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Nutrition: Understanding the Basics

Presentation by:
MHN Training & Development

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Participant Guide

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Key Learning Objectives

- Explain what eating a 'healthy balance' of macronutrients (protein, carbohydrates and fats) entails, and why it's important.
- Present general guidelines for daily caloric needs.
- Provide micronutrient resources (vitamin and minerals).
- Review daily serving size recommendations for each food group.
- Review food preparation and eating 'tips for busy lives'.
- Explain food allergies and food intolerance.

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Eating a Healthy Diet is Vital for Our Minds and Bodies

- Eating a healthy balance of proteins, carbohydrates and fats, as well as vitamins, minerals and anti-oxidants is vital for our minds and bodies to live, grow and function properly.
- Eating a wide variety of different foods is necessary, to provide the right amounts of nutrients for good health.
- Individuals can vary significantly in regards to nutritional needs.

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Eating a Healthy Diet Lowers the Risk of Disease

Major causes of death, illness and disability in which diet and nutrition play an important role:

- coronary heart disease
- stroke
- hypertension
- atherosclerosis
- obesity
- some forms of cancer
- type 2 diabetes
- osteoporosis
- dental caries
- gall bladder disease
- dementia
- nutritional anemias

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A Healthy Balance of Macronutrients: Protein, Carbohydrates and Fats

% of Daily Calories	Key Functions of the Macronutrients
Protein 10-35%	<ul style="list-style-type: none"> • The body's "building blocks". They break down into amino acids that promote cell growth and repair. • The body uses extra protein for energy. • Found in muscle, bone, skin, hair, and virtually every other body part or tissue.
Carbo- hydrates (complex) 45-65%	<ul style="list-style-type: none"> • Provides the body with the fuel it needs for physical activity and for proper organ function. • Most effective fuel for a healthy brain and nervous system.
Fats 20-35%	<ul style="list-style-type: none"> • Essential to give the body energy; support cell growth. • Protects the organs and helps keep the body warm. • Helps the body absorb some nutrients and produce hormones.

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Calories – Getting The Right Amount

- The daily amount of food a person needs to consume is driven by:
 - 1) the need to meet recommended nutrient intakes, and
 - 2) the need to consume enough calories to match energy expenditure and maintain a stable weight.
- The total number of calories (units of energy) a person needs each day varies, depending on the person’s age, sex, height, weight, and level of physical activity.
- Many Americans underestimate how many calories they are consuming each day by as much as 25%!

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Estimated Calorie Needs per Day, by Age, Sex, and Physical Activity Level

Men				Women			
Age	Sedentary	Moderately Active	Active	Age	Sedentary	Moderately Active	Active
21-25	2,400	2,800	3,000	21-25	2,000	2,200	2,400
26-30	2,400	2,600	3,000	26-30	1,800	2,000	2,400
31-35	2,400	2,600	3,000	31-35	1,800	2,000	2,200
36-40	2,400	2,600	2,800	36-40	1,800	2,000	2,200
41-45	2,200	2,600	2,800	41-45	1,800	2,000	2,200
46-50	2,200	2,400	2,800	46-50	1,800	2,000	2,200
51-55	2,200	2,400	2,800	51-55	1,600	1,800	2,200
56-60	2,200	2,400	2,600	56-60	1,600	1,800	2,200
61-65	2,000	2,400	2,600	61-65	1,600	1,800	2,000
66-70	2,000	2,200	2,600	66-70	1,600	1,800	2,000
71-75	2,000	2,200	2,600	71-75	1,600	1,800	2,000
76 and up	2,000	2,200	2,400	76 and up	1,600	1,800	2,000

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Protein

- Highly concentrated in lean beef, poultry, seafood, beans, peas, eggs, soy products, nuts, seeds, dairy.
 - Beans and peas are also carbohydrates.
- Eat a variety of protein foods to improve nutrient intake and benefit your health.
- Meat and poultry choices should be lean or low-fat.
- If you eat seafood, eat at least 8 ounces per week.
 - Young children need less, depending on age, calorie needs.
 - Salmon, mackerel and herring are high in omega-3 fatty acids.
- Dairy selections should be low or non-fat.

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Carbohydrates

There are 2 types of carbohydrates: simple & complex.

