Supplemental Information

Ultra-processed diets cause excess calorie intake and weight gain: A one-month inpatient randomized controlled trial of ad libitum food intake

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	All (N=20)	Female (N=10)	Male (N=10)
Age (years)	31.2±1.6	30.9±2.4	31.5±2.2
Height (m)	1.70±0.02	1.65±0.02	1.75±0.02
Body Weight (kg)	78.2±4.7	77.4±7.2	79.2±6.6
Fat Mass (kg)	24.6±3.0	29.3±4.5	19.8±3.7
Body Fat (%)	30.0±2	36.7±3	23.3±3
Resting Energy Expenditure (kcal/d)	1510±61	1438±86	1582±86

Table S1. Baseline anthropometrics of the study subjects. Mean \pm SE.

The daily menus described below include photographs depicting meals representing the average amount presented to subjects corresponding to Table 1 of the main text.

Ultra-processed Menu

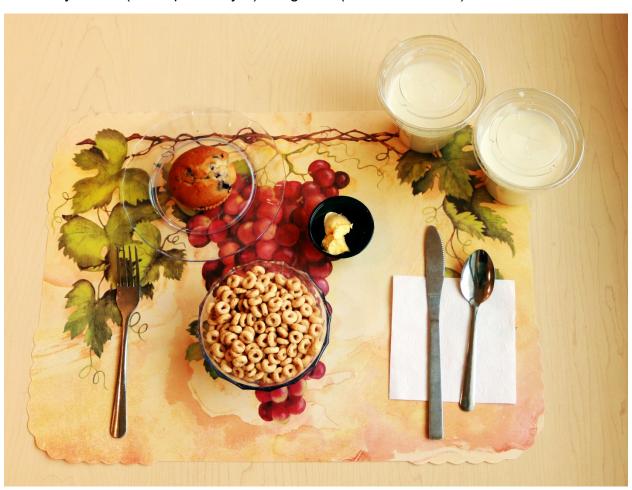
Day 1

Breakfast

Honey Nut Cheerios (General Mills)

Whole milk (Cloverland) with NutriSource fiber

Blueberry muffin (Otis Spunkmeyer) Margarine (Glenview Farms)



<u>Day 1</u>

<u>Lunch</u>

Beef ravioli (Chef Boyardee)

Parmesan cheese (Roseli)

White bread (Ottenberg)

Margarine (Glenview Farms)

Diet lemonade (Crystal Light) with NutriSource fiber

Oatmeal raisin cookies (Otis Spunkmeyer)



<u>Day 1</u>

<u>Dinner</u>

Steak (Tyson)

Gravy (McCormick)

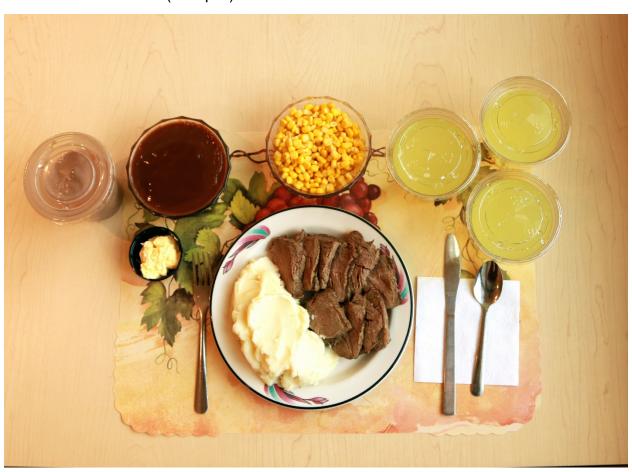
Mashed potatoes (Basic American Foods)

Margarine (Glenview Farms)

Corn (canned, Giant)

Diet lemonade (Crystal Light) with NutriSource fiber

Low fat chocolate milk (Nesquik) with NutriSource fiber



<u>Day 2</u>

<u>Breakfast</u>

Croissant (Chef Pierre)

Margarine (Glenview Farms)

