

Beautiful Skin from the Inside Out!

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Healthy Aging

- Aging is inevitable
- We cannot stop it
- We cannot reverse it
- We CAN slow it down and control the rate at which we age



Healthy Aging

- Healthy Aging is the goal, not anti-aging!
- Okinawa Centenarian Study funded by US National Institute on Aging and the Japan Ministry of Health and Welfare focused on healthy aging
- More people in Okinawa reach 100 than anywhere else on earth
- Studies show that lifestyle plays a key role in healthy aging
- No disputing genetics is important – but lifestyle accounts for GREATER part of human life span

Healthy Aging

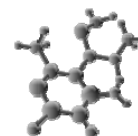
- Aging is a lifelong process
- Aging successfully doesn't mean you have to reach a magic number – 90, 100 or beyond
- Aging successfully is keeping your health and maintaining functions such as taking care of yourself, being able to drive and living on your own

Healthy Aging

- Successful aging is also looking as good as you feel!
- The lifestyle choices you make day to day have tremendous influence on your health and appearance
- Many longevity experts agree that free radicals are the main culprit involved in damaging our bodies as we age

Free Radicals

- Free radicals are oxygen molecules with one or more unpaired electrons
- Some have an extra electron or more than one extra electron without a partner
- Some are missing one or more electrons



Free Radicals

- Oxygen molecules zip around in the body trying to steal an electron from, or donate an electron to, another molecule to satisfy or neutralize its charge
- Once it does that – the other molecule becomes a free radical in turn
- Cascade of free radicals . . .
- Free radicals highly reactive – damage from this process called *oxidation* or *oxidative stress*
- Cause tremendous damage to the body

Free Radicals

- Free radicals damage DNA
- Experts say DNA in each cell in body can take a damaging hit from free radicals 104 times a day!
- Oxidize cholesterol – cause plaque
- Damage structure and function of tissues
- Cause everything from wrinkles to heart disease



Free Radicals

- Smoking –huge source of free radicals
- Radiation from sunlight
- Every day breathing and metabolism
- Young people – internal antioxidant system very effective at preventing free radical damage
- As get older – system becomes overwhelmed
- Damage accumulates faster as you age

Free Radicals

- Fortunately – body has built-in system for neutralizing free radicals so they cause less damage
- Apple
- Think of cells throughout body like apple slices



Antioxidants

- Free radical damage – oxidation
- Antioxidants – “against oxidation”
- Antioxidants circulate in body and break chain reactions of free radicals robbing or donating electrons to or from other molecules



Antioxidants

- Antioxidants offer up their own electrons to the roving bands of free radicals
- When dietary antioxidants give up electrons – they don't become free radicals themselves – they remain harmless



Antioxidants

- Body needs antioxidants ALL DAY LONG
- Important to take in antioxidants continually
- Antioxidants: Vitamins A, C, E, and minerals that support body's antioxidant enzymes
- Plant chemicals phytochemicals
- Important that they come from FOODS!
- Antioxidants from supplements can be pro-aging or pro-oxidant if we take too many

Antioxidants

- Supplements are supplemental to the diet
- Haven't identified everything in fruits and vegetables
- Hundreds of compounds in fruits/vegetables/whole grains
- Classic example: Large Finnish study male smokers who took beta-carotene supplements (vitamin A precursor) actually increased their risk for lung cancer

Antioxidants

- Inexplicable synergy of Mother Nature's antioxidants that are naturally found in food
- Sum is larger than their individual parts
- Studies also starting to show that just cutting back on calories may reduce number of free radicals that your body churns out and help you live longer

Glycation and Blood Sugar

- Free radicals not only problem
- Advanced glycation end products or AGEs
- AGE – created when blood sugar – glucose – becomes attached to proteins
- Becomes glycated
- Changes structure and function of protein
- Causes proteins to cross-link with each other
- Contributes to wrinkles, brown spots

Advanced Glycation End Products

- AGEs linked to cataracts
- Damage cartilage in joints
- Osteoarthritis
- Arteries stiffen – heart disease
- Cause cells in immune system to release chemicals that initiate inflammation



Add Up Your Antioxidants

- Fruits and Vegetables have an ORAC score
- ORAC – Oxygen radical absorbency capacity
- Indicates a food's ability to neutralize cell-damaging free radicals in a test tube or lab measurement
- Not definitive on how this translates to role of antioxidant-rich foods in our diet
- Preliminary research indicates may act same way in our bodies

ORACs

- Federal government estimates Americans consume 4,000 to 5,000 ORAC units per day
- Equal to 2 ½ servings of fruits/vegetables
- Research estimates people need 12,000 to 13,000 daily ORAC units to effectively squelch free radicals!