- **Simple carbohydrates** break down fast into sugar.
 - Fruits, vegetables, dairy, sugar, honey, syrup, candy, soft drinks.
 - Eat a diet rich in fresh fruits and vegetables.
 - Eat low or non-fat dairy.
 - Limit sweeteners and foods/beverages with added sugars
- **Complex carbohydrates** take longer to break down.
 - Breads, cereals, pasta, rice, beans, peas, starchy vegetables (such as potatoes), green peas, corn.
 - At least half of all the grains eaten should be whole grains.
 - “Whole” grains haven’t had their bran and germ removed by milling, making them better sources of fiber.
 - A high-fiber diet can help lower your risk of heart disease, cancer and diabetes.

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Fats

Fats are often grouped into “good” fats & “bad” fats.

- **“Good” Unsaturated fats** - Monounsaturated and polyunsaturated.
 - Vegetable oils (such as olive, canola, sunflower, soy, and corn), cottonseed, and fish.
 - Choose “good” fats to lower disease risk.
- **“Bad” fats - Trans fats** - “partially-hydrogenated oils”.
 - Primarily in processed foods such as cakes, cookies, pie crusts, crackers, microwave popcorn, creamer, frozen pizza.
 - Eating small amounts can increase risk of disease.
- **“In-between” fats - Saturated fats.**
 - Fatty beef, lamb, pork, poultry with skin, butter, dairy products (milk, yogurt, cheese, ice cream, made from whole or 2% milk).
 - Consume in moderation.

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Essential Fatty Acids: Omega 6’s and 3’s

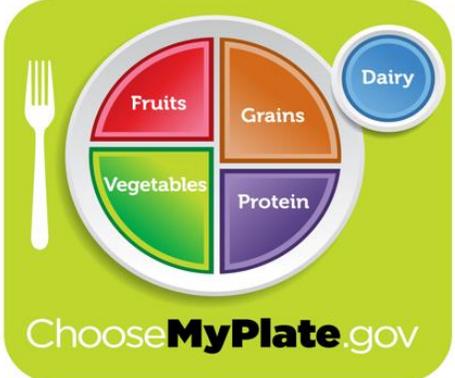
- Regulate inflammation, brain function, immunity and cardiovascular health, among other things!
- May reduce the risk of premature birth.
- Cannot be made by the body; need to come from diet
- Most of us eat much more omega-6 (found in poultry, eggs, avocado and nuts) than omega-3.
- Omega 3’s are found in flaxseeds, walnuts, sardines, salmon, soybeans, tofu, shrimp, brussel sprouts, cauliflower.

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Nutritionally Balanced Meals



Choose **MyPlate**.gov

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Recommended Daily Amounts From the Major Food Groups

- **Grains:** Women 5-6 ounces, Men 6-8 ounces
- **Vegetables/Fruits:** Women 2-2 ½ cups, Men 2 ½ -3 cups
- **Milk/Dairy:** 3 cups (women and men)
- **Meat & Beans:** Women 5-5 ½ ounces, Men 5 ½ -6 ½ ounces

Based on a 2,000 calorie a day diet. From the USDA Dietary Guidelines for Americans. www.choosemyplate.gov.

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Create A Personalized Plan!

The MyPlate Plan shows you:

- what and how much to eat within your calorie allowance.
- It is personalized, based on your age, sex, height, weight, and physical activity level.



USDA ChooseMyPlate.gov
United States Department of Agriculture

MYPLATE PLAN

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Micronutrients – Essential Vitamins and Minerals

- Includes at least 30 vitamins, minerals, and dietary components that your body needs but cannot manufacture on its own in sufficient amounts.
 - Some examples include Vitamin A, B6, B12, C, D, Calcium, Iron, etc.
- Considered ‘essential’ nutrients—because acting in concert, they perform hundreds of roles in the body.
- Often called micronutrients because your body needs only tiny amounts of them. Yet failing to get even those small quantities virtually guarantees disease.

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Read Your Labels

- % Daily Value (DV) is the % of the recommended limit of what a person should eat for an entire day (based on a 2,000-calorie diet).
- You may need more or less than 2,000 calories per day. For some nutrients you may need more or less than 100 percent DV.
- Note that you may need to multiply if there's more than one serving in a package and you realistically expect to eat two or three servings.

Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (55g)	
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	16%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

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Food Allergies and Intolerance

Food Allergies

Immune system reacts to a substance in food, that it interprets as harmful.

