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Advanced Preventive Dentistry

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- Doctor of Dental Surgery, University of Minnesota
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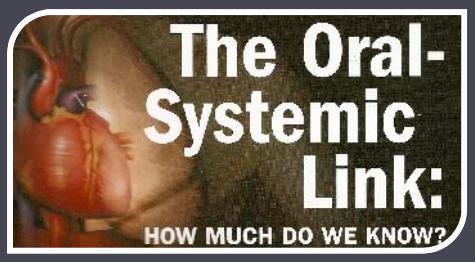
- American Nutraceutical Association, *member*
- Invisalign Orthodontics, *Certified*
- IAOMT, *member*
- American Association of Functional Orthodontics, *member*
- Botox Cosmetic Physicians Network, *member*
- BSA : *Scoutmaster, Eagle board of review, District committee , PR district*

The Metabolic Syndrome

and Oral Inflammation



Periodontal, Cardiovascular Disease, Metabolic Syndrome and the Sugar Connection

Does fat makes us Phat?
We were TOTALLY wrong about Dhat !

The Inflammation Connection

SOME HISTORY

What we had and didn't have back then ?

- We had 7 known planets in our solar system
- We did not know of bacteria, viruses, or fungi
- We had not invented electricity
- No medical schools
- No sterilization
- **Politicians were still Self-Serving**
- No hospitals
- No pharmaceuticals
- No separate branches of science, like chemistry, biology, etc.
- No medical specialties of any kind
- No real science (theories not tested)
- No anesthetics; (except rum & brandy)
- No imaging or X-rays
- No ObamaCare or insurance

How Far Have We Come in Medicine and Dentistry?

- Tapeworms for weight loss in the 1900's
- Cigarettes for bronchitis
- Mercury, Calomel and fillings
- Today, Chemotherapy and Antibiotics ...gut
- The cholesterol myth
- The low-fat diet myth
- The no salt myth, etc.

"You Cannot Pharmacologically Intoxicate Someone Into Health"

~David Baltimore MD, ND

"Have them get a PDR and look up their symptom's"

"Because their symptom's are most likely being caused by their drug's"

What are Patients Really Looking for:

- A Clinical Team
- To feel Understood
- The Truth
- Respect
- But most of all:
  - Hope
  - Advanced PreventiveDentistry.com

Categorizing disease treatment

- We look for a symptom
- You have such and such
- Then an **insurance code** is attached to your symptom(s)
- We give you a drug
- We bill your insurance
- Since no one really knows what all of this costs
- Visits are very expensive because we have a **reactive healthcare system**

- Looks more like a sick care system that reacts to a problem rather than understanding the problem
- USA 16% of GNP is spent on sick care
- Most nations spend 10% on health care, and we are not even in the top 10

The Weston A. Price Foundation

Weston A. Price, DDS
- Detailed population studies
- Nutrition and Physical Degeneration

Royal Lee DDS
- Founder of Standard Process, Whole Food Vitamins

Leon Singer, Ph.D.
- Micro- nutrient deficiencies
- University of Minnesota, Biochemist

Socrates
- The only true source of wisdom is……..

My Journey

- The Battle is at the Grocery Store
- A4M
- To get to the truth
- The 3 Signs of Old Age?
  - 1
  - 2
  - 3

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www.AdvancedPreventiveDentistry.com

Free Subscription

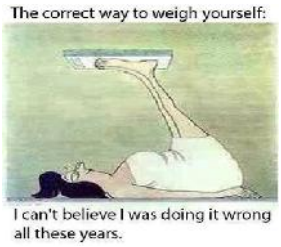
Anti-Aging Topics
Audio presentations
eBooks
Health related Booklets
Protocols
Specific Dental Topics relating to whole body health
Video seminars
Webinars
Age Rejuv and Ora Rejuv Programs

Let's Look Below The Surface

What Are The Hidden And Overlooked Bio-Inflammatory Markers

Do We Really Test Correctly?