Turkey sausage (Ember Farms)

Blueberry yogurt (Yoplait) with NutriSource fiber



Day 2

<u>Lunch</u>

Deli turkey (Jenni-O) and cheddar and Monterey Jack cheese (Glenview Farms) quesadilla (Pasado tortilla)

Refried beans (Old El Paso)

Sour cream (Glenview Farms)

Salsa (del Pasado)



Day 2

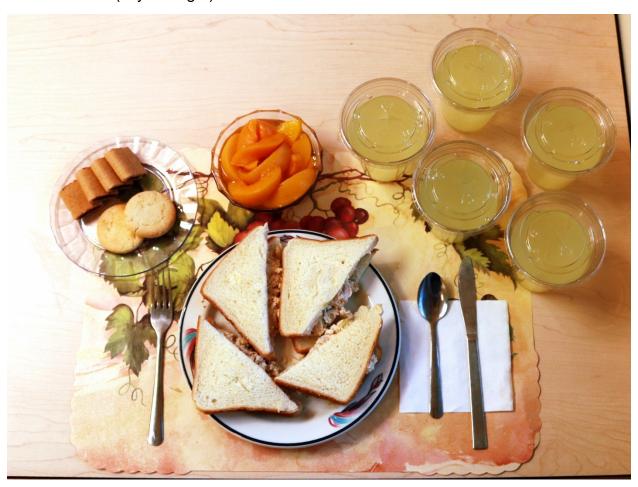
<u>Dinner</u>

Chicken salad (Giant canned chicken, Heinz pickle relish, Hellmann's mayonnaise) sandwich on white bread (Ottenberg)

Peaches canned in heavy syrup (Giant)

Shortbread cookies (Keebler)

Fig Newtons (Nabisco)



<u>Day 3</u>

Breakfast

Egg (Papetti's), turkey bacon (Jenni-O) and American cheese (Glenview Farms) on an English muffin (Sara Lee)

Tater tots (Monarch) with ketchup (Heinz)

Orange juice (Sun Cup) with NutriSource Fiber

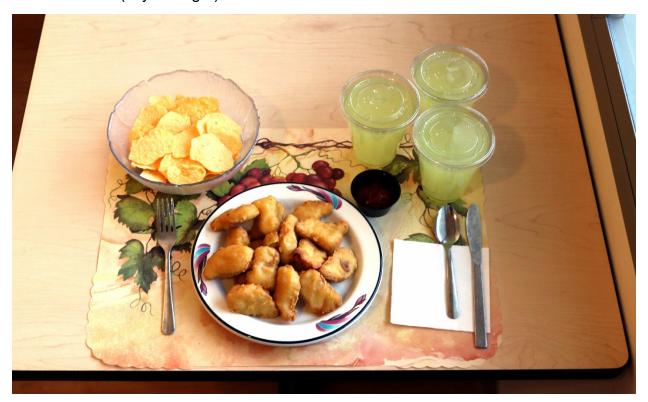


<u>Day 3</u>

<u>Lunch</u>

Tempura fried chicken nuggets (Pierce) with ketchup (Heinz)

Baked potato chips (Lay's)



<u>Day 3</u>

<u>Dinner</u>

Turkey meatballs (Devault Foods) with marinara sauce (Angelina Mia) on a hoagie roll (Ottenberg) with provolone cheese (Roseli)

Diet lemonade (Crystal Light) with NutriSource fiber

Cheese and Peanut Butter Sandwich Crackers (Keebler)



<u>Day 4</u>

<u>Breakfast</u>

Scrambled egg, prepared from liquid (Fresh Start)

Pork sausage (Hormel)

Honey bun (Little Debbie)

Orange juice (Sun Cup) with NutriSource fiber



Day 4

<u>Lunch</u>

Hot dog (Patunxent Farms) on bun (Hilltop Hearth) with ketchup (Heinz) and yellow mustard (Monarch)

Baked potato chips (Lay's)