- Symptoms can occur within minutes and can be mild (such as a runny nose or itchy eyes) or severe, and life-threatening.
- 8 foods account for 90% of all food-allergic reactions in Americans:
 - Milk, Egg, Peanuts, Tree nuts (walnuts, cashews), Fish (pollock, salmon, cod, tuna, snapper, eel and tilapia), Shellfish (shrimp, lobster, crab), Soy, Wheat.

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Food Allergies and Intolerances

Food Intolerance

Different food intolerances have different causes.

- An intolerance occurs when your body is unable to digest a certain component of a food, such as lactose, a sugar found in milk.
- Symptoms of intolerance may be unpleasant, including abdominal cramping or diarrhea, but they are not life-threatening.

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If You Think You Have Food Allergies...

Suspected food allergies should always be evaluated, diagnosed, and treated by a qualified medical professional.

If diagnosed:

- Meet with a registered dietitian nutritionist. The RDN can:
 - help you understand which foods are safe to eat and how best to avoid items that may cause a reaction.
 - help ensure you get the nutrition you need for your health and lifestyle.
- Learn about ingredients in foods.
- Read food labels regularly.

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Tips for Busy Lives

- Breakfast is the most important meal of the day, make it count!
- Plan your meals for the week – menu and shopping list
 - Try out a meal planner (“Plate Joy” or “Plan to Eat”).
 - Help you w/meals, shop and prep food for the week.
- Do weekly food preparation (it’s worth it!)
 - Make several meals at once to enjoy later in the week.
 - Prepare mason jar salads for the week (*see Handout I*).
 - Smoothie drinkers – prep and package batches of goodies.
 - Package up healthy snacks and lunches for the week.

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Tips for Busy Lives (cont.)

- Invest in a slow cooker.
- Try a better alternative to Take-out.
- Eat regularly.

Drink plenty of water!

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Setting Yourself Up For Success

- Write down 3 things that you are planning to do to enhance your daily nutrition.
- What are your first steps?
- What challenges/obstacles do you anticipate?
- How can you handle those obstacles when they surface?

See Handout J: Nutrition Goals Worksheet

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Resources

Online Nutrition Resources:

- www.mhn.com
- www.cdc.gov
- www.mayoclinic.com

Online Food Preparation Resources:

Healthy snacks for work: <http://www.snacknation.com/blog/healthy-office-snacks/>

Quick easy lunches: <https://greatist.com/health/35-quick-and-healthy-low-calorie-lunches>

Healthy snack ideas for those who hate salad: <http://mealpreponfleek.com/25-healthy-lunches-people-hate-salads/>

Super healthy smoothies: <http://www.prevention.com/food/20-super-healthy-smoothie-recipes>

Cookbooks:

Dinner options that freeze well: *"Make-Ahead Meals Made Healthy", by Michele Borboa*

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Handout A: Healthy Choices - Protein, Carbohydrates and Fats

USDA Recommended Percentage of Total Daily Calories

Protein	10 to 35%
Carbohydrates (select at least ½ as ‘complex’ carbohydrates - <i>see below</i>)	45 to 65%
Fats (<i>see Dietary Fat & Healthy Choice handout for more information</i>)	20 to 35%

Examples of Healthy Protein, Carbohydrate and Fat Choices

Protein	Complex Carbohydrates	Fats
Lean Meats (chicken and turkey – white meat, pork tenderloin) Seitan (a meat substitute made from wheat gluten)	Grains (whole wheat, brown rice, millet, oats, quinoa*, buckwheat)	Fish (salmon, tuna, trout, mackerel, sardines and herring are high in omega-3 fatty acids)
Fish (salmon, mackerel and herring are high in omega-3 fatty acids)	Legumes (beans, lentils, peas, garbanzo beans, peanuts)	Sea food (some include: clams, Alaskan King Crab, oysters, shrimp)
Beans (for ex: black, navy, pinto, chickpeas), green peas	Seeds (Flax, Pumpkin, Sunflower, Sesame)	Corn
Nuts, seeds (such as chia, sesame, sunflower, poppy)	Nuts (Almond, Macadamia, Walnut, Hazelnut, Pecan)	Seeds (Flax, Chia, Pumpkin, Sunflower, Sesame)
Soybean products (tempeh, tofu, edamame, soymilk) Non-dairy beverages: soymilk, almond milk, hemp, rice milk	Vegetables (spinach, green beans, broccoli, potatoes, carrots, okra, zucchini, cucumbers, radishes, asparagus, yams, dill pickles, onions, tomatoes)	Avocados, olives
Skim or 1% low fat milk, yogurt, cheese, eggs	Fruits (grapefruit, prunes, apples, strawberries)	Canola, olive, safflower, sunflower, peanut, and corn oils
Leafy greens	Low-fat yogurt, skim milk, soymilk	Nuts, seeds

