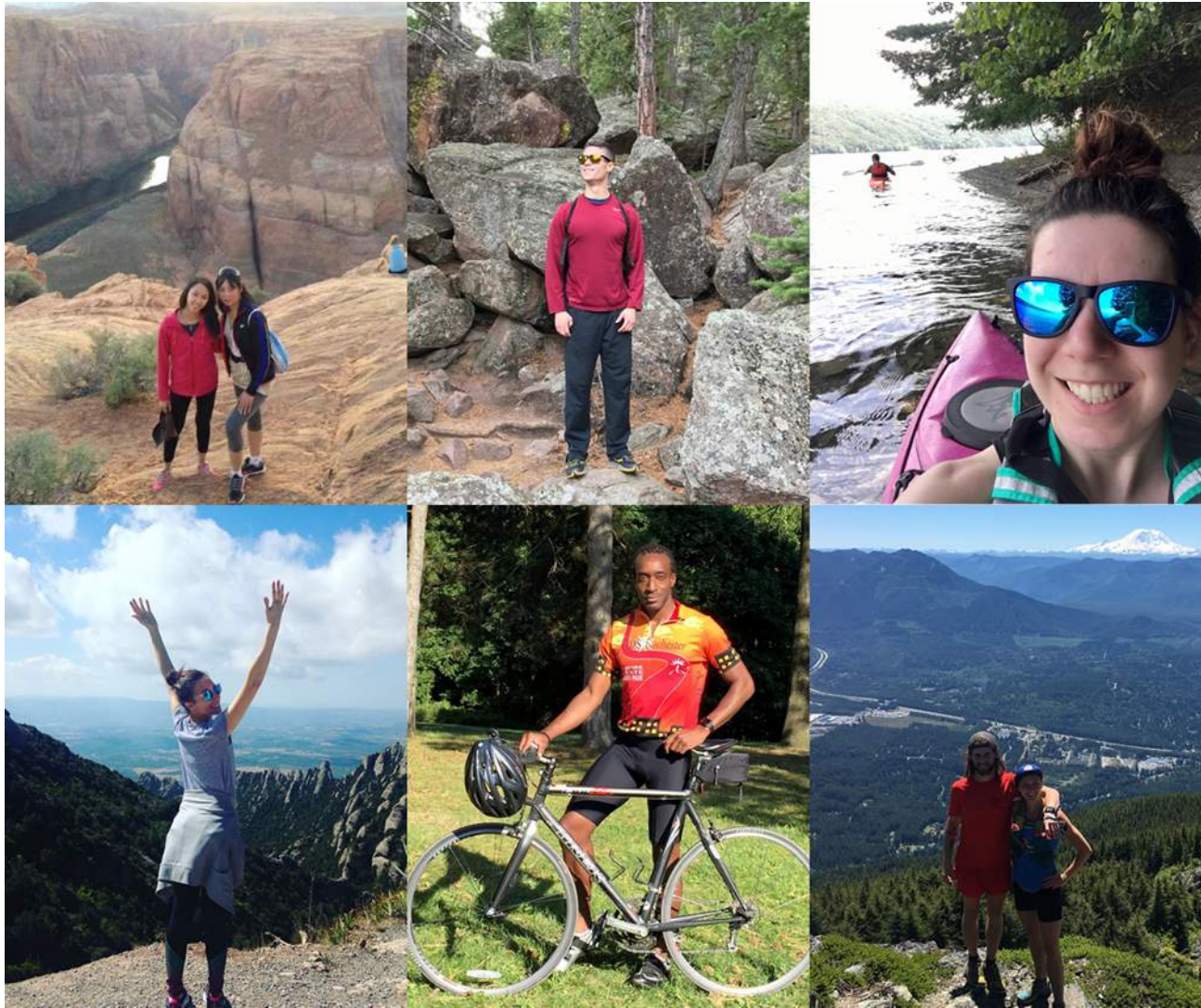


# PILLARS OF HEALTH JEOPARDY

March 30, 2019

# UR Medicine Center for Employee Wellness

- A comprehensive wellness program developed by a multidisciplinary team from the University of Rochester School of Nursing, drawing on the expertise inherent in a major academic health center.
- Our direct providers are a highly-skilled team of registered nurses, nutritionists, and fitness trainers dedicated to wellness.
- Developed in 2012



# Personal Health Assessment

**Our PHA, the foundation of our program, consists of 3 integrated components:**

1. Completion of **web-based health questionnaire**  
A confidential, self-administered survey asking a series of questions about lifestyle habits, health history and current health status
2. Completion of an on-site **biometric screening**
3. 20 minute on-site **coaching session** with biometric screening\*

\*Biometric screening appointments include coaching session.

# The Complete Picture

## **Personalized web portal available for each employee:**

- Summary of biometric screening values (trended over time)
- Lifestyle Score:
  - 0-100 lifestyle score based on line PHA questionnaire results (diet, exercise, stress, sleep, tobacco, alcohol).
- Heart Health Risk:
  - Calculation of low to high risk for developing cardiovascular disease based on biometric screening results
- Personalized wellness recommendations
- Targeted referrals into wellness programs
- Educational materials
- Interactive online modules



# Cardiovascular Disease – 10 year risk

# 48%

of individuals with a cardiovascular disease risk score of moderate, high or very high, have improved their 10-year risk percent over expected values!