Some of the Current Medical Myths



The Centipede
Cholesterol
Salt
Fluoride
Low-fat
GMO
Mercury
Insurance
Pharmaceuticals

Voltage, O2, Electrons, and pH

- **What Causes Aging?**

- **The Inability To Make New Cells.**
- Decreased Voltage In The Cellular Membrane
- Plastic Cellular Membranes, From Eating Plastic Fats
- This Causes Insulin Resistance
- This Causes Cell Receptor Insensitivity
- An Alkaline-acid Shift Towards Acidity
- H + Ions
- Low Oxygen Levels
- Too Little Cholesterol
- Not Enough Electrolytes
- Water With No Electrical Charge

Sirtuin genes: The new genetic markers for aging

- **Discovered in yeast**
- **Sirt-1,** animals age 40 to 60% slower and age healthier
- **Sirt genes:** in human studies slow down aging and are influenced by nutraceuticals that turn on life protective genes. These are life survival genes
- They turn on longevity genes
- **Trans-Resveratrol,** (not cis), made from grapes, pine bark, and polygonum. Less pure forms cause G.I. upset.
- Take 100 mg per day, or 15 to 20 L of wine daily.

What Lies Beneath… How Damaging?

The Gingival Sulcus Barrier

The Periodontal Pocket

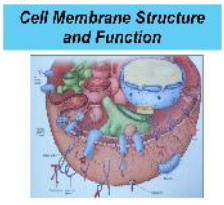
The Protective Barriers

- GSB
- BBB
- CMB Cellular Membrane Barrier
- GIB
- BVB Blood Vessel Barrier

The Border Patrol

Is It Legal Or Foreign

The Guardian



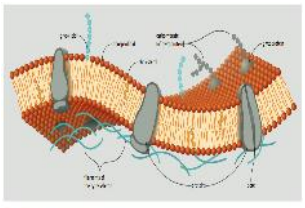
Functions of the Membrane

- ✓ The Storage of Electrons
- ✓ Control What Enters and Exits the Cell
- ✓ Depolarization: Sodium and Potassium Influx

The Glyco- Phospho-lipid Membrane

The is the Border Patrol

The Administration Has Nothing To Do With This Border



It operates very efficiently

It Runs on a Charge of

-20 to-25 mV

It needs a constant supply of healthy essential fats to stay functional

The Total Cholesterol Myth

Cardiovascular Statistics

- More than 60% of all heart attacks occur in people with normal cholesterol levels
- The majority of people with high cholesterol never suffer heart attacks
- Half of all heart attack victims have none of the standard risk factors
  - Smoking
  - Obesity
  - Genetics or
  - **High Cholesterol:** *is at the scene of the crime, but it's not guilty !*

What Causes Cardiovascular Disease?

Oral Inflammation

The New Disease Paradigm

The Link Between Chronic Degenerative Disease and Chronic Inflammation

~Harvard Medical School 2000, Linked Oral Inflammation & CDD to PDD

The Old Model of disease *(germ theory)*

One germ or Bug, one disease, one drug

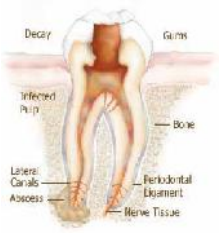
The New Model of disease *(silent inflammation)*

Silent inflammation is the cause of 80% of all Chronic Degenerative Disease (CDD) Why?

It's LIFESTYLE !! 20

The Bugs : Dental Infections

Go into the systemic circulation and congregate in areas of low voltage



WHY?

The bugs wake up due to:

Low Oxygen

Increased Acidity

Low Electrolytes

They start having you for lunch

The Two Most Common Diseases Worldwide

Gingivitis

Periodontal Disease

The Inflammatory Response

Acute inflammation

Sports car engine

Cytokine's released:

- ✓ C-Reactive Protein
- ✓ IL-6
- ✓ TNF-alpha
- ✓ adhesion molecule's
- ✓ I-cam
- ✓ Foam cells

Inflammation & repair accomplished and return to normal

Chronic inflammation

Sports car engine burns out

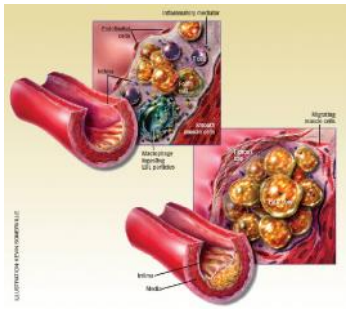
Cytokine's released:

NFKB gets turned on & all inflammatory pathways are up-regulated !!!

