

NEW GENERATION OF ELECTROLYZED WATER

Esperer.H₂O Hydration Machine



Dick Wullaert , Ph.D.
Bioguard Industries, Inc.

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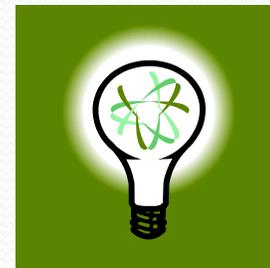
Includes Modified Slides From Dr. Hanaoka's Singapore Presentation, July, 2014

(Preliminary Draft – For Distributors and Customers Only)

FUNCTIONAL (ENHANCED) WATER



- There is functional food, medicine and chemistry, so why not functional water (water that produces specific functions)
- Water that has been exposed to external energy fields (mechanical, electrical, electromagnetic, optical, or other fields or combinations thereof) that alter the physical or chemical characteristics, such that when the water is utilized by living organisms or industrial processes, there are functional benefits



FUNCTIONAL WATER PRODUCTION

- There are many ways to produce functional water
- The most scientifically validated process for making functional water is electrolysis
- We used our extensive experience in electrolysis of water (over 120 man-years) to invent a new system that energizes the water to very high levels without affecting pH or wasting water

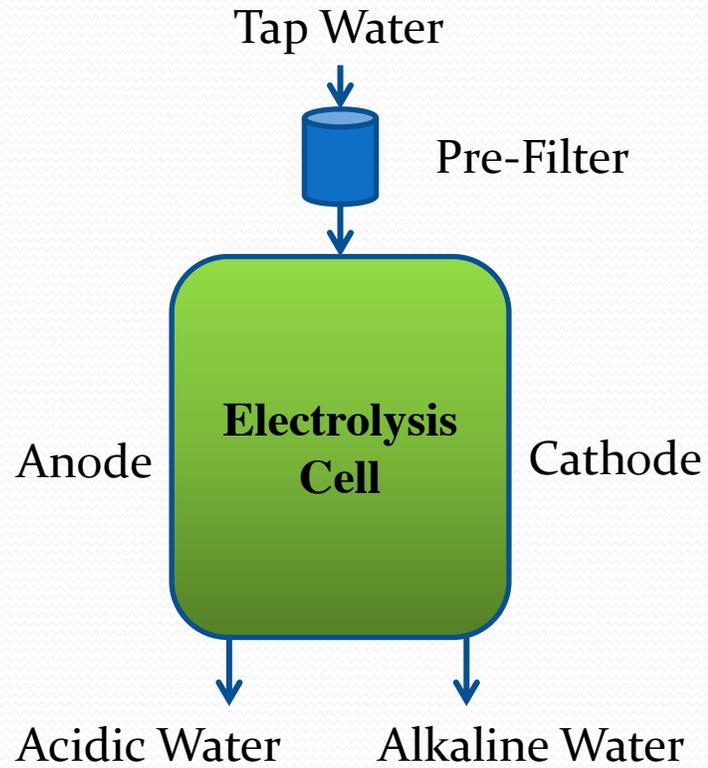


Original Laboratory/Production System

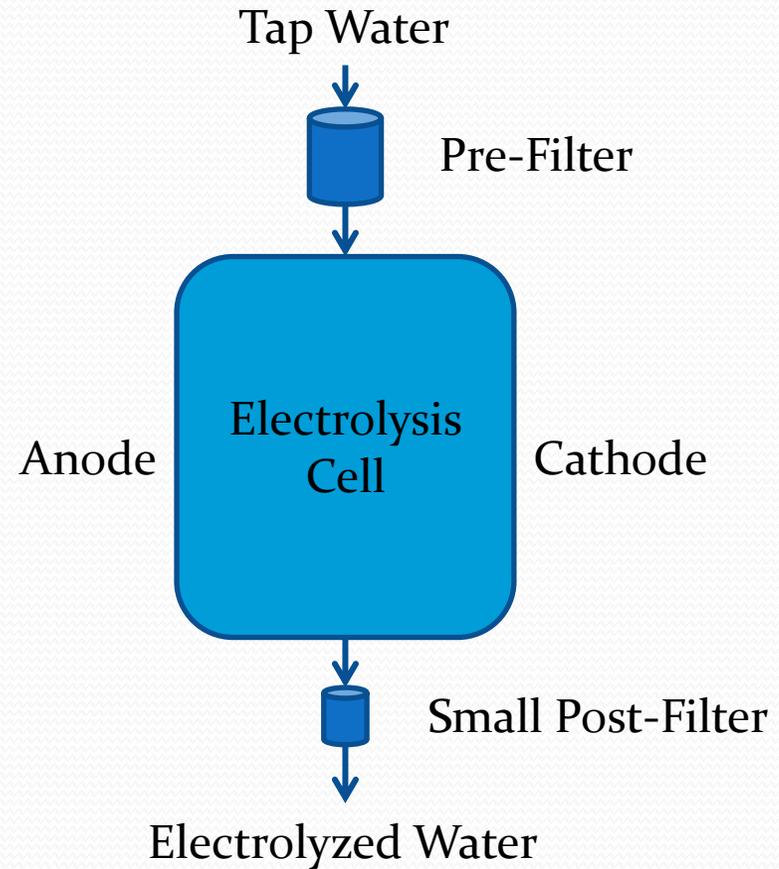


New Countertop System

COMPARISON OF ELECTROLYZERS



Conventional Electrolyzer



Advanced Hydration Machine

