Vitiligo

Dr. John Bergman

What is Vitiligo?

"Vitiligo is a disorder in which white patches of skin appear on different parts of the body. This happens because the cells that make pigment (color) in the skin are destroyed. These cells are called **melanocytes.** Vitiligo can also affect the mucous membranes (such as the tissue inside the mouth and nose) and the eye."

National Institute of Health [1]

Vitiligo Statistics

Vitiligo affects:

- 1-2% of the world's population
- About **40-50 million** people around the world
- **2-5 million** people in the US

What Causes Vitiligo?

"**The cause is not known**. Vitiligo may be an autoimmune disease. These diseases happen when your immune system mistakenly attacks some part of your own body. In vitiligo, the immune system may destroy the melanocytes in the skin. It is also possible that one or more genes may make a person more likely to get the disorder."

"Some researchers think that the melanocytes destroy themselves. Others think that a single event such as sunburn or emotional distress can cause vitiligo. But these events have not been proven to cause vitiligo."

National Institute of Health [1]

Medical Treatments

- Note from the Mayo Clinic [2]

"**No drug can stop the process of vitiligo**. But some drugs, used alone or with light therapy, can help improve your skin's appearance."

Topical Corticosteroids

Side Effects:

- skin thinning (atrophy)
- stretch marks (striae)
- Easy bruising and tearing of the skin
- Enlarged blood vessels
- localized hair thickness and length,
- **Steroid Rosacea** (**steroid acne**): small bumps (papules) and pustules
- **Periorificial Dermatitis:** itchy or tender small red papules
- **Pustular Psoriasis**: flares of widespread sterile pustules on a background of red and tender skin

Source [3]

Topical Calcipotriene (Dovonex)

- a synthetic **topical** (for the skin) form of vitamin D used to treat plaque psoriasis (psoriasis with scaly patches)

Side Effects:

- Severe burning, stinging, irritation
- Worsening of skin condition
- Nausea, vomiting, stomach pain, loss of appetite, constipation, increased thirst or urination
- Muscle pain or weakness
- Joint pain
- Confusion, fatigue or restlessness

Source [4]

(Calcineurin Inhibitors)- Immunosuppressants Ointments containing Tacrolimus or Pimecrolimus

Side effects

- Severe burning, itching, stinging, soreness
- Swollen glands, sore throat
- Fever, chills, body aches, flu symptoms
- New symptoms of Viral skin infections (warts, unusual rash or skin lesions, blistering or oozing, burning pain or tingling)

Sources [6-7]

Warning from the FDA:

Calcineurin Inhibitors may be associated with Skin Cancer and Lymphoma

Adverse Reactions: Post-marketing section

- **Pimecrolimus:** Lymphomas, basal cell carcinoma, malignant melanoma, squamous cell carcinoma
- **Tacrolimus:** Lymphomas, basal cell carcinoma, squamous cell carcinoma, malignant melanoma, Bullous impetigo, osteomyelitis, septicemia