# Chronic Condition Management Programs

## Highlighted Outcomes

### ➤ Cardiovascular Disease Risk

- CM Program Impact – Completion of any cardiovascular CM program increases the odds of improving the 10 year CVD risk by 33% compared to non participants.
- Continued CM Program Impact – Any additional CM program completion further reduces the 10 year CVD risk.
- 18.1% of participants of a CM program were able to reduce their risk by at least one category in the following year.

### ➤ Lifestyle Score

- 3.7 points – participants in CAD, diabetes, hypertension or dyslipidemia had a statistically significant average increase of 3.7 points in lifestyle score in the following year.
- Individuals who did not participate in any program did not have a change in their lifestyle score.



# OPTUM CM Outcome Study

using aggregated UR employee claims data

## Compliance with Evidence Based Medicine rules



Rule	Program	UR Total
<b><i>Cholesterol Rules</i></b>		
Adult(S) With A Hdl Cholesterol Test In Last 12 Reported Months.	84%	74%
Adult(S) With A Hdl Cholesterol Test In Last 36 Reported Months.	96%	86%
Adult(S) With A Ldl Cholesterol In Last 12 Reported Months.	84%	75%
Adult(S) With A Ldl Cholesterol Test In Last 36 Reported Months.	96%	86%
Patient(S) 18 - 75 Years Of Age With A Ldl Cholesterol In Last 12 Months.	81%	74%
Patient(S) With A Hdl Cholesterol Test In Last 12 Reported Months.	89%	79%
Patient(S) With A Ldl Cholesterol Test During The Report Period.	100%	67%
Patient(S) With A Ldl Cholesterol Test In Last 12 Reported Months.	89%	77%
<b><i>Diabetes Rules</i></b>		
Patient(S) Compliant With All Prescribed Oral Diabetes Medications (Minimum Compliance 80%).	70%	58%
Patient(S) That Had An Office Visit For Diabetes Care In Last 6 Reported Months.	88%	74%

# ROI – Condition Management Program

## Impact of Increased Medication Adherence

- Targeted "clinical trial/paid studies" keywords
  - 3 out of 4 top keywords included some combination of "paid study"
- Removed the "get money quick" and "part time job" keywords based on results from our bird-flu campaign
  - Audiences were similar enough that we knew these probably wouldn't perform well

Assumptions:	
Avg UR Med Adherence <sup>3</sup> :	58%
CEW CM Med Adherence <sup>3</sup> :	70%
CEW CM Program Cost:	\$350
Adherent Annual Cost Savings <sup>2</sup> :	\$5,341
Avg Annual Diabetes Costs <sup>1</sup> :	\$13,700

Calculations:	
Avg Annual Diabetes Costs:	<b>\$13,700</b> = (\$11,457 x 58%) + (\$16,798 x 42%)
UR Adherent Costs:	<b>\$11,457</b> = \$16,798 - \$5,341
UR Nonadherent Costs:	<b>\$16,798</b> = \$16,798*
<i>* Calculated using Solver function based on adherent vs. nonadherent cost assumptions, average UR diabetic population medication adherence rate, and \$13,700 average annual diabetic patient costs.</i>	

Cost Savings:	
Avg CM Participant Cost:	<b>\$13,059</b> = (\$11,457 x 70%) + (\$16,798 x 30%)
Avg CM Participant Cost Savings:	<b>\$641</b> = \$13,700 - \$13,059
ROI (per \$ spent):	<b>\$1.83</b> = \$641 / \$350

$$\text{ROI} = \$641 / \$350 = \$1.83 * 100 =$$

# 183%

Mindfulness	Hydration	Exercise	Sleep	Nutrition
<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>

# 100 Mindfulness

Being present and aware in the moment with ethical intention, compassion for self and others and with non-judgmental acceptance



# 100 Mindfulness

What is the definition of mindfulness?



“Today me will live  
in the moment  
unless it’s unpleasant  
in which case  
me will eat a cookie.”

~ Cookie Monster



# 200 Mindfulness

- Lowers elevated blood pressure and heart rate
- One study: reduced glucose levels in both diabetics/ nondiabetics  
Releases "good" neurotransmitters
- Aids sleep
  - Reduces sedative use
- Reduces stress
- Enhances recovery form opioid addiction  
Aids in treatment of GAD, depression and stress



