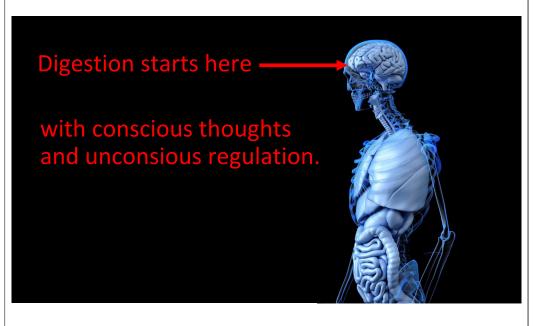


# Being in relaxed state helps you:

- enjoy your food and feel more satisfied with your meals
- 2) digest your food better

We'll practice.



## **Autonomic (Involuntary) Nervous System**

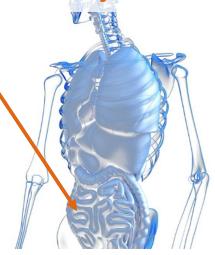
Sympathetic Nervous System Fight or Flight (or Freeze)

Parasympathetic Nervous System Rest and Digest

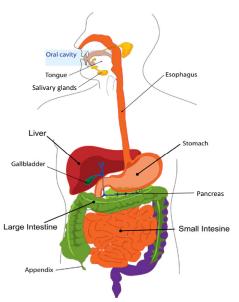
# **Autonomic (Involuntary) Nervous System**

Enteric Nervous System aka The 2<sup>nd</sup> Brain, The Gut Brain

- Highly integrated with the Parasympathetic and Sympathetic Nervous Systems
- Your digestive system is the only system that has its own dedicated nervous system



**GI Tract and Digestion** 



www.youtube.com/watch?v=qvpQNuF1S6w

Photo source: Wikinedia



### Stress can

- Lead us to over-eat or under-eat
- Inhibit flow of saliva (with digestive enzymes)
- $\bullet$  Increase or decrease stomach acid production  $\boldsymbol{\rightarrow}$  indigestion
- Decrease secretion of digestive enzymes
   → indigestion

### Stress can

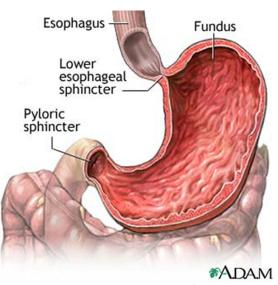
Cause the lower esophageal sphincter to remain open → reflux

Slow or stop peristalsis

Inhibit cleansing waves

Suppress immune system

Disrupt the gut flora, microbiome



Source: UT Health Science Center School of Medicine - San Antonio

Breathe.

Check in with your physical hunger level.

### Hunger-Fullness Scale

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0	1	2	3	4	5	6	7	8	9	10
Completely On Empty	Ravenous	Overly Hungry	Hunger Pangs	Hints of Hunger	Neutral	Just Barely Satisfied	Satisfied	Overly Full	Stuffed	Sick

#### Sample Mindful Eating Log

Record everything you eat and drink along with your hunger/fullness level before, during, and after you eat. Make a point to stop after you are about halfway through eating and check in with your hunger level at that point.

	Date/ Time	Level - Before	Foods/Beverages Consumed	Level - Halfway	Level - After	Reflections (Include the reason you ate.)
L						

# Think about your food.

Notice the colors.

Notice the shapes.

Notice the textures.

Smell it.

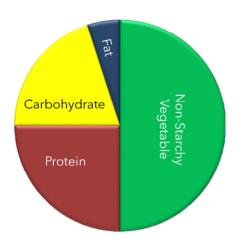
Notice the temperature.

Notice the flavors.

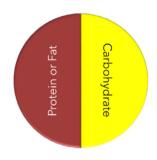
Stop when you are comfortably full.

What gets in **your** way of eating mindfully?

Set yourself up for success with a balanced plate.



### Set yourself up for success with a balanced snack.



## Consider

- Why do I eat?
- When do I want to eat?
- What do I eat?
- How do I eat?
- How much do I eat?
- Where do I invest my energy?

Which strategy can you realistically implement this week to eat more mindfully?

Write it down.

