

Metabolic Relationships

By addressing the specific relationships between metabolic processes, we no longer address a symptom or disease as a singular entity, but as an expression of a relationship that is out of balance (i.e., a continuous metabolic push or stress). The symptoms are a product of the metabolic relationship, while the "disease" relates to the tissues or cell types involved. In essence, we change the environment of the cell instead of addressing the cell's response to its compromised environment.

Lipids

Effects of Lipids on Reproductive Health and Anabolism

The functions of the gallbladder (i.e., concentrating bile and cholesterol) are directly related to the cellular mechanisms that influence hormone production (cholesterol being the starting point of the steroidal hormones). However, if the cellular physiology is geared toward making cholesterol (typically from consuming too many carbohydrates and/or saturated fats) and not efficiently utilizing cholesterol for the production of steroidal hormones, hormone production may be impaired. Shifting the physiology from one of fat storage to utilizing fats for energy is of prime importance for a healthy reproductive system. Fat burning is also a prerequisite for optimum metabolic effects of growth hormone and protein sparing. Note: this is one of the problems seen with the high carbohydrate low fat diets of bodybuilders. With this type of diet a bodybuilder will put on more fat than he or she desires as they have created a physiology of burning carbs and making fats. Thus, by the time they are ready to cut calories and lose the extra fat, their body is inefficient at burning fat and relies on too much protein (e.g., muscle) for some of their energy requirements. Hormone production of both males and females follow the same basic pathway: **Cholesterol --> Progesterone --> Testosterone --> Estrogen.**

Note: The most damaging food for lipid metabolism and therefore, liver and gallbladder are carbohydrates. It is, therefore, strongly recommended to address carbohydrate intake as well.

Conditions of lipids on reproductive health include:

Amenorrhea	Hyper/hypotension	Muscle loss
Blushing/hot flashes	Menopause	Ovarian dysfunction
Cold sweats	Hot flashes Painful intercourse	Psoriasis
Connective tissue diseases	Insomnia Osteoporosis	Stroke (hypertensive)
Estrogen Issues	Mood swings Vaginal dryness	Testosterone
	Low libido	Weight gain

Dietary considerations

Decrease	Increase
Potato	Sea vegetables
Breads, grains, corn, pasta, etc.	Fish
Animal,	Tropical Fruits: Ginger, papaya, pineapple
Chicken, egg	Coconut, avocado (and oil), and olive oil

Steroidal

Effects of Steroidal Foods on Adrenal, Heart and Kidney Health

The most damaging aspect of physiology for either the heart or kidneys is blood proteins. Certain foods (i.e., those which contain hormones or stimulate hormone production) cause excessive protein turnover, which decreases the blood CO₂ levels. This results in poor protein digestion as CO₂ is necessary for HCl production. This pattern is also seen with excessive or prolonged mental, emotional or physical stress resulting in, or leading toward, hyperventilation symptomatology. Hyperventilation, angina and myocardial infarction are basically the same biochemical response to low CO₂ and tissue calcium. The difference being the hyperventilation patient has adequate coronary circulation and the cardiac patient does not due to compromised liver/gallbladder function. Whether from too much protein or too much stress, low CO₂ seems to be the initiating factor in all the above situations.

Conditions of steroidal foods on protein anabolism include:

Angina	Heart disease	Kidney stones
Anxiety (panting breath)	Hiccups	Nausea
Bladder Infections	Indigestion (achlorhydria)	Panic attacks
Cold sweats	Infarction	Swelling (ankles, feet, hands, eyes)
Excessive stress	Kidney disease	Weak digestion
Gout		

Dietary considerations

Decrease	Increase
Dairy, animal	Tropical fruits: papaya, pineapple, ginger
Chicken, eggs	Fish (moderate amount)

Importance of Lung Function to Protein Anabolism

As much as 90% of the protein requirement of an adult is for maintaining hemopoetic function. Three million erythrocytes, 900 trillion molecules of hemoglobin, are broken down every second by the spleen and macrophage cells, as they are responsible for protecting the body's

functioning proteins. This process is dependent on the interstitial free fluid pressure functioning at a sub atmospheric pressure of -3 mm Hg. It is the sub atmospheric pressure caused by lymphatic flow, which causes fluid to move from the capillaries into the extracellular fluid spaces and then into the lymph channels. It is the movement of the lung (breath) that maintains the negative pressure of the lymphatic channels and cranium. Therefore, breath is especially important for any condition relating to circulation of the vascular or lymphatic system as well as the spleen and immune system.

