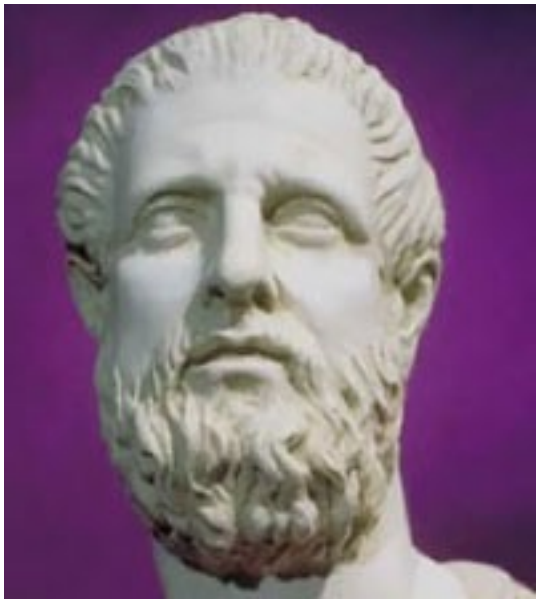
“Let food be thy medicine”
— Hippocrates



460-370 BC

Another of his quotes:

“The natural healing force within each of us is the greatest force in getting well.”

AAA Health

ACTIVITY
- Exercising
- Resting
- Eating (frequency)
- Breathing

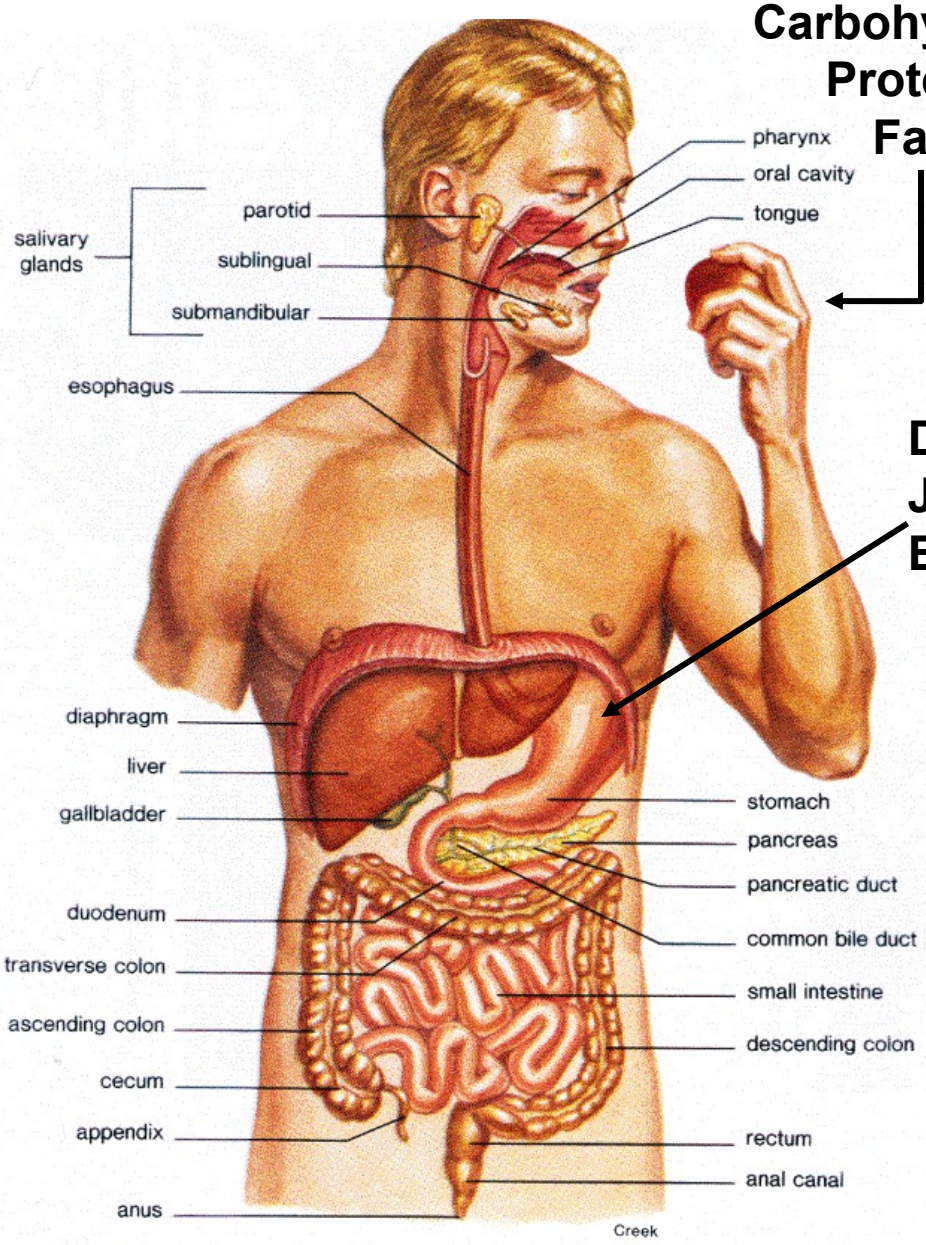
AMOUNT
- Avoid Deficiencies
- Avoid Excesses
- Appropriate Portions