Cranberry juice (Sun Cup) with NutriSource fiber

Blueberry yogurt (Yoplait) with NutriSource fiber



Day 4

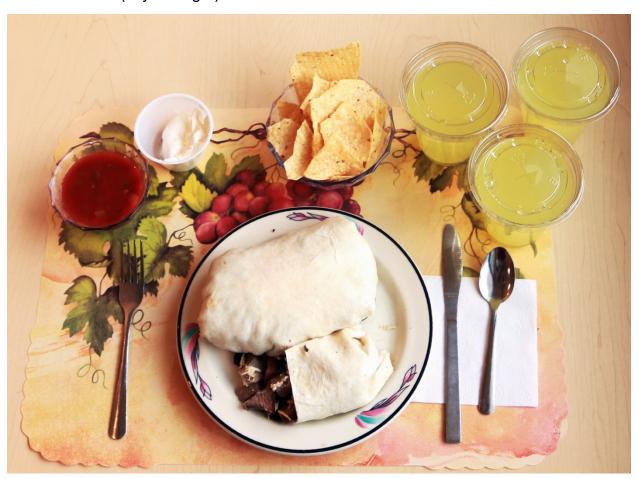
<u>Dinner</u>

Steak (Tyson) and Cheddar and Monterey Jack Cheese (Glenview Farms) burrito (Pasado Tortilla) with canned black beans (Pasado)

Sour cream (Glenview Farms)

Salsa (del Pasado)

Tortilla chips (Tostitos)



Day 5 (Respiratory Chamber)

<u>Breakfast</u>

Plain bagel (Lender's) and cream cheese (Philadelphia) with NutriSource fiber Turkey bacon (Jenni-O)



Day 5 (Respiratory Chamber)

<u>Lunch</u>

Spam sandwich with American cheese (Glenview Farms) on white bread (Ottenberg) Potato chips (Lay's)



Day 5 (Respiratory Chamber)

<u>Dinner</u>

Beef and bean chili (Hormel)

Shredded cheddar and Monterey Jack cheese (Glenview Farms)

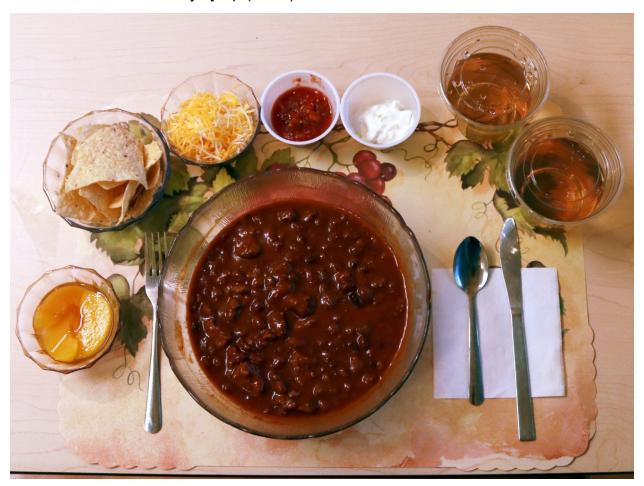
Sour cream (Glenview Farms)

Tortilla chips (Tostitos)

Salsa (del Posado)

Diet Ginger Ale (Shasta)

Peaches, canned in heavy syrup (Giant)



<u>Day 6</u>

<u>Breakfast</u>

Pancakes (Eggo)

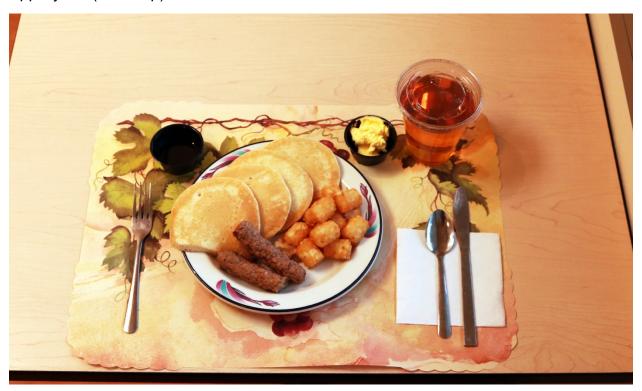
Margarine (Glenview Farms)