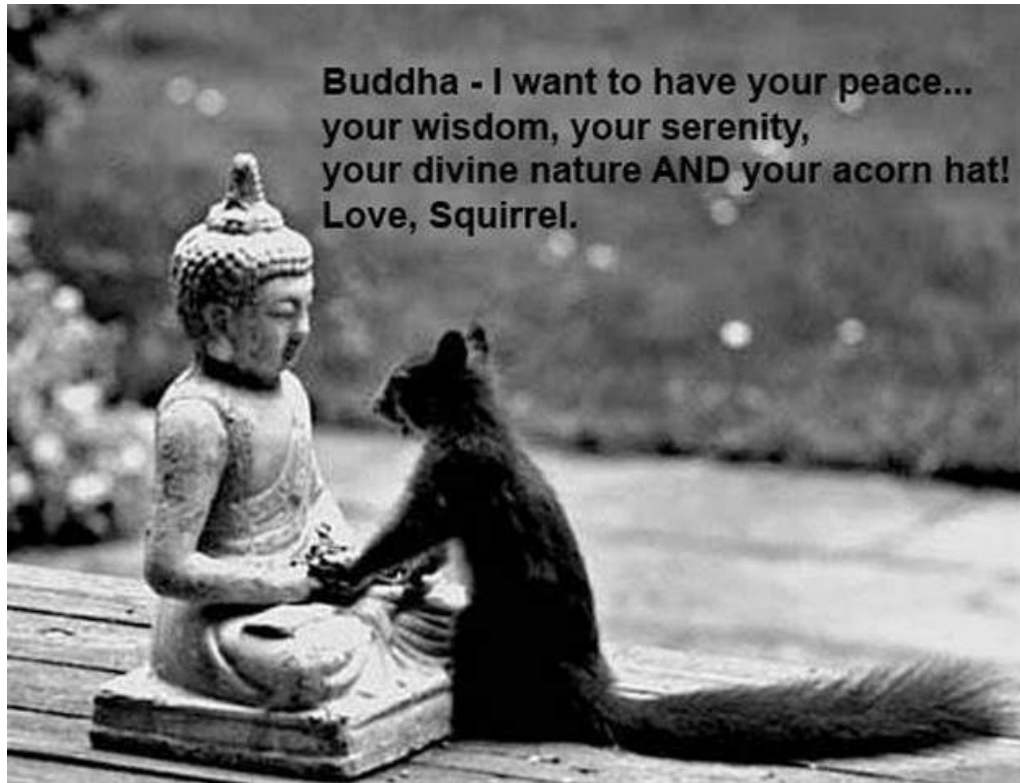
# 200 Mindfulness

What are *some* of the health benefits of mindfulness?





# Practice Makes Perfect



# 300 Mindfulness

We spend about 80% of our waking hours doing this... which tends to contribute to chronic stress.



# 300 Mindfulness

What is ruminating about the past or worrying about the future?



# 400 Mindfulness

Meditation, breathing techniques, yoga, progressive muscle relaxation and guided imagery.



# 400 STRESS

What are some examples of mindfulness strategies...which also happen to reduce stress in our everyday lives?



# Breathing Techniques

- Box Breathing: Tension, anger, stress
  - Begin with mouth closed and tip of tongue placed on roof of mouth at the bump behind front teeth.
  - 4x 4 x 4
- Focused breathing: quiets chatter and brings calm and focus. Count of breath does not matter:
  - only count your exhale. As such, begin with an exhale.
    - Exhale, count “one” silently
    - Inhale
    - Exhale, count “two”
  - To 5, then start again
- Finger breathing
- Bellows breathing: Produces stimulation
  - Keep mouth closed yet relaxed.
    - This breath is rapid and has equal inhales and exhales.
    - Inhale/exhale quickly for 10 seconds x 3 rounds.
    - While the goal is three breathes per second (!), just do what you feel comfortable
    - Take slow cleansing breaths at the end and between sessions.



# 500 Mindfulness

5, 4, 3, 2, 1

STOP

Where are my feet?



# 500 Mindfulness

What are 3 strategies to “bring yourself into the moment”





**5... 4... 3... 2... 1...**  
See, hear, feel, smell, taste

## **STOP**

- **S**top what you are doing
- **T**ake a few breaths
- **O**bserve your thoughts, emotions and feelings
- **P**roceed with intention

## **Where are my feet?**

- Stop what you are doing
- Breath
- Notice your body and mind
- Focus on your feet...and their connection to the ground and your body



# 100 Hydration

80% from liquids we drink  
20% from foods we eat



# 100 Hydration

What are the sources of water?



# Water Content from Foods

Food	Percentage Water
Water	100%
Cantaloupe, Strawberries, Watermelon, Lettuce, Cabbage, Celery, Spinach, Cukes/ Pickles, Squash*	90-99%
Yogurt, Apples, Grapes, Oranges, Carrots, Broccoli*, Pears, Pineapples	80-89%
Bananas, Avocados, Cottage Cheese, Ricotta Cheese, Potato*, Shrimp,	70-79%
Pasta, Legumes, Salmon, Chicken Breast	60-69%
Beef, soft cheeses	50-59%
Pizza	40-49%
Hard cheeses, bread	30-39%
Butter, raisins	10-19%
Many nuts, crax, cereals, PB	1-9%
Sugar and oils	0