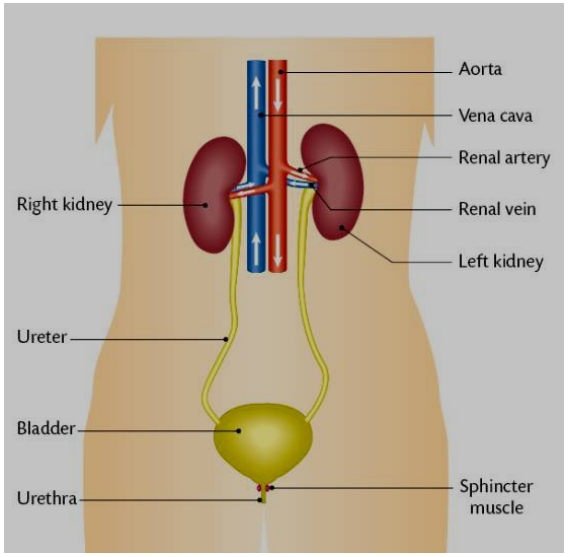
ABSORPTION
- Rate of Absorption
- Enzymes
- Probiotics
- Chemical Balance

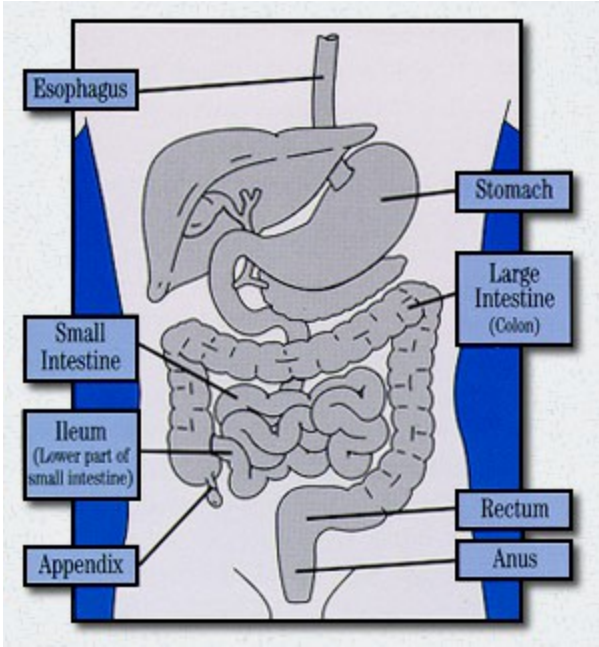
The organs involved in Eating – Digestion and Excretion