WHAT IS ELECTROLYSIS

- Electrolysis is an electrochemical process by which electrical energy is used to promote chemical reactions in a conducting solution with electrodes (anode +, cathode, -)
- Electrolysis of water is $\text{H}_2\text{O} \rightarrow \text{H}^+ + \text{OH}^-$
- Oxygen is produced at the anode and hydrogen is produced at the cathode
- Anions (Cl^- , CO_3^{2-}) are attracted to the anode
- Cations (Na^+ , Ca^{2+}) are attracted to the cathode
- Oxidation (loss of electrons) occurs at the anode
- Reduction (gaining of electrons) occurs at the cathode
- Redox potential (ORP) characterizes the activity of electrons in water

WATER CHEMISTRY

Ion: Charged particle created by an atom or molecule which has either gained or lost electron(s)

Electrolyte: Substance which undergoes partial or complete dissociation into ions in solution and thus acts as a conductor of electricity

Pure Water Dissociation/Ionization:

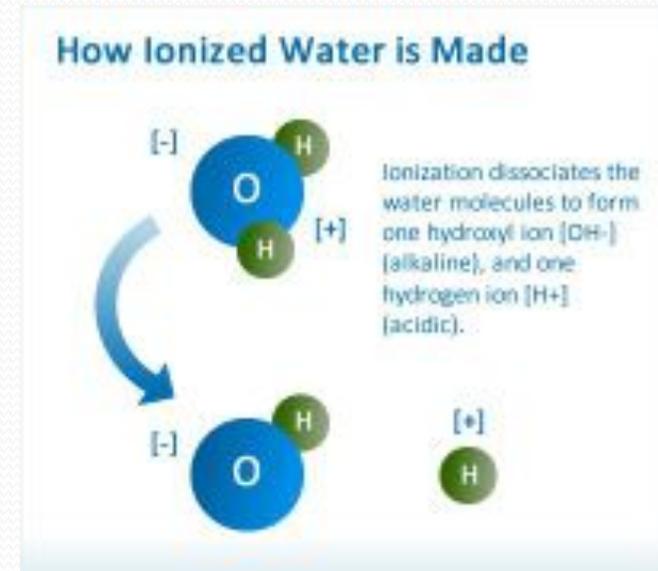


Ionization Potential (IP)

$$\text{IP} = [\text{H}^+] [\text{OH}^-] / [\text{H}_2\text{O}] = 10^{-14}$$

pH:

$$\text{pH} = -\log [\text{H}^+] = -\log [10^{-7}] = 7$$



IMPORTANT PARAMETERS IN ELECTROLYZED DRINKING WATER

Solute	pH (H^+ or OH^-)
	ORP (oxidation or reduction)
	DO (dissolved oxygen)
	DH (dissolved hydrogen)
Solvent	Dissociation activity (K_w or IP)
	Structure (clusters, hydrogen bonds)