# **Tips for Optimal Digestion**

Stage of Digestion	Parasympathetic Nervous System Actions / Physiological Effects of Mindful Eating	Sympathetic Response / Physiological Effects of Stress Eating	Tips
Overview	Rest and Digest  Saliva secretion  Stomach acid production  Digestive enzyme production  Bile production  Nutrient absorption  Intestinal motility  Cleansing waves  Bowel movements	<ul> <li>Fight or Flight</li> <li>Blood flow is diverted from the digestive system.</li> <li>Opposite of "rest &amp; digest".</li> <li>May result in overeating or undereating, indigestion, poor nutrient absorption, potential constipation or diarrhea.</li> </ul>	☐ Eat only when you are physically hungry.  ☐ Balance your meals with foods that will allow you to feel full and stay full. Include nonstarchy vegetables, sources of healthy fats, protein, complex carbohydrates.
Cephalic Phase	<ul> <li>Head</li> <li>Anticipation of food prepares your body for digestion.</li> <li>Sight, sound, smell and thought of food elicits signals from the brain that travel down the vagus nerve telling the rest of the GI tract to prepare for digestion.</li> <li>You may secrete as much as 40% of the hydrochloric acid (HCI) and digestive enzymes needed to break down the foods you eat before you consume a single ounce.</li> <li>Mouth</li> <li>Mechanical and chemical digestion digestion begins as food is chewed and enzymes in saliva are secreted.</li> </ul>	<ul> <li>Inhibits flow of saliva which contains digestive enzymes.</li> <li>Overeating puts a strain on the lower esophageal sphincter which can lead to reflux.</li> <li>If you don't leave enough space for the stomach to churn food, undigested food can travel to the small intestines putting you at risk for bacterial overgrowth (SIBO).</li> </ul>	<ul> <li>□ Stop and take some slow, full breaths for 2 – 5 minutes before you eat.</li> <li>□ Check in with your hunger level. (See hunger-fullness scale.)</li> <li>□ Sit down at a table to eat.</li> <li>□ Look at and smell your food before eating.</li> <li>□ Chew your food thoroughly – 20-40 times per bite. Your stomach does not have teeth! Swallow your first bite before you take another bite.</li> </ul>
Esophageal Phase	Esophagus: 9 ½ inches long     Peristalsis, wavelike contractions, move chewed food down the esophagus through the lower esophageal sphincter to the stomach.	Peristalsis can be impeded.	☐ Sit calmly while eating.

Gastric Phase	<ul> <li>Stomach: 12 inches long &amp; 6 inches wide at its widest point</li> <li>It can comfortably hold 1 quart of food but it will hold much more if forced.</li> <li>Physical disassembly of food (mechanical digestion) is completed.</li> <li>The stomach secretes gastric acid powerful enough to burn you if you touched it.</li> <li>It secretes digestive enzymes strong enough to rip apart proteins and fats.</li> <li>It takes the stomach about 4 hours to complete its digestive duties.</li> </ul>	<ul> <li>Slows or stops digestion in stomach.</li> <li>Increases or decreases stomach acid production leading to indigestion.</li> </ul>	<ul> <li>□ Between bites, put your food or fork down and breathe. Talk if you are with others.</li> <li>□ When you are 50-75% through your meal, check in again with your hunger level. (See hunger-fullness scale.)</li> <li>□ Fill the stomach only about 2/3 full. Don't over fill your stomach with food and/or liquids at meals. There needs to be space for food to mix and churn in your stomach to digest properly – like a blender</li> </ul>
Intestinal Phase	<ul> <li>Small Intestine: 22 – 23 feet long</li> <li>Fingerlike projections called villi line the small intestine and absorb the nutrients from digested food.</li> <li>70-80% of your immune system lines the intestines.</li> <li>Large Intestine (colon): 5 - 6 feet long</li> <li>Most of your bacteria, microbiome, live in the colon.</li> <li>Friendly organisms in your microbiome consume what hasn't been absorbed from your food. These bacteria ferment carbohydrates the human body is otherwise unable to use.</li> <li>The bacteria in the colon produce Vitamin K, biotin and other essential nutrients.</li> <li>Water in the waste materials is reabsorbed into the body, and the final waste product collects in the rectum which leads to a bowel movement.</li> </ul>	<ul> <li>Peristalsis can be impeded causing constipation.</li> <li>Decreases secretion of digestive enzymes (from pancreas and gall bladder) leading to indigestion.</li> <li>Diarrhea can occur.</li> <li>Suppresses immune system.</li> </ul>	when you're making a smoothie. Eat until you're "comfortable" and have sips of liquid with your meals.  1. Mark any tips above that you plan to incorporate over the next week.  2. List 1-2 additional strategies will you try:

For additional recommendations tailored to your digestive needs, please consult a SAS Registered Dietitian Nutritionist.





### **Hunger-Fullness Scale**



**At 0, you are completely on empty.** You've gone too long without eating and/or did not include the right balance of nutrients. You may be irritable. You might be feeling nauseous or dizzy, or you may have a headache.

**At 1, you are ravenous.** All you can think about is how hungry you are. You can only think about what you want to eat. When you do eat, it is likely that you will overeat.

**At 2, you are too hungry.** You are probably irritable. You may have a headache. Your stomach might be aching by now.

**At 3, you are having hunger pangs.** It's time to eat. Your body is giving you the natural signals that it needs food. This is a good number to start eating--wait any longer and you will be too hungry.

**At 4, your hunger is just starting to awaken.** There is a sense of emptiness in your stomach. This can also be good time to eat.

**At 5, you are neutral.** You aren't hungry or full. If you feel this and want to eat, it is not due to hunger, but you may want to eat out of boredom or stress.

At 6, you are just barely satisfied. You aren't hungry anymore, but probably will be in 2 hours or less. There is definitely more room for food, and you still feel light and energized. This may be a good place to finish a meal or snack since there may be a delay in determining your true level of satiety.

At 7, you are 'just right'. You have had your fill of the food you wanted. You are no longer hungry and you probably won't need to eat again for some time. This is also a good place to finish a meal or snack.

**At 8, you had a few bites too many.** You ate a few more bites because it was there or tasted good. You might feel a bit bloated like you need to undo the top button of your pants.

**At 9, you are stuffed.** You have gone overboard. Your meal has gone past the point of pleasure, and you now feel uncomfortable. You may feel a bit numb or sleepy.

**At 10, you feel sick.** You feel uncomfortable to the point of pain and/or nausea. You may need to lie down until you feel better.





### **Hunger-Fullness Scale**

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