Cardiac Endothelium Inflammation Occurs

an area of 6-tennis courts ***

Oral Inflammation and Atherosclerosis



THE NEW BACTERIAL MODEL: "Bacterial Biofilm"

The New Bacterial Plaque Model

- A complex, sticky, interrelated "microbial village" on the surface of the enamel, a mixed bacteria community.
- Three-dimensional colonies of bacteria that are loosely attached to teeth & tissue (micro-colonies of bacteria embedded in slimy matrices)
  - ✓ (Slime coating on steel ships)
  - ✓ (Politician's & Government Regulators)

You Want to Reduce the Bacterial Biofilm

"Sonic-cat" or "Sonicare"

Ozone Therapy

- When OZONE is added to a living system, it creates a **transient oxidative burst.** The bacteria that have no natural defense against ROS, become overstressed and die. Ozone water in a syringe and ozone gas can be used.
- Perio Protect
- Periodontal Disease
- Dental Decay
- Endodontic Infection
- Osteomyelitis
- Nico Lesions

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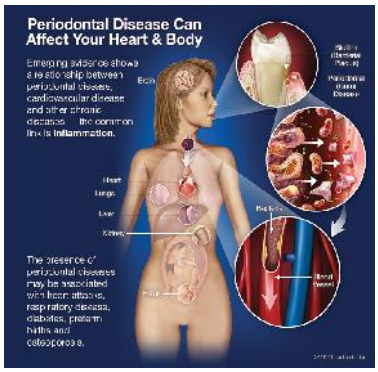


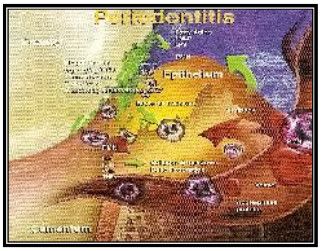
Sugar and Carbohydrates

- Decrease Cellular Voltage
- Decrease Enzyme Potential
- Deplete Coenzyme-Q 10
- Post Prandial Sugar
- Fasting Insulin...2-4
- Fasting Glucose..77
- C-peptide
- Microalbumin

Periodontal Disease

	Perio-pocket depth's			
-7	-6	-4	-5	-9

- Pocketing
- Bone loss
- Tooth mobility
- Local modulator's
- Systemic modulator's
- Entamoeba gingivalis a parasite
- Bacteria (the big 20)



Screening for Inflammation

hs-CRP	< 1.0 mg/L	< 0.55
Cytokines (if elevated CRP)		
IL-1B	0-150 pg/mL	< 150
IL-6	2-29 pg/mL	< 30
IL-8	10-80 pg/mL	10-80
TNF-alpha	0-25 pg/mL	< 25
Homocysteine	5-12 micromol/L	< 7.0
Fibrinogen	200-400 mg/dL	200-300
Fasting Insulin	0-22 mcIU/mL	< 5
Lipoprotein (a)	0-30 mg/dL	< 20

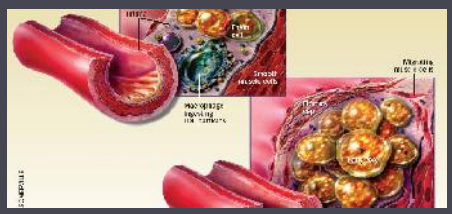
Endothelial Dysfunction and its Importance!

The single-celled mono-layer lining the arterial vasculature

The earliest clinical detectable stage of cardiovascular disease

800 – 417 – 2040..... XION medical.net 30

Endo-PAT 2000



Endothelial Dysfunction…and the MS

Endothelial dysfunction indicates a structural or functional abnormality of the mono-cell layer and begins to send out messages to the blood and vascular smooth muscle that makes those tissues dysfunctional.

(Like our pop culture i.e. the Kardashian's)

When the vasculature becomes dysfunctional, there are a lot of things that occur:

- It sets off a chain of events that includes:
- Inflammation
- FROS
- auto immune dysfunction in the arterial wall
- abnormal vascular biology… a decrease in NO

The Benefits of Nitric Oxide

What Does Nitric Oxide Do?

Nitrous Oxide (NO) is the good guy
You want to increase its bio- availability

Anti-hypertensive
Anti-inflammatory
Anti-atherogenic
Prevents FROS

The only FDA cleared device for diagnosing Endothelial Kardashian

Endo-PAT 2000

an office-based 15 minute noninvasive test that measures Endothelial Kardashian

What About Sugar?