COMPARISON OF HYDRATION MACHINE WATER WITH OTHER WATERS

Water	pH	ORP (mv)	DO (ppm)	DH (ppm)	IP	IP/IP(Tap)
Tap	7.31	305	7.16	0	$10^{-13.981}$	1
Electrolyzed Alkaline	10.0	-137	8.13	0.176	$10^{-13.88}$	1.32
Hydration Machine	7.62	-295	12.5	0.288	$10^{-13.19}$	6.45

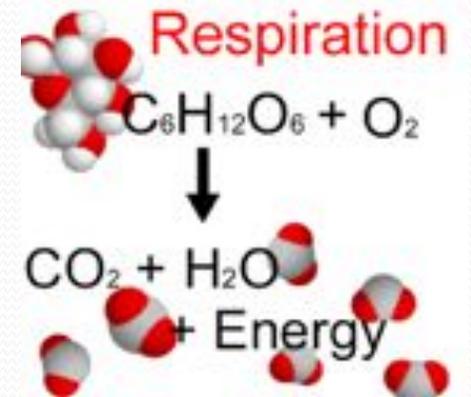
PROPERTIES OF HYDRATION MACHINE WATER



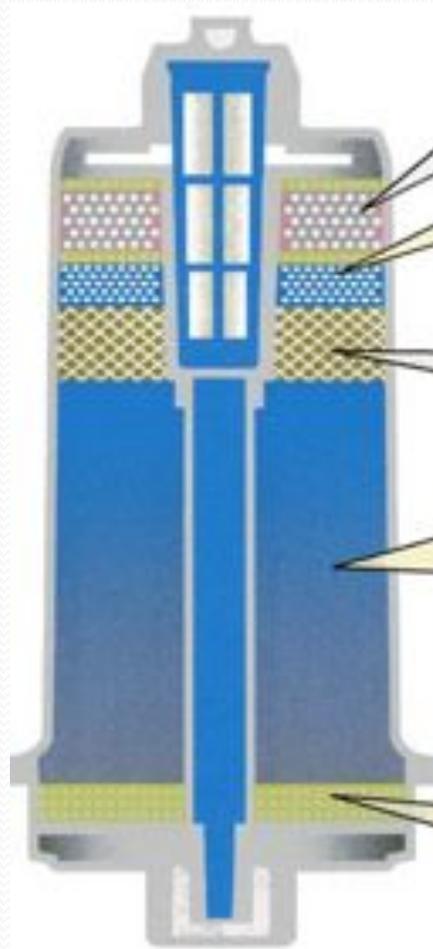
- **Energy:** >5 x tap, >4 x Electrolyzed Alkaline Water (EAW)
- **Hydrogen:** Higher concentration and more stable than EAW
- **Oxygen:** Higher than EAW
- **pH:** Little or no change of source water pH
- **No Water Wasted:** None – One water in, One water out
- **Operation:** Very simple – One button

BENEFITS OF HYDROGEN AND OXYGEN

- Hydrogen used for prevention and treatment of a variety of diseases, particularly those associated with ROS (*reactive oxygen species*) and inflammation (400+ reports)
- Oxygen used for aerobic metabolism (cell respiration)
Respiration is the biochemical process in which the cells of an organism obtain energy by combining oxygen and glucose, resulting in the release of carbon dioxide, water, and **ATP**, the currency of energy in cells
- Hydration Machine water provides a good balance of hydrogen and oxygen



PROPERTIES OF HYDRATION MACHINE PRE-FILTER



Zeolite Ball Ceramics
(soften water)

Calcium sulfite
(removal of free chlorine)

Ion exchange resin
(removal of lead)

Active carbon with silver
(removal of odor, trihalomethanes,
agriculture chemicals, etc.)