*Quinoa is also a good source of protein

Handout B: Fiber & Healthy Choices

Soluble Fiber

Eating foods high in fiber, particularly 'soluble' fiber can help to reduce low-density lipoprotein (LDL), the "bad" cholesterol by interfering with the absorption of dietary cholesterol into the intestines.

How much soluble fiber decreases LDL cholesterol?

Five to 10 grams or more of *soluble* fiber a day decreases your total and LDL cholesterol.

Examples - Amounts of soluble fiber found in foods:

1 1/2 cups of cooked oatmeal have 6 grams of fiber	1 small orange has 1.8 grams of fiber
1/2 cup of brussel sprouts has 2 grams of fiber	1/2 cup black, pinto or kidney beans has at least 2 grams fiber
<i>To determine the fiber content of various foods, use an online fiber calculator or check nutrition labels</i>	

Examples of foods containing soluble fiber:

Oatmeal	Oat bran
Kidney, navy, pinto, black beans, chick peas (rinse if canned; liquid may be high in sodium)	Lentils
Brussel Sprouts	Psyllium
Apples, pears, oranges, strawberries, blueberries	Nuts
Prunes	Seeds

More about Fiber

- Fiber is important for health, digestion, and preventing conditions such as heart disease, diabetes, obesity, diverticulitis, and constipation.
- Fiber helps maintain normal bowel movements and bowel health.
- Fiber lowers cholesterol, helps control blood sugar and aids in achieving healthy weight.
- Dietary fibers are found naturally in the plants that we eat.
- They are parts of plant that do not break down in our stomachs, and instead pass through our system undigested.
- Fibers are either soluble or insoluble.

Soluble vs. Insoluble Fiber

Soluble fibers (dissolve in water)

- Attract water and form a gel, which slows down digestion
- Delay the emptying of your stomach and makes you feel full, which helps control weight
- Slower stomach emptying may also have a beneficial effect on insulin sensitivity, which may help control diabetes

- Help lower LDL (“bad”) blood cholesterol by interfering with the absorption of dietary cholesterol into the intestines

Insoluble fibers (do not dissolve in water)

- Are considered gut-healthy fiber because they have a laxative effect and add bulk to the diet, helping prevent constipation
- They pass through the gastrointestinal tract relatively intact, and speed up the passage of food and waste through your gut
- Insoluble fiber is mainly found in *whole wheat bread, barley, couscous, brown rice, bulgur, whole grain breakfast cereals, wheat bran, seeds, carrots, cucumbers, zucchini, celery, and tomatoes*

How much dietary fiber do you need daily?

Daily requirements vary depending upon age, gender and other factors, and should be provided by a nutritionist or physician. A general guideline for daily fiber intake from foods, is 25 to 30 grams.

For the most part, if people are eating whole grains and other good complex carbohydrates in a nutritionally balanced diet, there may be no need to add “extra” sources of fiber. If you are uncertain as to whether ‘extra’ fiber is needed, check with your physician.

Handout C: Dietary Fats & Healthy Choice Recommendations

Fats are needed in your diet! Try to have a diet which is low in “bad” fats and high in good fats.

- Good fats include monounsaturated, polyunsaturated, omega-3 fatty acids
- “Bad” fats include trans-fat, saturated fat and hydrogenated oils

Recommendations:

- Limit total dietary fat intake to 20 to 35 percent of your total daily calories.
 - Based on a 2,000-calorie-a-day diet, this amounts to about 44 to 78 grams of total fat a day.
- Limit **saturated** fat to no more than 10% of your total daily calories. Limit to 7% to further reduce your risk of heart disease.
 - Based on a 2,000-calorie diet, a 10% limit amounts to about 22 grams of saturated fat a day, while 7% is about 15 grams.
- Limit **trans-fat** to <1% of your total calories.
 - Based on a 2,000-calorie diet, this amounts to less than 2 grams of fat per day.

A TIP

Need help calculating what your daily fat intake should be in grams?