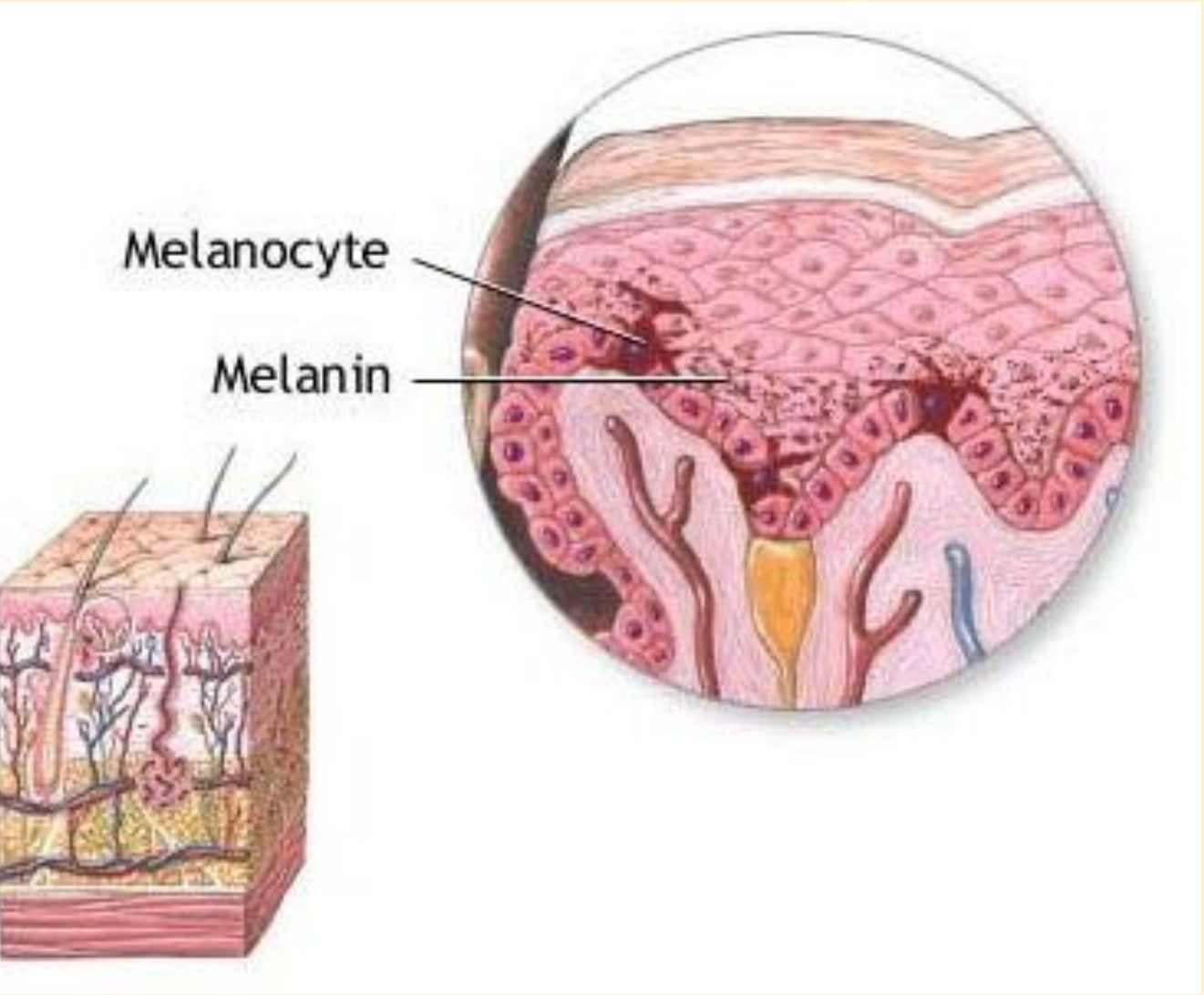
FDA [5]