Active carbon in resin state
(removal of contamination and cloudiness)

TYPICAL HYDRATION MACHINE INSTALLATIONS ON TAP FAUCET (USING DIVERTER)



Tap Faucet
Diverter

Pre-Filter



Small
Post-Filter

SPECIAL HYDRATION MACHINE INSTALLATIONS (DIRECT COLD WATER FEED)



Separate
Countertop
Faucet

Added Post Carbon Filter with Faucet
for Output of Hydration Machine



Installing Separate Cold Water Feed
to New Countertop Faucet

SPECIAL HYDRATION MACHINE INSTALLATIONS (REMINERALIZED RO WATER FEED)



Post Carbon Filter
With Faucet

Hydration Machine

RO System

Special Bar Installation



Mineral
Filter

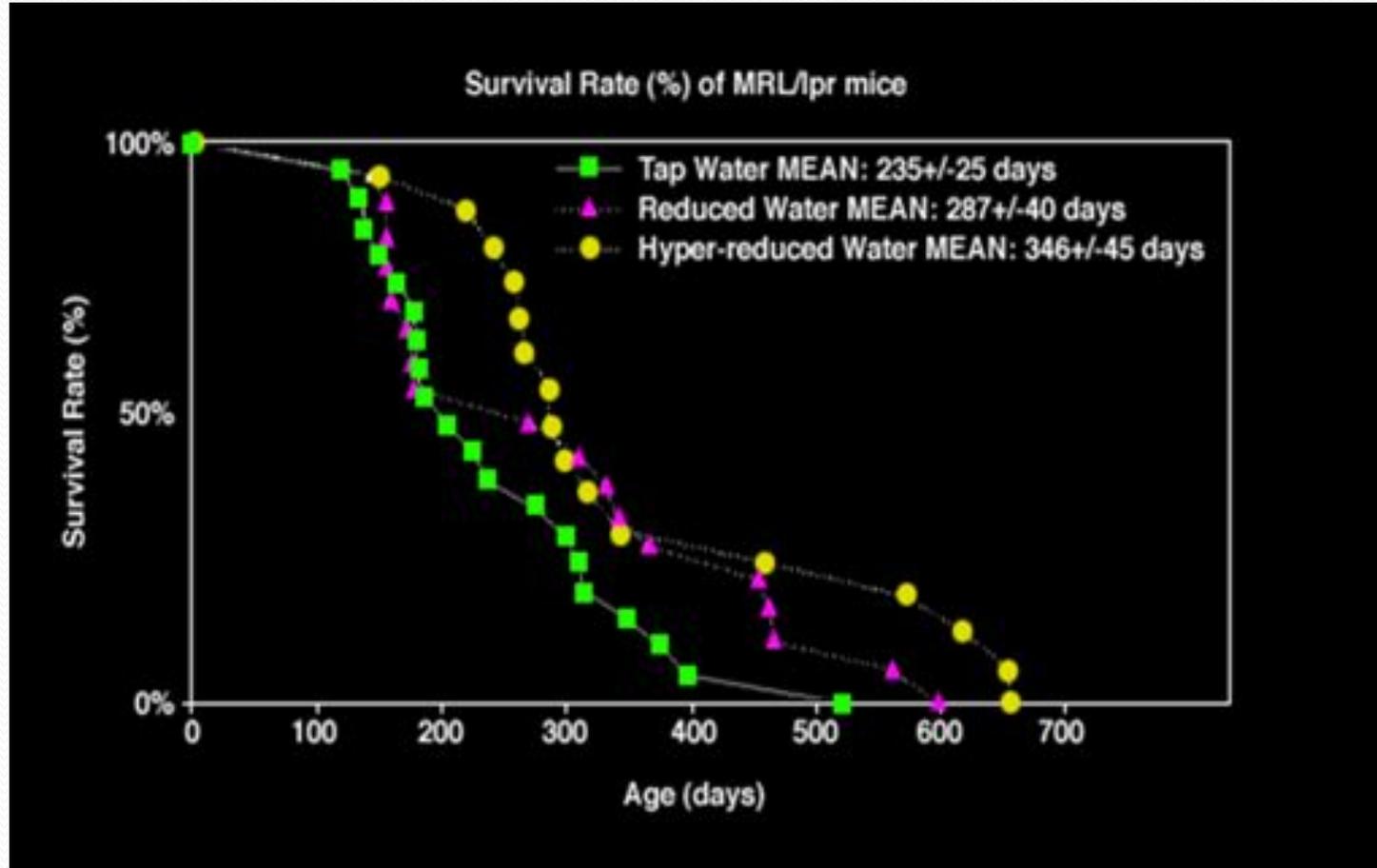
Typical Home Under the Sink RO Installation
with Post RO Mineral (Ca, Mg) Filter