- Sugar Adversely Affect Your Heart!
- According to JAMA Internal Medicine;
- Consuming 17-21% of Your Daily Calories from Added Sugar Increases Your Risk of Death from CVD by 38%

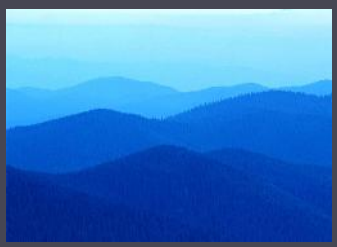
Too much sugar not only makes you fat, it can give you a heart attack

- Leads to the Metabolic Syndrome

Done-lop Disease

Optical Rectitis

Insulin Signaling



The definition of a diet:

A three week starvation crash course to allow one to fit into a swimsuit!

The Metabolic Syndrome

How Pervasive is it ?

- Currently, we treat one bio-marker at a time
  We must treat the **"whole person"** not just the lab values
- 1 in 4 (approaching 1 in 3) **100 million Americans**

  It's an EPIDEMIC!!! 80%
- **Obesity**: leads to **Adipogenesis** and increased **Adipocyte** formation
- **Adipocytokines**: can grow in size and number

The Metabolic Syndrome aka:

- Syndrome X ANA in Nashville
- Dys-insulinism
- Insulin Resistance
- Hyper-insulinemia ***(Blood Sugar ranges, 50-3700)***
- Pre-diabetes
- Dys-lipidemia
- Hypertriglyceridemia
- Hyperlipidemia
- Hypercorticolism
- **Abnormal Glucose Metabolism**
- Obesity
- Dys-regulation of CHO Metabolism leading to IR

Low-Fat Diets are Totally Useless

Dr. Mary Vernon

- Fat Doesn't Make You Fat. Sugar Does !!!!!!!
- **Low-fat diets** are **high-sugar diets**

- Sugar raises INSULIN
- The CHO's control the INSULIN
- **High INSULIN levels make you fat**

- Sugar depresses GLUCAGON and
- **Low GLUCAGON keeps you fat**
- INSULIN inhibits **lipase and lipolysis**

This up and down-regulation leads to **Hyper-Cortisolemia** and this leads to ***increased belly- fat***

Our Little Stress Reliever 40

Evelyn ...*Little Bird*

THE METABOLIC SYNDROME CRITERIA, NCEP

- 1. **ABDOMINAL OBESITY**
  - men..... 40 inches+
  - women .....35 inches+
- 2. **TRIGLYCERIDES** ...> 150
- 3. **FBS** .....> 99 77is Ideal
- 4. **FI** .....> 10 optimal is 2-4
- 5. **BP**
  - Systolic .....> 129 mm/hg
  - Diastolic..... > 84 mm/hg
- 6. **HDL**
  - men .....< 40 mg/dl
  - women..... < 50 mg/dl
- 7. **MICROALBUMIN**..... 32 is optimal

Hyper-insulinemia
Hyper-cortisolemia
Aromatase Inhibition

- Plus, several other criteria. These #'s are arbitrary.
- They pick #'s above which complication's start to occur 7

Done-lop Syndrome

The Metabolic Syndrome

Low-Fat Diets Are High Sugar Diets !

The low-fat myth

- Sugar is what sends triglycerides through the roof
- And it's the **triglycerides,** that are your biggest concern for cardiovascular disease, especially in women.
- Remember, it's the oxidized small particle LDL and HDL that cause heart attacks.
- This can be measured with an LPP test by Spectra cell labs.

The Metabolic Syndrome

This is Metabolic Dys-regulation

- Faulty carbohydrate metabolism
- Due to a **decrease** in insulin sensitivity…IR
- Sugar is unable to enter the cell so it builds up in the blood.
- More and more INSULIN is then produced due to the…IR
- This leads to **Carbohydrate Dys-Regulation**
- Caused by an increase in ROS
- **Higher levels caused a 50% increase of IR in rodents**

It's the Carb's…Carb's control the INSULIN

Study in NATURE magazine ; Vitamin research news, Feb, 2010

What Do Abnormal Blood Sugar Levels Tell You ?

All The Endothelial Damage Occurs in your

Retina
Kidney vessels
Arteries
Gut wall
Periodontal tissues, etc.