Syrup (Smucker's)

Turkey sausage (Ember Farms)

Tater tots (Monarch)

Apple juice (Sun Cup) with NutriSource Fiber



<u>Day 6</u>

<u>Lunch</u>

Cheeseburger with American cheese (Glenview Farms) on a Kaiser roll (Anzio & Sons)

French fries (Monarch)

Ketchup (Heinz)



<u>Day 6</u>

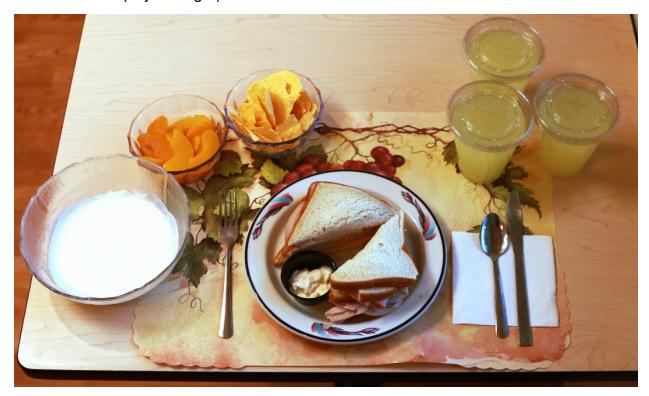
<u>Dinner</u>

Deli turkey (Jenni-O) with American cheese (Glenview Farms) and mayonnaise (Hellmann's) on white bread (Ottenberg)

Baked potato chips (Lay's)

Peaches canned in heavy syrup (Giant)

Vanilla nonfat greek yogurt (Dannon) with NutriSource fiber



<u>Day 7</u>

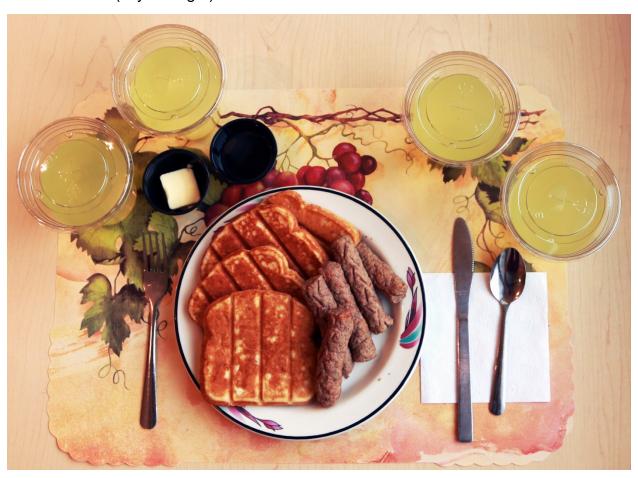
<u>Breakfast</u>

Cinnamon french toast sticks (Eggo)

Butter (Giant)

Pancake syrup (Smucker's)

Turkey sausage (Ember Farms)



<u>Day 7</u>

<u>Lunch</u>

Macaroni and cheese (Stouffer's)

Chicken tenders (Perdue)

Canned green beans (Giant)



Day 7

<u>Dinner</u>

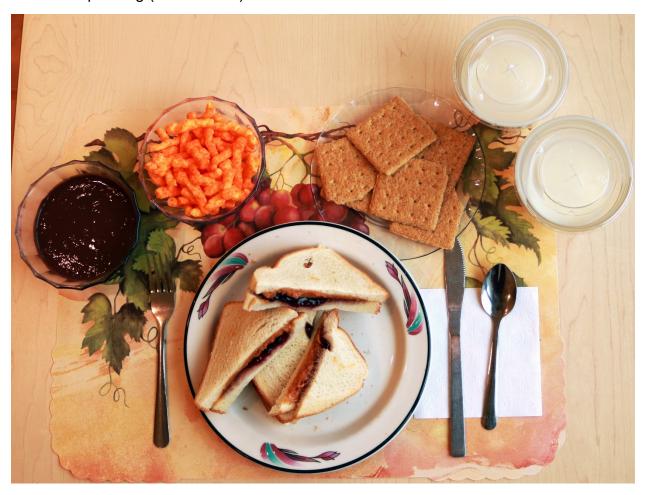
Peanut butter (Monarch) and jelly (Monarch) sandwich on white bread (Ottenberg)