PRODUCT CLAIMS – FUNCTIONAL DRINKING WATER

- Anti-aging - Extends lifespan of mice by 30%, enhances immune system, and scavenges free radicals
- Gastrointestinal – Reduces constipation, diarrhea, fermentation (gas), and increases absorption (calcium)
- Cellular – Increases hydration and improves biological terrain
- Anecdotal – Has shown benefits for diabetes, cancer, Parkinson disease, and addictive behavior

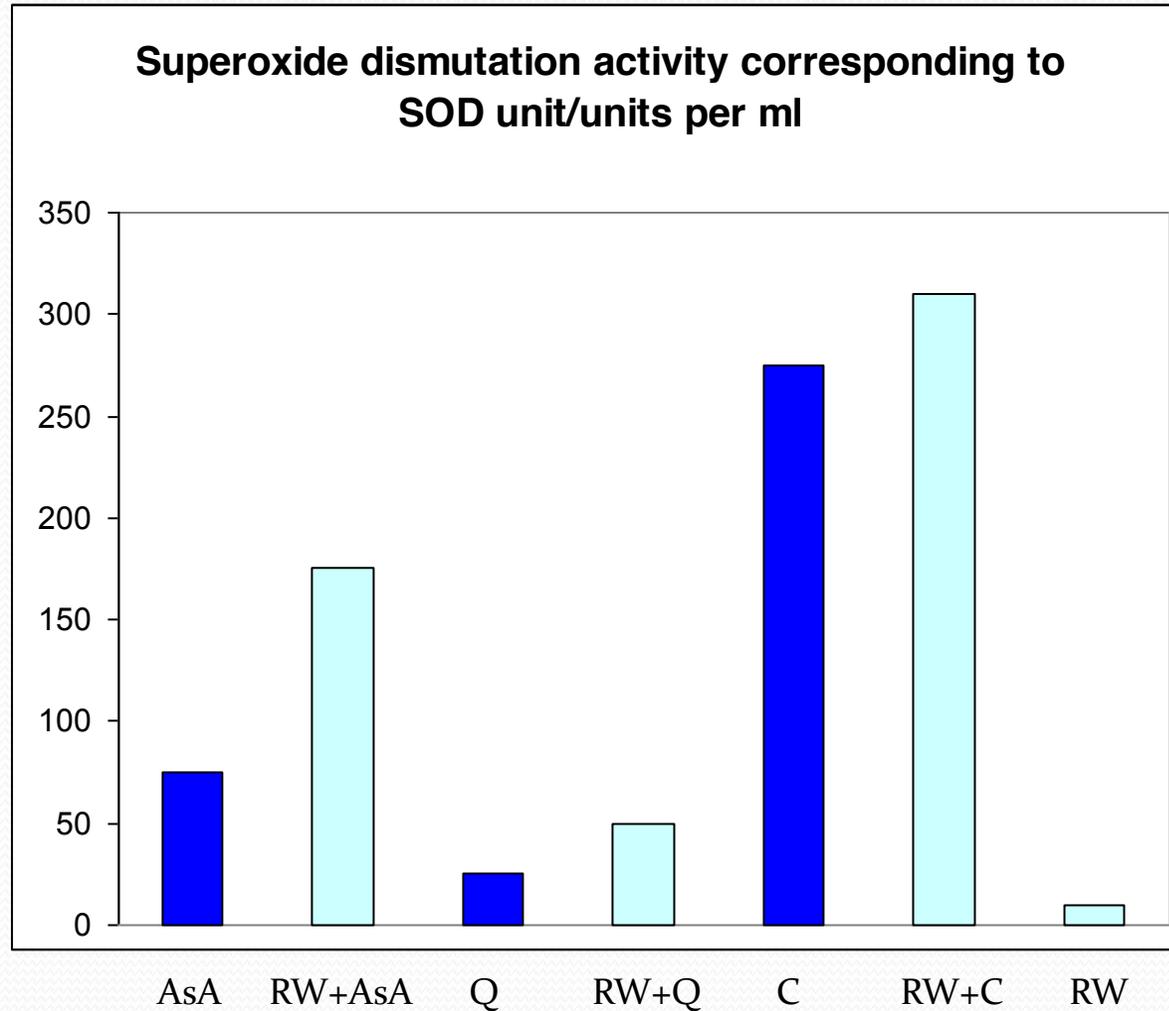


MICE FED ELECTROLYZED WATER LIVE LONGER



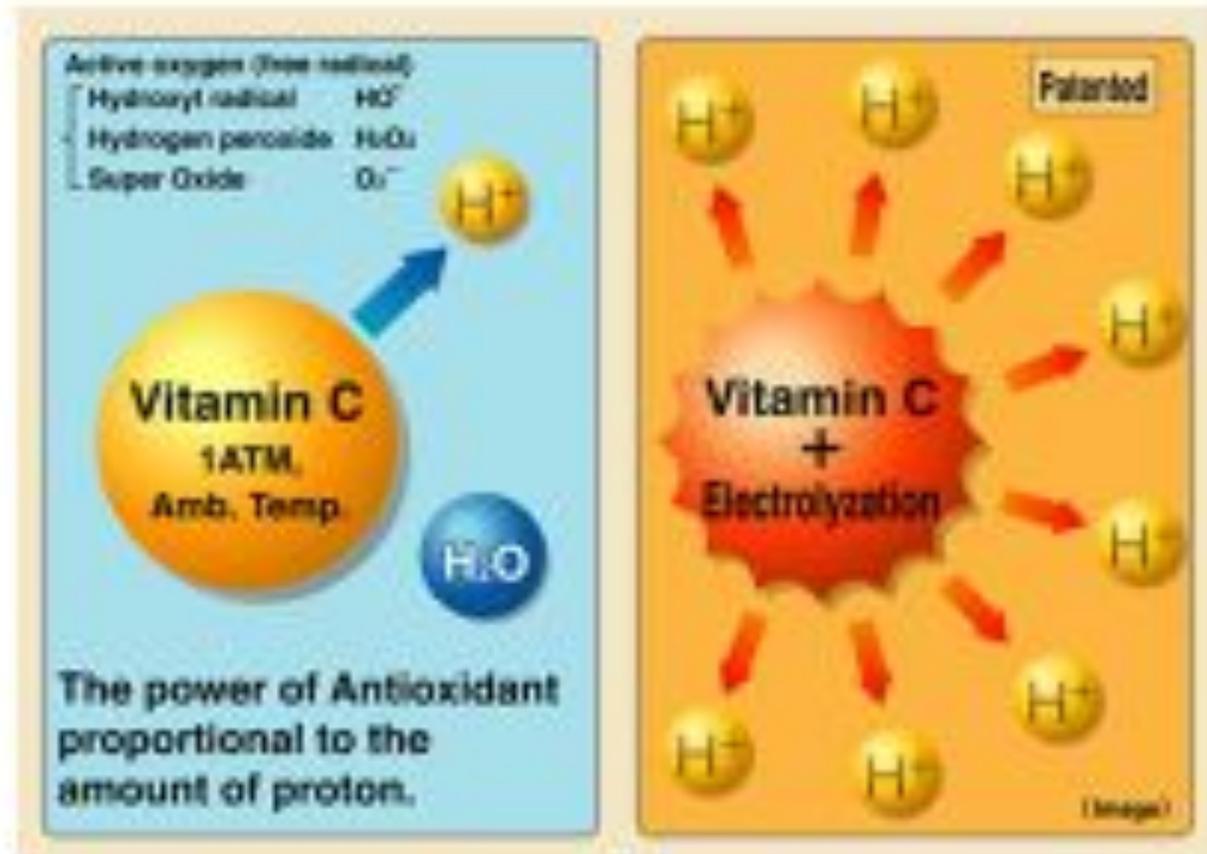
Note: Energy (IP) Increases from Tap \rightarrow Reduced (pH=9) \rightarrow Hyper-reduced (pH = 10) Water