Carbohydrates
Proteins
Fats

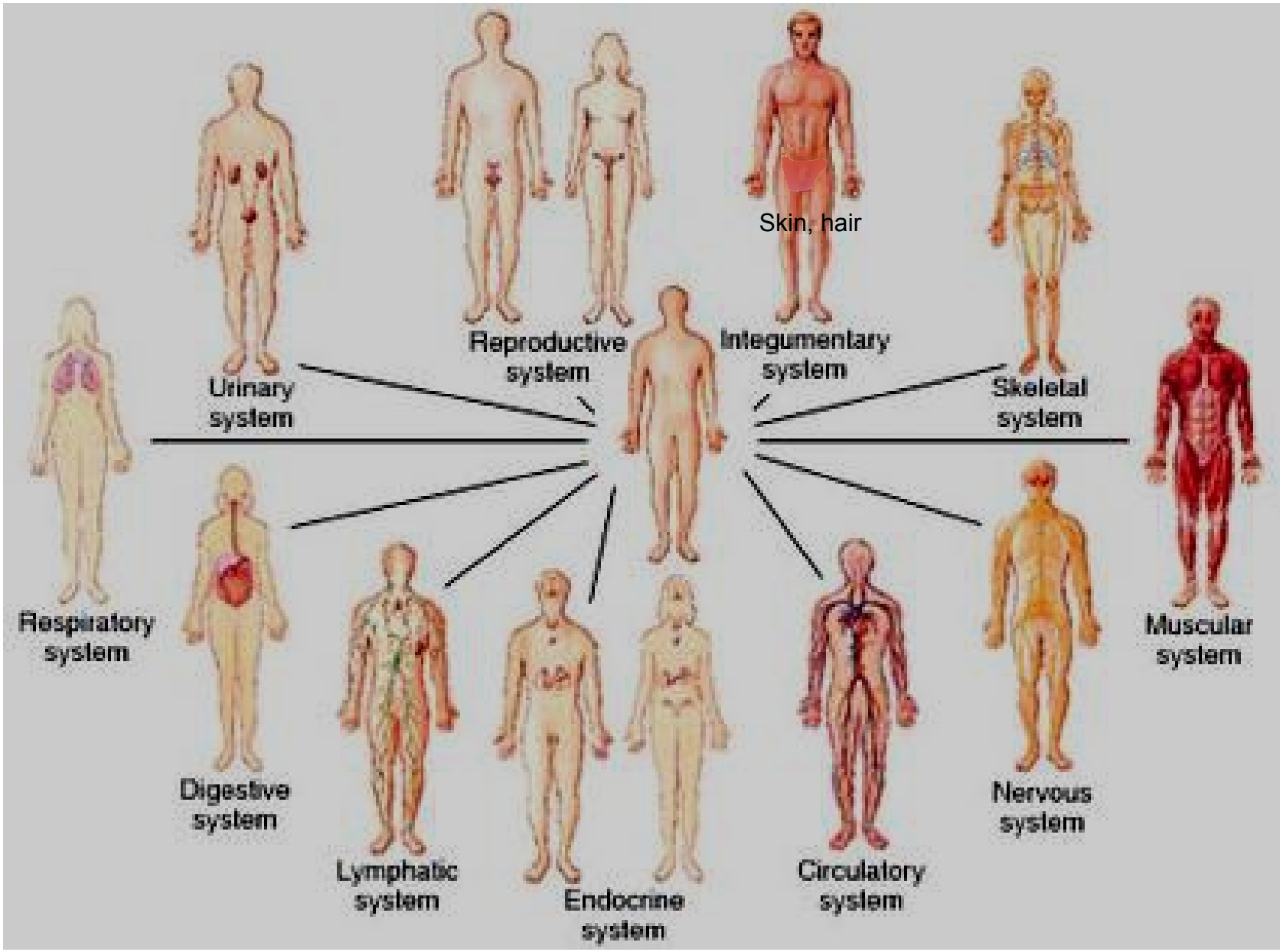
Digestive Juices and Enzymes







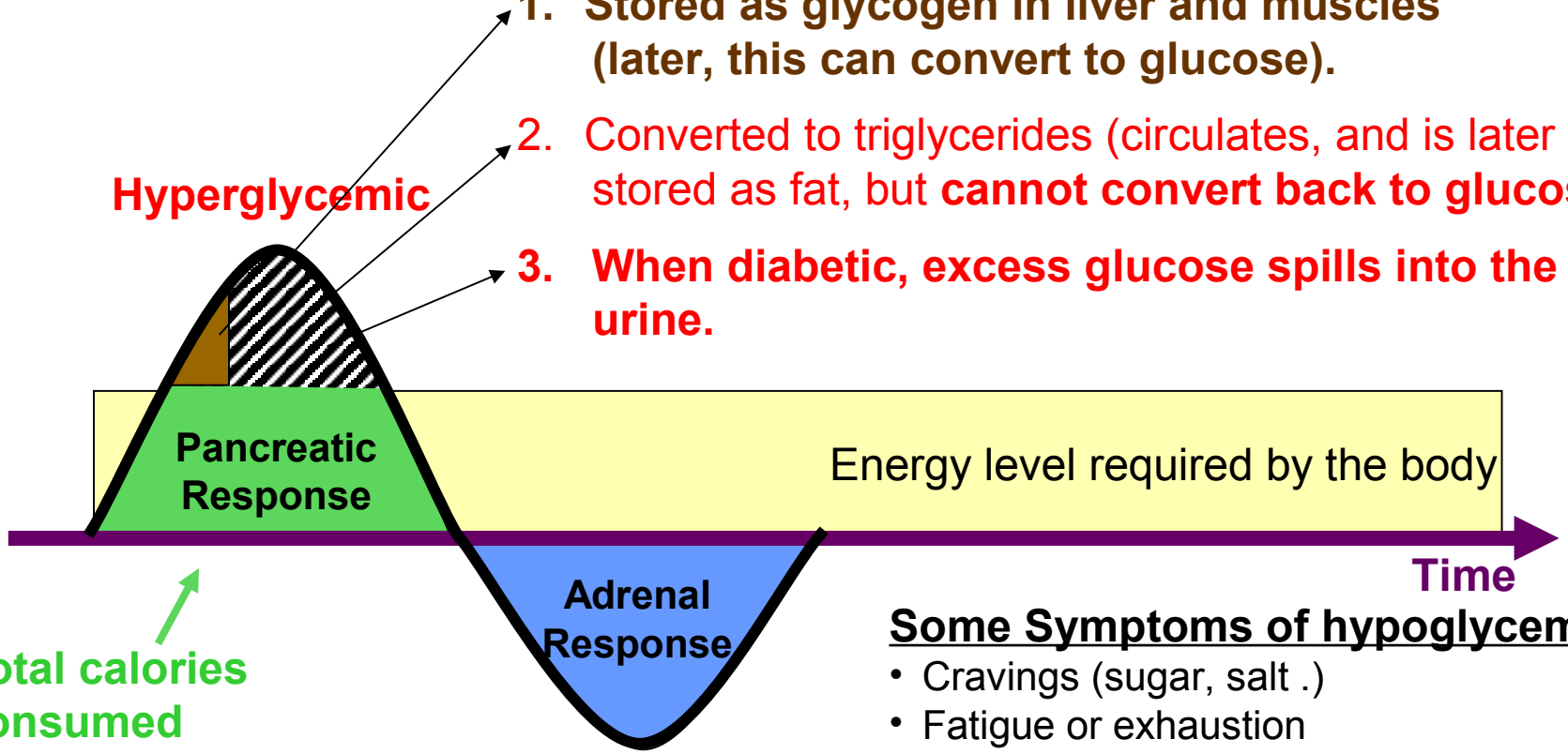
The foods we eat support these Systems



Carbohydrates - Metabolism

So what happens when more carbohydrates (calories) are consumed than the body can burn?

1. **Stored as glycogen in liver and muscles (later, this can convert to glucose).**
2. Converted to triglycerides (circulates, and is later stored as fat, but **cannot convert back to glucose**).
3. **When diabetic, excess glucose spills into the urine.**



Hyperglycemic condition triggers Hypoglycemic response

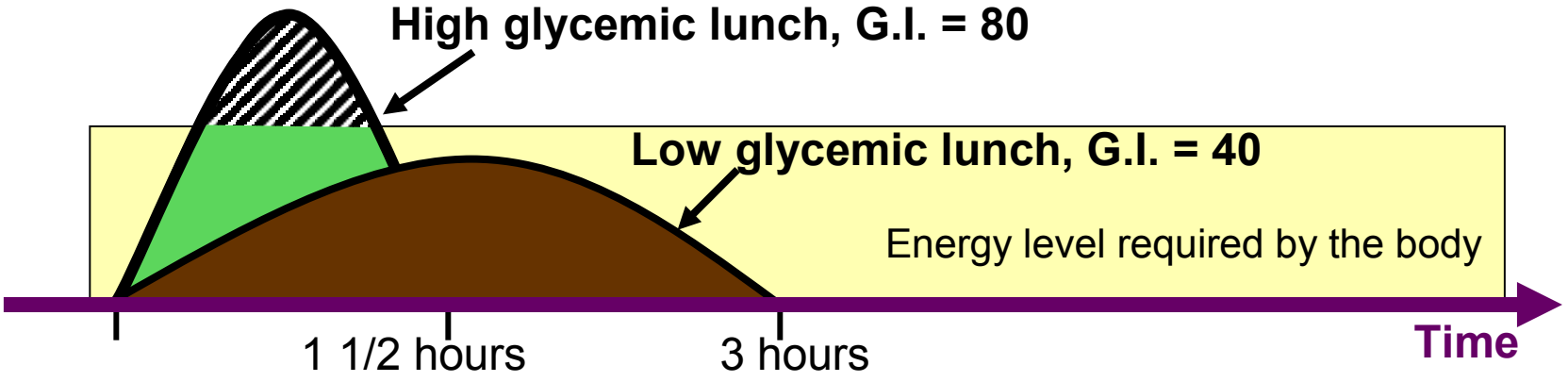
Hypoglycemic

Some Symptoms of hypoglycemia:

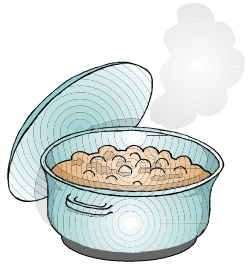
- Cravings (sugar, salt .)
- Fatigue or exhaustion
- Headaches
- Insomnia
- Mood swings
- Mental confusion

Carbohydrates – The Glycemic Index

Glycemic Index is a measure of how quickly foods turns into blood sugar (based on time and absorption, 100 is the highest rate)



Glycemic Index Range		
HIGH	100	Glucose
	90	Most processed cereals, potatoes, carrots
	80	Rice
	70	White flour products, brown rice, bananas, raisins, choc bars
MED	60	Pasta, corn, sucrose, potato chips
	50	Navy beans, sweet potatoes
LOW	40	Oatmeal, golden delicious apples, ice cream, yogurt
	30	Tomato soup, kidney beans, lentils, fructose
	20	Soybeans, peanuts
	10	
	0	



For more on the glycemic Index go to this URL (use the GI database button on the left for GI on specific foods) :
www.glycemicindex.com