# 200 Hydration

92 oz if you're a woman  
124 oz if you're a man



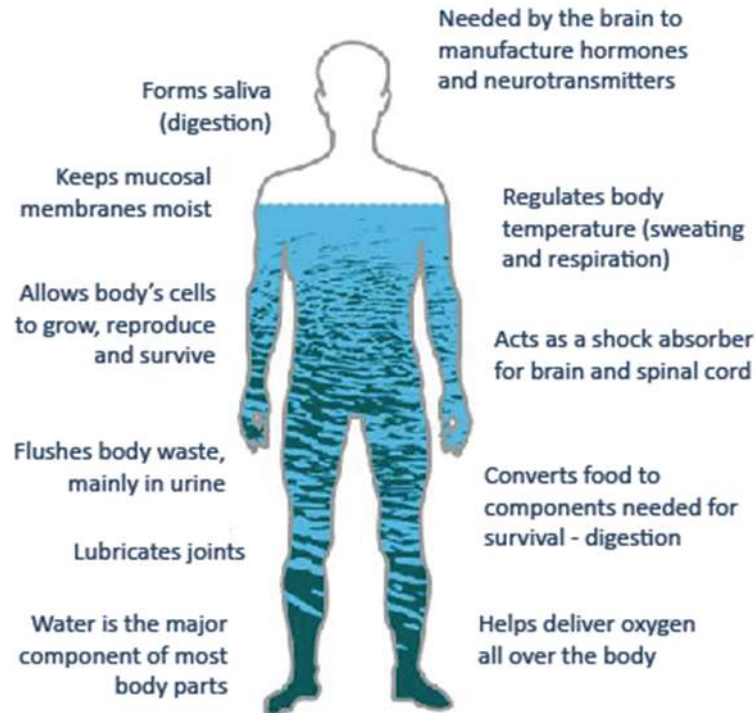
# 200 Hydration

What is the recommended amount of water each day?



# What does water do for you?

## What Does Water do for You?



# 300 Hydration

This causes me to be  
cranky, moody, forgetful  
and constipated...










# 300 Hydration

What is dehydration?



# Dehydration Urine Chart

The following dehydration urine color chart will help you use your urine color as an indicator of your level of dehydration and what actions you should take to help return your body back to a normal level of hydration.

	Doing ok. You're probably well hydrated. Drink water as normal.
	You're just fine. You could stand to drink a little water now, maybe a small glass of water.
	Drink about 1/2 bottle of water (1/4 liter) within the hour, or drink a whole bottle (1/2 liter) of water if you're outside and/or sweating.
	Drink about 1/2 bottle of water (1/4 liter) right now, or drink a whole bottle (1/2 liter) of water if you're outside and/or sweating.
	Drink 2 bottles of water right (1 liter). IF your urine is darker than this and/or red or brown, then dehydration may not be your problem.



# 400 Hydration

Asbestos and benzene and  
parasites...oh my!



# 400 Hydration

What should not be in  
your water?



# PH LEVELS OF POPULAR BRANDS OF BOTTLED WATER



<b>Propel Zero:</b> pH 3.5	<b>Arrowhead:</b> pH 6.8	<b>Fiji:</b> pH 7.3	<b>Smart Water:</b> pH 7.6	<b>Evian:</b> pH 7.9	<b>Icelandic:</b> pH 8.4	<b>Alkalife TEN:</b> pH 10.0
<b>Aquafina:</b> pH 5.5	<b>Poland Spring:</b> pH 7.2	<b>Volvic:</b> pH 7.5	<b>Deer Park:</b> pH 7.8	<b>Real Water:</b> pH 8.0	<b>Evamor:</b> pH 8.8	
<b>Dasani:</b> pH 5.6	<b>Nestle Pure Life:</b> pH 7.3	<b>VOSS:</b> pH 7.6	<b>Penta:</b> pH 7.8	<b>Eternal:</b> pH 8.1	<b>Essentia:</b> pH 9.4	

*pH values based on lab results. Manufacturer claims may vary.*

[www.AlkalifeTEN.com](http://www.AlkalifeTEN.com)

**Alkalife®**



# 500 Hydration

Yes, Virginia, but you really should drink real water.



# 500 Hydration

Lisa, do all fluids count equally in the hydration equation?



# Water from Liquids

- What about caffeinated beverages?
  - There is diuretic effect
- What about sugary beverages?
  - Ouch- calories and rotten teeth
- What about artificially sweetened beverages?
  - Messes with how we metabolize calories
- What about alcohol?
  - Calories, diuretic effect...other benefits vs risk
- What about fruit juices
  - Only 100%
- What about sports drinks?
  - In special circumstances
    - Celtic sea salt or Himalayan Sea Salt
- What about carbonated beverages?
  - Ok- but beware of citrus additives





# 100 Exercise

Crunched for time? Get in 75 minutes a week of this to meet national guidelines for health



# 100 Exercise

What is vigorous aerobic activity?



# 200 Exercise

The activity level at which you are able to talk but not able to sing-this exercise is good for those who are not quite ready for Broadway.