ORAC Studies

- Antioxidant power of blood raised 25% after consuming 1 ½ cups strawberries, 1 ¾ cup cooked spinach
- 2 glasses red wine daily - 30% increase in total plasma antioxidant capacity
- Cardiac study – 6 oz pomegranate juice each day for 1 year – 130% increase in total antioxidant status as well as decrease in blood pressure
- 4 cups black tea for 4 weeks – increased antioxidants by 33%

ORACS

- | | |
|------------------------------|-------|
| ▪ Beans, small red dry ¼ cup | 9,378 |
| ▪ Blueberry, wild ½ cup | 6,314 |
| ▪ Red wine 6 oz | 4,585 |
| ▪ Prunes ¼ cup | 3,646 |
| ▪ Artichoke hearts, ½ cup | 3,592 |
| ▪ Cloves ½ tsp | 3,144 |
| ▪ Green tea 1 cup | 2,951 |
| ▪ Turmeric ½ tsp | 1,593 |

Okinawa study

- 7 servings of fruits/vegetables each day
- 7 servings grains – rice, wheat noodles
- 2 servings of soy
- Fish several times per week
- Minimal meat and dairy foods
- Practice – 80% full
- Eating mindfully, daily ritual

Eat Your Way to Beautiful Skin

- Vitamin C antioxidant: inside and out
- Involved in collagen production
- Strawberries
- Peppers: red/green/yellow
- Oranges
- Lemons
- Broccoli



Vitamin E

- Helps protect cell membranes and guard against UV radiation damage
- Research suggests Vitamins C and E work together to provide extra boost of anti-aging skin protection
- Best in diet, not pills
- Wheat germ fortified cereals,
- nuts and seeds, oils



Vitamin E

- Also used topically in skin care products
- Potent antioxidant
- Most biologically active form is alpha tocopherol
- Also anti-inflammatory



Beta Carotene/Vitamin A

- Antioxidant critical for skin health
- Beta carotene converted to vitamin A in body
- Involved in growth and repair of tissue
- May protect against sun damage
- In high doses in supplements can be toxic
- Sweet potato, pumpkin, carrots, mangos, apricots, broccoli, spinach



Vitamin A

- Vitamin A is a family of fat soluble vitamins: retinol, retinal and retinoic acid
- Also used topically
- Some plants contain beta-carotene – a pre-Vitamin A carotenoid that our bodies convert to vitamin A



Flavanoids or Bioflavanoids

- Found mostly in fruits and vegetables
- Also nuts, seeds, grains and soy products
- Tea, coffee and red wine – potent antioxidants
- Green tea especially potent



Polyphenols

- Powerful antioxidants
- Studies show that they have ability to counteract free radicals produced by sun exposure
- Green tea
- Most fruits/vegetables
- Nuts, seeds



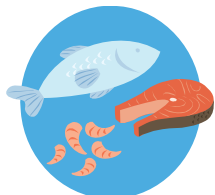
Selenium

- Helps safeguard skin from sun damage
- Delays aging by protecting skin quality and elasticity
- Shown to reduce sun damage and even prevent some skin cancers in animals
- Brazil nuts
- Tuna
- Crab
- Wheat germ



Omega-3-Fats

- Maintain cell membranes so they are effective barriers – allow water and nutrients in and keeping toxins out
- Protect skin against sun damage
- Anti-inflammatory!
- Oily fish
- Sardines
- Flaxseed
- Walnuts



Balance of Omega 6 to Omega 3

- Body requires both – both are polyunsaturated fats
- Must be provided by the diet
- Both are related to inflammation
- Diet that minimizes inflammation will help reduce aging changes in our skin
- Should be consumed in a ratio of 4:1 Omega 6 to Omega 3 to control inflammation

