

IS THAT SO!

COLLAGEN



A GUIDE TO UNDERSTANDING
COLLAGEN PEPTIDES

WHAT IS COLLAGEN?

Will my skin become "soft"?

Is collagen necessary for both men and women?

Is it actually effective?

COLLAGEN PEPTIDES NOT ONLY HAVE ANTI-AGING EFFECTS ON THE SKIN, BUT ALSO POSITIVELY AFFECT THE BONES AND JOINTS AS A FUNCTIONAL COMPONENT TO SUPPORT A HEALTHY BODY.

"SKIN"



"BONES"



"JOINTS"



WHY IS COLLAGEN SO IMPORTANT FOR THE BODY?



"IS THAT SO!"

Collagen is an **important protein, which makes up a proportion of the body.**

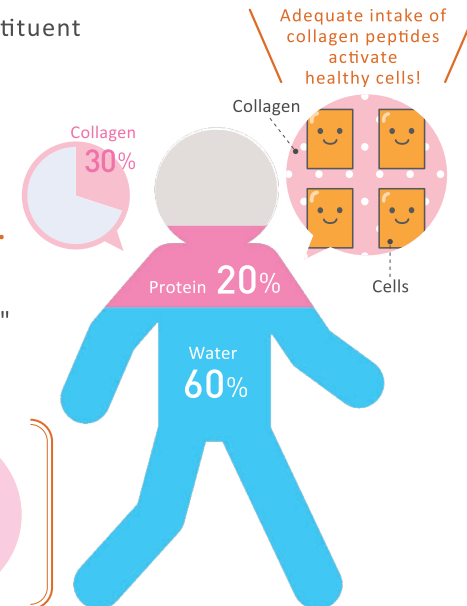
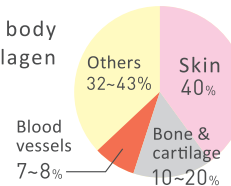
PEOPLE AND COLLAGEN

Collagen exists mostly in the joint cartilage, blood vessels, and of course skin. Precisely, it is an important constituent supporting the whole body.

20% OF THE WHOLE BODY IS PROTEIN, AND COLLAGEN IS 30% OF THAT.

Collagen forms the body by "supporting" and "connecting" tissues and cells.

Where in the body is a lot of collagen contained?





WHAT HAPPENS TO COLLAGEN WHEN WE GET OLDER?

"IS THAT SO!"

With the advancing of years, collagen decreasing and **deteriorating is a cause of aging.**

AGING HAS 4 MAIN TYPES. (From the lecture of Professor Yoshikazu Yonei, Doshisha University)

LOSS OF MOISTURE
Decrease in hormone secretion

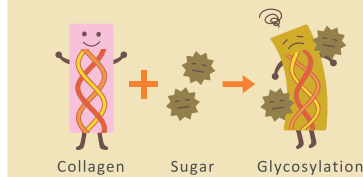
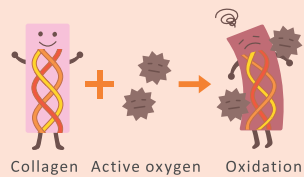
CALMATIVE EFFECTS OF THE ELEMENTS
Nerve deterioration

CAUSES OF AGING

OXIDATION
Cell oxidation

YELLOWING
Saccharification of protein

Collagen is related to oxidation (rusting) and glycosylation (yellowing).



DEGRADATION OF COLLAGEN

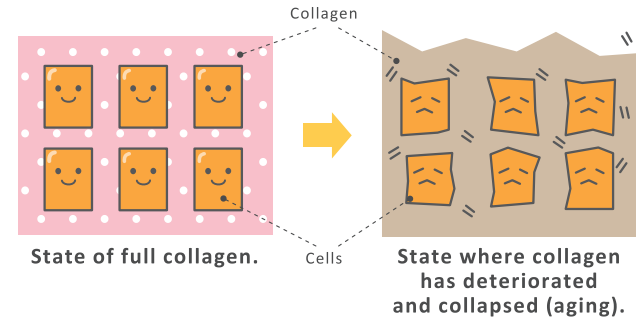
AGING Cells and tissues decline, and problems appear from within the body and its functions.

The degradation of collagen is related to aging!



