

Blood Type and Lifestyle;

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Adapted from Peter J. DiAdamo Live Right 4 Your Type

**There are 4 major Blood Types by way of the Lewis Antigen System;**

1. Type O has no A or B antigen (antigen is a combination of sugars and protein that extends from the cell membrane) extending from it's membrane.
2. Type A has the A antigen expressed with the O (no antigen).
3. Type B has the B antigen expressed with the O (lack of antigen).
4. Type AB has a copy each of A & B expressed.

Personality traits may be linked to blood type due to the position of a gene that encodes for the protein Dopamine Beta Hydroxylase (DBH) which converts the neurotransmitter Dopamine to Noradrenalin in the brain.

The AGO gene is on the 9<sup>th</sup> Chromosome, q leg, 34<sup>th</sup> band right next door to the gene for DBH. This would explain certain personality traits as being more common among specific blood types.

**Type O**

1. May have evolved as an early hunter.
2. Functions best with a high protein diet.
3. Needs aerobic exercise to reduce stress.
4. Resistant to many infections and cancers.
5. Extroverted, tends to be impulsive by nature, yet is practical, decisive and lives in the present.

**Type A**

1. May be the evolutionary step that separated the first hunters from the first farmers.
2. Does best on a predominantly vegetarian diet.
3. Yoga or gentle exercise is the best stress reliever.
4. Needs frequent breaks or naps to stay focused.
5. Needs a regular sleep cycle, especially with aging.
6. Introverted, calm but prone to anxiety, sensitive to the needs of others.
7. Type A Antigen is associated with a higher cancer risk.

**Type B**

1. A bit of a hybrid of O & A, needs a variable diet
2. Should focus on creative outlets
3. Walking and meditation help reduce stress.
4. Should try to avoid overreaction with aging
5. Mental activities are crucial to retaining memory
6. Somewhat self sufficient but emotional, may be a bit more freethinking but lack ambition.

**Type AB**

1. Has a component of all of the above.
2. Needs smaller more frequent meals
3. Should try to break up the day with exercise to maintain focus
4. More prone to bacterial infections
5. More spiritually focused, sensitive, intuitive, focuses more on feelings.

6. Type A Antigen is associated with a higher cancer risk.

### **Antigen Secretor Status**

A portion of the population also secretes their blood type antigen into Saliva, Mucins (that line the digestive tract), the stomach, intestines and liver. These “secretors” have improved immunity.

An individual's secretor status can be determined by

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When eating right for your type, you will likely have a higher active tissue mass with a corresponding higher basal metabolic rate, which means more fat is burned without losing muscle.

Type O & B have more carbohydrate than lipid intolerance; carb's are more likely to lead to heart disease in these people. They tend to do better on a diet such as the Atkins.

They have higher levels of intestinal alkaline phosphatase, which is important in fat metabolism.

Type A & AB have more carbohydrate but less lipid (fat) tolerance. The Pritikin diet would be a better choice for them.

Choosing the proper diet will help you to optimize your

- Energy/sense of well-being
- Weight loss
- Digestion/elimination
- Immune system
- Reduce cancer risk
- Musculoskeletal system
- Cardiopulmonary health
- Hormonal/reproductive balance
- Neuro/Psychological status

### **Indican Urine screen**

Looks for residue of unabsorbed proteins in the digestive tract and their toxic byproducts. Inappropriate conversion of Tryptophan to urinary indoles in first AM urine by gut microbes.

May need to be run once or twice/yr.

Indols and indican production will decrease with proper diet and have been linked to a higher rate of cancer.

Lectins are proteins found in foods we eat that interact in different ways according to blood type. Foods that contain lectins incompatible with your blood type interfere with digestion, metabolism and immune function.

### Polyamines "Dead Flesh"

Are actually found in vegetable products as well as fermented foods, result from protein digestion E.g. putrescine, spermidine, cadaverine. These can be toxic but can actually be lowered by lectins. Polyamines help nourish the gut wall, if there are lots of lectins in the diet the gut wall will sequester the polyamines to promote healing.

Associated with elevated serum albumin levels, high urinary indican, halitosis and headache from fermented food.

Polyamines are lowered with walnuts, green tea, dark blue, purple or red pigmented fruit, plantains, guava, pomegranates, onions, dill, Tarragon, broccoli.