Carbohydrates – Blockers and Retardants to Absorption

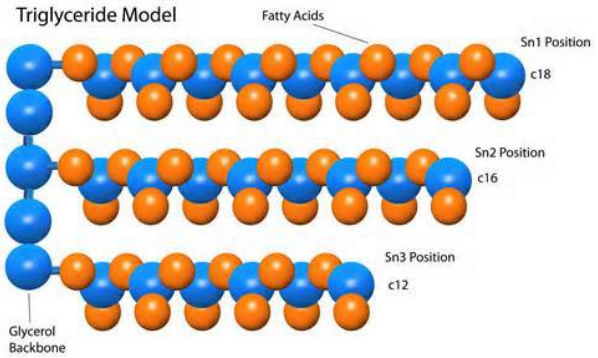
Fiber – slows down digestion. Raw fruits and vegetables and beans naturally contain fiber. (hint: taking a fiber supplement 15 minutes before eating foods with high Glycemic Index will also slow down absorption)

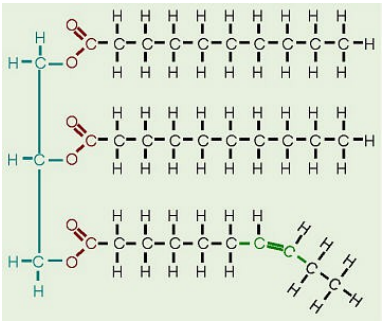
Acid foods – like lemon or vinegar, slow down the digestion of carbohydrates (e.g. sweet and sour).

Combine with fat/protein – just as eating will reduce the effects of alcohol, so will eating other food types affect the digestion of carbohydrates. For example, putting sour cream on a baked potato will increase the amount of time it takes to absorb the potato. (notice how having fat with potato i.e. potato chip reduces the glycemic index). However, keep in mind that adding fat increases calorie intake.

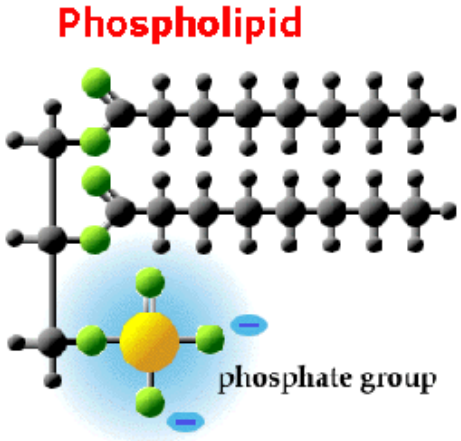
NATURAL FAT OCCURS IN TWO FORMS

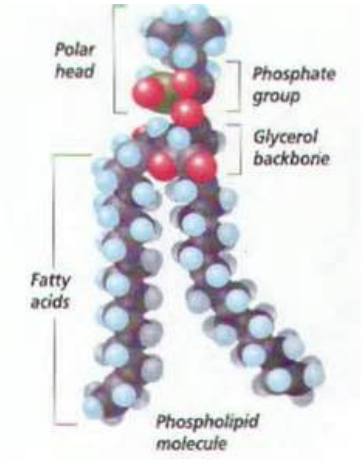
TRIGLYCERIDES – 3 fat molecules on a glycerol backbone
95% of all fats are in this form

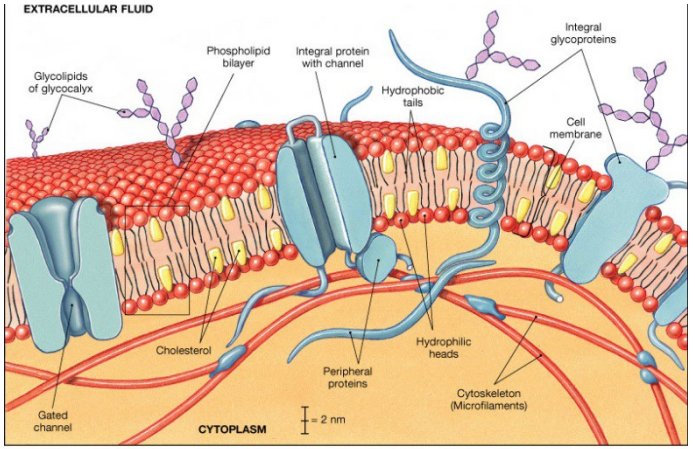




PHOSPHOLIPIDS – 2 fat molecules on a phosphate backbone
5% of all fats are in this form
human cell membranes are primarily made of this







FOUR TYPES OF NATURAL FATS

1. **SATURATED** –saturated with hydrogen atoms and solid a room temperature.

Sources: Meat and dairy products, Tropical fats (coconut and palm kernel)

Use in the body: Primarily it is used for energy, but in the presence of high blood sugar, it is stored in fat cells. However, short to medium chain saturated fats are rarely stored in the body and are burned up quickly for energy.