Omega 6

- Pro-inflammatory in high amounts
- Plentiful in diet
- Especially in processed foods
- Corn oil, safflower oil, sunflower oil, peanut oil
- Salad dressings, bread, crackers, cookies, etc
- Need to decrease intake. Currently ratio of Omega 6 to Omega 3 is about 20:1
- Should be ratio of 4:1

Fish Oil Supplements

- Two omega-3 fatty acids – eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) found to help lower triglycerides, reduce blood clotting and decrease inflammation
- AHA: healthy people should get about 1 gram per day of EPA and DHA
- High triglycerides: 2-4 grams per day (under care of health care provider)
- Fish oil supplements – quality matters
- Omacor/Lovaza – prescription fish oils

Flaxseed

- Rich source of essential fatty acids critical for healthy skin
- Rich in protein, phytoestrogen (lignans) and fiber
- 1-2 Tbsp ground flaxseed per day

Vitamin B

- Helps conversion of calories into energy which is used for cellular metabolism - keeps skin moist and smooth
- Lean poultry, meat, fish
- Bananas
- Peanut butter and eggs



Protein

- Necessary for tissue growth and to replace and maintain cells of the body
- Skin is made up mostly of protein. But protein molecules are not absorbed through the outer layer into underlying tissues. So, you need to supply daily proteins through the foods you eat to keep your skin healthy.
- Helps produce enzymes, antibodies
- Good sources: Oily fish like salmon, mackerel, tuna. Lean fish like cod. Lean chicken, turkey. Cottage cheese, yogurt

Protein

- Damaging protein adds too much saturated fat and inflammatory compounds
- Diets high in saturated fats increase incidence of skin aging and wrinkling
- Avoid or greatly decrease ground beef (even lean unless it is organic grass-fed), sausage, bacon, high-fat pork



Glycemic Index

- Foods high on the glycemic index raise blood sugars very quickly
- Pancreas secretes insulin to usher glucose into cells (brain cells, liver cells, muscle cells, fat cells, eye cells, etc.)
- Insulin also stops body from burning fat and protein for energy
- Promotes fat storage, increases triglycerides

Glycemic Index

- Glycemic Index ranks foods on how much your blood sugar increases 2-3 hours after eating
- To inhibit AGEs from forming, controlling the level of blood glucose is critical
- Foods low on glycemic index: apples, strawberries, beans, most vegetables
- Foods high on glycemic index: bagel, potato, corn flakes, french fries, pasta
- www.glycemicindex.com

Supplements

- CoQ10: involved in production of energy in the cell. Antioxidant – reduces free radicals. 100-200 mg day
- Fish Oil: 1-2 grams (1,000 -2,000 mg) per day
- Flaxseed: Protein, fiber, omega 3 fats, lignans (phytoestrogens). 1-2 tablespoons per day

Supplements

- Evening Primrose Oil: good source of linoleic and gamma linoleic acid essential to healthy skin. 3-8 grams per day
- Borage and Black Currant Oils: Much richer in gamma linoleic acid. 2-3 grams per day
- Vitamin C: 500 mg to 1 gram per day
- Vitamin E: No more than 400 IU per day

Water

- Drink lots of water!
- Keeps skin's cells plump and firm
- Dehydration encourages dry, wrinkled skin
- Grapes – firm, smooth, fresh
- Raisins – dry, hard, wrinkled
- Water washes toxins out of body
- Brings nutrients to cells



Moisturizing Mask

- 1 large avocado (vitamin E)
- 1 ripe banana
- 1 tsp raw honey
- 1 tsp EVOO
- Mash avocado and banana in bowl. Mix in honey and oil to make smooth paste. Apply to face, neck and décolleté and leave on for 20 min. Rinse with warm water

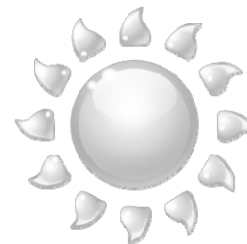
▪ Positively Ageless, Cheryl Forberg, RD

Summary

- Don't smoke
- Get enough sleep
- Eat small, frequent meals (don't overeat)
- Eat antioxidant rich foods
- Include healthy fats
- Eat lean sources of protein
- Cut way back on sugars, white carbs like pasta, cookies, white rice, etc.

Summary

- Drink water, green tea, red wine (in moderation)
- Wear sunscreen



▪ **Let's Get Cooking!**

