DERMA CLINICAL
THE SCIENCE OF SKIN HEALTH

My personal blend - (extemporaneous compounding)

- Mixing in or adding “concentrated additives” to the base of a i.e. natural skin lightening brighteners, HLA, Squalane, Ceramides etc.
- Allows physician or aesthetic therapist to customize the strength or viscosity of a product
- The blending of one product with another with the same base to create a personal blend for the customer.

EXTEMPORANEOUS COMPOUNDING

DERMA CLINICAL
THE SCIENCE OF SKIN HEALTH

ESSENTIAL LIPIDS: CERAMIDES - OIL

HLA PROF SOLUTONS: HYDRATION

RETINOL 500: SKIN BOOST

ARBUTASE: DE-PIGMENTATION

POWER FILL & QUENCH: HYDRATION AND OILS

www.dermaclinical.net

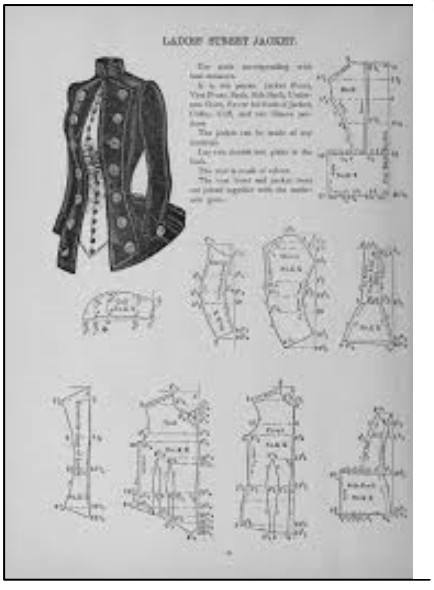
MY PERSONAL BLEND

DERMA CLINICAL
THE SCIENCE OF SKIN HEALTH

	ESSENTIAL LIPIDS	POWER FILL & QUENCH	ANTI-OX SERUM	MEGA 3 BRIGHTENING	CBD SERUM	FADE FAST	LACTIC ACID 10%
DRY/ SENSITIVE	✓				✓		
DRY/PROTECT	✓		✓				
DEHYDRATED/ PROTECT		✓	✓				
PIGMENTED/ PROTECT			✓	✓			
SENSITIVE/ DEHYDRATED		✓			✓		
MINI PEEL/ DE-PIGMENT BOOST						✓	✓

www.dermaclinical.net


DERMA CLINICAL
PROFESSIONAL SOLUTIONS
ESSENTIAL LIPIDS
MY SKIN BRIGHTER
MY SKIN YOUNGER
MY SKIN PROTECTED


LADIES' SUBBIT JACKET.

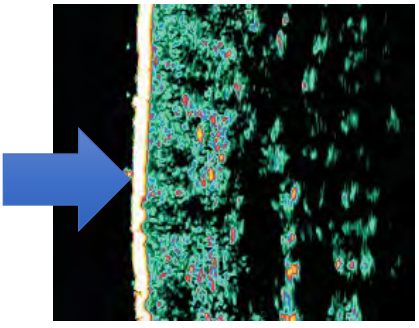

DERMA CLINICAL
THE SCIENCE OF SKIN HEALTH
THE COATS
LIGHT
MEDIUM
RICH
DERMA CLINICAL
MOISTURE BALANCE
MY SKIN BRIGHTER
BRIGHTENING LOTION
MY SKIN YOUNGER
SUPER YOUTH CREAM
DERMA CLINICAL
SKIN FIX
MY SKIN YOUNGER
ULTRA INTENSE CREAM

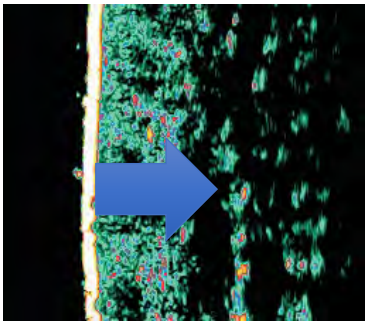
DERMA CLINICAL
THE SCIENCE OF SKIN HEALTH

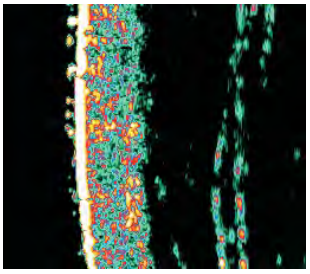
THE DERMA-SYSTEM

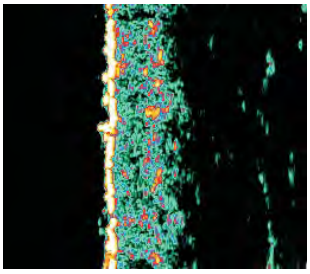
First let's look inside – at the real health of your skin

