



the Jonathan Britto clinic

# “LIVE YOUR BEST LIFE”

For current news on Plastic Surgery, Aesthetics and Lifestyle Medicine

## The Vitamin C Issue

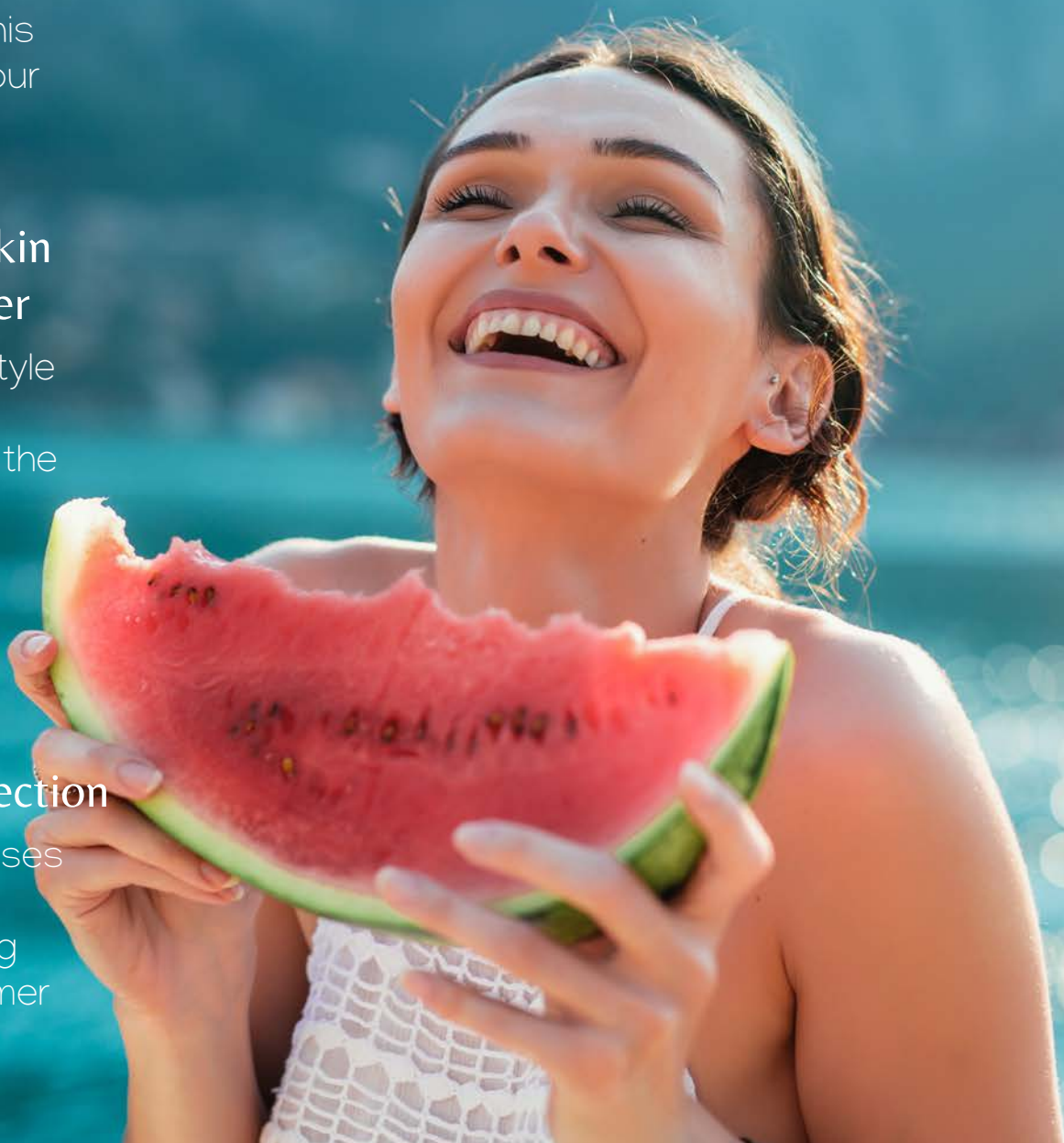
Karen, our principal aesthetician, outlines the importance of this wonder vitamin in your daily skin regime.

## Eat your way to skin health this summer

Shyamala, the Lifestyle Medicine Physician, explains how to get the best out of summer fruit and veg.

## Scar Care & Protection

Jonathan Britto advises on optimal care for scars and protecting them from the summer sun.





# editor's note

Vitamin C is the skin super-hero. Not just an anti-oxidant, it has a central role in collagen production, providing protection from the sun & pollutants and enhancing the skin's barrier defences.