2. **MONO-UNSATURATED** – also known as **Oleic Acid** and also known as **Omega 9** oil. The molecule has one double bond, hence the term mono-unsaturated.

Sources: Olive, Peanut, Canola oils, avocados, and many nuts (e.g. pecans, almonds), poultry

Use in the body: Primarily used in cell functions (cell membrane, etc). Lowers cholesterol, increases HDL, lowers triglycerides. Stimulates bile activity and pancreatic enzymes.

FOUR TYPES OF NATURAL FATS

3. POLY-UNSATURATED – also known as **Linoleic Acid** and also known as **Omega 6** oil. The molecule has two or more double bonds, hence the term poly-unsaturated. It is an essential fat: each person needs **3 tsp/day/100lbs weight**

Sources: Safflower, sunflower, corn, sesame and soybean oils, poultry

Use in the body: Primarily it is used in producing potent chemical messengers (prostaglandins series 1 and 2 – Pg1 and Pg2). Secondarily it is used for cell functions, chromosome stability and to remove fat soluble toxins. Lastly, in excess, it can be stored as fat.

PG1 reduces blood platelets stickiness, removes sodium and excess water, relaxes blood vessels, slows cholesterol production, decreases inflammation, aids the effectiveness of insulin, and improves nerve function.

PG2 has all the opposite effects of PG1. Note that PG2 is created when there is excess saturated fat in the diet, or extended stress on the body.

FOUR TYPES OF NATURAL FATS

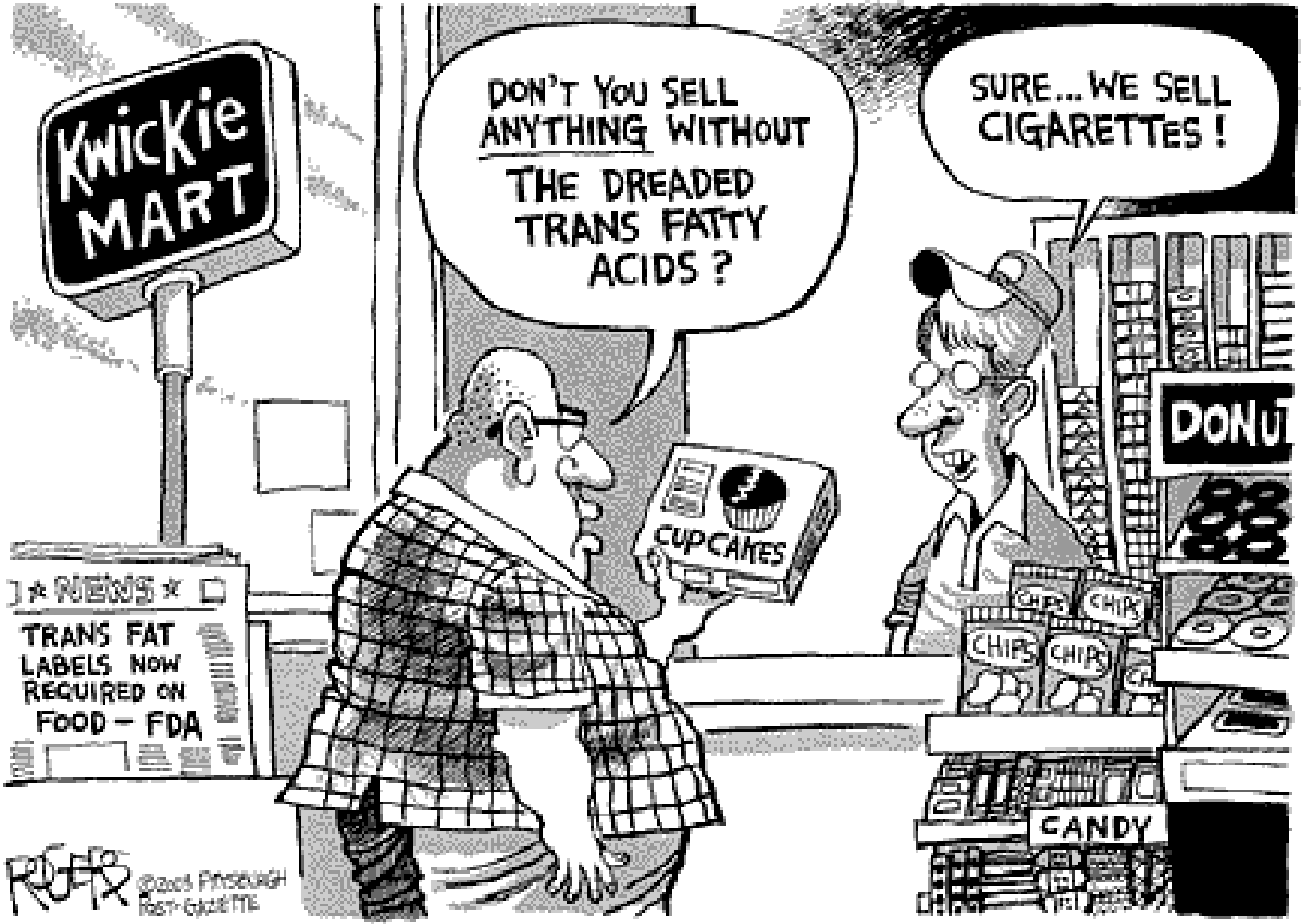
4. SUPER-UNSATURATED – also known as **Alpha Linolenic Acid** and also known as **Omega 3** oil. The molecule has three or more double bonds and at a closer location than poly-unsaturates making it more reactive, **1 tsp/day/100 lbs weight.**