Further information can be obtained by acquiring the book below, copies are available @ NutritionWise on US-1 North of Tequesta Drive in Tequesta

D'Adamo, PJ. Live Right 4 Your Type GP Putnams NY 2001

## Type O Health Risk Profile

Characteristics	Manifestations	Increased Risks	Variations
<b>Mind/Body</b> Tendency to build-up higher levels of catecholamines (Noradrenalin and adrenalin) during stress, due to low levels of the elimination enzyme MAO	<ul style="list-style-type: none"> <li>-Imbalance of Neurotransmitter Dopamine</li> <li>-Tendency to express anger and aggression during stress</li> <li>-Monotony avoidance leads to risky behaviors</li> <li>-Overly emotional and hyperactive</li> <li>-Tendency to be "moody"--up one minute and down the next</li> <li>-Extroverted and controlling</li> </ul>	<ul style="list-style-type: none"> <li>-Bipolar</li> <li>-Depression</li> <li>-Heart disease (if Type-A Personality)</li> <li>-Parkinson's disease</li> <li>-Schizophrenia</li> <li>-Substance abuse</li> </ul>	<i>Children;</i> High catecholamine levels and dopamine imbalance are associated with hyperactivity
<b>Digestion</b> Overproduction of stomach acid, more rapid production of pepsinogen after meals	<ul style="list-style-type: none"> <li>-Supports efficient digestion of animal protein</li> <li>-Can trigger gastrointestinal discomfort</li> </ul>	<ul style="list-style-type: none"> <li>-Ulcers</li> <li>-Gastritis</li> <li>-Duodenitis</li> </ul>	<i>Non-Secretor;</i> carries additional risk
High levels of intestinal alkaline phosphatase	<ul style="list-style-type: none"> <li>-Promotes easy breakdown of fats</li> <li>-Offers added protection against coronary heart disease</li> <li>-Strengthens bones</li> </ul>		<i>Secretor:</i> The highest levels of intestinal alkaline phosphatase
H. pylori bacterium favors Type O antigen sugar	<ul style="list-style-type: none"> <li>-Susceptibility to H. pylori infection</li> <li>-Increased inflammation</li> </ul>	Ulcers	<i>Non-Secretor;</i> Risk even higher in Type O Non-Secretors
<b>Metabolism</b> Low levels of blood-clotting factors	<ul style="list-style-type: none"> <li>-"Thinner" blood</li> <li>-Bleeding disorders</li> </ul>	Stroke (CNS bleeding)	
Metabolism designed for efficient use of calories	<ul style="list-style-type: none"> <li>-Poor utilization of carbohydrates</li> <li>-high carb diet results in edema and increase in body fat</li> </ul>	<ul style="list-style-type: none"> <li>-Low risk factors for diabetes and heart disease when metabolism is in a balanced state</li> </ul>	<i>Non-Secretor;</i> higher risk of SyndromeX

	-High carb diet raises triglyceride levels and promotes insulin resistance -High carb diet leads to hypothyroidism	-High carb diets promote Syndrome X, a condition leading to heart disease	
<b>Immunity</b> Manufactures high levels of anti-blood type (A&B) antigens	Increased risk of Auto-Immune diseases	Inflammatory Bowel Disease (Crohn's, Ulcerative colitis)	<i>Non-Secretor</i> ; higher risk in Type-O Non-secretors
Type O antigen is fucose sugar	Allows adherence of Lectin-like molecules that allow white cell migration	-Inflammatory conditions -Ulcers	<i>Non-Secretor</i> ; more prone to generalized inflammation
High IgE Levels	Increased sensitivity to pollens	Respiratory allergies	<i>Non-Secretor</i> ; Greater risk of respiratory problems, especially allergies
High IgA levels	Overly aggressive immune response	-Autoimmune disease, especially of the thyroid -Dental inflammation and plaque	<i>Non-Secretor</i> ; lower risk of increased IgA but increased risk of dental problems