IF COLLAGEN DECLINES, PROBLEMS OCCUR.

In the body, collagen supports the cells and connects structures. When collagen deteriorates, the cell balance collapses.



If the cell balance collapses, **various problems appear.**



With no tension and elasticity, the skin ages. With dryness, the skin also feels rough.



Bones become fragile and easily broken.



Joint cartilage wears down, and when going up or down stairs pain appears.



Collagen deterioration happens in men too!

Even with people the same age, a difference in youthfulness appears, it is related to collagen!



WHAT'S THE
“DIFFERENCE”
 BETWEEN
 COLLAGEN AND GELATIN?

“IS THAT SO!”

Collagen, gelatin and collagen peptide are a family

created from the same raw materials.

However, they have different characteristics because their size and shape are different.

COLLAGEN



**MAKES A WATER
 RETAINING
 MEMBRANE.**

Three strings of a protein.



Cosmetics

GELATIN



**MELTS
 AND
 HARDENS**

With heat the 3 strings
 come loose.



Pudding and jelly

**COLLAGEN
 PEPTIDE**



**ORGANISM
 ADJUSTMENT
 FUNCTION**

Furthermore the strings
 are cut into short pieces.



Health food

What we usually call collagen is actually collagen peptide!



Because it has a small molecular size, it is easily absorbed by the body.



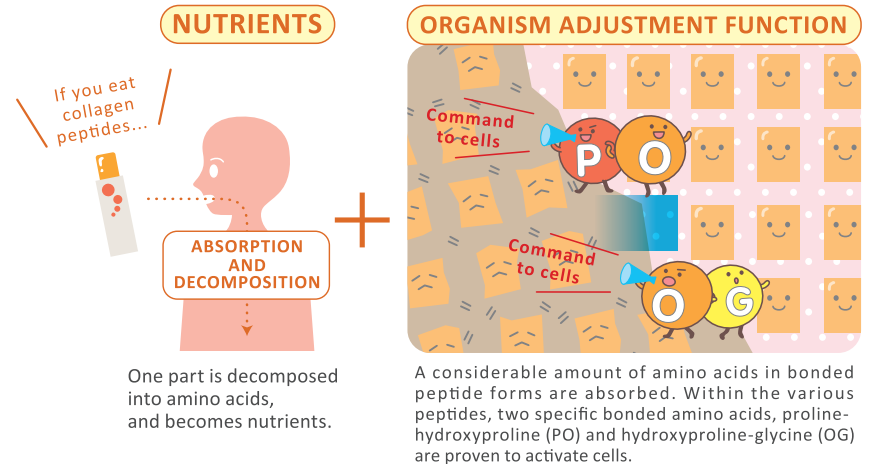
HOW DO
 COLLAGEN PEPTIDES
“WORK”
 IN THE BODY?

“IS THAT SO!”

Nutrients make the body and **organism adjustment function**

fixes the condition of the body.

(Collagen Perfect Bible, Josai University, Hiroshi Mano)



Nitta Gelatin conducted a functional study of collagen peptides many years ahead of the world. The results concluded that PO and OG* give an activation order (Organism adjustment function) and obtain the related permissions for this function from the cells.

*PO=Proline- Hydroxyproline, OG=Hydroxyproline-Glycine

SURPRISING MULTI-EFFECTS /

THE COLLAGEN PEPTIDES' EFFECTS ARE GRADUALLY MADE

CLEAR!



An active part in moisture reducing fine lines and wrinkles

retention, elasticity, wrinkles, and healing wounds.



THE EFFECTS ON THE SKIN ARE REAL!

The active ingredients, in the depths of the skin

PO and OG, give an activation order to the cell and promote renewal for a youthful surface.

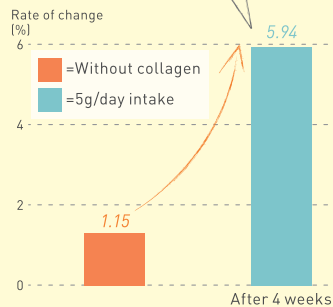
METABOLISM

PROMOTE REGENERATION OF THE SKIN!



Collagen peptides give an order to the skin cells and dismantle the collagen which has become old. Collagen helps to produce new hyaluronic acid and collagen, and promotes the regeneration of the skin.