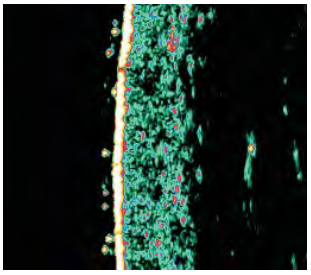
- The Epidermis
- The Dermis

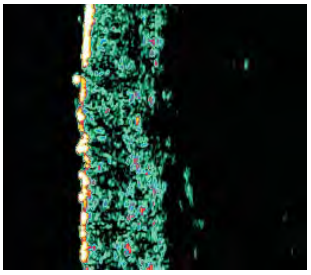






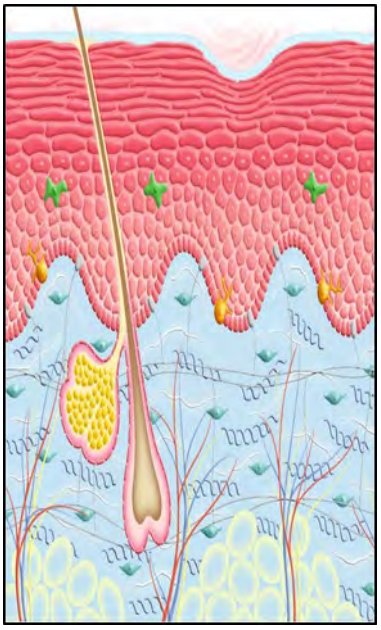


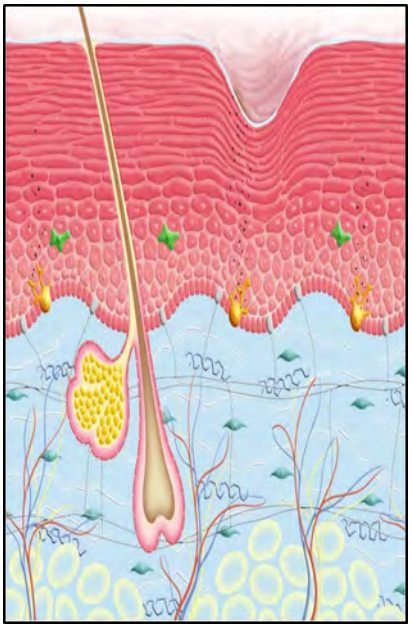


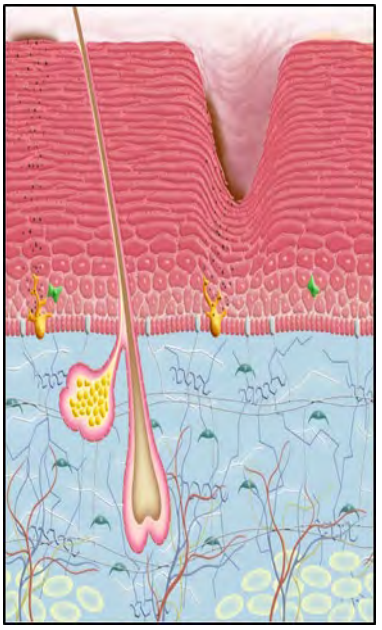


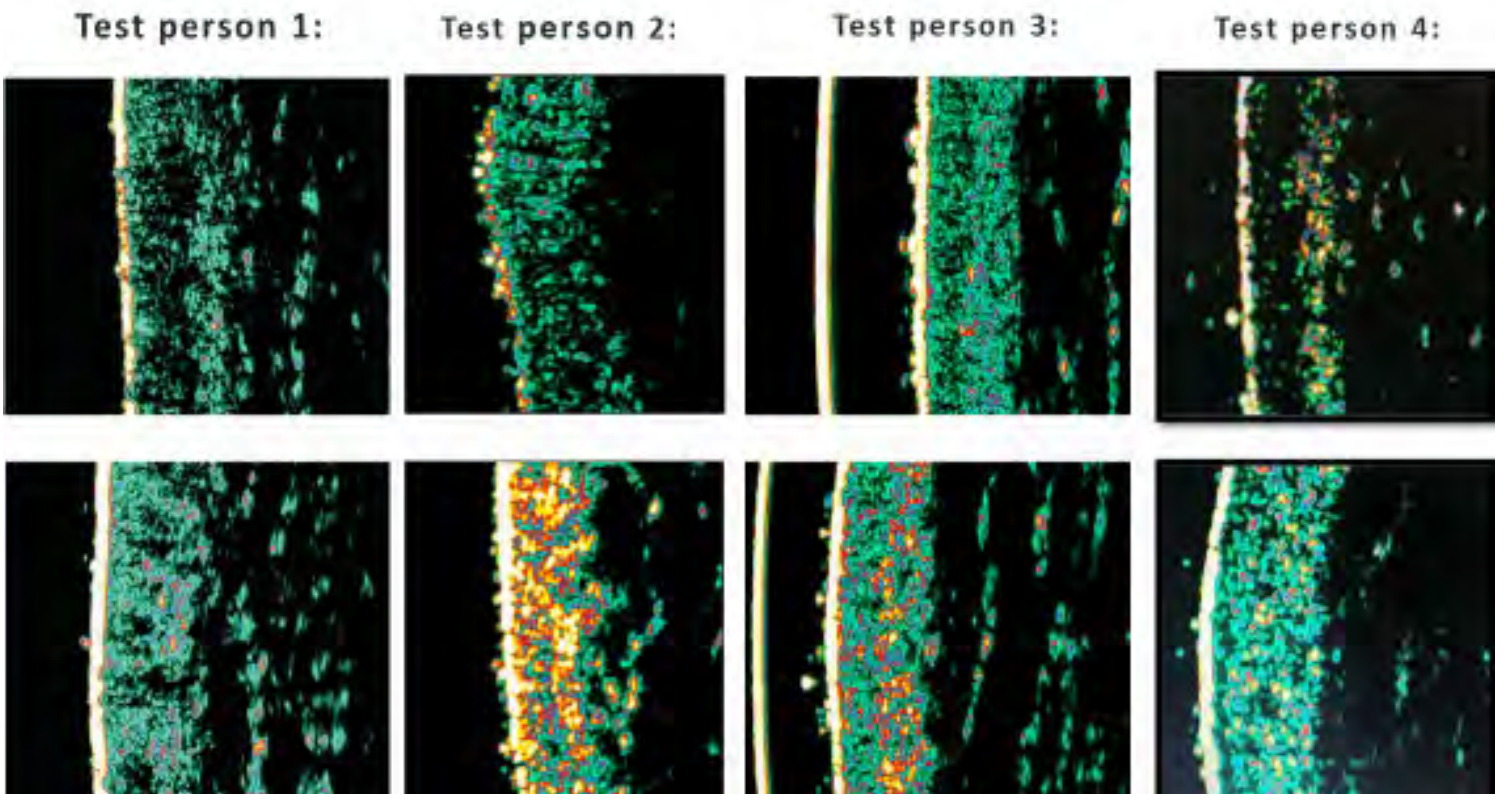
20 years old | 30 years old | 40 years old | 50 years old

SKIN THROUGH THE YEARS



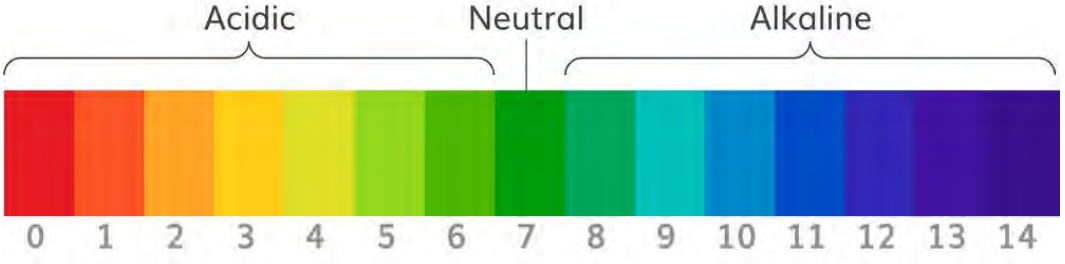




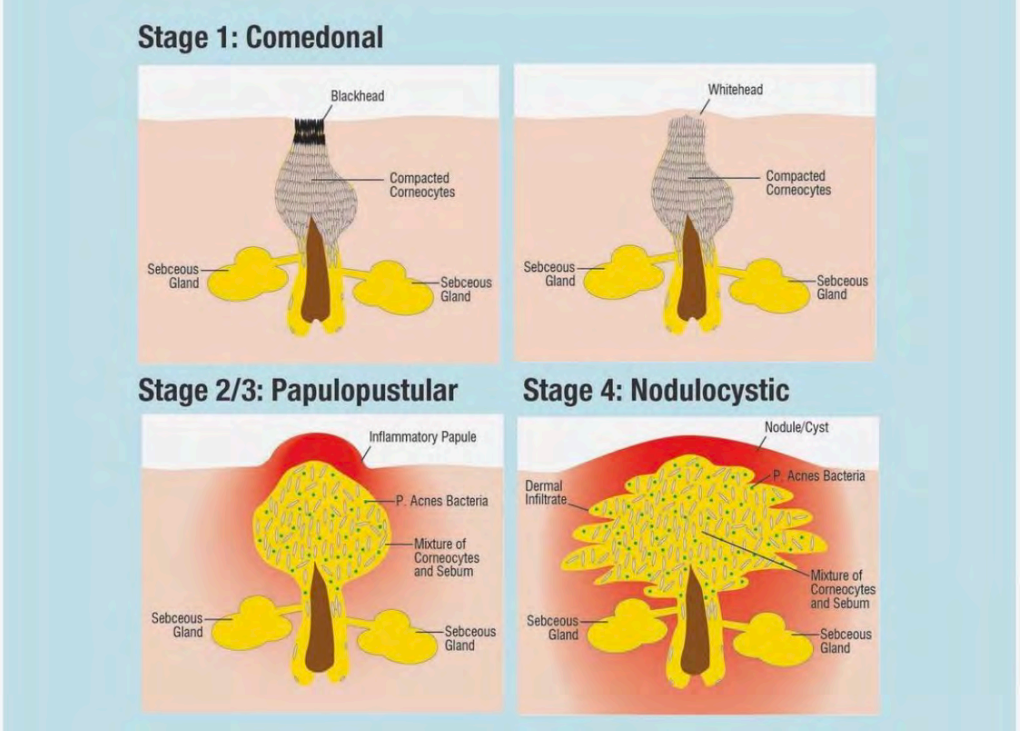


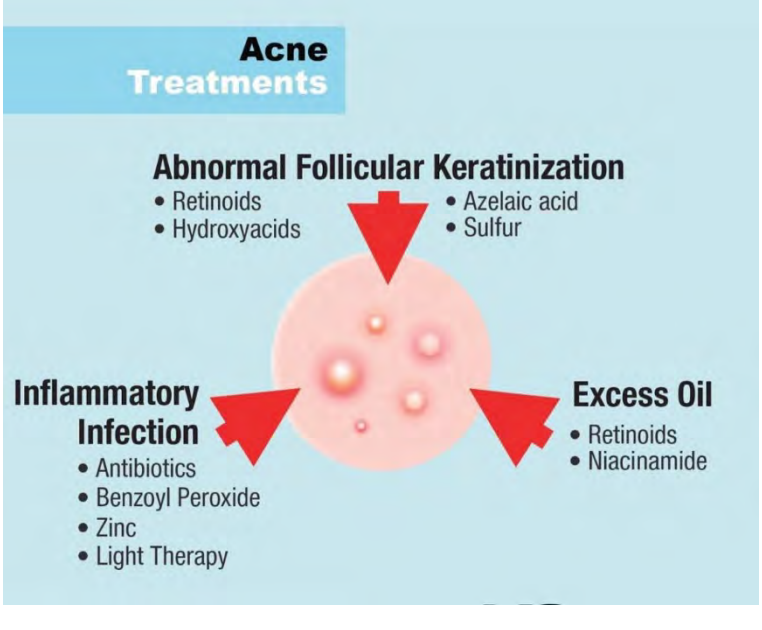
30 DAYS TRIAL WITH RETINOL 100 SERUM +
MY SKIN SOLUTIONS
PURE COLLAGEN HYDROLYSATE