# 200 Exercise

What is moderate aerobic activity?



# 300 Exercise

This activity is recommended  
at least 2 times a week  
targeting all major muscle  
groups.



# 300 Exercise

What is muscle, resistance and strength training?



# 400 Exercise

This is considered by some  
to the "new" smoking.



# 400 Exercise

What is sitting or sedentary lifestyle?





# 500 Exercise

## 45 Minutes



# 500 Exercise

How long would you have to exercise at a moderate level to burn off one serving of Oreos?





A serving size is 3 cookies



# 100 Sleep

1, 2, 3 and REM  
(this is not the 90s  
band)



# 100 Sleep

What are the stages of sleep?



# Stages of Sleep

- **Stage 1**
  - Between being awake and falling asleep
  - Light sleep- easy to wake up
  - Doesn't last long
- **Stage 2 (preparing for deep sleep)**
  - Onset of sleep, Becoming disengaged from surroundings, HR, BP and temp lower
  - Muscles contract and relax
- **Stage 3 (or 4) (deep sleep)**
  - Deepest sleep for your body (your brain is "off-line" here)
    - Occurs in first few hours of sleep
    - Hard to awaken; If you are awakened you will be disoriented
    - Tissue growth and repair
    - Energy restored- if you're short on this- you awaken tired



# Stages of Sleep Continued

## REM

- Occurs usually about 90 minutes after you fall asleep and sometimes right after deep sleep
- You “cycle” several times during the your sleep time
  - First REM is about 10 minutes and then REM lengthens in subsequent cycles to an hour or more
- Heart rate, breathing and eye movement speed up
- Brain becomes very active (your body is “off-line” here):
  - Seems to play a role in memory and learning
  - You consolidate info from previous day into LT memory
- Plays a role in mood



# 200 Sleep

Don't hit snooze on  
getting 7 – 9 hours a  
night...





# 200 Sleep

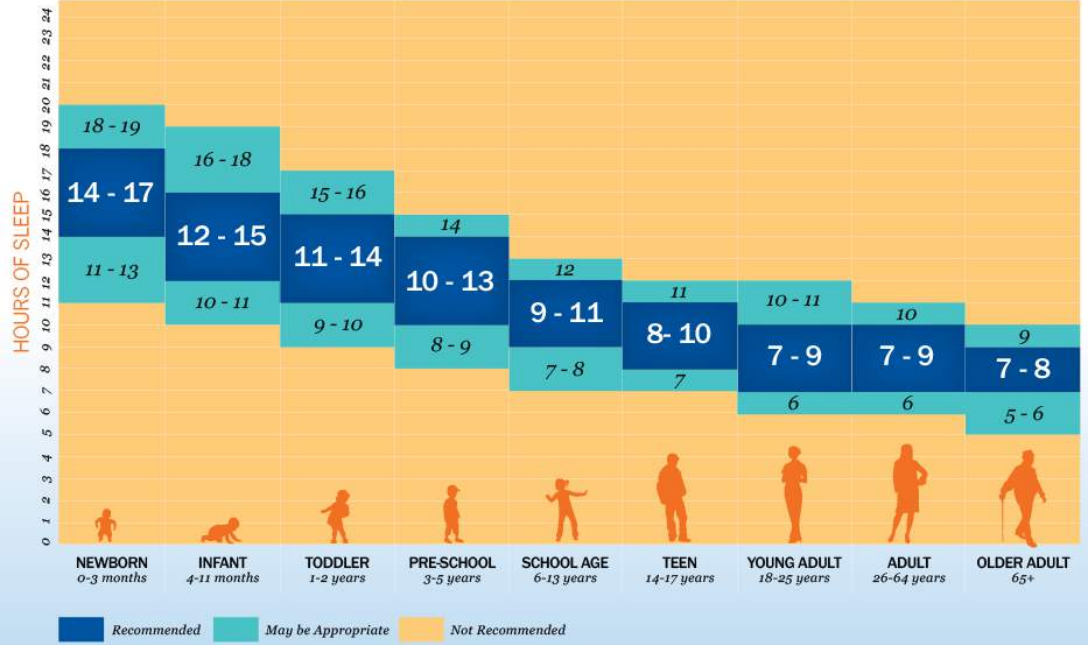
What are the recommended hours of sleep for adults?



# How much sleep do you need?

NATIONAL SLEEP FOUNDATION

## SLEEP DURATION RECOMMENDATIONS



SLEEPFOUNDATION.ORG | SLEEP.ORG

Hirshkowitz M, The National Sleep Foundation's sleep time duration recommendations: methodology and results summary, Sleep Health (2015), <http://dx.doi.org/10.1016/j.sleh.2014.12.010>



# 300 Sleep

There are over 90 of  
these...no wonder  
we are all tired!



# 300 Sleep

What are sleep disorders?



# Insomnia

Three nights a week for three months or longer:

- Trouble falling asleep
- Trouble staying asleep
- Waking early (unintentionally)



# 400 - Sleep

This activity before bed can significantly affect how well...or how poorly... you sleep



# 400 - Sleep

What is eating?