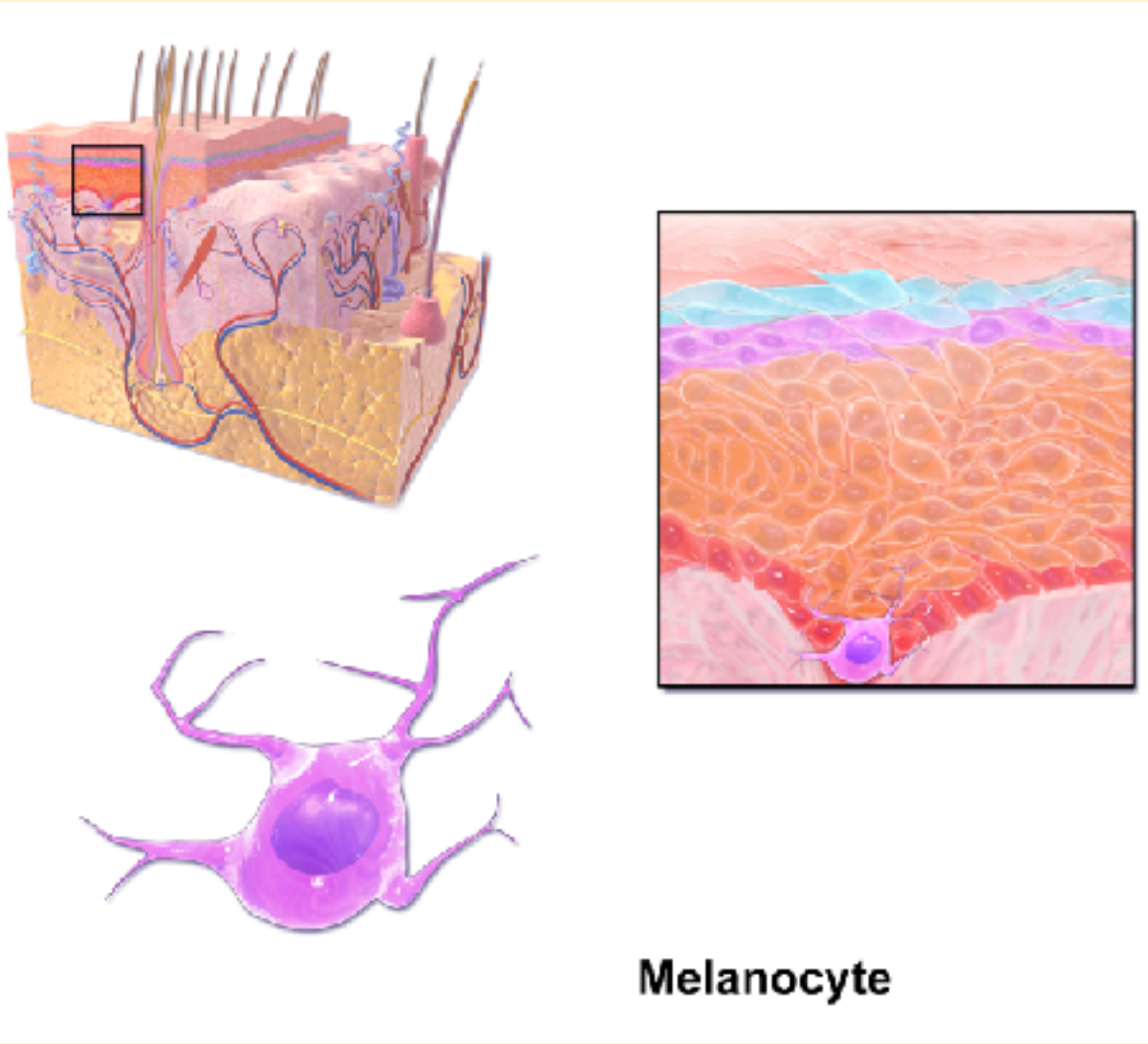
The Melanocyte

Facts about Melanocytes:

- Are melanin-producing cells
- Located in the bottom layer of the Stratum Basale of the skin's epidermis, the middle layer of the eye, the inner ear, the meninges, bones, and heart
- **Melanin is primarily responsible for skin color**
- Melanin is contained in a special organelle called a melanosome and moved along arm-like structure called dendrites to reach the keratinocytes