MOISTURE



With one month of continual intake of 5g a day of collagen peptide, the skin humidity is **greatly improved!**

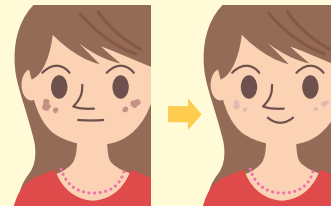
(Nitta Gelatin investigation)

Elasticity improves too!



SUN SPOT

THERE IS THE EFFECT OF HIDING SUN SPOTS!

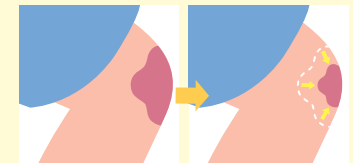


With two months continual intake of 5g of collagen peptides per day, the area of sun spot decrease was **12%**.

(Nitta Gelatin investigation)

PRESSURE ULCER

HELPS WITH THE REPAIR OF SKIN DAMAGE!



WITHOUT COLLAGEN 10G/DAY INTAKE

By consuming 10g of collagen peptide per day for 16 weeks, the wound area became **25%** smaller!

(Nitta Gelatin investigation)

RESEARCH RESULTS ON THE EFFECTS ON THE SKIN.

- ▶ Beautiful human skin effect confirmation (Nitta Gelatin)
- ▶ Collagen peptides repair UV ray damage (collaborative research with Tokyo University of Agriculture and Technology)
- ▶ Pressure ulcer care effects (Nitta Gelatin)
- ▶ Wound healing promotion effect (collaborative research with Utsunomiya University)
- ▶ Influence on skin (dermis, epidermis) (Nitta Gelatin)

BY USING A VARIETY OF COLLAGEN PRODUCTS,

BEAUTIFUL SKIN CAN BE ACHIEVED from the inside and out

Collagen is in the family of collagen peptides. The materials of liquid cosmetics focus on using a high humidity retention effect. The collagen family reliably supports inner beauty from within the body as well as the outer beauty on the skin surface.



Supports the renewal of bone!



STRONG BONES AT ANY AGE!
STRONG AND FLEXIBLE
WITH COLLAGEN PEPTIDES!

The active ingredients, PO and OG, give orders to the bone cells and promote the regeneration of the bone.
High density, supple "difficult to break" bones are made.



Good news for those with difficult arthritis!



PROTECTS JOINT ARTICULAR FUNCTION,
FOR A SMOOTH WORKING BODY!

Active ingredients, PO and OG, give orders to the cartilage cells and control modification.
It prevents pain and aging of the joint.

BONE RENEWAL

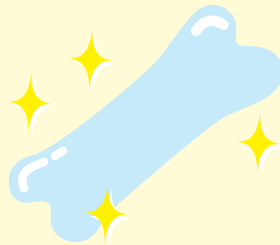
SUPPORTS THE RENEWAL OF THE BONE!



Osteoclasts break down old and worn out bone, while osteoblasts make new bone. Collagen peptide activates these two cells and promotes the regeneration of the bone.

BONE DENSITY

BONES WITH IMPROVED DENSITY ARE NOT EASILY BROKEN!

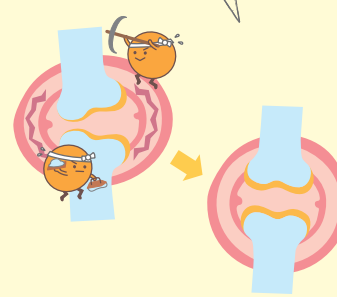


According to an animal based clinical study, a three-week daily intake of 10g (when converted for humans) of collagen peptides improved bone density by approximately **25%**!

(collaborative study with Josai University)

CARTILAGE

ORDERS TO CARTILAGE CELLS TO STOP MODIFICATION!

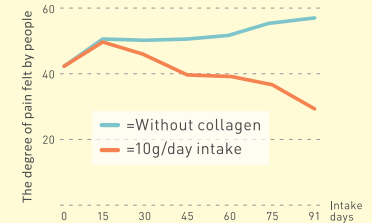


Gives orders to the cartilage cells of the joint, and **STOPS** modification! Supports the production of hyaluronic acid, which is a cushioning for the joints and prevents pain.