# Sleep Stealers

- Anything acidic (citrus, red sauce, etc.)
- Spicy foods (capsaicin can raise body temp)
- Sugar
- Eating too much or too soon right before bedtime
- High fiber foods
- Alcohol





# Eat for Sleep

Certain foods may promote sleep by supporting the neurotransmitters/hormones that regulate sleep:

- Tryptophan:
  - It is an essential amino acid that is the pre-cursor to serotonin.
- Serotonin
  - Serotonin is a neurotransmitter that is the precursor to melatonin.
- Melatonin Primary (hormone responsible for circadian rhythms):
  - Melatonin is a hormone that promotes sleep by relaxing us.
- Melatonin production is stimulated by darkness.



# Tryptophan Food Sources

Food	Serving size	Tryptophan (mg)
<b>Nuts and Seeds</b>		
Almond butter	2 Tb.	50
Cashews, raw	1 oz.	81
Chia seeds	1 oz.	124
Hazelnuts, blanched	1 oz.	50
Pistachios, raw	1 oz.	38
Sunflower seeds	1 oz.	47
<b>Dairy</b>		
Cheddar cheese	1 oz.	91
Cottage cheese	½ cup	156
Mozzarella cheese	1 oz.	96
Parmesan	1 oz.	137
<b>Grains</b>		
Oat bran, cooked	1 cup	125
Oatmeal, cooked	1 cup	365
Quinoa, cooked	1 cup	96
<b>Fish</b>		
Cod	3 oz.	218
Halibut	3 oz.	241
Salmon, Atlantic, wild	3 oz.	242
Salmon, Sockeye, wild	3 oz.	285
<b>Poultry and Beef</b>		
Beef, bottom sirloin	3 oz.	147
Beef, ground (90% lean)	3 oz.	113
Beef, ribs	3 oz.	313
Chicken, breast	3 oz.	316
Chicken, dark meat	3 oz.	273
Chicken, egg	1 large	83
Turkey, breast	3 oz.	244
Turkey, dark meat	3 oz.	236



# 500 - Sleep

Routine + Relax + Refresh =  
Rejoice



# 500 - Sleep

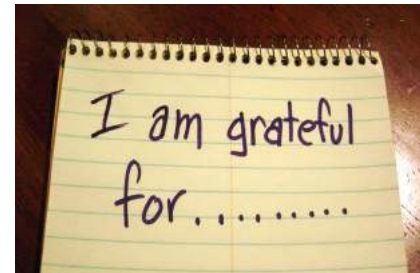
What are the 3 R's of Sleep Hygiene?



# Remember the 3 R's

## Finding a Relaxing Ritual

- Read in a quiet spot.
- Practice a breathing technique or a body scan.
- Meditate.
- Write in a gratitude journal.
- Soak in a warm Epsom salt bath.
- Sip a cup of herbal tea.
- Play a couple rounds of solitaire.
- Aromatherapy.



# 100 - Nutrition

Harvard does this  
better than the federal  
government



# 100 - Nutrition

What is provide a guideline  
for healthy eating?



# 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!**

© Harvard University



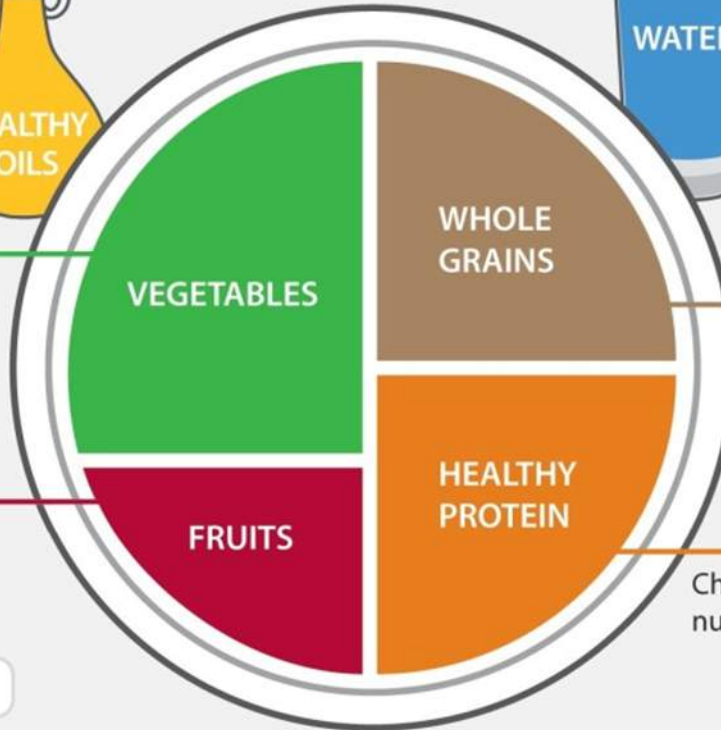
Harvard T.H. Chan School of Public Health  
The Nutrition Source  
[www.hsph.harvard.edu/nutritionsource](http://www.hsph.harvard.edu/nutritionsource)



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)





# 200 - Nutrition

You take this with you everywhere and is a good source for portion control.

