pH Scale

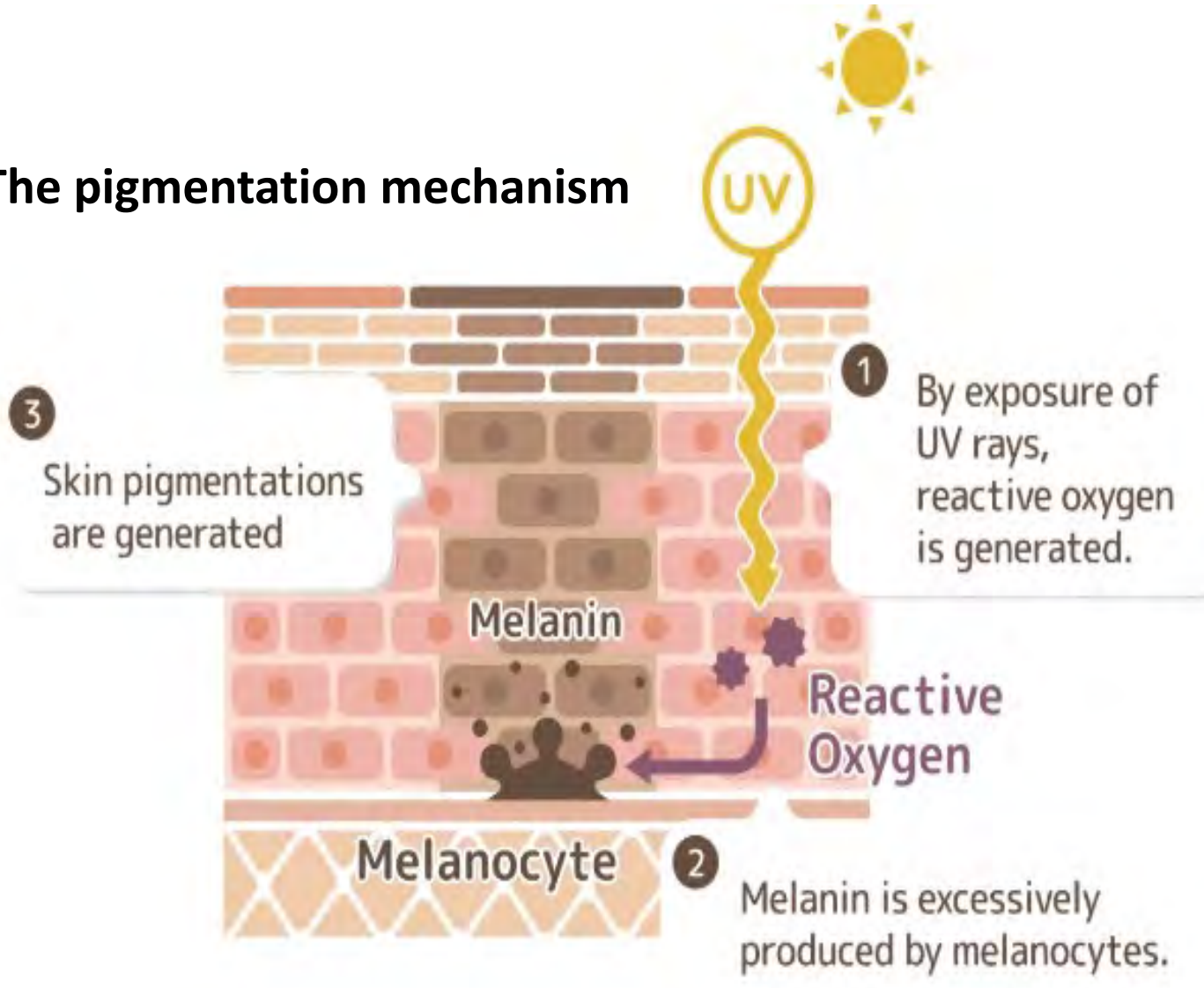


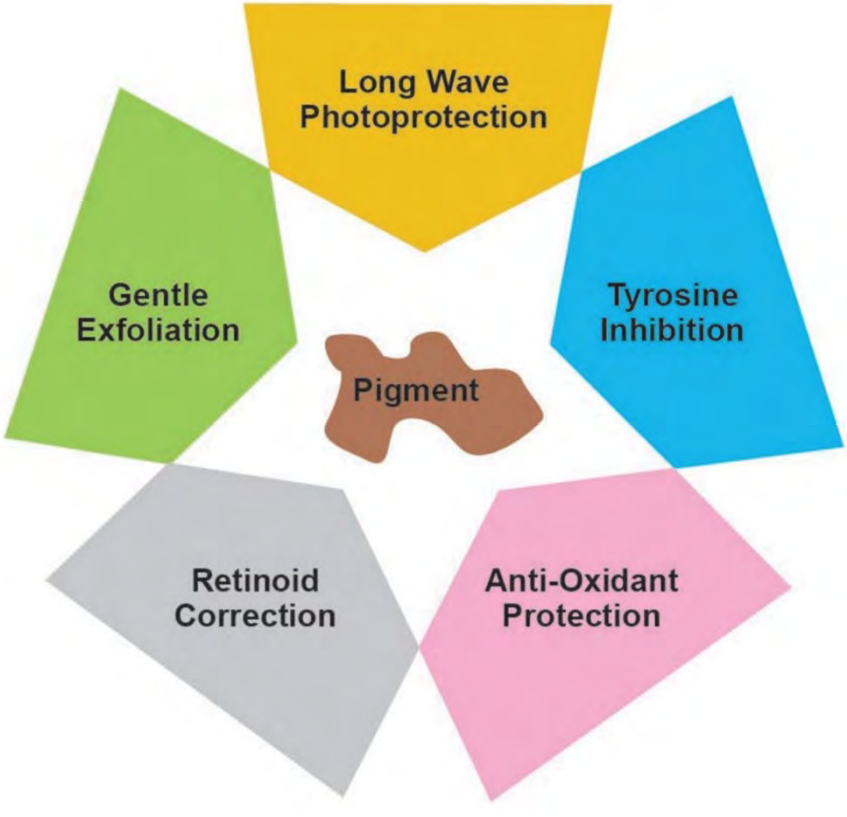
Stages of acne



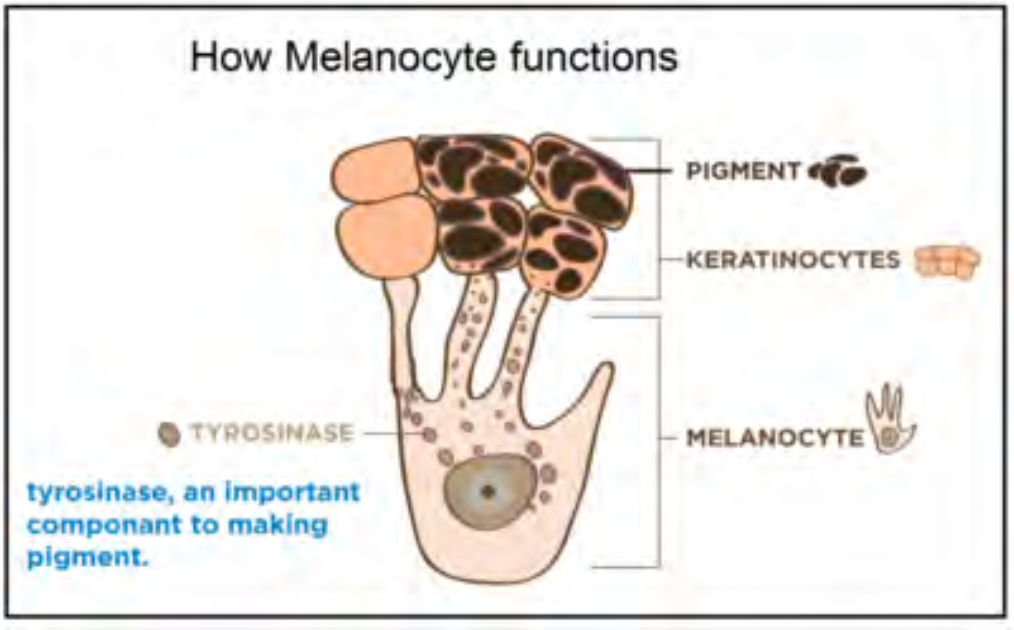


The pigmentation mechanism





Pigmentation



MY SKIN BRIGHTER SYSTEM:

Types of Pigmentation

- Freckles (epidermal and dermal)
- Birthmarks (dermal)
- Normal tanning (epidermal)
- Prolonged tanning (epidermal and dermal)
- Solar lentigines
- Melasma/chloasma (dermal and epidermal)
- PIH (epidermal and dermal)
- Age spots (dermal)
- Hyperpigmentation
- Hypopigmentation
- Vitiligo
- Albinism

MY SKIN BRIGHTER SYSTEM:

Factors influencing pigmentation

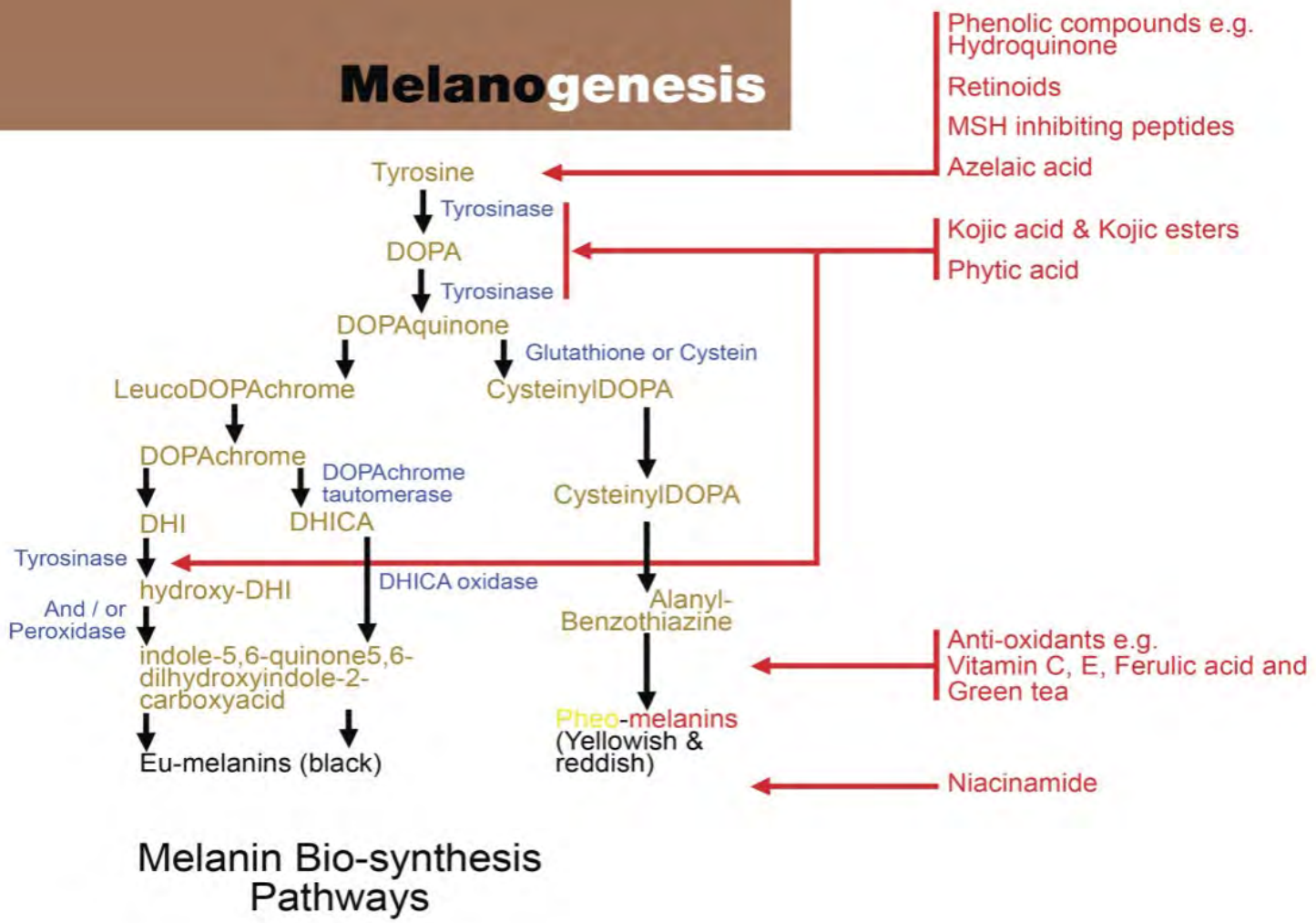
- UV exposure
- Hormones
- Inflammation
- Skin type
- Medication (e.g. contraceptives/HRT)
- Disease
- Injuries
- Poor skincare habits

MY SKIN BRIGHTER SYSTEM:

Steps to manage pigmentation formation

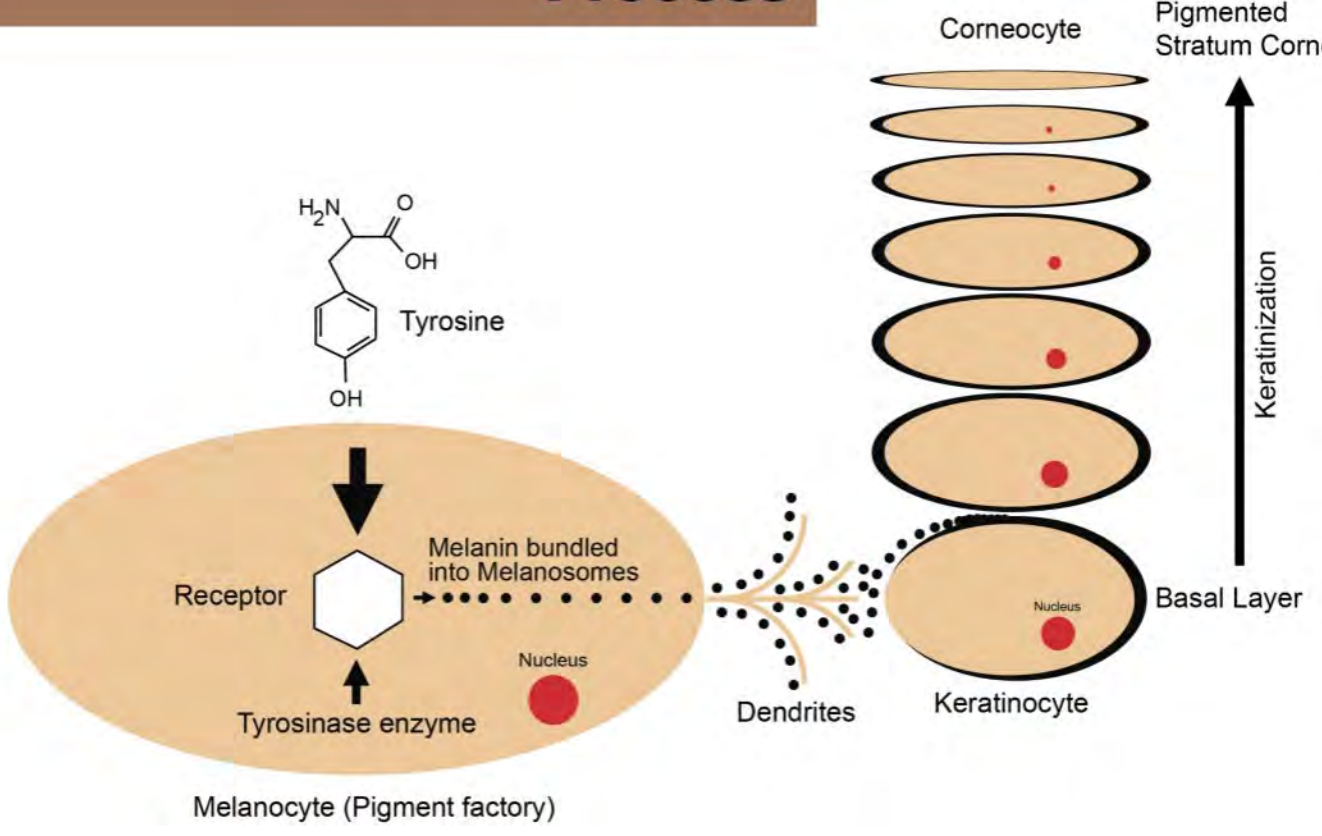
- Addressing the cause of the stimulation
- Protection from sun exposure
- Managing the triggers where possible
- Lightening, brightening the released melanin
- Ongoing booster treatments

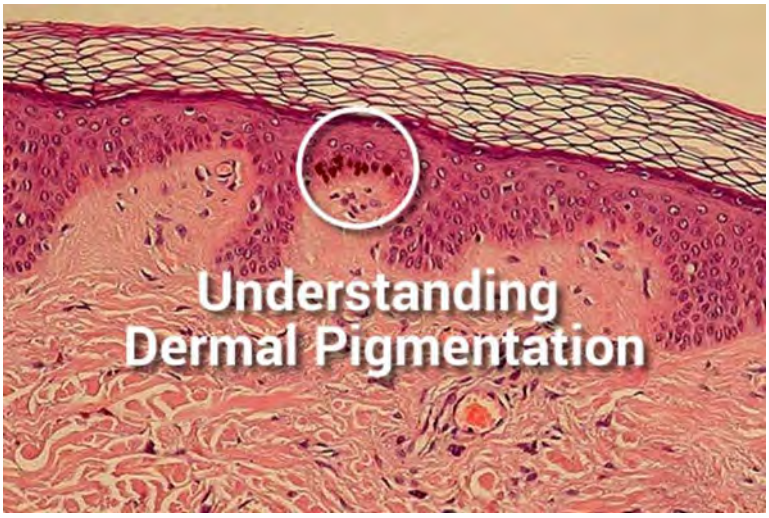
Melanogenesis



Melanin Bio-synthesis Pathways

The Pigmentation Process





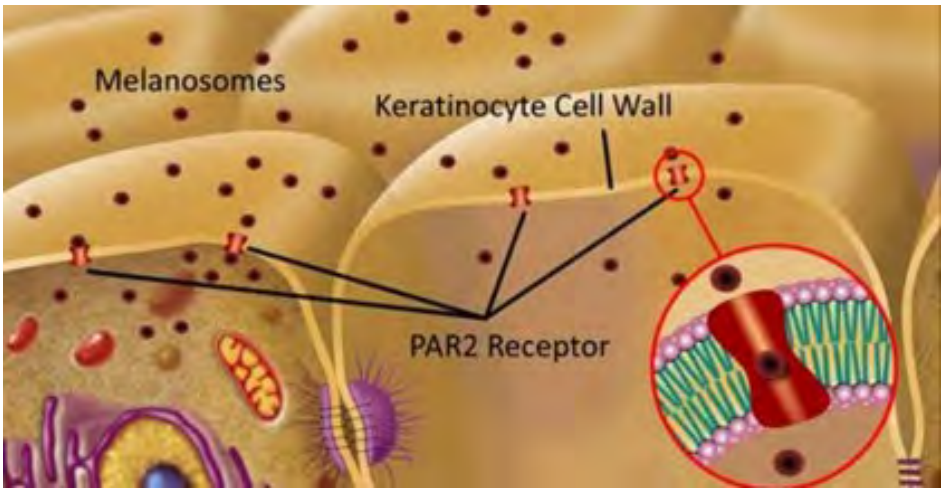
Commonly misunderstood in our profession, is the term Dermal Pigmentation, so I thought that I would try and assist bringing some clarity to the subject.

