		7 Major Tissue Factors		**(+) plus**
		On a scale of 1-10, 1 = least risk, 10 = greatest risk		
1	Tissue Density	Adiposity Index vs BMI, Or Body Mass Index		
2	Tissue Structure	Permeability of tissue structure		
3	Tissue Proximity	(depth of tissue (shallow vs. deep)		
4	Tissue Pigmentation	6 levels, from white to black		
5	Tissue Hydration	Min. 54.8% to Max. 78.1%		
6	Tissue Stress	Bio-behavioral factors that induce cell damage		
7	Tissue Age	from atrophic to neoplastic		
1	Tissue Density	Adiposity Index vs BMI, Or Body Mass Index		
	Adiposity Indexes vs. BMI - Which is the Better Indicator of Healthy vs Unhealthy	The adiposity indexes that include the waist circumference (WHtR and WC) may be better candidates than BAI and BMI to evaluate metabolic and cardiovascular risk in both clinical practice and research.		

Body Adiposity Index Classifications for Women

Age (years)	Underweight	Healthy	Overweight	Obese
20 - 39	Less than 21%	21% to 33%	Greater than 33%	Greater than 39%
40 - 59	Less than 23%	23% to 35%	Greater than 35%	Greater than 41%
60 - 79	Less than 25%	25% to 38%	Greater than 38%	Greater than 43%

Body Adiposity Index Classifications for Men

Age (years)	Underweight	Healthy	Overweight	Obese
20 - 39	Less than 8%	8% to 21%	Greater than 21%	Greater than 26%
40 - 59	Less than 11%	11% to 23%	Greater than 23%	Greater than 29%
60 - 79	Less than 13%	13% to 25%	Greater than 25%	Greater than 31%

BAI = (HC / (HM)1.5) - 18

BAI = Body Adiposity Index

HM = Height in Metres

HC = Hip Circumference in Centimetres

	Women			
		Underweight		
		Healthy		
		Overweight		
	Men			
		Underweight		

		Healthy		
		Overweight		
2	Tissue Structure	a) squamous - flat and scale-like; b) cuboidal - as tall as they are wide; c) columnar - tall, column-shaped		
3	Tissue Proximity:	proximity to surface (deep, underlying or adipose)		
	1	Dermal Tissue		
	2	Adipose Tissue		
	3	Nerve Tissue		
	3	Vascular Tissue		
	4	Connective Tisssue		
	5	Muscle Tissue		
	6	Organ Tissues, including: brain, heart, lungs,		
		endocrine, glandular, digestive, etc.		
4	Tissue Pigment: Fitzpatrick Scale	1. White; very fair; red or blonde hair; blue eyes; freckles; always burns, never tans		5
		2. White; fair; red of blonde hair; blue, hazel, or green eyes, usually burns, tans with difficulty		
		3. Cream white; fair with any eye or hair color; very common, sometimes mild sunburn, tans gradually		
		4. Brown; typical Mediterranean or Caucasian skin, rarely burns, tans with ease		
		5. Dark brown; Middle Eastern skin type, very rarely burns, tans very easily		
		6. Black; African origin, never burns, tans easily		

5	Tissue Hydration	The liquid component (water) of the human body is contained in the tissues, the blood, the bones, and elsewhere. This water makes up a significant portion of the human body, both by weight and by volume, and ranges from maximum 78.1% to minimum 54.8%. It is made up of primarily plasma; fatty tissues contain less water content than lean tissues. Ensuring the right amount of body water is part of fluid balance, an aspect of homeostasis. The ideal therapeutic wavelength for absorption by water is 980nm (nanometers).		
	Tissue Hydration Level:	Low		
		Normal		
		High		
6	Tissue Age	Atrophy:		
		Cells shrink. If enough cells decrease in size, the entire organ atrophies. This is often a normal aging change and can occur in any tissue. It is most common in skeletal muscle, the heart, the brain, and the sex organs (such as the breasts).		
		The cause of atrophy is unknown, but may include reduced use, decreased workload, decreased blood supply or nutrition to the cells, and reduced stimulation by nerves or hormones.		
		Hypertrophy:		
		Cells enlarge. This is caused by an increase of proteins in the cell membrane and cell structures, not an increase in the cell's fluid.		
		Hyperplasia:		
		The number of cells increases. There is an increased rate of cell division. Hyperplasia usually occurs to compensate for a loss of cells. It allows some organs and tissues to regenerate, including the skin, lining of the intestines, liver, and bone marrow. The liver is especially good at regeneration. It can replace up to 70% of its structure within 2 weeks after an injury.		
		Hypoplasia:		

		Tissues that have limited ability to regenerate include bone, cartilage, and smooth muscle (such as the muscles around the intestines). Tissues that rarely or never regenerate include the nerves, skeletal muscle, heart muscle, and the lens of the eye. When injured, these tissues are replaced with scar tissue.		
		Dysplasia:		
		The size, shape, or organization of mature cells becomes abnormal. This is also called atypical hyperplasia. Dysplasia is fairly common in the cells of the cervix and the lining of the respiratory tract.		
		Neoplasia:		
		The formation of tumors, either cancerous (malignant) or noncancerous (benign).		
		Neoplastic cells often reproduce quickly. They may have unusual shapes and abnormal function.		
	Tissue Age:	age 20-39		
		age 40-59		
		age 60-79		
7	Bio-behavioral Factors in Tissue Health and Disease			
		Allostasis: Capacity to Adapt to Stresses		

	Tissue Factors in Health & Disease: Biobehavioral Factors in Health and Disease STRESS, HEALTH, AND DISEASE Allostasis and Allostatic Load	Allostasis and allostatic load operate in all systems of the body and focus attention on the protective, as well as the damaging, property of the primary mediators of the stress response: cortisol and the catecholamines. First, the brain integrates and coordinates behavioral and physiologic responses (hormonal and autonomic) to challenge. Some challenges can be perceived as stressful; others are related to circadian rhythms and to coordination of the functions of sleep and waking with the environment. Second, individual differences in the capacity to cope with challenges are based on multilevel relationships between genetic, developmental, and experiential influences. Third, intrinsic to the autonomic, neuroendocrine, and behavioral responses to challenge is the capacity to adapt (allostasis); indeed, neuroendocrine responses, such as the release of cortisol, are by nature protective and acute. Problems arise only when they persist, so efficient initiation		
		PHYSICAL: intense exertion, manual labor, lack of sleep, travel		
		CHEMICAL: drugs, alcohol, caffeine, nicotine and environmental pollutants such as cleaning chemicals or pesticides		
		MENTAL: perfectionism, worry, anxiety, long work hours		
		EMOTIONAL: anger, guilt, loneliness, sadness, fear		
		NUTRITIONAL: food allergies, vitamin and mineral deficiency		
		TRAUMATIC: injuries or burns, surgery, illness, infections, extreme temperatures		

		PSYCHO-SPIRITUAL: troubled relationships, financial or career pressures, challenges with life goals, spiritual alignment and general state of happiness		
		Minimal Stress: state of happiness		
		Acute Stress: acute - Is the most common type of stress		
		Episodic Stress: episodic - when acute stress occurs frequently it turns into episodic		
		Chronic Stress: chronic - is the worst of three		
	For HIGHER dosage, increase the following: Watts, Time, & DECREASE treatment AREA (smaller treatment area means GREATER energy density)			
	for LOWER dosage, decrease the following: Watts, Time, increase treatment AREA (larger treatment area means LOWER energy density)			

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