The Melanocyte





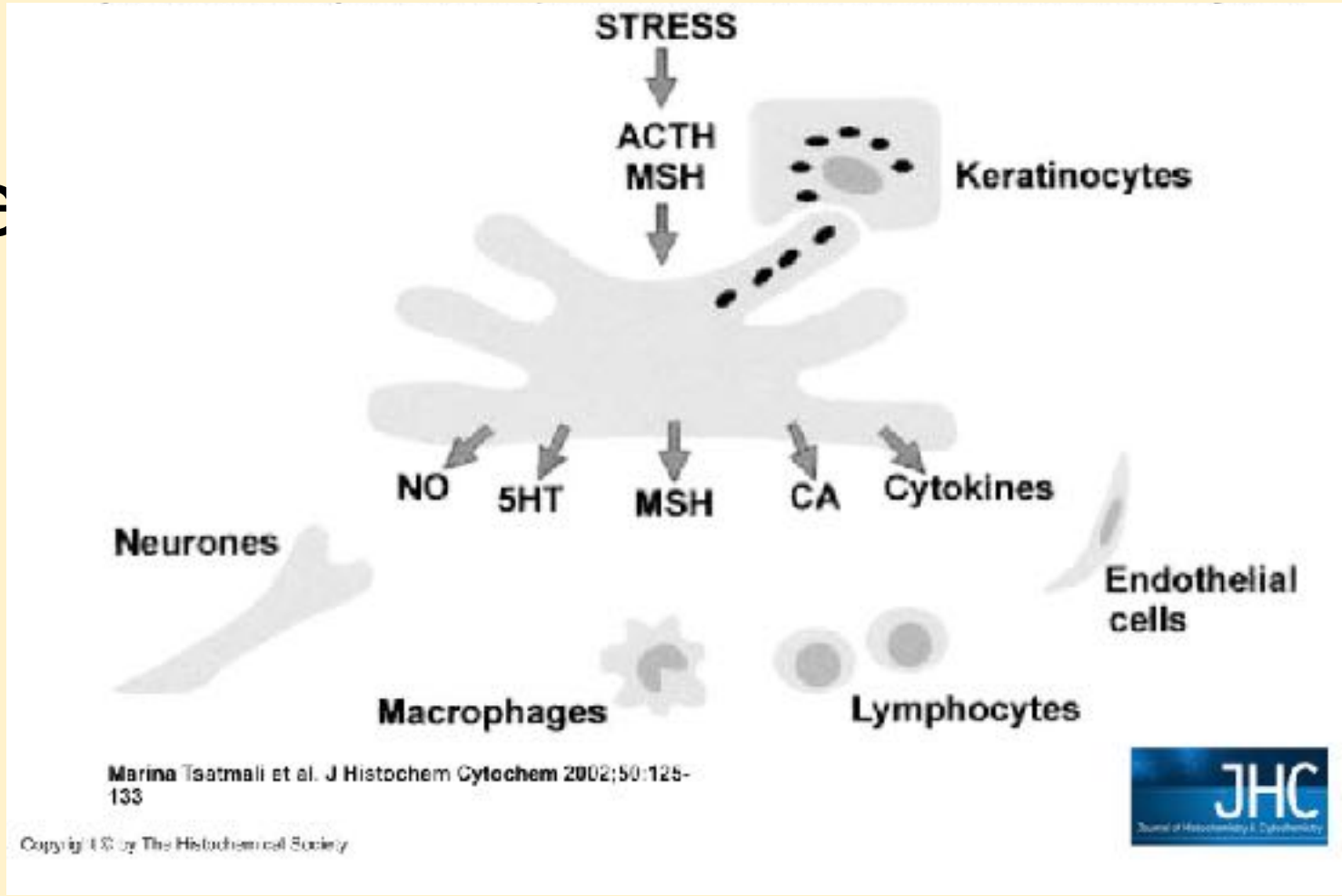
Melanogenesis

- The process of producing melanin
- **Exposure to UV-B radiation causes increased melanogenesis**
- The purpose of melanogenesis is to protect the hypodermis (layer under the skin) from UV light damage (DNA photodamage)
- The color of melanin is dark, allowing it to absorb a majority of the UV light and block it from passing through this skin layer
- **This process is under Hormonal Control**

Other Functions of Melanocytes

Melanocytes also produce:

- Cytokines
- Melanocortin peptide
- Catecholamines
- Serotonin
- Eicosanoids
- Nitric Oxide



The Complexity of the Melanocyte

"It appears that melanocytes are **not simply melanin-producing cells** and may have some other physiological significance.

It has been proposed that melanocytes act as local "**stress sensors**" in the epidermis and provide communicatory links with several different systems."

Journal of Histochemistry and Cytochemistry [8]

Melanocytes and the Nervous System

"Their close anatomic associations with nerve endings and their ability to produce neuropeptides and neurotransmitters suggest a role as a neuroendocrine cell and thus as a key component of a communication pathway **between the skin and the central nervous system.**"

Journal of Histochemistry and Cytochemistry [8]

Melanocytes and the Immune System

"Melanocytes could also act as regulators of the skin's immune responses by producing a number of cytokines and Nitric Oxide (NO). The production of NO could be related to a phagocytic property which suggests that melanocytes may have a role as accessory cells of the skin's immune system.

The fact that melanocytes produce α-MSH (alpha-melanocyte stimulating hormone) could also reflect some role in the modulation of the immune system. There is considerable evidence that α-MSH has potent anti-inflammatory and immunomodulatory properties through its ability to antagonize the actions of proinflammatory cytokines."