SYNERGISTIC EFFECT OF ELECTROLYZED WATER (RW) ON ANTIOXIDANTS - HANAOKA



AsA – Ascorbic Acid
Q – Quercetin
C – Catechin
RW – Electrolyzed Water

EFFECT OF ELECTROLYZED WATER ON VITAMIN C - HANAOKA



5 GENERATIONS OF HANDS



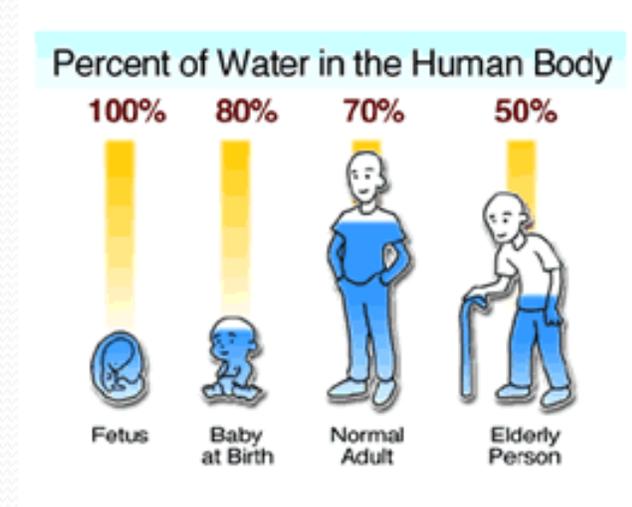
In this amazing picture of 5 generations of hands, what is the difference between the baby's hand in which the skin looks so Youthful, Plump and just beaming with Vitality and the hand of a 90 year old that looks dried out, leathery and near the end of life?

THE DIFFERENCE IS HYDRATION

IT'S ALL ABOUT HYDRATION

The difference is really hydration at the cellular level.

- A baby is 80% water
- An adult male is 60 -70% water
- A 80-90 year old is 50% water



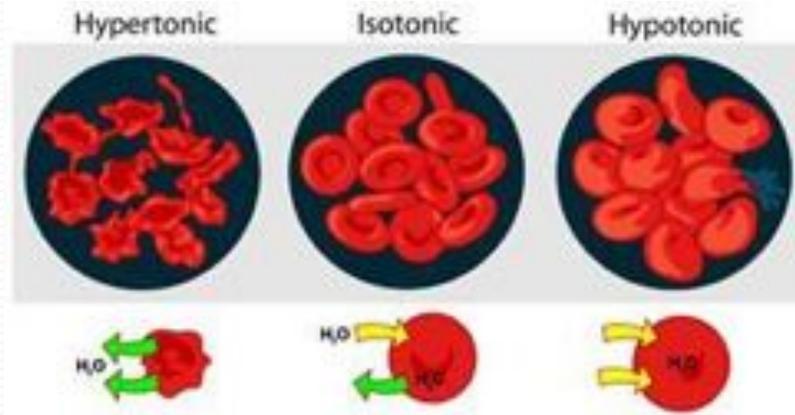
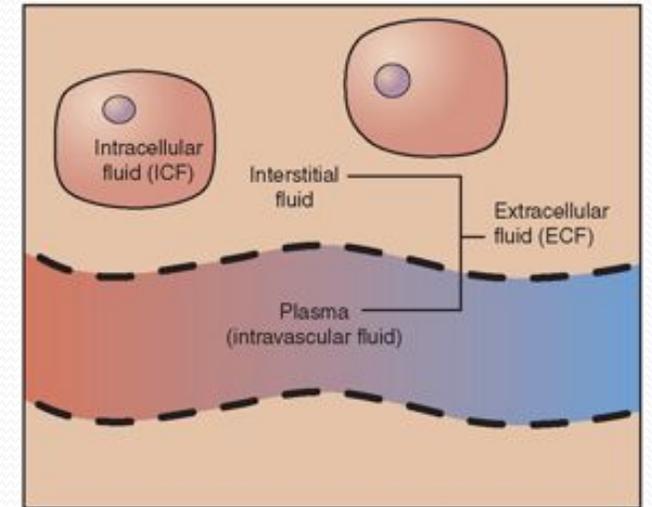
LIFE IN A FISHBOWL