Conditions of steroidal foods on protein anabolism include:

Apnea	Bronchitis
Asthma	Emphysema

Dietary considerations

Decrease	Increase
Potato & nuts	All fruits
Breads, grains, corn, pasta, etc.	Coconut, avocado (and oil), and olive oil

Carbohydrates

Effects of Carbohydrates on Liver and Gallbladder Health

We use carbohydrates for energy the first ninety minutes after mealtime. After that, most of the excess carbohydrates, whether from refined or complex sources, are converted to saturated fats and cholesterol via pyruvic acid. Thus, the metabolism is geared toward making fats and cholesterol resulting in (1) a compromised ability to use fats for energy; (2) an increase in bile concentration which can eventually lead to liver and gallbladder congestion; (3) increased sterols in cellular membranes which decreases cell membrane permeability; and (4) prolonged inflammatory responses and diseases.

Conditions of carbohydrates on liver and gallbladder health include:

Abdominal distention	Emphysema	Itching
Arteriosclerosis	Fascitis	Jaundice
Arthritis	Gall bladder disease	Liver disease
Bloating	Hepatitis	Pancreatitis
Burping	Hypercholesterolemia	Phlebitis
Candida	Indigestion/nausea	Right neck and/or shoulder pain
Citrus intolerance	Inflammatory diseases (all -itis')	Tendonitis
Dermatitis	Intestinal cramps	Type I Diabetes
Dry skin	Irritable bowel syndrome	Ulcer

Dietary considerations

Decrease	Increase
Potato & nuts	Yellow & orange veg.
Breads, grains, corn, pasta, etc.	Coconut, avocado (and oil), and olive oil

Effects of Carbohydrates on Glucose Metabolism and Vascular Health

Though a rise in blood glucose is the primary stimulus for insulin release, a rise in blood proteins and lipids triggers an insulin release of about half of that seen with carbohydrates alone. However, carbohydrate and protein combined result in twice the insulin release as seen with carbohydrate. Once released, insulin causes most cells to become more permeable to glucose, amino acids, lipids, electrolytes and other nutrients. Unfortunately, continued and excessive insulin requirements can lead to a number of blood sugar related diseases, as the body is not designed to rely primarily on insulin for nutrient delivery. Rather, enzymatic (cellulase) and nutrient rich foods that contain moderate amounts of proteins, fats and carbohydrates should be responsible for nutrient delivery and assimilation. In addition to diabetes, vascular health is dependent on insulin release within optimum physiologic limits as well as limiting the amount of polyunsaturated and hydrogenated fats. Insulin injures the vascular system by oxidizing the unsaturated fatty acids found in the vessel wall. The atherosclerotic plaque is then formed as a protective response. In fact, the plaque contains very little saturated fats, which unlike unsaturated fats, withstand free-radical damage.

Conditions of carbohydrates on glucose metabolism and vascular health include:

Aneurysms	Bruising	Stroke (vascular integrity)
Arteriosclerosis	Nose bleeds	Type II Diabetes
Breast disease	Phlebitis	Varicose veins

Dietary considerations

Decrease	Increase
Potato & nuts	Green leafy veggies: raw over cooked
Breads, grains, corn, pasta, etc.	Coconut, avocado (and oil), and olive oil