Journal of Histochemistry and Cytochemistry [8]

The Complexity of the Melanocyte

"In conclusion it may be some time before we fully appreciate the precise significance of the melanocyte. **Nevertheless, it is clear that the melanocyte is more than a melanin-producing cell."**

d Cytochemistry [8]

The Hypotheses of Vitiligo

The Autocytotoxic Hypothesis

- Exposure to Phenol and some of its derivatives are capable of preferentially killing pigment cells

The Autoimmune Hypothesis

- Disruption of normal immune system function especially dysfunction of the pineal and thyroid glands has been linked to Vitiligo

The Neural Hypothesis

- Direct nerve interference or exposure to neurotoxins has been linked to Vitiligo

Source [10]

The Autocytotoxic Hypothesis

Phenol

- Absorption of phenol through the lungs or skin can cause: central nervous system damage, pneumonia, respiratory tract infection, heart-rate irregularities, skin irritation, kidney and liver damage, numbness, vomiting and **it can be fatal**

Phenol is commonly used in:

Source [9]

The Autoimmune Hypothesis

What can damage or negatively affect the immune system?

- Vaccinations
- Antibiotics
- Medications
- Environmental Toxins
- Toxic, Processed Food
- A Sedentary Lifestyle
- Chronic Stress:

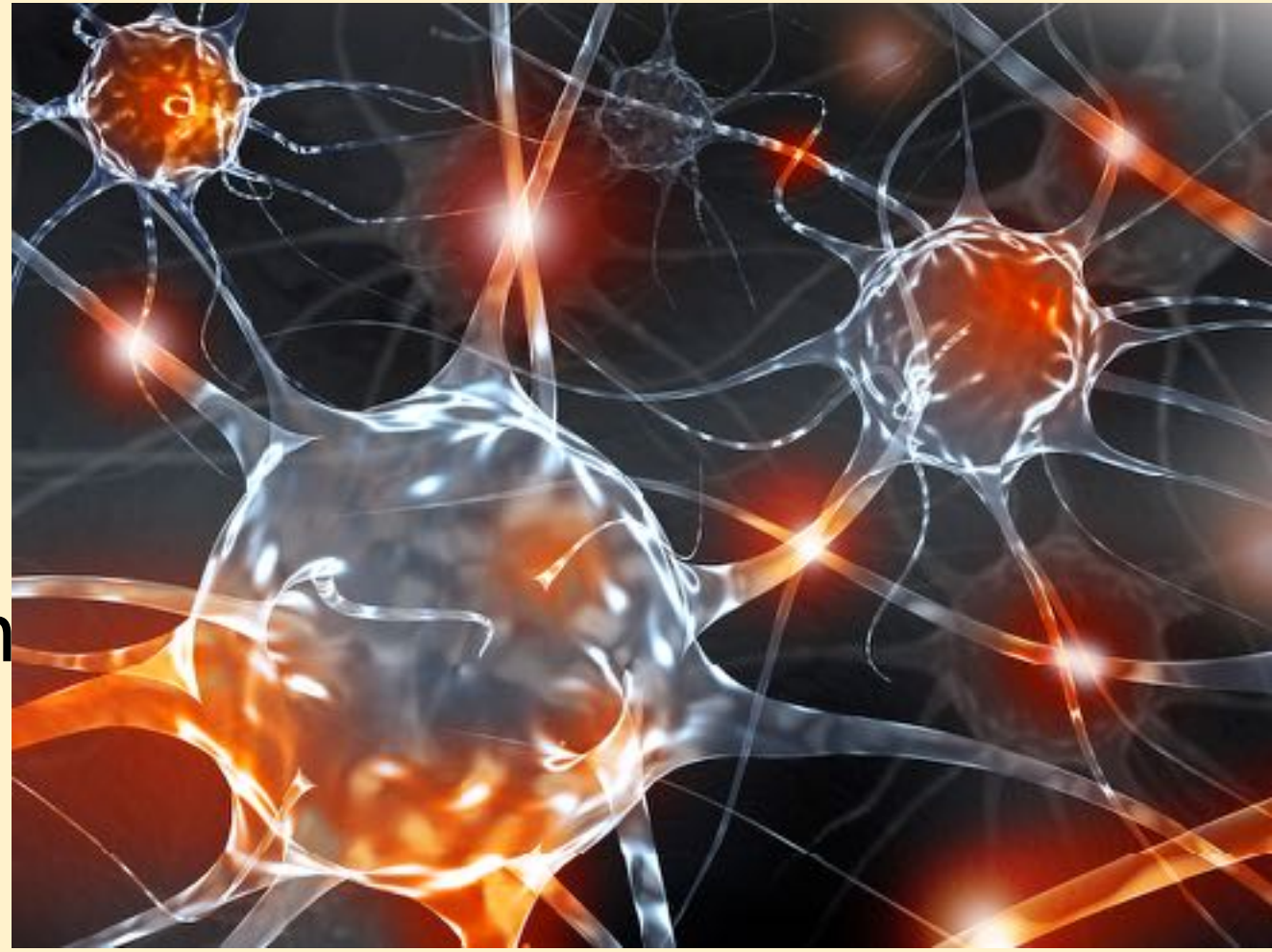
  -Chemical, Physical, Emotional

The Neural Hypothesis

10 Common Neurotoxins

- Aspartame
- Monosodium glutamate
- Sucralose
- Aluminum
- Mercury