Sources: Flax seed, hemp seed, fish, snake, walnuts, pumpkin seeds and in canola oil.

Use in the body: Primarily it is used in producing the potent chemical messengers prostaglandins series 3. Secondarily it is used for cell functions. Lastly, in excess, it can be stored as fat. Enzymes convert this fat four times faster than poly unsaturates resulting in increased stamina and energy levels. It is also one of the few food items than can increase the metabolic rate.

- PG3 reduces water retention, reduces inflammation, and softens the skin.
- PG3 facilitates the conversion of lactic acid to water and CO2 so muscle fatigue recovery is faster and there is less muscle pain.
- PG3 suppresses the production of PG2 resulting in beneficial PG1 production.

So what are Trans Fats?



How Fats Are Altered

What are "Trans Fats" ?

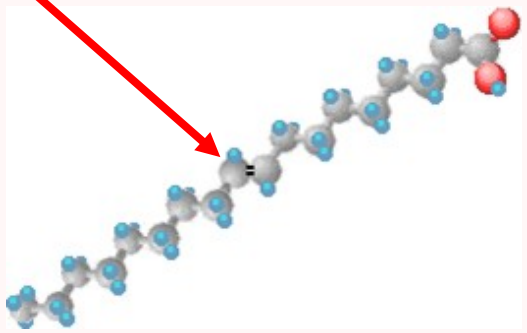
Trans Fats are created when natural unsaturated fat molecules are hydrogenated or partially hydrogenated and the added hydrogen at the double bond is altered from a "cis" form to a "trans" form.

The most common foods that have hydrogenated fats in them are margarines and baked processed goods. Read your labels to **avoid trans fats.**

Other alterations occur to fats at high temperatures. What is formed under high-temperature cooking and frying is a **polymerized oil**, and this is because the heat helps to **form free radicals** and then various breakdown products.

Natural Oil – in normal "Cis" form

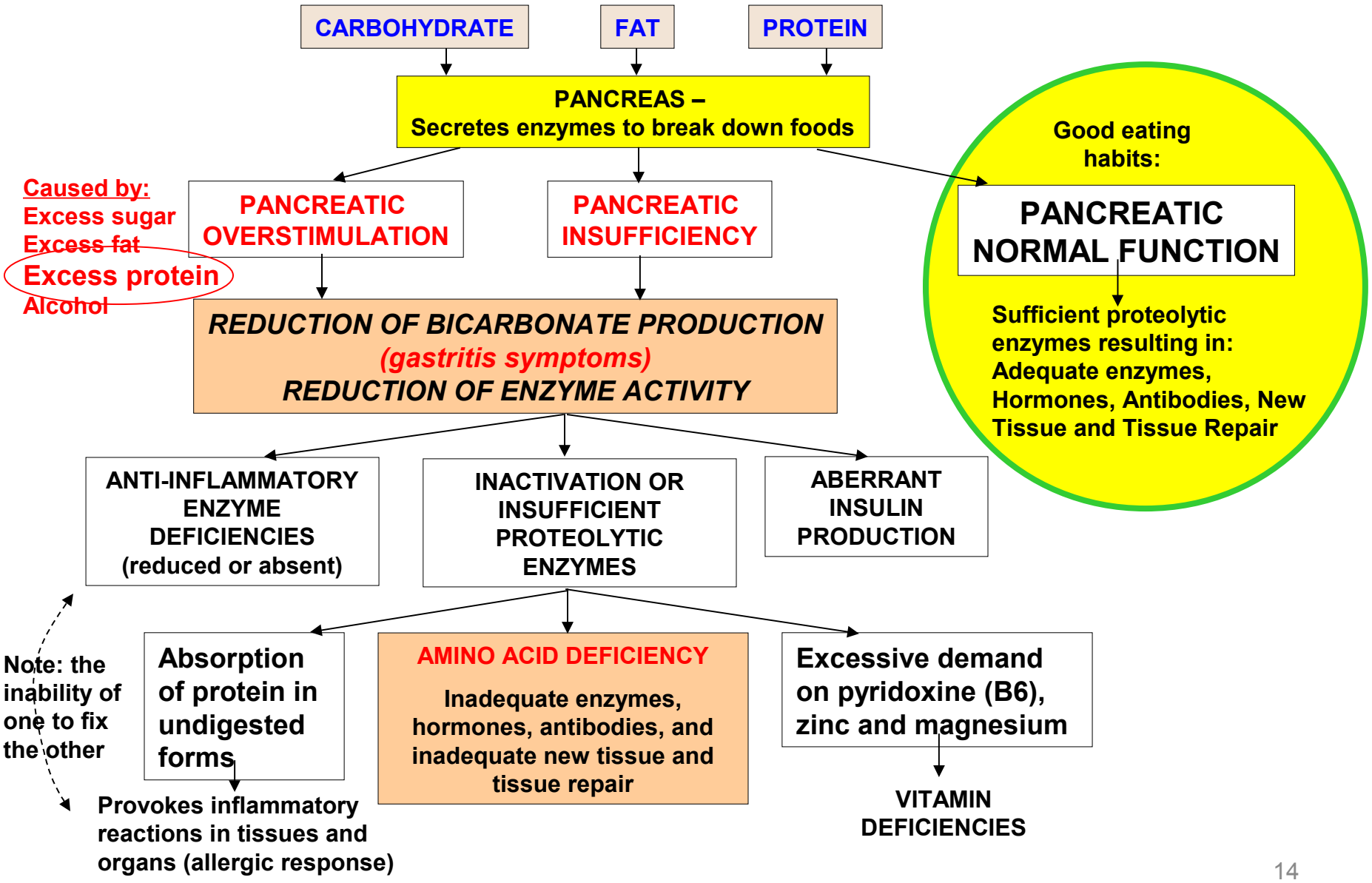
- Enzymes can break this down
- Melting point is 41° F
- Can be used for cell functions
- Is non-sticky