(collaborative investigation result with Josai University)

REDUCTION OF PAIN

KNEE PAIN IS REDUCED!



(Modified and reprinted from Food Chemicals Newspaper, "Food Style Vol.15 No 22, Feb 2011, P 52-57 Sugihara Fumihito (Nitta Gelatin Inc.)")

Continuous intake of 10g a day of collagen peptide for 13 weeks. **90%** of people felt an effect!

(Nitta Gelatin investigation)

RESEARCH RESULTS ON THE EFFECTS ON THE BONES.

- ▶ Osteoporosis prevention efficacy using mice
- ▶ PO and OG influence to osteoclast (cells which decompose old bone)
- ▶ PO and OG influence osteoblasts (cells which make new bone)
- ▶ Investigation of osteoporosis prevention mechanism through gene analysis (collaborative investigation with Josai University)

RESEARCH RESULTS ON THE EFFECTS ON THE JOINT.

- ▶ Improvement effect in degenerative arthritis patients using collagen peptide*¹
 - ▶ Degenerative arthritis prevention effect*²
 - ▶ Degenerative arthritis prevention efficacy of PO which cartilage cells used*²
 - ▶ Investigation into arthritis prevention mechanism using gene analysis*²
- (*¹ Nitta Gelatin *² collaborative investigation with Josai University)



“HOW TO TAKE” COLLAGEN PEPTIDE EFFECTIVELY?

“IS THAT SO!”

Let’s continually consume **5g-10g** every day!

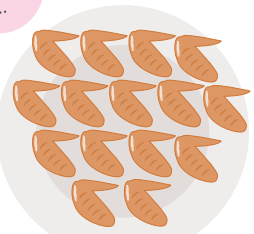
HOW?

We understand through study results that consuming **5g-10g every day has a high effect.** Of course, you can intake it from natural sources, like chicken wings and shark fins, but a supplement is more effective.

TO CONSUME 5g OF COLLAGEN PEPTIDE

! You can't possibly eat the amount of food required for this collagen intake...

! It's also too many calories.



15 chicken wings
(1,000kcal)

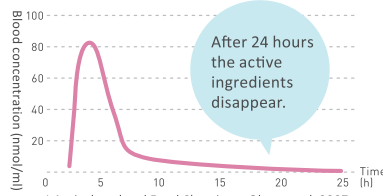
VS



1 tablespoon
of supplements
(19kcal)

DO YOU NEED TO CONSUME IT EVERY DAY?

The active ingredients of collagen peptide disappear from the bloodstream within 24 hours. Collagen peptide is kept in the body with daily intake, so it can continuously send activation orders to cells, creating the optimal effects on the skin, bone and joints.



J. Agricultural and Food Chemistry, Ohara et al. 2007

Q I WANT TO KNOW THIS! COLLAGEN PEPTIDE

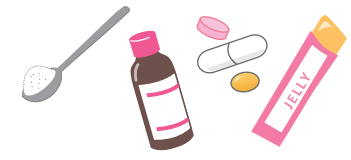
Q WILL I GAIN WEIGHT WHEN I TAKE IT?



A COLLAGEN PEPTIDES WILL NOT CAUSE YOU TO GAIN WEIGHT.

Five grams of collagen peptide (1 tablespoon) is 19kcal, the same amount of calories as 1 bite of rice, or 1/4 of a banana, and it also has no sugar and fat. It is not a diet food, but it is suitable as an indispensable protein supply for a healthy diet.

Q WHAT IS THE RECOMMENDED FORM? POWDER? JELLY? TABLET?



A PLEASE TAKE WHAT FITS WITH YOUR OWN LIFESTYLE.

The form does not change the efficacy. Continual consumption is important, so choose the form which is most convenient for you.

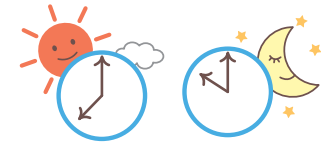
Q IS THERE A DIFFERENT EFFECT DEPENDING ON THE RAW MATERIALS?



A THERE IS NO DIFFERENCE IN EFFECT.

The difference in effect of collagen peptide is largely due to manufacturing method and processing technique rather than raw materials.

Q WHEN IS IT BEST TO TAKE?