Firstly, melanogenesis or the formation of skin pigment is an Epidermal event, NOT a Dermal one. The melanocyte (or pigment factory) began its life during the embryonic stage at the neural crest. During the embryo's growth, the melanocyte will move to those areas of the body where pigment is found.

As there are around 120 genes involved in this cell movement, there is the potential for 120 reasons why something could go wrong. An example of this is the development of a birthmark or moles which are melanocytic naevi. These abnormalities are said to occur between the 5th and 24th week of embryonic development.

The melanocyte is genetically programmed before it leaves the neural crest, and it determines the colour of the hair, skin, and eyes.

Another fact for you to remember is that although we talk about melanocytes as one cell, there are several genres of that cell. For example, the melanocyte that colours our hair does not require exposure to UVR, unlike the cell that colours skin, which does.



Melanocytes will eventually settle in the basal layer of the epidermis

Typically, about one in every ten cells in this layer is a melanocyte, with a ratio of one melanocyte to thirty keratinocytes, which is the predominant cell of the epidermis. The association of melanocyte and keratinocyte have been called the “epidermal melanin unit”.

The Journey of pigment movement in the skin:

The melanocyte factory ejects Tyrosin (colourless amino acid) into vehicles called Melanosomes. They travel through the Dendrites (finger like extrusions that infiltrate among the keratinocytes.

Each keratinocyte has a receptor within the cell membrane called the PAR2, this receptor receives the melanosomes. The keratinocyte then moves upwards and eventually sloughs off in health skin.

However, unless the cell membrane is viable, flexible and permeable these receptors may not function efficiently.

It is now established that if the PAR2 receptor within the keratinocyte cell membrane does not receive the melanosome, then it may become part of extracellular space, and be placed into the Dermal-Epidermal Junction. These will accrue for many years in this location before it becomes visible at the surface- slowly building up in the small pockets and channels of the DEJ’s layers.

Sensitive Skin

THE PROPENSITY TO REACT TO THE EXTERNAL OR INTERNAL ENVIRONMENT - CAN BE ACUTE OR CHRONIC

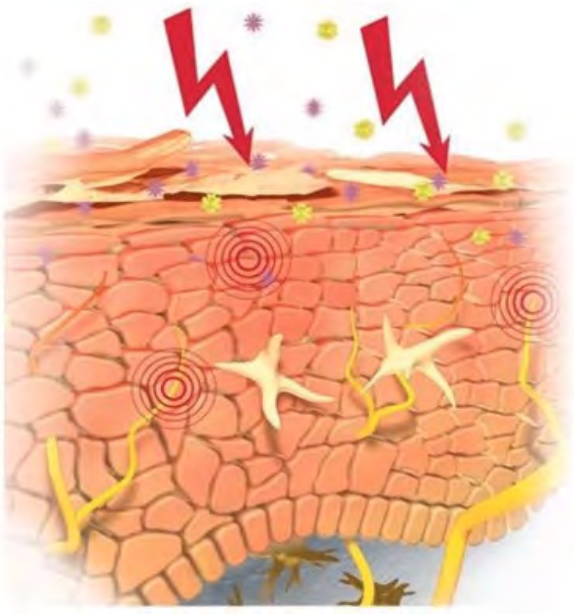
Skin disorders such as acne, psoriasis, contact dermatitis, rosacea, and eczema make you more likely to have sensitive skin

Hypoallergenic skin care products are not necessarily safer for sensitive skin. There are no federal standards governing the use of the term “hypoallergenic,” so it can mean whatever a company wants it to mean.

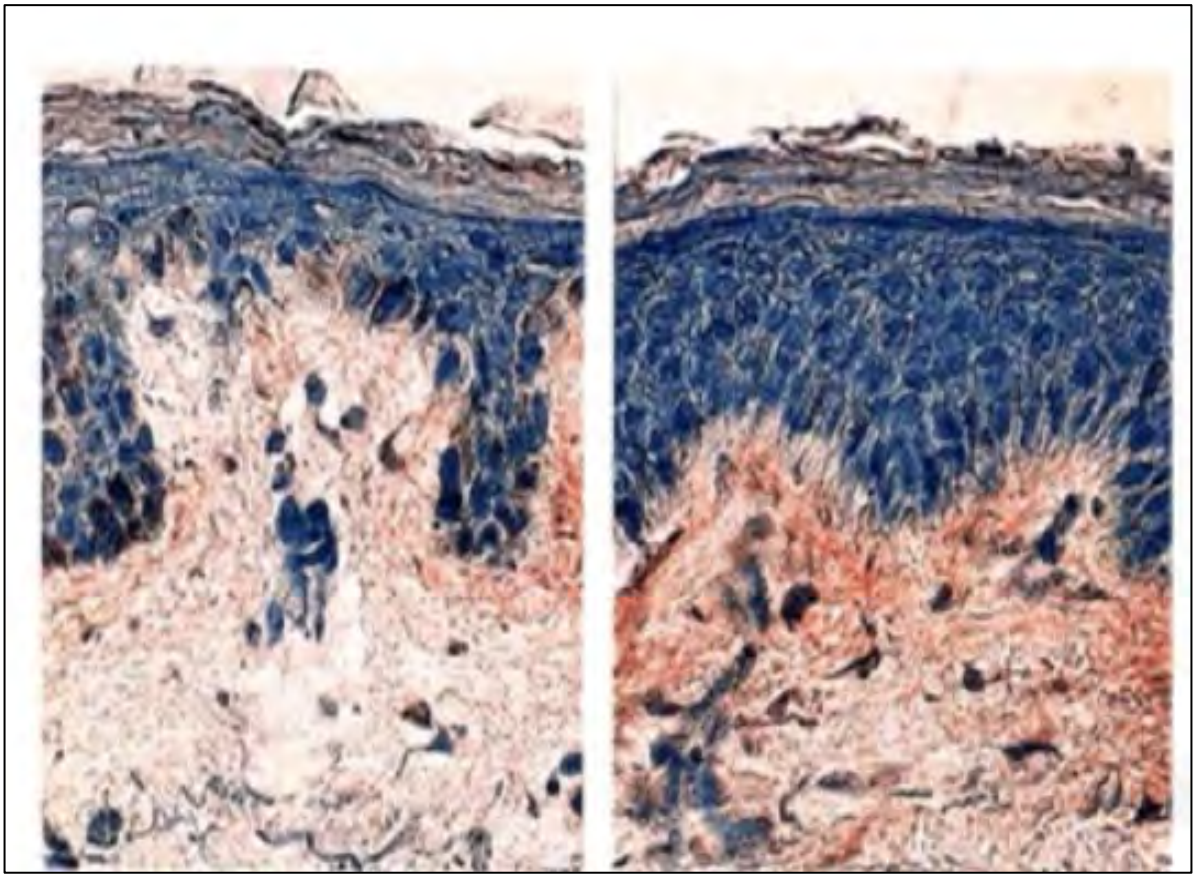
Psoriasis is considered a chronic, lifelong disease. AUTO IMUNE

A number of the skin diseases and conditions linked to sensitive skin are known or believed to run in families, including acne, eczema, psoriasis, and rosacea. Skin irritation from a reaction to a skin care, cosmetic, or household product is not inherited.

Eczema: also known as dermatitis
Besides the urge to scratch, symptoms include:
Clear blisters
Red, cracked skin
Scaly skin



Retinol 100 serum - clinical trial



Collagen 1 staining in a photo-aged skin, 12 months 0.1% Retinol treatment.

- The most clinical trials in our industry
- From the Retinoid family – the stronger the more irritating

"RETINOL 'ACTIVATES' THE SKINS MACHINERY" DW

- Improves overall skin health thickens the epidermis (but regulates the corneum), reduces cell atypia (i.e. basal cell abnormalities like pre-cancerous cells), normalizes keratin production, normalizes oil gland production
- Stimulates the formation of fibroblasts, therefore increasing collagen in the skin
- New vasculature formation to feed those cells

RETINOL FOR PIGMENTATION:

Inhibits tyrosinase activity and melanosome transfer which decreases melanin content.

Enhances keratinocyte shedding pushing the pigmentation “up and out” speeding up results.

Reduces output of melanocyte, “repairs” the melanocyte essential to long term management and improvement of skin discolouration and dyschromia

RETINOL FOR AGEING & DISEASE:

Helps reduce the appearance of wrinkles.

Stimulates the production of new fibroblasts, ensuring better collagen structure

Lightly hydrates and stimulates skin renewal.

Provides immediate and long term complexion radiance and glow.

Speeds up melanogenesis treatment, assisting in lightening the skin.

A-typic cell destruction

Increases living cell width in the skin, reducing dead cell width

RETINOL FOR ACNE:

Reduces the size of the oil gland and the output of oil (by up to 80%)

Assists in the repair of scar tissue

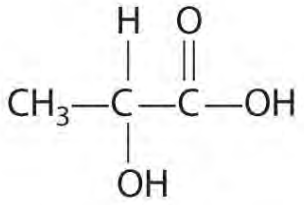
Resveratrol

Resveratrol is a natural phenol and phytoalexin produced by various botanicals in response to attack by pathogens and external stresses on the plant. Resveratrol is found abundantly in the skin of red grapes, and as such some of it is transferred naturally into red wine during the fermentation process.