2% milk (Cloverland) with NutriSource fiber

Baked Cheetos (Frito-Lay)

Graham crackers (Nabisco)

Chocolate pudding (Snack Pack) with NutriSource fiber



Daily Snacks

Baked Potato Chips (Lay's), Dry Roasted Peanuts (Planters), Cheese & Peanut Butter Sandwich Crackers (Keebler), Goldfish Crackers (Pepperidge Farm), Applesauce (Lucky Leaf).



<u>Day 1</u>

<u>Breakfast</u>

Greek yogurt (Fage) parfait with strawberries, bananas, with Walnuts (Diamond), Salt and Olive Oil

Apple Slices with Fresh Squeezed Lemon

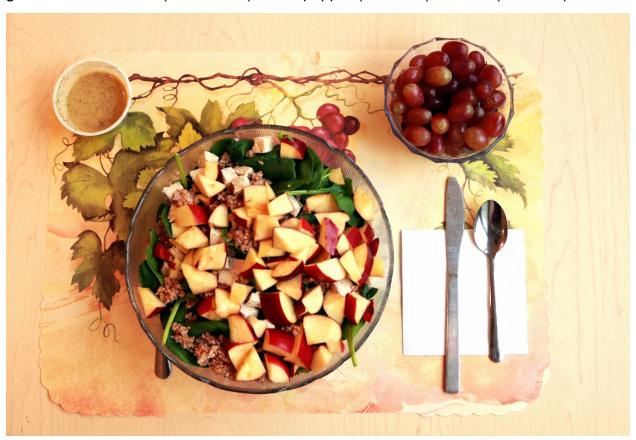


<u>Day 1</u>

<u>Lunch</u>

Spinach salad with chicken breast, apple slices, bulgur (Bob's Red Mill), sunflower seeds (Nature's Promise) and grapes

Vinaigrette made with olive oil, fresh squeezed lemon juice, apple cider vinegar (Giant), ground mustard seed (McCormick), black pepper (Monarch) and salt (Monarch)



<u>Day 1</u>

<u>Dinner</u>

Beef tender roast (Tyson)

Rice pilaf (basmati rice (Roland) with garlic, onions, sweet peppers and olive oil)

Steamed broccoli

Side salad (Green leaf lettuce, tomatoes, cucumbers) with balsamic vinaigrette (balsamic vinegar (Nature's Promise)

Orange slices

Pecans (Monarch)

Salt and Pepper (Monarch)



<u>Day 2</u>

<u>Breakfast</u>

Scrambled egg (made from fresh eggs)

Hash brown potatoes (potato, garlic, paprika (Simply Organic), ground turmeric (McCormick), cream (Stoneyfield) and onions)

Salt and Pepper (Monarch)



Day 2

<u>Lunch</u>

Entrée salad with grilled chicken breast, baked sweet potato, corn (Monarch, from frozen), avocado, onions, tomatoes, carrots on green leaf lettuce

Vinaigrette (red wine vinegar (Giant) and olive oil)

Skim milk (Cloverland)

Apple slices with fresh squeezed lemon juice



<u>Day 2</u>

<u>Dinner</u>

Stir fried beef tender roast (Tyson) with broccoli, onions, sweet peppers, ginger, garlic and olive oil

Basmati rice (Roland)

Orange slices

Pecan halves (Monarch)

Salt and Pepper (Monarch)



<u>Day 3</u>

<u>Breakfast</u>

Oatmeal (Quaker) with blueberries and raw almonds

Salt (Monarch)