A COLLAGEN CAN BE CONSUMED AT ANY TIME.

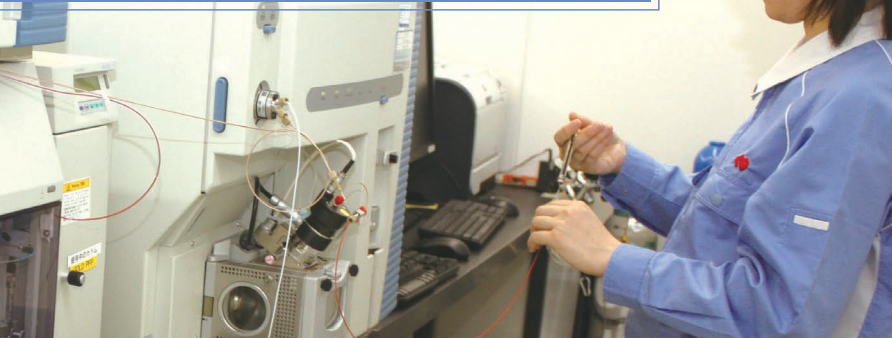
Morning or night, choose a time which is easy to continue and fits in with your life style.

Q WHAT WILL HAPPEN IF I TAKE TOO MUCH?

A THERE ARE NO ADVERSE EFFECTS IN CONSUMING TOO MUCH COLLAGEN IN HEALTHY INDIVIDUALS.

However, since collagen is a protein source, people who have weak kidneys or liver should take care because consuming large amounts of protein may burden the internal organs.

NITTA GELATIN COLLAGEN PEPTIDE STUDY



COLLAGEN ADVANCEMENT COMPANY, NITTA GELATIN'S STATE OF THE ART STUDY OF COLLAGEN PEPTIDE

Nitta Gelatin, established in 1918, is at the forefront of collagen research, and has continued to study the functionality of collagen peptide for many years. In the results of this research, it was found that the peptide PO and OG in collagen is an active ingredient with various functions in the body.

Nitta Gelatin INFORMATION

ESTABLISHED IN 1918, ACHIEVEMENT AS ASIA'S NO. 1 COMPANY.

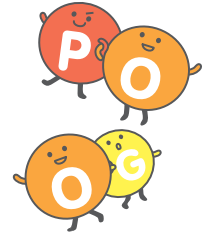
Nitta Gelatin is the largest gelatin and collagen production company in Asia. From raw materials to manufacturing, production, and quality control, we provide a consistent management, and a reliable, safe, high quality product.



 **Nitta Gelatin Inc.**

NITTA GELATIN'S ORIGINAL HIGH FUNCTIONALITY COLLAGEN PEPTIDE

Depending on the manufacturing method, there are infinite types of collagen peptides. Nitta Gelatin for many years made full use of deconstructing technique, and succeeded in creating a collagen peptide with the active ingredient PO and OG, which has been shown to have high functionality in the body, and can be easily absorbed. This technique is Nitta Gelatin's original and is acquiring a patent.



Wellnex® is the generic name of the functional peptide which Nitta Gelatin provides.

NITTA GELATIN MANUFACTURES THE POSSIBILITY OF COLLAGEN PEPTIDE

"MUSCLE" **KEEPS
MUSCLE MASS.**

Studies are progressing about the effect of preventing the loss of muscle mass by consuming collagen peptide.



**"BLOOD
GLUCOSE
LEVEL"** **PREVENTION OF
LIFESTYLE-RELATED
DISEASES**

In a study using mice, inhibitory effect has been observed an increase in blood glucose. Study in the field of lifestyle related disease prevention is progressing.



IT CONTRIBUTES TO THE DEVELOPMENT OF REGENERATIVE MEDICINE WITH HIGH SAFETY SECURED GELATIN AND COLLAGEN.

**ARTIFICIAL BONE,
ARTIFICIAL SKIN.**

Collagen which has a high compatibility with the human body is used in materials.

**REGENERATIVE MEDICINE
USING iPS CELLS etc**

Gelatin and collagen is used as a scaffold where the cells grow.

**DRUG DELIVERY
SYSTEM (DDS)**

Gelatin is used as the matrix which controls the little by little release of a drug to the affected part.