**Karen Sargeant**, Principal Aesthetician at the Jonathan Britto clinic explains the intricacies of how vitamin C works to give us beautiful skin and outlines the complexities associated with topical delivery of this vitamin.

In keeping with our holistic approach, **Dr Shyamala Moganasundram** discusses the best ways to get vitamin C from our diet - not as simple as one might imagine.

**Jonathan Britto**, Consultant Plastic Surgeon, provides valuable advice on scar care and alludes to the role vitamin C plays here.

We hope we will persuade you to **Dr. Shyamala Moganasundram** prioritise vitamin C this summer.

Editor & Lifestyle. Medicine Physician





For firm skin and a dewy blemish-free complexion.

# Topical vitamin C

“ A gentle but powerful route to youthful, blemish-free skin.

Vitamin C has super-hero anti-oxidant function! Part of our ‘essential three’ we recommend all our patients to be on some form of vitamin C. It is found throughout the body, with higher concentrations in the skin compared to other areas of the body. Even before the discovery of vitamin C in 1932, nutrition experts recognised that something in citrus fruits could prevent scurvy, a potentially fatal disease characterised by bleeding gums, bruised skin and poorly healing wounds that killed as many as two million sailors between 1500 and 1800. It’s significance to skin health lies both in its role in the manufacture of collagen and its function as an anti-oxidant affording protection against UV radiation damage.



Collagen is a protein, integral to the bodies structural components – bones, tendons, ligaments and skin. Along with keratin and elastin, the flexible collagen fibres gives skin its strength and elasticity, keeping us looking youthful. Vitamin C stabilises collagen fibrils and works on a genetic level to promote collagen production by fibroblasts. This is also how vitamin C influences wound healing and scar formation.

As important is vitamin C's protective role in the skin - **its anti-oxidant function**. Abundant in the outer layer of the skin - the epidermis - it effectively neutralises and removes harmful free radicals from environmental pollution, sun exposure and ageing. Vitamin C works synergistically with vitamin E, to scavenge free radicals within the skin cells.

While offering protection from the sun's harmful UV rays, vitamin C protects against erratic pigment formation. It suppresses the enzyme tyrosinase, preventing and even reversing those dreaded 'age spots'.

Vitamin C is an essential player in ensuring the **skin's healthy barrier function**. This two-way process, prevents water loss from our skin, at the same time stopping harmful irritants getting in. Disruption or compromise of this barrier leads to excessively dry skin and a host of skin disorders including acne, rosacea as well as eczema and psoriasis.

It is also vital to the **cell development** in the epidermis. In this part of the skin, we see the movement of cells up through the layers, until eventually they reach the surface at which point they are exfoliated off. Vitamin C plays its part in this healthy cycle and if not available, this maturation cycle is disrupted with consequences to the overall skin health and appearance.

