Acidity Health Problems

What happens when the body is too acidic?

DEPLETES BODY'S ALKALINE RESERVES

The ongoing buffering mechanisms use alkaline mineral bicarbonate and ammonia to correct an overly acidic pH due to strong acid presence. Alkalizing minerals include **sodium, potassium, calcium and magnesium.**

DECREASES CELLULAR ENERGY PRODUCTION

- Oxygen levels decrease – Partial oxygen pressure (PO_2) expresses amount of O_2 that can react/combine with hemoglobin to form oxyhemoglobin, the form in which O_2 is transported through body. This reaction rate decreases as blood plasma becomes more acidic, which decreases the amount of oxygen that can be delivered to cells, and thus decreases cellular energy production.

- Cellular Sodium /Potassium Pumps are Compromised - Na^+/K^+ pumps in the cell membrane are central to cellular energy production of all cells.

  - To function correctly these pumps must maintain the cell membrane potential, by keeping a low sodium / high potassium concentration of ions inside the cell - *When hydrogen (H^+) ions move into cells to compensate for an overly acidic blood plasma pH, they exchange places with potassium ions inside the cell* (to maintain electrical equilibrium inside cell), and thus disturb Na/K pump function. Malfunctioning pumps leave us feeling tired and burning less fat and causes a sodium and calcium buildup within the plasma.

ACID BUILD-UP IN TISSUES

- Continual acid production can deplete the chemical buffers in the blood plasma, such that a healthy pH can no longer be maintained - To deal with this problem, excess acid is stored in the connective tissue and joints, *including ligaments, tendons and muscles*. As these acid stores build up, they can cause *pain and inflammation* in the storage areas. This may manifest as arthritis or fibromyalgia.

OVERLY ACIDIC BLOOD PLASMA IS AN ARTERIAL IRRITANT

(may lead to atherosclerosis)

- If blood plasma pH is consistently on the acidic end of the required 7.36 – 7.42 range, then the blood plasma's acidity acts as a chemical irritant, slowly "eating away" at the inner linings of the artery, vein and heart - This weakens their structures and sets the stage for the need to lay down arterial plaque to repair the damage.

ACCELERATES FREE RADICAL DAMAGE

- Acidosis causes partial lipid breakdown and destructive oxidative cascades, accelerating free radical damage of cell walls and intracellular membrane structures - Acidosis is a stepping stone towards premature aging, deterioration of eyesight and memory, creating skin wrinkles / age spots, dysfunctional hormonal systems, other age-related phenomena.

MORE MUCUS

- Acid-producing foods create mucus, which congests and retards oxygen entry

MORE CHLORIDE IONS

- In normal pH, 99% of chloride ions are reabsorbed, less are reabsorbed in acidosis

Symptoms that may indicate excess body acidity

- √ **Low energy, chronic fatigue**
- √ **Excess mucous production**
- √ **Nasal congestion**
- √ **Frequent colds/flus and infections**
- √ **Nervous, stressed, irritable, anxious, agitated**
- √ **Weak nails, dry hair, dry skin**
- √ **Formation of cysts, such as ovarian cysts, polycystic ovaries, benign breast cysts** (i.e. fibrocystic breasts)
- √ **Headaches**
- √ **Joint pain or arthritis**
- √ **Neuritis**
- √ **Muscle pain**
- √ **Feeling better after a detoxification diet**
- √ **Hives**
- √ **Leg cramps and spasms**
- √ **Gastritis, acid indigestion** (incl. GERD)
- √ **Kidney stones** (uric acid stones)

Health Problems that can result from mild acidosis	
Cardiovascular Damage	Reduction in cardiac muscle contractility
	Sympathetic overactivity E.g. tachycardia, vasoconstriction, decreased arrhythmia threshold
	Peripheral arteriolar vasodilatation
	Vasoconstriction of peripheral veins
	Effects of increased potassium on heart

Respiratory Problems	Hyperventilation (as compensatory response)
	Decreased affinity of hemoglobin for oxygen (i.e. less oxygen in blood)
Other Health Problems	Increased bone resorption (in chronic acidosis) – bones are broken down and its minerals released
	Bladder and kidney conditions E.g. kidney stones
	Weight gain, obesity and diabetes
	Rheumatoid arthritis, fibromyalgia
	Gout
	Immune deficiency
	Low energy and chronic fatigue
	Premature aging
	Cancer
	Osteoporosis

WEIGHT GAIN, OBESITY, DIABETES

- Excess acid triggers INSULIN sensitivity - resulting in excess INSULIN production and high blood sugar, with INSULIN promoting fat storage. Also, continual INSULIN production wears out the pancreatic beta cells. Diabetes used to be treated by buffering the system with alkaline-promoting powders.

- Fasting or dieting - *produces acid that triggers genetic response to starvation, causing INSULIN to flood the body to promote fat storage for future needs*.

pH must be balanced to override this fat-storing mechanism, or dieting is to no avail

BONE DISEASE

(E.g. Osteoporosis. Osteomalacia, rickets)

- Estimated that at least 40% of the buffering minerals, such as calcium and magnesium, needed for an acute acid load are drawn from bone - This can lead to osteomalacia, osteoporosis, rickets etc.

  - Bones and teeth are made from calcium phosphate

    √ **The positively charged H+ ion in acid saliva will pull the negatively charged phosphate ion out of the tooth -** Drink acidic liquids (eg. Apple Cider Vinegar, lemonade) through a straw to minimize contact with the teeth .

CANCER

♦ Cells become cancerous and thrive in an acid pH - Eventually, as oxygen levels continue to decrease, normally aerobic cellular energy production converts to anaerobic fermentation (possibly involves microorganisms, that thrive in lower oxygen environment, entering and hijacking cells), *creating lactic acid as a byproduct – making the body even more acidic*. Lactic acid is associated with fatigue, joint pain, muscle aches, headaches, and energy loss.

CANCER

KIDNEY STONES

♦ Uric acid stones are formed in overly-acidic conditions - composed of uric acid and crystine. A more alkaline diet would make the urine less acidic.

Kidney Stones

References

http://www.alkalizeforhealth.net/salivaphtest.htm