- Fluoride
- Hydrolyzed Vegetable Protein
- Calcium Caseinate
- Sodium Caseinate
- Yeast extract

Source [24]



The First Step: Eliminate your Exposure to Toxins

- Vaccinations
- Antibiotics
- Medications
- All Processed and Packaged foc
- All Toxic Household Cleaners
- All Toxic Personal care and Cos
- Avoid Electromagnetic Fields (EMF)

The Second Step: Optimize Your Gut Flora

- Organic plant based diet (Locally grown, seasonal foods)
- Healthy fats such as coconut oil and olive oil
- Fermented Vegetables
- Probiotic Supplements
- Juice Vegetables
- Blend Fruits
- Raw Dairy
- Reduce Omega 6 and Increase Animal based Omega 3

Minerals are Essential

If you're Deficient in essential minerals your body will use toxic heavy metals as "stand-ins" instead:

- Calcium is replaced by lead which deposits in bone and disrupts the formation of red blood cells.
- Zinc is replaced by cadmium which accumulates heavily in your kidneys.
- Magnesium is replaced by aluminum which induces neurochemical changes and is a powerful neurotoxin
- Manganese is replaced by nickel which is carcinogenic

Source [15]

The Third Step: Detox Your Body

- Filtered Water: at least 50% of your Body Weight in Ounces
- High-dose iodine
- High-dose vitamin C
- Unrefined sea salt
- Epsom salts baths
- Chlorella
- Charcoal and Clay
- Sweating in a far infrared sauna

Glutathione

- Master antioxidant
- Main detoxification system

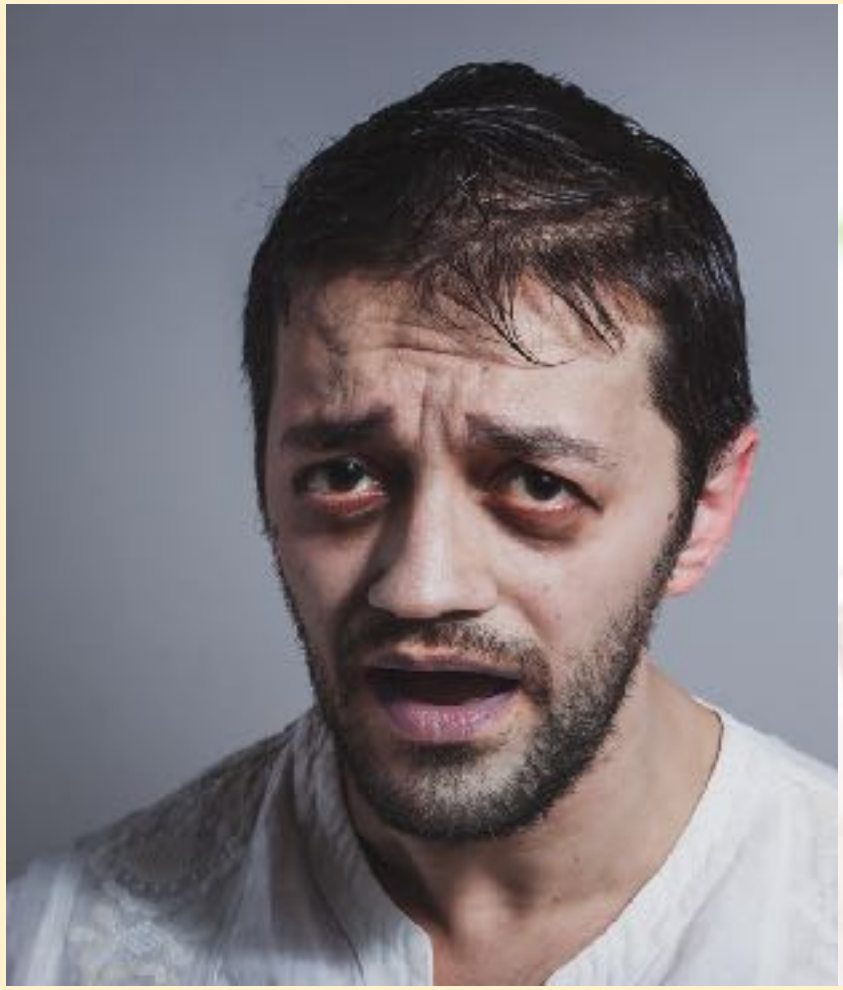
Food Sources:

- Whey Protein: Raw dairy
- Sulfur rich compounds (cruciferous family)

  -garlic, onions and the cruciferous vegetables (broccoli, kale, collards, cabbage, cauliflower, watercress, etc.)

These organs are responsible for Skin Health:

- Liver
- Kidneys
- Adrenals
- Thyroid
- Large Intestine
- Small Intestine



Any Chronic Stress can negatively affect these organs

Chronically elevated Cortisol Levels Cause:

- Decreases protein synthesis
- Increases protein breakdown
- **Interferes with skin regeneration and healing**
- Causes shrinking of lymphatic tissue
- Diminishes lymphocyte numbers and functions

Emotional

Physical

Chemical

Phototherapy and Vitiligo

"Phototherapy is a valuable option in the treatment of many psoriatic and non-psoriatic conditions, including atopic dermatitis, sclerosing skin conditions such as morphea, scleroderma, **vitiligo**, and mycosis fungoides.

Phototherapy is the treatment of certain skin disorders with UV radiation which can be produced by the sun, fluorescent lamps, short arc lamps with UV filters and

Dermato-Endocrinology [17]

Phototherapy and Vitiligo

"The mechanism of action of phototherapy on patients with vitiligo has not been completely elucidated. The melanocytes are destroyed in the epidermis of patients with vitiligo, while the melanocytes in the outer root sheaths of hair follicles are not affected.

Repigmentation after phototherapy may be initiated by **activation, proliferation, and migration of these melanocytes** to the epidermis, where they form perifollicular pigmentation islands."

Dermato-Endocrinology [17]

Vitamin D and Vitiligo

"A number of studies have recently reported that the treatment with vitamin D compounds or their combination with ultraviolet light enhances repigmentation in vitiligo"

Medical Research Reviews [18]

"Vitamin D is an essential hormone synthesized in the skin and is **responsible for skin pigmentation**. Low levels of vitamin D have been observed in vitiligo patients and in patients with other autoimmune diseases."
"Vitamin D can prevent the death of melanocytes, thus preventing the loss of pigment in the skin, which could be a very useful finding in the treatment of vitiligo, if approached correctly."

Indian Journal of Dermatology [19]

Optimize Your Vitamin D levels

- **UVB exposure** from the Sun is the best way to optimize your vitamin D levels
  - At least 20 minutes of **sun exposure daily** during mid day
  - Your shadow shouldn't be longer than your height

- Most regions of the planet don't get proper sunlight for **6 months** out of the year
- Vitamin D3 supplementation during the winte
- Adults required about **8,000 IUs per day**

Vitamins and Sun Exposure

The aim of this 2-year study was to test the hypothesis that folic acid, vitamin B12 and sun exposure could be helpful in treating vitiligo.

Repigmentation was most evident on sun-exposed areas, where 38% of the patients had previously noted repigmentation during summer months. The spread of vitiligo stopped in 64% of the patients after treatment.

Folic acid and vitamin B12 supplementation combined with sun exposure can induce repigmentation better than either the vitamins or sun exposure alone. Treatment should continue as long as the white areas continue to repigment.

Acta Dermato Venereologica [23]

(An Internationally Peer-reviewed journal)

Turmeric and Vitiligo

"Oxidative stress has been suggested as the initial pathogenetic event in melanocyte degeneration in vitiligo. The intracellular pathways involved in keratinocyte damage and apoptosis and the antioxidant protection of curcumin and capsaicin in these cells were investigated."