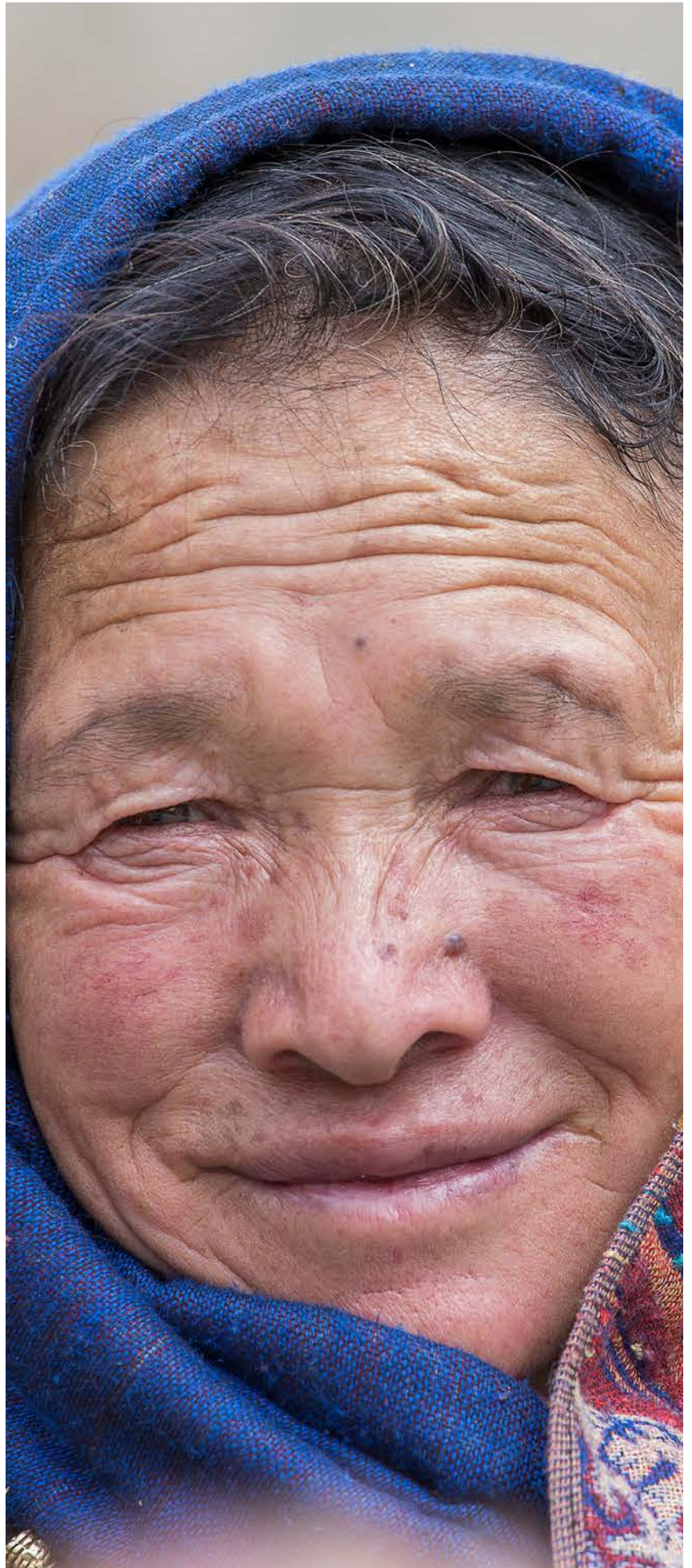


# Vitamin C Depletion

Loss of skin elasticity leads to wrinkle formation and lined skin.

Free radical damage results in further collagen loss and hyperpigmentation.

Lack of skin cell renewal causes dry skin with flakiness and thickened plaques.





# The Solution

We know that vitamin C is abundant in healthy skin. It is however lower in aged and photodamaged skin as well as when there has been excessive exposure to anti-oxidant stress via pollution and environmental UV radiation. Can this be corrected with topical Vitamin C therapy?

Vitamin C is a relatively unstable molecule with poor skin penetration. The efficacy of topical creams or serums depends on the pH of the product, their formulation, and the concentration of vitamin C within. In the form of ascorbic acid, vitamin C stabilises at a pH lower than 3.5 and has been scientifically proven to be well absorbed by the skin. Ester formulations of vitamin C, however, are stable at a neutral pH and would be more available to the skin. There are also specialised delivery systems to 'sneak' vitamin C into skin cells. As for the optimal concentration of vitamin C in skin products, this is between 8 and 20%.

Consequently, there is a huge range of products available on the market with a vast difference in cost and efficacy. Here, at the Jonathan Britto clinic we choose the products that work.

“ Trust us to make the expert choice





# Dietary Vitamin C

by Dr Shyamala Moganasundram,  
the Lifestyle Medicine Physician

As you apply your vitamin C topically you should also increase the amount reaching your skin from within. The skin is well supplied with blood vessels so make sure you don't miss out on this route to great skin health.

Human beings lack a key enzyme in the synthesis of vitamin C so we are dependent on our diet to maintain adequate levels. As this vitamin is plentiful in fresh fruit and vegetables, it may come as a surprise that many people do not get sufficient amounts of it. This is in part due to the fact that it is water-soluble and unstable in the common form, ascorbic acid. In addition, low levels of vitamin C often go unnoticed as the symptoms are non-specific - malaise, lethargy and mood swings - unlike the dramatic changes in overt deficiency or scurvy.

To get the most from your dietary vitamin C food preparation, combinations and when you consume it all matters.

But first ... how much? (The megadoses advocated by Nobel laureate, Linus Pauling)



**The absorption efficiency of vitamin C halves beyond doses of 1000mg, and doses over 2000 mg can cause gut disturbances and kidney stones.**

The average adult male needs 90mg daily while a non-pregnant women needs 75mg, increasing to 85mg in pregnancy and 120mg when breast-feeding. A medium-sized orange provides 83mg of vitamin C while a cup of strawberries provides 97 mg. Many exotic fruit contain much higher amounts - Acerola cherries provide 825 mg in half a cup!

Vegetables high in vitamin C include peppers at 342 mg per yellow pepper, kale and broccoli. So keeping topped up with vitamin C should be easy. However, there is a catch.

“The strategy is to eat fruit and vegetables, fresh, minimally processed, & little but often.

Vitamin C levels start to decline the minute the fruit is picked and is further lost in storage and preparation. Refrigeration does improve things but does not halt the losses. Losses of up to 30% occur after a day of domestic cold storage increasing to 70 to 95% for raw spinach and broccoli respectively.

Cooking diminishes vitamin C content further with boiling being the worst; boiled peppers lose over 65% of their vitamin C content. Steaming and stir-frying lose between 15 and 25% dependant on what the produce is.