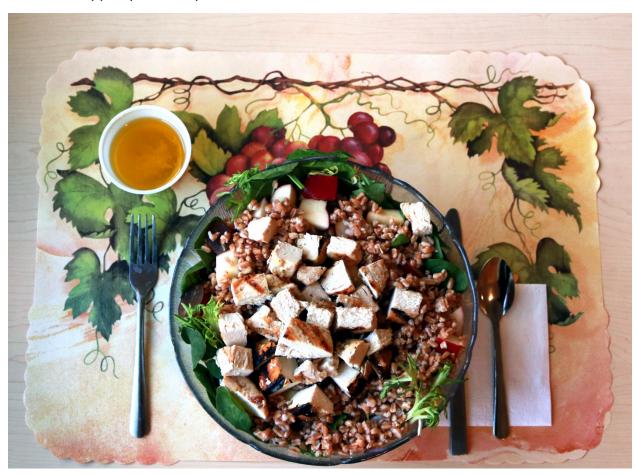
2% milk (Cloverfield)



<u>Day 3</u>

<u>Lunch</u>

Entrée salad with grilled chicken breast, farro (Bob's Red Mill), apples, grapes Vinaigrette (fresh squeezed lemon juice, apple cider vinegar (Giant), olive oil) Salt and Pepper (Monarch)



<u>Day 3</u>

<u>Dinner</u>

Beef tender roast (Tyson)

Couscous (Near East) with fresh squeezed lemon juice, garlic and olive oil

Green beans, from frozen (Monarch)

Side salad with green leaf lettuce, cucumber and tomatoes

Vinaigrette (red wine vinegar, honey (Monarch), olive oil

Salt and Pepper (Monarch)

Black bean hummus (black beans cooked from dried, garlic, sweet pepper, olive oil, fresh squeezed lemon juice, ground cumin (Monarch), chili powder (Giant)) and baby carrots



<u>Day 4</u>

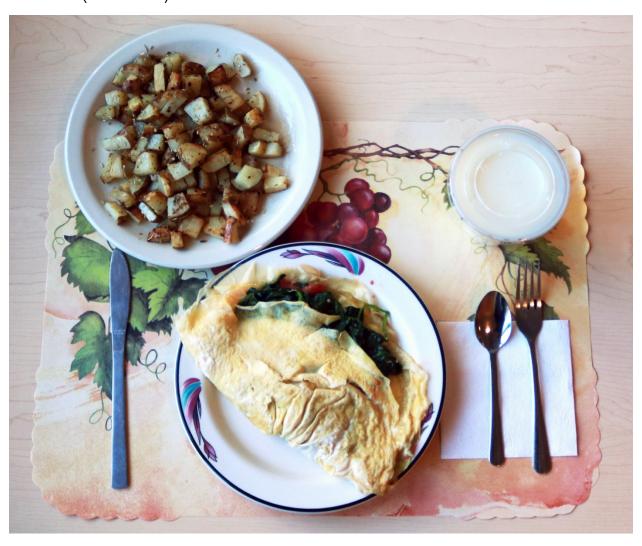
Breakfast

Spinach, onion and tomato omelet (fresh eggs) cooked in olive oil

Sweet potato hash (sweet potato, olive oil and cinnamon)

Salt and Pepper (Monarch)

Skim milk (Cloverland)