# 200 - Nutrition

What is your hand?



# Serving-Size Comparison Chart

FOOD	SYMBOL	COMPARISON	SERVING SIZE	
<b>Milk &amp; Milk Products</b>				
Cheese (string cheese)			Pointer finger	1½ ounces
Milk and yogurt (glass of milk)			One fist	1 cup
<b>Vegetables</b>				
Cooked carrots			One fist	1 cup
Salad (bowl of salad)			Two fists	2 cups
<b>Fruits</b>				
Apple			One fist	1 medium
Canned peaches			One fist	1 cup
<b>Grains, Breads &amp; Cereals</b>				
Dry cereal (bowl of cereal)			One fist	1 cup
Noodles, rice, oatmeal (bowl of noodles)			Handful	½ cup
Slice of whole wheat bread			Flat hand	1 slice
<b>Meat, Beans &amp; Nuts</b>				
Chicken, beef, fish, pork (chicken breast)			Palm	3 ounces
Peanut butter (spoon of peanut butter)			Thumb	1 tablespoon

©2012 Dairy Council of California



# 300 - Nutrition

This is your body's main  
source of fuel –

*No I'm not talking about your  
coffee consumption!*



# 300 - Nutrition

What are carbohydrates?



# Complex Carbs



Complex carbohydrates are typically starchy foods or foods packed with fiber that will make you feel full faster. Complex carbs can prevent heart disease and diabetes as well as providing long term energy for your body.

**They can be found in:** whole wheat pasta, brown rice, potatoes, oatmeal, fruits, vegetables, legumes, cucumbers, pickles, skim milk and yogurt.

*loose-skinnyjeans.tumblr.com*



# 400 - Nutrition

These are the good fats  
*(and Lisa's favorite acronyms)*



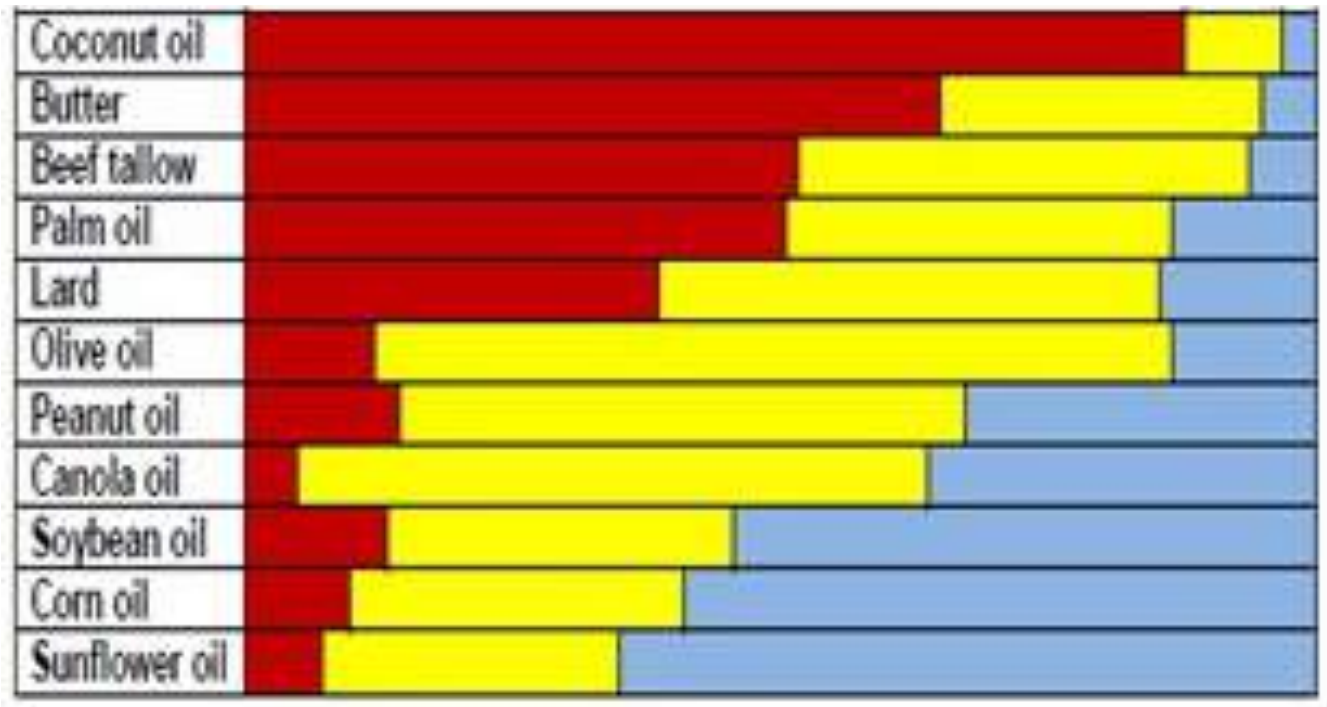
# 400 - Nutrition

What are MUFA's –  
monounsaturated fats &  
PUFA's polyunsaturated  
fats?



