer cells are like cars with the accelerator stuck to the floor, using glucose at high rates, because they are dividing at much faster rates than normal cells
- Avoid excess added sugars; simple sugars that we add to our foods like coffee or tea, or they are added to processed and prepared foods by food manufacturers.



# Exercise and Health



# Regular exercise for cancer survivors

## General recommendations:

- Avoid inactivity
- Resume regular activity as soon as possible after surgery or other invasive treatments

## Exercise goals:

- 150 minutes of moderate-intensity/75 minutes strenuous aerobic exercise/wk
- 2-3 strength-training sessions/wk

## Safety concerns

- Moderate-intensity aerobic exercise (like walking) safe for most survivors without formal evaluation
- **Breast cancer survivors should consider working with an exercise specialist to initiate upper body strength-training**



WHERE TO START.....

- Public Health recommendations: 30 minutes of moderate intensity activity 5 or more days per week
  - 150 minutes/week of moderate activity
- Moderate = breathing, heart rate increased
- At the beginning, do short sessions, as brief as 5-10 minutes, and build up
- Start with small changes
- If you're doing MODERATE intensity activity, you should be able to talk but not sing!

# Calories In = Calories Out



If you walk leisurely for 1 hour and 10 minutes you will burn approximately 400 calories.\*



\*Based on 160-pound person

# What is the best activity?

- Be creative
- Enjoyment
- It's about movement
- Activity does not just mean planned, structured activity.
  - For example gardening is a unique form of exercise that is calming and fun and uses the whole body.

- Attend fitness classes – explore
- Go dancing
- Grab a friend for a hike
- Take your dog on a walk
- Rent a tandem cruiser with a friend and ride around to local hotspots
- Go window shopping at the mall
- Play some music and exaggerate your movements while you do household chores
- Avoid sitting down while cleaning/organizing
- Take the stairs
- Park farther away
- Play at the park with your family
- Walk or bike to your errands
- Take your lunch to the park and get in a few laps

# SUMMARY

- **ACS: Nutrition and Physical Activity Guidelines for Cancer Survivors**
  - Achieve and maintain a healthy weight
  - Engage in regular physical activity
  - Achieve a dietary pattern that promotes plant foods
- **National Comprehensive Cancer Network Guidelines for Survivorship**
  - Diet low in red and processed meats, sugars and fats
  - Minimize alcohol
  - Routine use of dietary supplements not recommended
  - Set incremental goals with primary provider
  - Late effects: depression, cognition, fatigue, sleep (diet-related)



# Food Safety



# Ensuring food safety at home



- Wash hands often
- Wash produce before cutting, cooking or eating
- Wash utensils and cutting boards after each use
- Keep kitchen surfaces clean
- Keep raw meat and ready-to-eat foods separate
- Cook food to proper temperatures
- Refrigerate food promptly to below 40°F
- Pay close attention to use-by dates



Every journey is different - start where you are when it comes to diet and exercise

If individual nutrition counseling would be helpful, please talk to your oncologist for a referral to the oncology dietitian