Day 4

<u>Lunch</u>

Baked cod filet (Harbor Banks) with fresh squeezed lemon juice

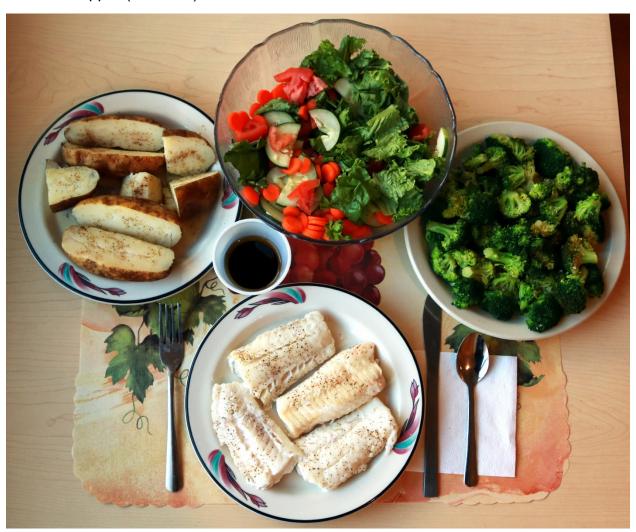
Baked russet potato with olive oil

Steamed broccoli with olive oil and garlic

Side salad (green leaf lettuce, tomatoes, cucumber and carrots)

Vinaigrette (balsamic vinegar (Nature's Promise) and olive oil)

Salt and Pepper (Monarch)



Day 4

Dinner

Southwest entrée salad with green leaf lettuce, tomatoes, cucumbers, carrots, black beans (cooked from dried), corn (cooked from frozen), and avocado

Vinaigrette (red wine vinegar, fresh squeezed lemon juice and flaxseed oil (International Collection))

Salt and Pepper (Monarch)

Raw almonds (Giant)

Grapes



Day 5 (Respiratory Chamber)

Breakfast

Oatmeal (Quaker) with skim milk (Cloverland), cinnamon (Monarch), salt (Monarch), walnuts (Diamond), bananas, coconut (Nature's Promise) and fresh squeezed lemon juice



Day 5 (Respiratory Chamber)

<u>Lunch</u>

Grilled beef tender roast (Tyson)

Barley (Bob's Red Mill) with olive oil and garlic

Steamed broccoli

Side salad (green leaf lettuce, tomatoes, cucumber and baby carrots)

Vinaigrette (apple cider vinegar (Giant) and olive oil)

Salt and Pepper (Monarch)

Apple slices with fresh squeezed lemon juice



Day 5 (Respiratory Chamber)

<u>Dinner</u>

Shrimp (Xcellent) scampi with spaghetti (Barilla), olive oil, garlic, cream (Stoneyfield), tomatoes, parsley, basil and fresh squeezed lemon juice

Side salad (green leaf lettuce, tomatoes, cucumber)

Vinaigrette (balsamic vinegar (Nature's Promise) and olive oil)

Salt and Pepper (Monarch)

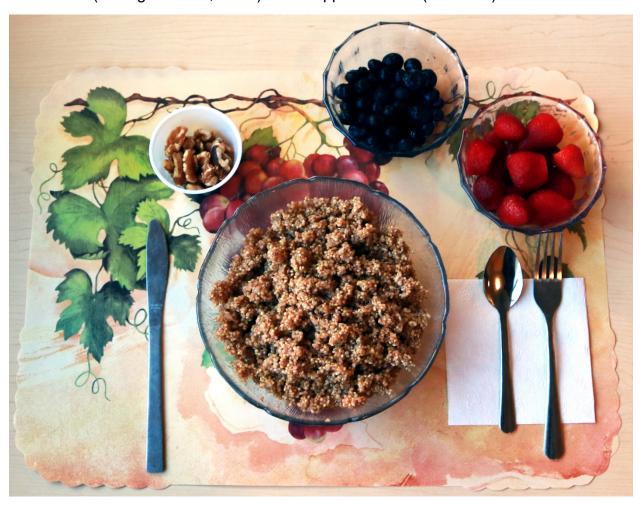
Plain Greek yogurt (FAGE) with blueberries (from frozen, no sugar added (Giant)