Proteins

Effects of Protein on Thyroid Health

The thyroid is responsible for increasing virtually all metabolic and endocrine functions including emotional wellbeing and sexual desire. It is a key factor in genetic expression and especially maturation and differentiation (i.e. diencephalon and puberty); it is the thyroid hormone that is responsible for a tadpole becoming a frog. Excessive blood proteins, especially in combination with refined, starchy or excessively cooked carbohydrates cause twice the insulin response resulting in hypoglycemia and sluggish metabolic states. This not only puts direct stress on the

thyroid, but dense, hard to digest protein also creates a toxic colon as well. This results in nitrite formation, which interferes with iodine metabolism, thus causing greater thyroid stress. Another factor in thyroid conditions is poor sleep habits (staying up too late or sleeping too late). This can interfere with melatonin production, as a little melatonin supports thyroid function where as too much can suppress thyroid function. Note: Many times a thyroid panel will show to be within normal limits. However, thyroid hormone can still be severely low in the tissue. In this situation, the only diagnostic parameter may be body temperature (see Basal Temperature below).

Thyroid glandular products, iodine, dulse, spirulina, chlorella, etc., can provide some symptomatic relief, but no real change is seen with body temperature or blood values. The macroalgae, nori (*porphyra yezoensis*), is the only natural remedy that has demonstrated a high degree of success with optimizing thyroid function as seen in normalization of blood values and/or basal temperature.

Conditions of protein on thyroid health include:

Binging	Hypo/hyperthyroidism	Seafood intolerance
Bulimia	Hypoglycemia	Sex drive
Depression	Melatonin issues	Sugar cravings
Eating disorders	Menorrhagia	Vitiligo
Goiter	PMS	

Dietary considerations

Decrease	Increase or Add
Dairy, animal protein	Sea vegetables
Chicken, eggs	Fish
Potato, breads, grains, corn, pastas, etc.	Papaya, pineapple, ginger

Effects of Protein on Colon and Liver Health

The colon is a primary factor in overall vitality of an individual. Fifty years ago, the colon was classified as "clinically insignificant" meaning that it was involved in so many seemingly unrelated conditions that it did not "fit" within the parameters of medical diagnosis. Two primary issues can cause so many "seemingly" unrelated conditions. First, consuming too much protein, or poor protein digestion, can lead to putrefaction and bacterial imbalance of the colon. This results in nitrite (NO₃) production. NO₃ is absorbed into the portal circulation, in turn, causing oxidation of hemoglobin to methemoglobin (the iron being in the ferric state). Thus, when the oxygen comes in contact with iron, it simply gives up its electron resulting in a superoxide radical and hemoglobin, which is incapable of combining with oxygen. "Normal" individuals can have up to 10% methemoglobin; 10 to 20% methemoglobin results in cyanosis. Certain poisons and drugs, esp. sulfonamide drugs and other antibiotics, result in the same imbalance. Second, is the fact that fluid and associated toxins are absorbed from the colon into the portal circulation. In turn, the liver cannot detoxify effectively by way of the gallbladder - small intestine - colon

pathway if the colon itself is already toxic. This causes a toxic condition that can compromise uterine and prostate health, as well as cause "hypersensitive" responses of the white blood cells associated with allergies and autoimmune diseases.

Conditions of protein on colon and liver health include:

Allergies	Failing vision	Lack of focus
Anoxia	Fever (low grade)	Necrotic fallopian tube
Autoimmune disease	Geographic tongue	Place responsibility on others
Bacterial infections	Fibromyalgia	Ovarian cysts
Bed wetting	Headaches	Prostaglandins
Breast disease	Hemorrhoids	Prostate disease
Chronic fatigue syndrome	Hiatal hernia	Sciatica/Piriformis
Coated tongue	Flu	Poor appetite
Colds	Gingivitis	Sinusitis
Constricted throat	Hay fever	Strep throat/tonsillitis
Dark circles under eyes	Hepatitis	Vomiting or diarrhea due to infection
Ear infections	Hoarseness Inhalant allergies	Sneezing
Emotional irritation	Itchy nose/eyes/mouth	Uterine disease (endometriosis, etc.)
Environmental sensitivities	L5 Discopathy/low back pain	Viral infections

Dietary considerations

Decrease	Increase
Animal	Sea vegetables: Nori, etc.
Dairy	Fish (moderate amount)
Chicken	All Fruits
	Coconut, avocado (and oil), and olive oil