Are caused by Post-prandial blood sugar level spikes!
This is when the most damage occurs

The Good News

You can control your hormones by what you put in your mouth !

WHY?

Because the carbohydrates control the hormonal signals that control glucose metabolism

Abnormal Glucose Metabolism

- Damages blood vessels in the kidneys and everywhere Especially Post-Prandial Blood Sugar
- It's the measure of glomerular kidney damage and can be detected by ***c-peptide*** and ***urinary microalbumin*** levels
- A 24 hour urine will tell you about "frank proteinuria"
- If UMA is > than 2,000 mg in a 24 hr. period, it suggests:

Glomerular Kidney Damage

This is the Endothelial Dysfunction piece

Triglyceride synthesis is stimulated by HIGH CHO and high INSULIN levels, **this is really bad news !!!**

A4M Module 2

Your Diet Tells Your Hormones What To Do

- The levels vary greatly by WHAT you put in your mouth.
- So, you can influence your hormones by what you eat.

This is good news !! Or is it?

- Dietary Endocrinology
- Epi-genetics
- Nutri-genomics

High Fructose Corn Syrup

Poison In An Aluminum Can

- HFCS, lowers leptin
  Leptin regulates central satiety by sending a lipostatic signal to the Brain
- Lowers adiponectin
- Ends up in the liver and contributes to NAFLD
- Stimulates ASP,
  Acylation Stimulating protein, promotes fat storage

It's Inflammatory
Increases Insulin
Decreases glucagon
Adds Fuel To The Biofilm

What Does Insulin Do?

"The CEO of Metabolism"

- Takes glucose out of the Blood Stream and puts it into cellular fat storage! That's it's job!
- In the presence of CHO's, All other pathways are turned off!
- Promotes TG storage
- Shuts off fat burning, turns off glucagon
- Phosphorylates GLUT 4 receptors at the plasma membrane
- The rate of rise of INSULIN in the blood is controlled by the rate of rise of serum glucose
- Induces **Coenz-HMG reductase**, which is the same enzyme your taking LIPITOR to block!!.....CRAZY !!!

Destructive Effect's
of High Insulin

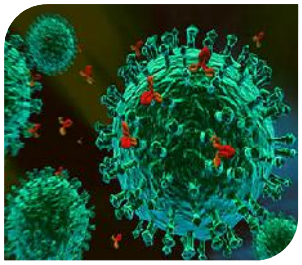
- Increases silent inflammation
- Converts blood sugar into glycogen and Stores It As Fat
- Produces Eicosanoids, **(Super Hormones)**
- Bad Eicosanoids lead to:
  * Vasoconstriction which leads to reduced O2 flow
  * Increased CVD
  * A shortened lifespan
  * Inhibition of Glucagon

Insulin Resistance

- Occurs when cell receptors lose their sensitivity to insulin
- This results from an increase in fros and **Plastic Cellular Membranes**
- **These ROS (Reactive O2 Species)**
  Can damage DNA, RNA and proteins (A4M)
- ROS are a direct result of cellular metabolism
  Mitochondria Exhaust
- Free radical onslaught begins to overwhelm the mitochondrial production of the intracellular enzymes SOD, GSX and Catalase.

Vitamin Research News March 2012 50

Cellular Membrane Bipolar Lipid Nature
Cell Receptor Sites



You've Got Mail !!!

@ Your Receptor Site

Cell Receptor Sites

Like Hashtags or Email Addresses for the Cell

Made of Essential Fatty Acids

Inflammatory Biomarker's

Diabetic Marker's

- **Hb A1C** 5.4 is optimal high if over 5.9 if over 7, DIABETES
- **Fasting Blood Sugar** (serum glucose) SHOULD BE 70-80,
- SHOULD START TREATING AT 84.....77 IS AN **IDEAL** NUMBER
- C-Peptide
- Insulin (fasting) 4-6
- BMI (**Body Mass Index**)
- GTT+ Insulin: MUST BE UNDER 15 AFTER 2 HOURS AFTER THE GTT+I LOADING TEST

Natural Periodontal Control

- **Iodoral or Iodine,** which helps with alkalinizing your oral tissues, helping you to prevent decay and periodontal disease. Take 12.5mg per day minimum
- **Argentyn-23,** apply 4 times a day. Hold under your tongue then swallow. This is a very effective anti-bacterial, viral, fungal and protozoal. IN
- **Oil Pulling,** with coconut oil, swish for 20 minutes then spit, don't swallow
- **Swishing and rinsing,** with Celtic sea salt or Himalayan Pink Salt. You can take 1 tsp of "UNREFINED" SEA SALT UP TO 3 TIMES PER DAY!
- **Probiotic therapy,** will help alkalinize your biofilm, see my probiotic instructions!
- **Tongue scraping,**
- **Co-enzyme Q-10**
- **Grape Seed Extract**, it kills H. pylori in the gut.