Over the years red wine has gained a significant reputation for having a positive influence on health benefits, especially that of the heart. Although conclusive scientific analysis of the ingredient is still underway, important skin lightening and complexion improvement effects of Resveratrol have been observed on the aesthetic appearance of the skin.

Used for skin lightening, rosacea, sensitive conditions and anti-ageing.

Alpha/beta hydroxy acids & fruit enzymes



Lactic acid

Key Benefits:

- Exfoliates dead skin
- Promotes skin clarity
- Minimizes the appearance of enlarged pores
- Refreshes and renews the surface of the skin
- Helps to soften skin
- Stimulates the fibroblast through micro-injury in the skin – generating fibroblast production
- Promotes GAG synthesis, improving the dermal matrix (for the collagen and elastin to attach to
- Skin hydration and smoothing through GAG production – anti aging
- SALYCILIC ACID – from the bark of the white willow, medication used to remove the outer layer of skin in acne, psoriasis, seborrheic dermatitis, anti-inflammatory peeling agent
- LACTIC ACID – from milk and some fruits, exfoliating, astringent, softening, hydrating, ph adjusting, lightening
- PHYTIC ACID – from cereals, bacteriostatic, lightening, anti-oxidizing, exfoliating
- MANDELIC ACID – from almonds, anti-aging, dissolves bonds and exfoliates the skin, gentle AHA

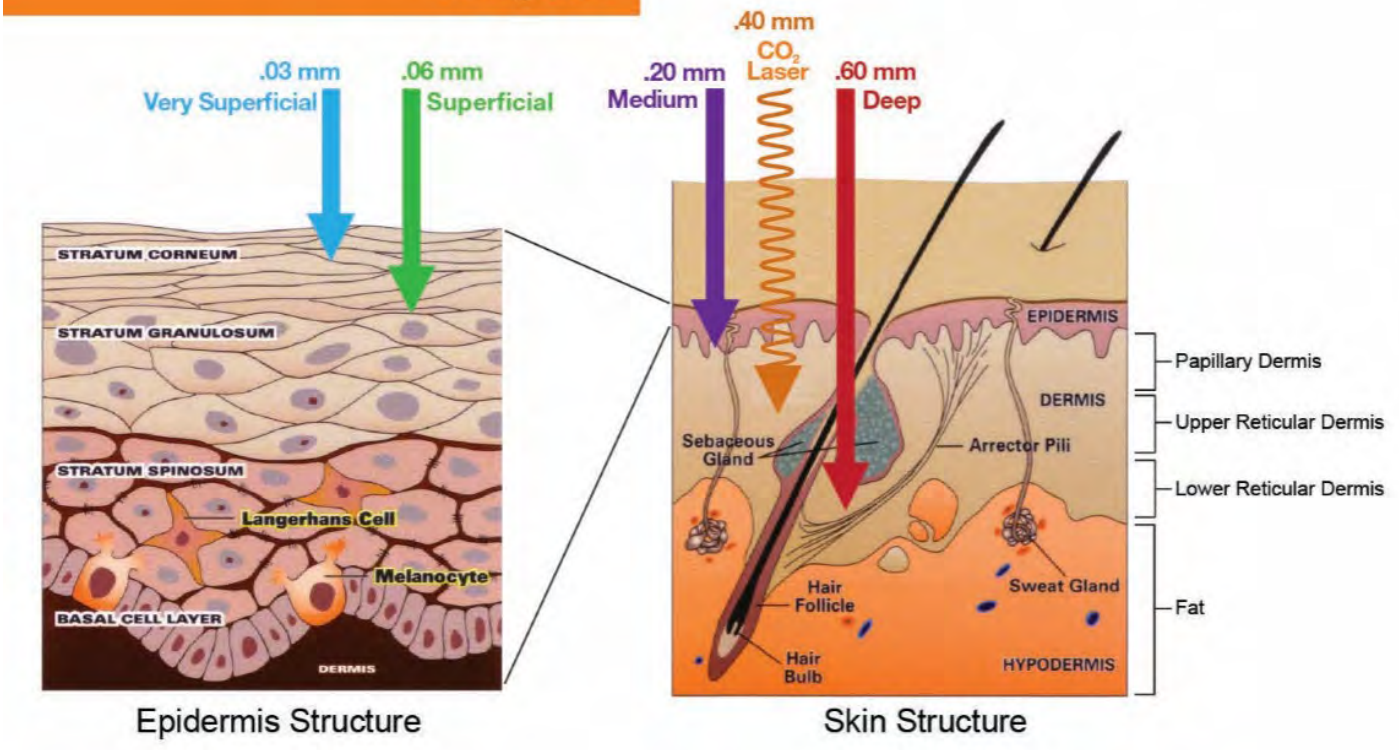
Chemical Peels = reduce pigmentation, resurface texture, improve collagen quality

- Exfoliate and dislodge the intercellular glue that holds cells together.
- Dissolves desmosomes that bond keratinocytes together
- Salicylic is a BHA, is lipophilic, so dissolves and purges oily matter in the follicles
- AHA are hydrophilic. They penetrate into the cells, draw in moisture and work from the inside
- Ph is very NB! (pKa – strength of acid)
- Less inflammation is better for ethnic skins

Chemical Peels – ingredient method of action

- Tyrosinase inhibiting (maturation of Tyrosinase)
- Impedes pigmentation directly
- Inhibit through Chelation – these stop melanogenesis before the pigment is produced. Chelators bind with metals to remove them from the body. Tyrosinase is a copper containing enzyme that triggers melanin synthesis. Removing copper from the equation interrupts that first step in which tyrosinase oxidizes tyrosine
- Block melanosomal transfer (from the melanocyte dendrites into the surrounding cells)
- Interfere with the oxidation of eumelanin by using anti-oxidants

Peeling Depth



30 microns: VERY SUPERFICIAL CHEMICAL AGENTS ie 5/10% GLYCOLIC ACID CREAM
60 microns: SUPERFICIAL CPEELS ie GLYCOLIC 30-50%
200 microns: MEDIUM DEPTH ie STRONGER AGENTS TCA – 20-35%
600 microns: DEEP CHEMICAL PEEL – POWERFUL AGENTS USED BY SURGEONS – DEPTH OF INJURY DEEP, ideal for very severe photo damage.

Chemical Peel VS LASERS?
400 microns:ORANGE ARROW – URBIOM OR CARBON DIOX = 400 MICRONS FOR MODERATE PHOTO DAMAGE

FYI: LASERS WORK BY CREATING A BURN IN THE SKIN – 600 MICRONS COULD CAUSE SCARS AT THAT DEPTH – DEEP CP THEY DO NOT USE HEAT, SO RISK OF SCARRING IS REDUCED

Ingredients for brightening pigmentation

- KOJIC ACID is the largest molecule, a copper chelator, ROS scavenger, antibacterial
    - It is a mild pigment inhibitor
    - Brightens the skin by preventing the activity of tyrosinase, the enzyme used to synthesize Melanin
- PHYTIC ACID chelates iron and copper and is antibacterial
- MANDELIC is also a large molecule, a powerful anti-oxidant
- LACTIC limits oxidation of eumelanin
- GLYCOLIC is the smallest molecule that disrupts melanin granules
- ARBUTASE is:
    - A powerful ingredient extracted from the Bearberry plant
    - Inhibits Tyrosinase production (catalyst of Tyrosine into Melanin) and melanin transfer

      (into surrounding cells from the Melanocyte)
    - Lightening and whitening
    - Additive used in the MY SKIN BRIGHTER RANGE & Vitamin D Body Lotion
    - Alpha Arbutin is used in the Mega 3 Brightening Serum
    - Arbutin and Acti-white is used in Brightening Lotion

Tetrahexyldecyl Ascorbate is a stable, oil-soluble form of Vitamin C used in skincare products and sunscreens. It is a gentler form of Vitamin C and therefore suited to those with sensitive skins – being oil-soluble it has an affinity with the skin which contains lipids. It provides all the same benefits as other forms of Vitamin C, helping to stimulate collagen synthesis, reducing pigmentation and promoting brightening of the skin. It also has antioxidant benefits as it is a free radical scavenger. It works well when used together with other forms of Vitamin C in anti-ageing products

SabiWhite® is a colour-free standardized powdered extract from the roots of the Curcuma longa (Turmeric) plant with skin whitening, anti-inflammatory and antioxidant properties, as well as providing UVB protection. It scavenges and prevents the formation of free radicals. It also inhibits tyrosinase, which inhibits the skin from producing melanin. This product is colour-free.