Multiply your daily total calorie intake by the recommended percentage of fat intake. Then divide that total by 9, which is the number of calories in a gram of fat.

For example, here's how a 7 percent saturated fat limit looks if you eat 2,000 calories a day.

1. Multiply 2,000 by 0.07 to get 140 calories.
2. Divide 140 by 9 to get about 15 grams of saturated fat

The Dietary Guidelines for Americans, 2010.

Examples of Healthy Fats and Oils

- Monounsaturated fats are found mainly in vegetable oils (such as olive, peanut, canola), nuts, olives and avocados.
- Polyunsaturated fats are found mainly in vegetable oils (such as sunflower, safflower, soybean, and corn), fish and seafood.
- Essential fatty acids cannot be made by the body, so they must come from the diet. Most of us eat much more omega-6 (found in poultry, eggs, avocado and nuts) than omega-3.
- Omega 3's are found in flaxseeds, walnuts, sardines, salmon, soybeans, tofu, shrimp, brussel sprouts, cauliflower.

*Pregnant women and women of childbearing age should avoid shark, swordfish, king mackerel and tilefish because they contain levels of mercury high enough to pose a danger to a developing fetus.

Handout D: Main Food Groups and Recommended Daily Amounts

(based on a 2,000 calorie a day diet)

Food Group	Recommended Daily Amount	Ounce & Cup Equivalent Amounts
Grains (whole wheat and whole grains)	6 ounces	What counts as 1 ounce? 1 slice bread 1 cup ready-to-eat cereal ½ cup cooked rice or pasta
Vegetables & Fruits	2 ½ cups (vegetables) 2 cups (fruit)	What counts as 1 cup? 1 cup of raw or cooked vegetable or vegetable juice 2 cups raw leafy greens 1 cup of raw or cooked fruit or 100% fruit juice ½ cup dried fruit
Dairy (low or non-fat)	3 cups	What counts as 1 cup? 1 cup milk, yogurt or fortified soymilk 1 ½ ounce of natural cheese 2 ounces processed cheese (American)
Protein (Meat, Fish, Eggs, Beans, Nuts, Seeds)	5 ½ ounces	What counts as 1 ounce? 1 ounce of lean meat, poultry or fish 1 egg 1 TBSP peanut butter ¼ cup cooked beans or peas ½ ounce nuts or seeds

To create a diet plan, including what and how much to eat from each of the food groups, go to:

www.choosemyplate.gov/MyPlatePlan

Handout E: Portion Sizes

Use the list below to gain a perspective on how much food a recommended serving size really is; it may be much smaller than you realize. According to the USDA, 1 serving equals:

- 1 slice of whole-grain bread
- 1/2 cup of cooked rice or pasta
- 1/2 cup of mashed potatoes
- 3-4 small crackers
- 1 small pancake or waffle
- 2 medium-sized cookies
- 1/2 cup cooked vegetables
- 1 cup (4 leaves) lettuce
- 1 small baked potato
- 3/4 cup vegetable juice
- 1 medium apple
- 1/2 grapefruit or mango
- 1/2 cup berries
- 1 cup yogurt or milk
- 1 1/2 ounces of cheddar cheese
- 1 chicken breast
- 1 medium pork chop
- 1/4-pound hamburger patty

*<http://www.webmd.com/diet/control-portion-size>

Visual Guide for Portion Size

A good guideline to help you understand portion sizes is to translate the abstract information represented by the serving size into something visual that's easily remembered. So instead of trying to memorize lists of ounces, cups and tablespoons, simply compare the serving sizes of particular foods to familiar physical objects.

For example, a single serving of:

- Vegetables or fruit is about the size of your fist.
- Pasta is about the size of one scoop of ice cream.
- Meat, fish or poultry is the size of a deck of cards or the size of your palm (minus the fingers).
- Snacks such as pretzels and chips are about the size of a cupped handful.
- Apple is the size of a baseball.
- Potato is the size of a computer mouse.
- Bagel is the size of a hockey puck.
- Pancake is the size of a compact disc.
- Steamed rice is the size of a cupcake wrapper.
- Cheese is the size of a pair of dice or the size of your whole thumb (from the tip to the base).

*<http://www.webmd.com/diet/control-portion-size>

Handout F: Micronutrients (vitamins and minerals)

*Note: This handout provides information on **some** of the essential vitamins and minerals. Additional Resources are provided at the end of the handout.*

Vitamin A

Why you need it: The vitamin A family plays a key role in immunity, reproductive behaviors, and especially vision. The A vitamins, which include beta-carotene, help the retina, cornea, and membranes of the eye to function properly.