- Fish cannot escape the fish bowl - it's their external environment
- If the fish bowl is not kept clean, then the fish will die
- Our cells are the same in that they live in the water that surrounds every cell
- This is the Extracellular Fluid (ECF) – Also called Extracellular Water (ECW)
- This ECF space is the largest organ in the body
- If this Extracellular Fluid gets too toxic or contaminated, then oxygen and other nutrients cannot get to the cells efficiently



BODY STRIVES FOR FLUID BALANCE

- In a steady state, the osmolarity* (concentration) in ECF is the same as in ICF (Isotonic)
- Cells either shrink or swell because intracellular and extracellular fluids have different osmolarity
- Increasing osmolarity (toxins) of ECF draws water out of the cells to dilute it and cells shrink (Hypertonic)
- Decreasing osmolarity of ECF draws water inside of cells and causes cells to swell (Hypotonic)



***Osmolarity** is the measure of solute concentration, defined as the number of osmoles (Osm) of solute per liter (L) of solution (osmol/L or Osm/L)

WHAT IS DEHYDRATION?

- To dilute the toxins in our Extracellular Fluid (ECF), Intracellular Fluid/Water (ICF) flows from the cells to the ECF to try and dilute the toxins in our internal fishbowl
- This decrease in Intracellular Fluid/Water (ICF) is dehydration
- Every chronic disease or condition involves dehydration
- Dehydration causes **inflammation**
- This leads to **accelerated aging** of the cells



Are you going to be a plum or a prune?

How are you going to treat the 75 trillion cells in your fish bowl?

BALANCE OF INTRACELLULAR (ICW) AND EXTRACELLULAR WATER (ECW) IN THE BODY

Healthy/Young Person

$ICW > ECW$

Aging



Reverse Aging

Unhealthy/Older Person

$ICW < ECW$

Hydration Machine water shows greater increase of ICW over ECW than other waters (reverse aging)

WATER PRODUCED BY THE HYDRATION MACHINE WILL

- Optimize hydration – THE KEY TO WELLNESS
- Greatly increase absorption of whatever you put in the water
- Safely detox your internal fish bowl – the water around every cell in your body
- Provide more hydrogen to your cells. Hydrogen is the best antioxidant on this planet and is required by the body to make cellular energy.
- Provide more dissolved oxygen to the body. This will help with aerobic metabolism vs. anaerobic metabolism.
- Reduce inflammation and prevent free radical formation and thus reduce aging.
- Make you look younger and feel younger and vibrant with more energy and vitality
- Hydrate your skin from the inside out

SOME BENEFITS OF HYDRATION MACHINE WATER

- Hydration – Increases intracellular water (ICW)
- Detoxing – Flushes and reduces extracellular water (ECW)
- Solubility – Increases concentration of solutes in solution
- Permeability – Increases diffusion/permeation through membranes
- Energy – Synergistic/catalytic effect on antioxidants, enzymes, etc.
- Culinary – Rehydration of dried foods, less ingredients needed (coffee)

CURRENT INSTALLATIONS/APPLICATIONS OF HYDRATION MACHINE WATER



Vertical Gardens



Culinary



Home



Health Clinic/Customer Demos

FUTURE SLIDES

- Testimonials
- Installation of Large Carbon Post-Filter
- Under the Sink Installations (do not attempt before contacting us)
- Dehydration “Did You Know” List
- BIA Hydration Studies on HM Water (Dr. Sachey)
- Hydrogen Testing of HM Water (last 2-3 days in PET bottle)
- Recommended Meters for Testing TDS, pH, ORP, DO, DH (drops)
- Recommended References and Links (Text and Video)
- FAQ’s (don’t mount unit on wall, don’t restrict outflow of machine)