<u>Day 6</u>

Breakfast

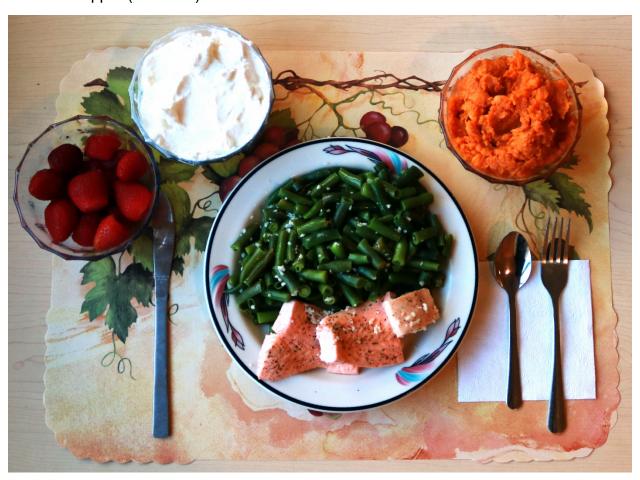
Berry and walnut Quinoa breakfast cereal (quinoa (Nature's Earthly Choice), skim milk (Cloverland), ground cinnamon (Monarch), salt (Monarch), frozen strawberries and blueberries (no sugar added, Giant) and chopped walnuts (Diamond)



Day 6

<u>Lunch</u>

Salmon (Harbor Banks) with garlic and fresh squeezed lemon juice
Baked sweet potato with olive oil, ground cumin (Monarch) and chili powder (Giant)
Green beans (from frozen, Monarch) with olive oil and garlic
Plain Greek yogurt (Fage) with strawberries (from frozen, no sugar added (Giant)
Salt and Pepper (Monarch)



<u>Day 6</u>

<u>Dinner</u>

Entrée salad with beef tender roast (Tyson), barley (Bob's Red Mill), spinach, cucumber and tomatoes

Vinaigrette (balsamic vinegar (Nature's Promise), garlic, olive oil, basil, parsley, rosemary)

Salt and Pepper (Monarch)

Orange slices



<u>Day 7</u>

Breakfast

Spinach, onion and tomato omelet (fresh eggs) cooked with olive oil and salt (Monarch)

Hash browned potatoes (russet potatoes with garlic, olive oil, rosemary (Nature's Promise) and salt (Monarch))

Skim milk (Cloverfield)



<u>Day 7</u>

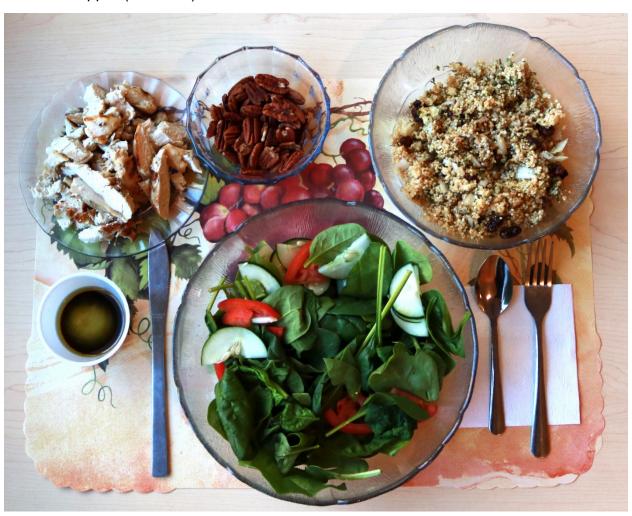
<u>Lunch</u>

Grilled chicken breast

Quinoa (Nature's Earthly Choice) salad with raisins (Monarch), onions, chopped walnuts (Diamond), parsley, fresh squeezed lemon juice and olive oil

Side salad (spinach, tomato and cucumber) with vinaigrette (balsamic vinegar (Nature's Promise) and olive oil)

Salt and Pepper (Monarch)



<u>Day 7</u>

<u>Dinner</u>

Penne pasta (Barilla) primavera (olive oil, garlic, pinto beans (cooked from dried), spinach, basil, tomatoes)

Side salad (green leaf lettuce, baby carrots, broccoli)

Vinaigrette (red wine vinegar (Giant) and olive oil)

Salt and Pepper (Monarch)

Grapes



Daily Snacks

Fresh oranges and apples, raisins (Monarch), raw almonds (Giant), chopped walnuts (Diamond)