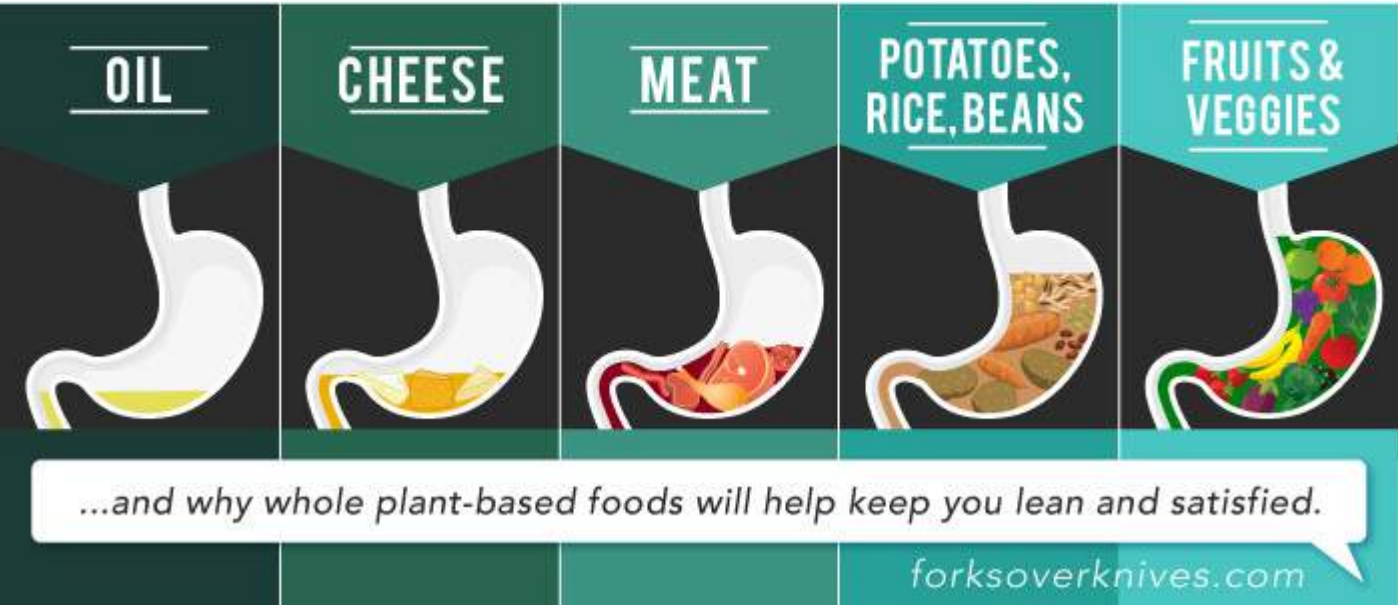


Saturated Fats    Mono-unsaturated fat    Poly-unsaturated fat



# Calorie Density Graphic

## CALORIE DENSITY WHAT 500 CALORIES LOOK LIKE



# 500 - Nutrition

Popeye ate spinach to grow big muscles but beans, peas and legumes pack a stronger punch.



# 500 - Nutrition

What are the best  
non-animal sources of  
protein?



...

# Non-Animal Protein Sources

Non-animal sources of protein are not complete proteins in and of themselves (meaning they do not contain all of the 9 essential amino acids). As such, it is important to combine sources (such as legumes and whole grains).

Food	Serving size	Protein (grams)
<b>Beans, Peas, Legumes</b>		
Black beans	½ cup	7.2
Garbanzo beans	½ cup	7.3
Green peas, cooked	1 cup	8.5
Pinto beans	½ cup	7.7
<b>Grains</b>		
Amaranth, cooked	½ cup	4.7
Black rice, cooked	½ cup	4
Brown rice, cooked	½ cup	2.5
Millet, cooked	½ cup	3
Quinoa, cooked	½ cup	4
<b>Nuts and Seeds</b>		
Almonds, raw	¼ cup	6
Cashews, raw	¼ cup	5
Pecans, raw	¼ cup	3
Walnuts, raw	¼ cup	5
Chia seeds	2 Tb.	4.7
Flax seed, milled	2 Tb.	3
Hemp seed	2 Tb.	5
Sunflower seeds	¼ cup	7.3



...

# Non-Animal Protein Sources Continued...

<b>Vegetables</b>		
Artichokes	1 cup	5.2
Beet greens, boiled	1 cup	3.7
Broccoli, cooked	1 cup	5.7
Collards, boiled	1 cup	5
Kale, boiled	1 cup	3.7
Mushrooms, white, raw	1 cup	3
Spinach, boiled	1 cup	5.4
Spinach, raw	2 cups	2.1
Swiss chard, boiled	1 cup	3.3
<b>Soy</b>		
Edamame, cooked	½ cup	8.4
Tempeh	½ cup	15
Tofu, firm	2.8 oz.	7