– Trans Fat molecule in it's"Trans" form

- Melting point is approx 110° F
- Cannot be used for cell functions
- Is sticky

Excess Food Intake - Metabolic Impact



INFLAMMATION

Inflammation in the body is a normal response to injury or attack by germs.

Whole-body inflammation refers to chronic, imperceptible, low-level inflammation. Over time this kind of inflammation sets the foundation for many serious, age-related diseases including heart disease, cancer and neurodegenerative conditions such as Alzheimer's and Parkinson's diseases. It also has great destructive potential in autoimmune diseases like type 1 diabetes, rheumatoid arthritis and lupus.

Be sure to have a CRP test in your annual physical

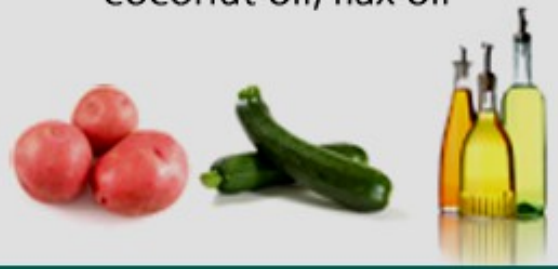
CRP = C-reactive protein test

Anti-Inflammatory Foods

- **Dark, leafy greens** - flavonoids
- **Pineapple** - enzyme bromelain
- **Flaxseed** - omega-3 fatty acids
- **Carrots, apricots, tomatoes, sweet potatoes, squash, and pumpkin** - carotenoids, a group of phytochemicals that help protect cells from free radicals,
- **Cinnamon** - fights bacteria, assists with blood sugar control, and brain function.
- **Ginger** - anti-inflammatory compounds called gingerols
- **Onions, garlic, leeks, and chives**.
- **Tart Cherries** - richest sources of antioxidants
- **Walnuts** - omega-3 fatty acids
- **Turmeric** - curcumin suppresses inflammatory chemicals in the body.

Reduce Acidity in Your Body with Foods

Alkaline Foods reduce Inflammation

Highly Alkaline	Moderately Alkaline	Low Alkaline
		
Cucumber, kale, kelp, spinach, parsley, broccoli, sprouts (soy, alfalfa, etc.), sea veggies, green drinks	Avocado, peppers, mustard & collard greens, cabbage, okra, celery, onion, radish, ginger, endive, garlic, arugula, tomato, butter beans, soybeans, white haricot beans, green beans, beets, lettuce, chia seeds, lemon, lime	Artichokes, asparagus, Brussels sprouts, cauliflower, carrot, chives, zucchini, leeks, red potatoes, peas, rhubarb, watercress, buckwheat, spelt, lentils, tofu, almonds, most herbs & spices, olive oil, coconut oil, flax oil
		

Food Alkalinity EcoNugenics.com

Thank You

Be Well

and

May God Bless You !