Antioxidants

- An antioxidant is a molecule that inhibits the oxidation of another molecule
- Oxidation is a chemical reaction where oxygen atoms combine with another atom or molecule
- Free radicals are an atom or molecule that are either missing electrons or have too many electrons
- Reactive oxygen species (ROS) are a class of free radicals containing oxygen atoms that act as oxidizing agents

Vitamins

- Vitamin C – brightens hyper-pigmentation, defends against ROS, assists with collagen production, stabilizes Retinol molecules
- Vitamin E – nourishes the lipid layer, assisting in 'corking' in skin moisture (TEWL), stabilizes other vitamins, anti-oxidant
- Vitamin B3 – improves large pores, brightens dull skin, defends against environmental toxins, hydrates
- Vitamin B5 – binds moisture in the skin
- Ferulic Acid – from grains, neutralizes free radicals, stabilizes Vitamin C, enhances the benefits of Vitamin E, modest UVB absorber

Squalane

- Squalane is derived from the very first pressing of olives
- It is a safe and soothing skin conditioner
- Regenerative, Antioxidant and Collagen stimulating properties
- The results are fast and almost identical to human sebum

Hyaluronic Acid

- A powerful humectant, unsurpassed by any other ingredient for moister retention in the skin
- Tiny molecular size, so can penetrate the skin folds at varying depths.
- Able to absorb 1000 x its size in moisture from the external environment
- Able to "fill and plump" the skin quickly and effectively

Peptides

- One of the most important breakthroughs in skin care
- These third-generation peptides are replacing some controversial ingredients – they are effective and healthy alternatives
- Target a host of different skin conditions: membranes, muscle cells, skin lipids etc.

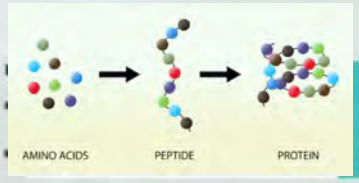
WHAT ARE THEY:

- Peptides are active chains of amino acids that make up proteins
- Proteins are involved in nearly every process within cells, regulating all bodily functions.

HOW THEY WORK:

- They do this by behaving as a dispatcher of info - signaling cells that tell other cells what to do –
- i.e. Make collagen
- i.e. Nonapeptide 1 is designed to hinder the bodies melanocyte stimulating hormone (MSH), assisting in the lightening of hyper-pigmentation by disrupting the transfer of melanin from the melanocyte to the surrounding cells.

AMINO ACID BODY ILLUSTRATION



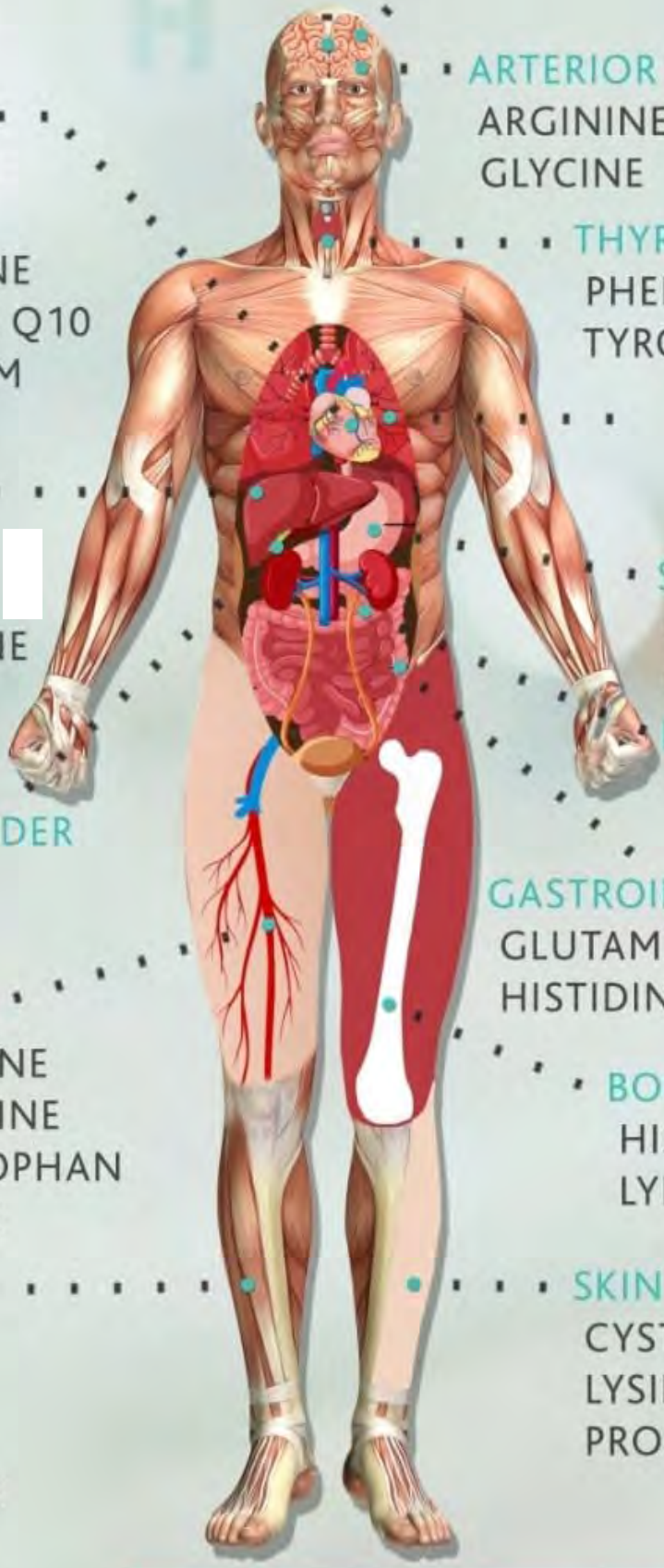
BRAIN
TAURINE | GABA
GLYCINE | DLPA
PHENYLALANINE
GLUTAMINE
TYROSINE
TRYPTOPHAN