Natural Periodontal Control

- **NUTRITIONAL THERAPY,** especially Coenzyme Q-10 and by following the alkaline food list.
- **The 12 compounds that control bad breath,** follow the list, see the article, "what causes bad breath"
- **Floss, floss, floss** or use periodontal aids or both.
- **Avoid sugar,** it's just really bad stuff, plain and simple, it's very acidic.
- **Balance your pH,** by alkalinizing your biofilm with lemon water or Concentrace, Liquimins. Order off the DSS website.
- **Swish or rinse with water,** after meals and any snacks, this dilutes the oral acid content.
- **Follow our multi-talented hygienist's advice!** They know their stuff!!!

The Big Cardiac Seven

- The heart is the most electrically sensitive and energy intensive organ in the body. It requires the most energy to make ATP. Cardiac cells, called myocytes, contain the most mitochondria, per cell. Each myocyte contains around 5,000 mitochondria per cell, compared to skeletal muscle cells which contain around 500 mitochondria, per cell.
- 1). Magnesium Orotate
- 2). D-ribose, *the substrate for ATP*
- 3). Omega-3-fatty acids
- 4). L- Carnitine fumarate
- 5). R- Alpha-lipoic-acid
- 6). L-arginine, *if you are over 40 use L-Citrulline*
- 7).Co-enzyme Q-10, also
- Nattokinase , a blood thinning enzyme from fermented soybeans that reduces fibrin protein from building up in your blood causing sluggish circulation
- **trans**-Resveratrol
- Slo-bid Niacin
- Pycnogenol, this increases NO

Increase Your Magnesium and Mineral Load Why?

- Magnesium decreases the Metabolic Syndrome by improving insulin function
- Magnesium Orotate; raises ATP levels
- Minerals decrease acidity and FROS
- **Magnesium reduces the Diabetic Risk**
- 99% resides in the intracellular tissues, so you need to measure it in the ionic form NOT in the serum
- Magnesium is a co-factor in over 300 reactions
  Same with Ca++, test for ionic calcium

According to Dr. Selig, Americans are 80% deficient in magnesium, iodine, and vitamin D3

Reversing Inflammation

What to Do? Shut Off The Switch : Nfkbeta

1 Balance your hormones and increase IODINE levels
2 Reduce your stress level
3 Balance your Adrenal gland's
4 Alkalinize aggressively (increase pH) (start with Water)
5 Detoxification of organ system's
6 **Change your oil to OMEGA-3-OIL !!!**
7 Build muscle mass

Reversing Inflammation

8 Reduce your medicines
9 Bio-energize your water supply
10 Change your thought process
11 **Sleep 8 hours per night**
12 Exercise daily
13 Lifetime eating plan (this reduces Arachadonic Acid production)
14 Balance your Neurotransmitter's

Reversing Inflammation

15 Balance your Gut flora
16 Change your salt to Celtic sea salt or Himalayan pink salt
17 Get some sunshine, 20 minutes per day
No sun block!
18 **CR**_____
19 Reduce All Sugar Consumption
20 Boost Glutathione, Catalase and SOD
21 HMT, Get the lead out!!!

Heart Healthy Fats

- Omega-3 Fatty Acids, EPA-DHA **Helps insulin sensitivity**
- Coenzyme Q- 10
- Omega -7 Fatty Acids
- GLA
- KRILL OIL
- Cod Liver and Butter Oil
- Coconut Oil
- Olive Oil, this is an Omega-9
- Flaxseed oil
- Stay far away from canola oil
- Stay away from vegetable oils

- Healthy fats help build the cellular membrane and increase its voltage to the proper level of -20 mV to -25 mV

60

The End

Thank all ya'll very much!!!

GO COLTS !!!