Where to get it: The highest concentration of vitamin A is found in [sweet potatoes](#); just one medium-sized baked sweet potato contains more than [28,000 international units](#) (IU) of vitamin A, or 561% of your recommended daily value (DV). Beef liver, spinach, fish, milk, eggs, and carrots also are good sources.

Recommended Daily Intake: 900 mg for adult males and 700 mg for adult females*

*<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Vitamin B6

Why you need it: Vitamin B6 is an umbrella term for six different compounds that have similar effects on the body. These compounds metabolize foods, help form hemoglobin (part of your red blood cells), stabilize blood sugar, and make antibodies that fight disease.

Where to get it: Fish, beef liver, and poultry are all good sources of B6, but the food richest in this vitamin—good news for vegetarians—is the chickpea, or garbanzo bean. One cup of canned chickpeas contains [1.1 milligrams](#) (mg) of vitamin B6, or 55% of your DV.

Recommended Daily Intake: 1.3mg ages 19-50, 1.7 ages 51-70 males and 1.3 ages 18-50, 1.5 ages 51-70*

*<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Vitamin B12

Why you need it: Vitamin B12 is vital for healthy nervous-system function and for the formation of DNA and red blood cells. It helps guard against anemia, a blood condition that causes fatigue and weakness.

Where to get it: Animal products are your best bet for B12. Cooked clams have the highest concentration of any food, with [84 micrograms \(mcg\)](#)—a whopping 1,402% of your DV—in just 3 ounces. (One milligram equals 1,000 micrograms.) Vitamin B12 also occurs naturally in beef liver, trout, salmon, and tuna, and is added to many breakfast cereals.

Recommended Daily Intake: 2.4 mg adult males and adult females*

*<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Vitamin C

Why you need it: Vitamin C is an important antioxidant, and it's also a necessary ingredient in several key bodily processes, such as protein metabolism and the synthesis of neurotransmitters.

Where to get it: Most people think *citrus* when they think of vitamin C, but sweet red peppers actually contain more of the vitamin than any other food: [95 mg per serving](#) (well ahead of oranges and just edging out orange juice, at 93 mg per serving). Other good sources include kiwi fruit, broccoli, Brussels sprouts, and cantaloupe.

Recommended Daily Intake: 90 mg males 19 and older and 75 mg females 19 and older*

*<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Vitamin D

Why you need it: Our body generates this vitamin on its own when we are exposed to sunlight. It helps spur absorption of calcium and bone growth. Vitamin D is also essential for immunity, reduction of inflammation, and cell growth.

Where to get it: Fatty fishes – including salmon, mackerel, and swordfish – are among the few naturally occurring sources of this vitamin. Cod liver oil, orange juice, some breakfast cereals, yogurt are also sources. Cod liver oil is the best source.

Recommended Daily Intake: 15 mg males and females 19-70, 20 mg >70*

*<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Vitamin E

Why you need it: It's a potent antioxidant who protects cells from free radicals, which are harmful molecules. Vitamin E is significant for healthy blood vessel function, clotting, and immunity.

Where to get it: The greatest natural source of vitamin E is wheat germ oil (100% DV per serving). Other good sources of this vitamin are almonds (34% DV, 6.8 mg per serving) and sunflower seeds (37% DV, 7.4 mg per ounce).

Recommended Daily Intake: 15 mg males and females 19-70, 20 mg >70*

*<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Calcium

Why you need it: Calcium is the most abundant mineral in the body. More than 99% is stored in—and helps fortify—teeth and bones, while the remainder goes toward blood vessel and muscle function, cell communication, and hormone secretion.

Where to get it: Dairy products contain the highest amounts of naturally occurring calcium; plain low-fat yogurt leads the pack with [415 mg](#) (42% DV) per serving. Dark, leafy greens (such as kale and Chinese cabbage) are another natural source of calcium, which can also be found in fortified fruit juices and cereals.

Recommended Daily Intake: 1,000 mg males 19-70, 1,200 mg >70 and 1,000 mg females 19-50, 1,200 mg >51* *<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t2/?report=objectonly>

Iron

Why you need it: Proteins in the body use an iron to transport oxygen and grow cells. This metal is found in hemoglobin in the body.