## Type A Health Risk Profile

<b>Characteristics</b>	<b>Manifestations</b>	<b>Increased Risks</b>	<b>Variations</b>
<b>Mind/Body</b> Naturally high basal cortisol levels and tendency to overproduce cortisol in response to stress	<ul style="list-style-type: none"> <li>-Overreaction to stress</li> <li>-Difficulty recovering from stress</li> <li>-Disrupted sleep patterns</li> <li>-Daytime brain fog</li> <li>-Repressed anxiety, hysteria, introversion</li> <li>-Increased blood viscosity</li> <li>-Easy to over-train with excess exercise</li> <li>-Disruptive to GI friendly bacteria</li> <li>-Suppresses immune function</li> <li>-Promotes muscle loss and fat gain</li> </ul>	<ul style="list-style-type: none"> <li>-Obsessive-Compulsive Disorder (OCD)</li> <li>-Heart disease</li> <li>-Insulin Resistance Syndrome X/Type II Diabetes</li> <li>-Hypothyroidism</li> <li>-Cancer</li> <li>-High stress can further exacerbate virtually all health challenges</li> </ul>	<i>Elderly:</i> <ul style="list-style-type: none"> <li>-High cortisol levels are linked to Alzheimer's disease and senile dementia</li> <li>-Disruptions in stress hormones may lead to age-related loss of muscle tissue</li> </ul>
<b>Digestion</b> Oversensitivity to Epidermal Growth Factor	<ul style="list-style-type: none"> <li>-Protective against ulcers</li> <li>-Creates excess mucus production</li> <li>-Can lead to overgrowth of tissue in esophagus and stomach</li> </ul>	<ul style="list-style-type: none"> <li>-Barrett's Esophagus</li> <li>-Esophageal cancer</li> <li>-Respiratory infections</li> <li>-Stomach cancer</li> </ul>	<i>Children;</i> Excess mucus production increases risk of ear infections
Low stomach acid production	<ul style="list-style-type: none"> <li>-Makes it difficult to digest protein</li> <li>-Blocks action of digestive enzymes</li> <li>-Promotes excess bacterial growth in stomach and upper intestine</li> <li>-Can impair vitamin and mineral absorption</li> </ul>	<ul style="list-style-type: none"> <li>-Stomach cancer</li> <li>-Gallstones</li> <li>-Jaundice</li> </ul>	<i>Non-Secretor;</i> Slightly higher levels of stomach acid make animal protein more digestible.  <i>Elderly;</i> Decrease in stomach acid makes animal protein less digestible
Lack of enzyme intestinal alkaline phosphatase	<ul style="list-style-type: none"> <li>-Produces high serum Cholesterol &amp; LDL Cholesterol</li> </ul>	<ul style="list-style-type: none"> <li>-Coronary Artery Disease</li> <li>-Osteoporosis</li> </ul>	<i>Non-Secretor;</i> Slightly higher levels of intestinal

	-Makes it difficult to break down fat	-Colon Cancer -Hyperlipidemia	alkaline phosphatase
<b>Metabolism</b> High levels of blood-clotting factors	-"Thicker" blood-tendency to aggregation -Blood clots more easily	-CAD -Cerebral thrombosis -Problematic in cancer	<i>Elderly;</i> -Increased risk of stroke from embolism and occlusive heart diseases
<b>Immunity;</b> Low IgA levels	-Creates vulnerability to ear and respiratory infections -Creates susceptibility to GI infections	-Celiac disease -Rheumatic heart disease -Kidney disease	<i>Non-Secretors;</i> Higher risk, especially children, who have greater incidence of ear infections
Low IgE levels	Promotes asthma and allergies		
Tumor markers resemble Type A Antigen	-Weakened NK cell activity -Impairs immune systems ability to discriminate between friend and foe	Most cancers	