HYPOTHALAMUS
PHENYLALANINE

ARTERIOR PITURITARY
ARGININE
GLYCINE

HEART
CARNITINE
LYSINE
METHIONINE
COENZYME Q10
MAGNESIUM

THYROID
PHENYLALANINE
TYROSINE



LIVER
ALANINE
METHIONINE
PHENYLALANINE
THREONINE
TRYPTOPHAN

STOMACH
GLYCINE
GLUTAMINE

PANCREAS
CYSTEINE

GALL BLADDER
GLYCINE
TAURINE

GASTROINTESTINAL TRACT
GLUTAMINE
HISTIDINE

BLOOD
CYSTEINE
HISTIDINE
TRYPTOPHAN
SERINE

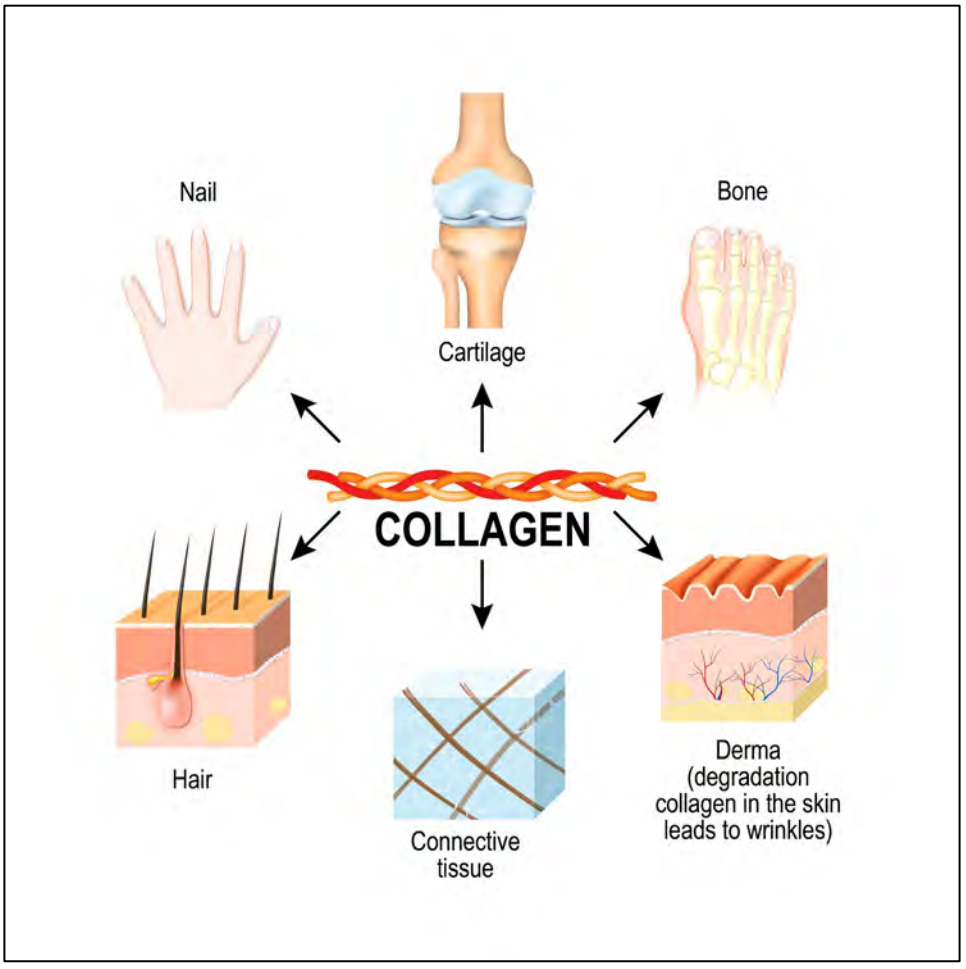
BONE
HISTIDINE
LYDINE

MUSCLE
GLYCINE
LYSINE
LEUCINE
ISOLEUCINE
VALINE
MAGNESIUM

SKIN
CYSTINE
LYSINE
PROLINE

WE USE AMINO ACIDS IN ALL OUR BODY FUNCTIONS

Collagen Peptides



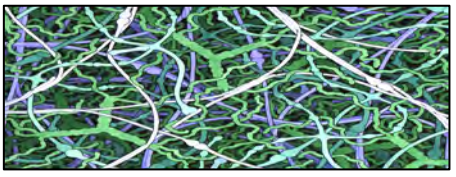
Types of Collagen

- Type I: skin, tendons, blood vessel walls, organs, bone (main component of the organic part of bone) – secreted by fibroblasts – stiff in structure
- Type II: cartilage (main collagenous component of cartilage)- synthesised by the chondrocyte cell – more elastic
- Type III: reticulate (main component of reticular fibres), commonly found alongside type I - secreted by reticular cells –This is the collagen of granulation tissue and is produced quickly by young fibroblasts before the tougher type I collagen is synthesized. Reticular fiber is also found in artery walls, skin, intestines and the uterus, liver – mesh like
- Type IV: major component of the basement membrane, which is the specialized sheet-like extracellular matrix of multicellular tissues that exists around certain cell types (e.g., skeletal muscle cells, smooth muscle cells, heart muscle cells, and adipocytes) sheet like
- Type V: cell surfaces, hair, and placenta, eye - fibrous

Ropes and Ladders

We make many different kinds of collagen, which form long ropes and tough sheets that are used for structural support in mature animals and as pathways for cellular movement during development. All contain a long stretch of triple helix connected to different types of ends. The simplest is merely a long triple helix, with blunt ends. These "type I" collagen molecules associate side-by-side, like fibers in a rope, to form tough fibrils. These fibrils crisscross the space between nearly every one of our cells.

This illustration depicts a basement membrane, which forms a tough surface that supports the skin and many organs. A different collagen--"type IV"--forms the structural basis of this membrane. Type IV collagen has a globular head at one end and an extra tail at the other. The heads bind strongly together, head-to-head, and four collagen molecules associate together through their tails, forming an X-shaped complex. Using these two types of interactions, type IV collagen forms an extended network, shown here in light blue. Two other molecules--cross-shaped laminin (blue-green) and long, snaky forming a dense sheet.

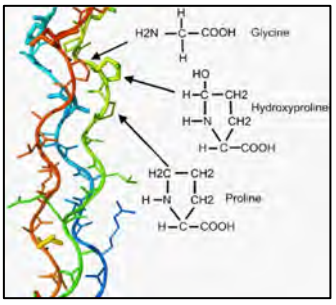


Collagen facts

- The word collagen comes from the Greek word "kolla," which means "glue."
- Eighty percent to 90 percent of the collagen in the human body consists of types I, II, and III collagen, although at least 16+ different forms of the protein are known.
- Gram for gram, type I collagen is stronger than steel.
- Collagen used for medical purposes need not be human collagen. The protein may also be obtained from pigs, cattle, sheep and fish.
- Collagen may be applied to wounds to serve as a scaffold on which new cells can form, thus improving healing.
- Because collagen is such a large protein, it is not absorbed through the skin. Topical products that contain collagen can't deliver any of it below the skin surface to replenish damaged or ageing tissue.

- The body produces collagen naturally and it is abundant when young, but unfortunately production starts to decline at about age 25 and continues. It decreases even more in women after menopause.
- Collagen also decreases with other factors such as smoking, sugar and ultraviolet rays.
- As you age, your body may no longer absorb nutrients as well or synthesize them as efficiently – so vitamin c, minerals etc. needed to stimulate the collagen synthesis naturally, often does not hit the target.
- The same is true of our depleted soils, refrigeration of food stuffs, preservatives etc.

Collagen structure



The triple-helical structure of collagen arises from an unusual abundance of three amino acids: **glycine**, **proline**, and **hydroxyproline + X**.

X can be any amino acid. Each amino acid has a precise function.

Vitamin C

Hydroxyproline, which is critical for collagen stability, is created by modifying normal proline amino acids after the collagen chain is built. The reaction requires vitamin C to assist in the addition of oxygen. Unfortunately, we cannot make vitamin C within our bodies, and if we don't get enough in our diet, the results can be disastrous. Vitamin C deficiency slows the production of hydroxyproline and stops the construction of new collagen, ultimately causing scurvy. The symptoms of scurvy--loss of teeth and easy bruising--are caused by the lack of collagen to repair the wear-and-tear caused by everyday activities.

What happens to our bodies Collagen?

- Breakdown and depletion of endogenous collagen is linked to several health problems and has everything to do with how we age and our lifestyles.
- In addition, the loss of collagen is associated with a few auto- immune and degenerative conditions from arthritis to asthma and beyond.

Why take Collagen Peptides as a supplement?

Exogenous collagen has been widely used for medical and cosmetic purposes, including the repair of body tissues.

Now Exogenous collagen is increasingly promoted as both a general and specific supplement for a wide range of degenerative conditions all linked to the decline in collagen production due to our lifestyles and as we age.

Why is DERMACLINICAL different to the competitors?

DERMACLINICAL MY BODY YOUNGER & MY SKIN YOUNGER bioactive collagen peptides supply important and specific amino acids to the body's various connective tissue 'machinery'.
However, collagen supplementation should not be considered a one size fits all solution. Different collagen peptides offer optimized benefits for different areas of the body. Research shows that DC Bioactive Collagen Peptides are optimized to maximize the stimulatory effects on specific cells in the body...and, the level of stimulation is different for varying collagen peptide compositions.

Why Collagen Peptides as a supplement?

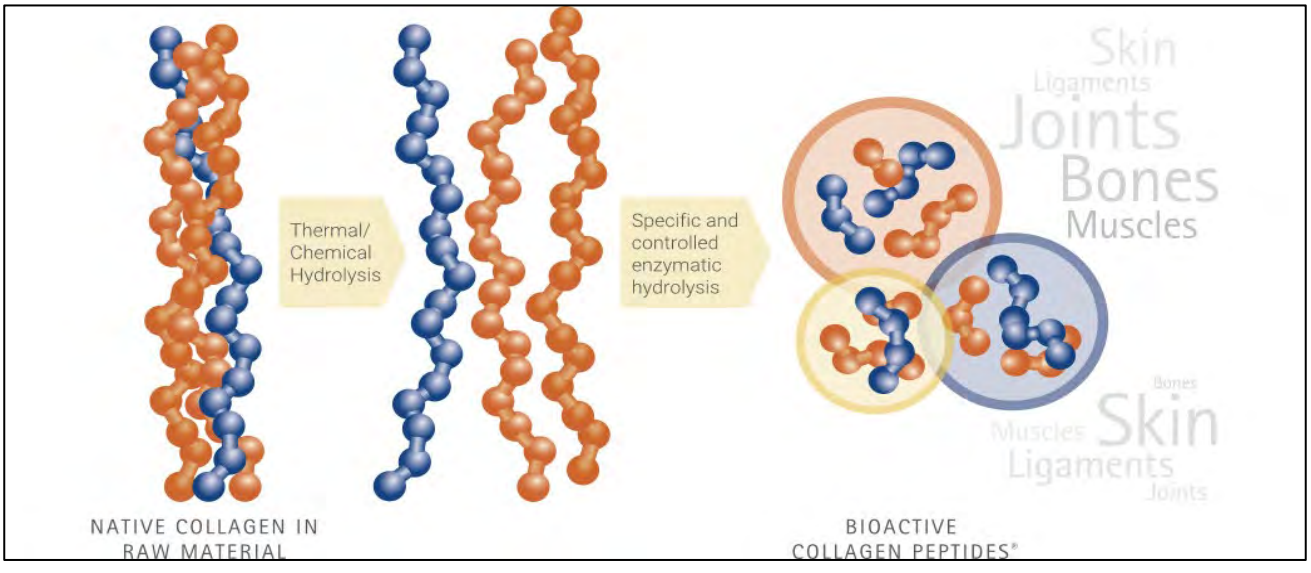
Collagen peptides offer physiological benefits;

They stimulate natural body functions (various connective tissues).
They pass through the intestinal wall and accumulate in the blood after only 15 minutes to be distributed to the target connective tissues of the body.
The reason for this is the short chain length of the peptides and their low average molecular weight.

How are Collagen Peptides made?

Collagen hydrolysate (also called “hydrolysed collagen”) is collagen that has been broken down via an enzymatic process, the forcing of hydrogen and oxygen in between the peptide bonds to cut the proteins into shorter collagen peptides. These peptides have a low molecular weight and are very easy for our body to absorb.

Hydrolysed Collagen is often referred to as the missing link in supplying amino acids like glycine, proline and lysine that are required by the body to build connective tissue and to regulate cell growth.



Collagen also delivers essential amino acids, which cannot be synthesized by the body. Also, as certain non-essential amino acids, such as glycine and proline, may not be produced in adequate amounts