Where to get it: There are 2 forms of dietary iron: nonheme iron (found in plant sources like beans and lentils) and heme iron (found in some animal foods such as fish, poultry, and meat). Chicken liver contains the greatest amount of heme iron with 61% of the DV or 11 mg per serving.

Recommended Daily Intake: 8 mg adult males all ages 18 ages 19-50 adult females, 8 mg >51

Resources:

Vitamins and Minerals: Are You Getting What You Need?

[Vitamins and Minerals - HelpGuide.org](#)

For recommended dietary Allowances for other minerals:

<https://www.ncbi.nlm.nih.gov/books/NBK56068/table/summarytables.t3/?report=objectonly>

Handout G: Examples of Nutrient Dense Foods*

- Avocados
 - Chard, collard greens, kale, mustard greens, spinach
 - Bell peppers
 - Brussels sprouts
 - Mushrooms (cremini and shiitake)
 - Baked potatoes
 - Sweet potatoes
 - Cantaloupe, papaya, raspberries, strawberries
 - Low-fat yogurt
 - Eggs
 - Seeds (flax, pumpkin, sesame, and sunflower)
 - Dried beans (garbanzo, kidney, navy, pinto)
 - Lentils, peas
 - Almonds, cashews, peanuts
 - Barley, oats, quinoa, brown rice
 - Salmon, halibut, cod, scallops, shrimp, tuna
 - Lean beef, lamb, venison
 - Chicken, turkey
- *Foods that have a lot of nutrients relative to the number of calories.

Handout H: How to Pack the Perfect Salad in a Jar

Makes 1 salad

What You Need

Ingredients

1 to 4 tablespoons salad dressing

Mix of raw and cooked vegetables, fresh and dried fruit, nuts, cheese, and other salad ingredients

Salad greens

Equipment

Wide-mouth canning jars with tight-fitting lids:

pint jars for side salads, quart jars for individual meal-sized salads, 2-quart jars (or larger) for multiple servings

Large bowl, to serve

Instructions

1. **Salad dressing:** Pour 1 to 4 tablespoons of your favorite salad dressing in the bottom of the jar. Adjust the amount of dressing depending on the size of the salad you are making and your personal preference.
2. **Hard vegetables:** Next, add any hard-chopped vegetables you're including in your salad, like carrots, cucumbers, red and green peppers, cooked beets, and fennel.
3. **Beans, grains, and pasta:** Next, add any beans, grains, and/or pasta, like chickpeas, black beans, cooked barley, cooked rice, and pasta corkscrews.
4. **Cheese and proteins (optional):** If you'll be eating the salad within the day, add a layer of diced or crumbled cheese and proteins like tuna fish, diced (cooked) chicken, hard-boiled eggs, or cubed tofu. *If you're making salads ahead to eat throughout the week, wait to add these ingredients until the day you're planning to eat the salad and add them on top of the jar.*
5. **Softer vegetables and fruits (optional):** Next, add any soft vegetables or fruits, like avocados, tomatoes, diced strawberries, or dried apricots. *If you're making salads ahead to eat throughout the week, wait to add these ingredients until the day you're planning to eat the salad and add them to the top of the jar.*
6. **Nuts, seeds, and lighter grains:** Next, add any nuts or seeds, like almonds, walnuts, and sunflower seeds. If you're making a salad with lighter, more absorbent grains like quinoa or millet, add them in this layer instead of with the beans.
7. **Salad greens:** Last but not least, fill the rest of the jar with salad greens. Use your hands to tear them into bite-sized pieces. It's fine to pack them into the jar, fairly compacted.
8. **Storing the salad:** Screw the lid on the jar and refrigerate for up to 5 days. If you're including any cheese, proteins, or soft fruits and vegetables, add these to the top of the jar the morning you plan to eat your salad.
9. **Tossing and eating the salad:** When ready to eat, unscrew the lid and shake the salad into the bowl. The action of shaking the salad into the bowl is usually enough to mix the salad with the dressing. If not, toss gently with a fork until coated.

Source: <http://www.thekitchn.com/how-to-pack-the-perfect-salad-in-a-jar-cooking-lessons-from-the-kitchn-192174>

Handout I: Nutrition Goals Worksheet

Goal Statement:
What Do I Need to Do?
What Obstacles Must I Overcome?
When Will This Goal Be Completed?

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