## Type B Health Risk Profile

<b>Characteristics</b>	<b>Manifestations</b>	<b>Increased Risks</b>	<b>Variations</b>
<b>Mind/Body;</b> Naturally high basal cortisol levels and tendency to overproduce cortisol in response to stress	<ul style="list-style-type: none"> <li>-Over-reaction to stress</li> <li>-Difficulty recovering from stress</li> <li>-Disrupted sleep patterns</li> <li>-Daytime brain fog</li> <li>-Disruptive to friendly GI bacteria</li> <li>-Suppresses immune function</li> </ul>	<ul style="list-style-type: none"> <li>-Depression</li> <li>-Insulin resistance</li> <li>-Hypothyroidism</li> <li>-High stress can further exacerbate virtually all health challenges</li> </ul>	<i>Elderly</i> <ul style="list-style-type: none"> <li>-High cortisol levels are linked with Alzheimer's disease and senile dementia</li> <li>-Disruptions on stress hormones may lead to age-related loss of muscle tissue</li> </ul> <i>Children;</i> <ul style="list-style-type: none"> <li>-High cortisol levels may be a factor in autism</li> </ul>
Tend to clear nitric oxide rapidly thru the B gene allele's influence on enzymatic production of NO	<i>When out of balance;</i> <ul style="list-style-type: none"> <li>-Overly emotional reaction to stressful situations</li> <li>-Lethargy, lack of motivation</li> <li>-Broad systemic effects</li> </ul>	<i>When out of balance;</i> <ul style="list-style-type: none"> <li>-Chronic viral infections</li> <li>-Chronic Fatigue Syndrome, MS, ALS</li> <li>-Excessively high or low blood pressure</li> </ul>	
<b>Digestion;</b> Moderate to high levels of Intestinal Alkaline Phosphatase	<ul style="list-style-type: none"> <li>-Promotes easy breakdown of fats</li> <li>-Offers added protection against CAD</li> <li>-Strengthens bones</li> </ul>	Low risk factors for DM and heart disease when metabolism is in a balanced state	<i>Secretors;</i> Effect of lectins more pronounced
<b>Metabolism;</b> Strong influence of lectins on metabolic balance	<ul style="list-style-type: none"> <li>-Lectins slow metabolism</li> <li>-Lectins create insulin resistance</li> </ul>	<ul style="list-style-type: none"> <li>-Hypoglycemia</li> <li>-Obesity</li> <li>-"Leaky gut"</li> </ul>	<i>Elderly;</i> Lack of libido
<b>Immunity;</b> Many bacteria have B-like antigens	B Antigens don't mount attacks against infections that resemble their own	<ul style="list-style-type: none"> <li>-Influenza (severe)</li> <li>-E. coli (severe when contracted)</li> <li>-Gastroenteritis</li> <li>-UTI's</li> <li>-Staph infections</li> <li>-Sinus infections</li> </ul>	<i>Children;</i> Risk of neonatal strept infection, especially if Mother is Type B <i>Ancestry;</i> Asians have special risk of TB <i>Non-Secretors;</i>



			Have the highest rate of UTI's of all
Susceptibility to slow-growing viral infections	Dysfunctional immune reactions	-Autoimmune diseases -Type I DM	<i>Ancestry</i> ; Type B African Americans have special risk of Type 1 DM and Auto-Immune Diseases

## Type AB Health Risk Profile

Characteristics	Manifestations	Increased Risks	Variations
<b>Mind/Body;</b> Tendency to build-up higher levels of catecholamines (Noradrenalin and Adrenalin) during stress, due to low levels of the enzyme MAO	-Tendency to feel angry and alienated from others -Imbalance of Dopamine -Extreme introversion	-Bipolar -Depression -Heart Disease (if Type A Personality) -Parkinson's disease -Schizophrenia -Substance abuse	
Tend to clear nitric oxide rapidly, through the B gene allele's influence on enzymatic production of NO	<i>When out of Balance;</i> Overly emotional to stressful situations	Hypertension	
<b>Digestion</b> Low stomach acid production	-Difficult to digest protein -Blocks action of digestive enzymes -Promotes excess bacterial growth in stomach and upper intestine -Can impair vitamin and mineral absorption	-Stomach cancer -Gallstones -Jaundice -Intestinal toxicity	<i>Non-Secretor;</i> Slightly higher levels of stomach acid make animal protein more digestible
Lack of Intestinal Alkaline Phosphatase	Produces high serum cholesterol and LDL Cholesterol -Difficult to break down fat	-CAD -Osteoporosis -Colon Cancer -Hyperlipidemia	<i>Non-Secretor;</i> Extremely low levels of intestinal alkaline phosphatase
<b>Metabolism</b> High levels of blood clotting factors	Blood clots more easily	-CAD -Cerebral thrombosis -Problematic in Cancer	<i>Elderly;</i> Increased risk of embolic stroke and coronary disease
<b>Immunity</b> Low IgA levels	-Vulnerability to ear and respiratory infections -Susceptibility to GI infections	-Celiac disease -Rheumatic heart disease -Kidney disease -Leaky gut	<i>Non-Secretor;</i> Higher risk, especially in children
Low IgE levels	Promotes asthma & Allergies	Poor defense against parasites	
Lacks Anti-A & Anti-B	-Impairs immune -	-Most cancers	<i>Secretors;</i>

capabilities	system's ability to discriminate friend from foe -Need to maintain higher NK cell activity	-Chronic viral infections -Risk of low-grade infections	-Higher risk of low-grade infections -Lower NK cell levels <i>Elderly;</i> NK cell activity declines with age
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