"**These results suggest that antioxidants might represent an alternative approach to protect against vitiligo progression**"

dox Signaling Journal [25]

Turmeric and Vitiligo

"Turmeric (Curcuma longa), a commonly used spice throughout the world, has been shown to exhibit **anti-inflammatory, antimicrobial, antioxidant, and anti-neoplastic properties.**

Growing evidence shows that an active component of turmeric, curcumin, may be used medically to treat a variety of dermatologic diseases, including acne, alopecia, atopic dermatitis, facial photoaging, oral lichen planus, pruritus, psoriasis, radiodermatitis, and **vitiligo.**"

Phytotherapy Research [21]

Gingko Biloba and Vitiligo

"Oxidative stress has been shown to play an important role in the pathogenesis of vitiligo. Ginkgo biloba extract has been shown to have antioxidant and immunomodulatory properties. In a double-blind placebo-controlled trial, we evaluated the efficacy of G. biloba extract in controlling the activity of the disease process in patients with limited and slow-spreading vitiligo and in inducing **repigmentation of vitiliginous areas**."

"**A statistically significant cessation of active progression of depigmentation was noted in patients treated with G. biloba.** G. biloba extract seems to be a simple, safe and fairly effective therapy for arresting the progression of the disease."

Clinical Experimental Dermatology [22]

The Basics of Skin Health

Dark Green Leafy Vegetables

- Promote optimal function of natural detoxification systems

- Kale
- Spinach
- Dandelion greens
- Broccoli
- Chlorella

The Basics of Skin Health

Antioxidant Rich Foods

- Help protect your body against free radicals

- Goji Berries
- WIld Blueberries
- Dark Chocolate
- Pecans
- Artichoke
- Elderberries
- Blackberries
- Kidney Beans

The Basics of Skin Health

Healthy Fats

- Supports healthy hormone production and supports skin regeneration

- Omega 3
- Coconut Oil
- Olive Oil
- Organic Grass-fed Butte

The Basics of Skin Health

Fermented Foods

- Help promote growth of beneficial bacteria, supports healthy immune function
- Help increase vitamin b, omega 3, digestive enzyme, and lactase/lactic acid

- Kefir (fermented milk)
- Kombucha
- Sauerkraut
- Pickles
- Miso
- Kimchi

The Basics of Skin Health

Carotenoids

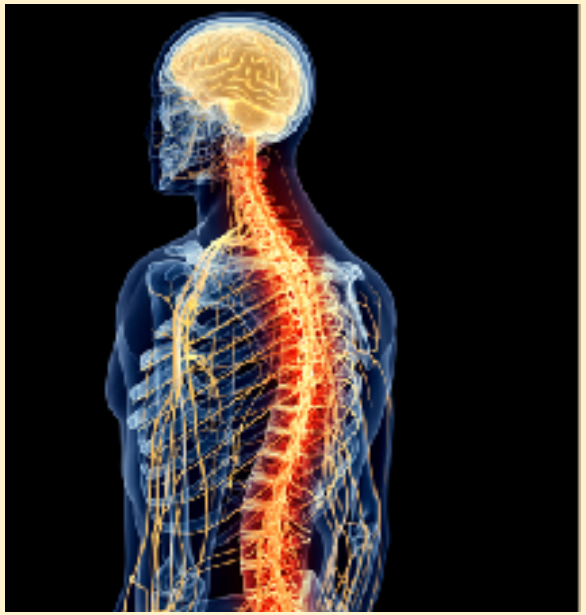
- Vital for skin health and can change the pigment of your skin
- 2 categories carotene and xanthophils

- Carrots
- Sweet Potatoes
- Kale
- Spinach
- Astaxanthin (from marine algae)

Feed Your Skin from the Outside

- Organic Shea Butter
- Cocoa Butter
- Virgin Coconut Oil
- Jojoba Oil
- Murumuru Butter
- Palm Oil
- Aloe Vera Juice

The 5 Keys to Health and Healing



Proper nerve supply

Regular Exercise

Proper Nutrition

Sufficient Rest

Prayer and Meditation

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Private Facebook

Power Points

VIDEOS

Handouts

Free 7 day Trial
Free access if You Are a
Bergman Family Chiropractic Patient

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