Once consumed, the absorption is also “fragile”. Specific transporters which allow the absorption of vitamin C in the small intestine are rapidly overloaded. Any vitamin C left in the gut is lost. The strategy, therefore, is to eat your fruit and vegetables fresh, minimally processed and little and often.





# Keep it Simple

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Start your day with a **freshly squeezed glass of orange juice**. Add a spoonful of **chia seeds** and leave for 15 minutes in the fridge. This allows the chia seeds to form a gel making digestion easier. This will give you your 137% of your daily vitamin C requirement, all of which will be absorbed. The addition of the chia provides fibre and protein, both of which will slow the absorption of the sugar in the juice, preventing blood glucose spikes and competition for the transporters of vitamin C



Snack on a cup of **raw peppers**, yellow are highest in vitamin C with 169% of your daily requirement. Accompany with a **white bean and garlic dip** for additional fibre and some protein .... Aperitif mid-afternoon snack.

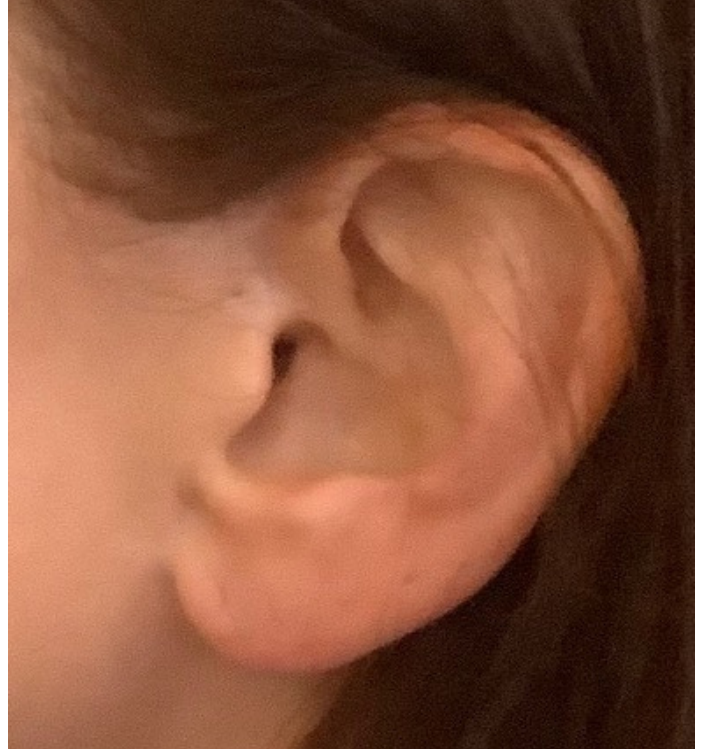


Adding a cup of **steamed broccoli** to your dinner will provide you with 75% of your daily requirement of vitamin C. It is important to get the water boiling in the bottom half of your steamer before adding the broccoli to the top half. Remove as soon as the broccoli turns bright green and plunge into a bowl sitting in ice to stop the cooking process.

If you prefer a salad, add a couple of medium **tomatoes to a cup of baby kale**, which together will give you your daily allowance of vitamin C. Toss with a vinaigrette. Top with crumbled goat's cheese, caramelised red onions and a drizzle of balsamic glaze.



Nine months post-face lift



Three years post-face lift

# Vitamin C ... the scar story

by Jonathan Britto,  
Consultant Plastic Surgeon

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The building blocks of complex collagen protein structure are essential to competent wound healing and depend upon Vitamin C - without it no wound healing can take place.

A scar is a controlled wound. When I make an incision I am anticipating that I will control the eventual scar as much as I can. I anticipate that 1/3 of that control is 'how I plan', 1/3 is 'how I cut', and 1/3 is 'how you heal'!

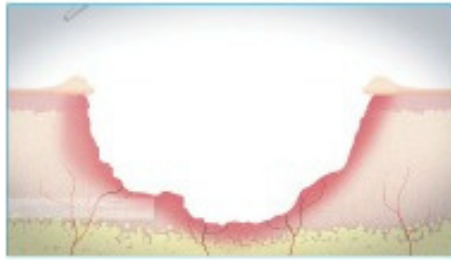
This means that 1/3 of the control which determines a good quality scar depends upon a patient's general health, skin health, and the biology of healing - factors outside the direct control of the surgical blade. At the Jonathan Britto clinic, nonetheless, knowledge is power and our 'prepare and repair' programmes are designed to optimise health for surgery with good scar control in mind.

Remember, a short scar of poor quality is worse than a long scar which no one can see! These images of my wonderful facelift patient show good quality post facelift scars at 9 months and 3 years. How do we achieve these?



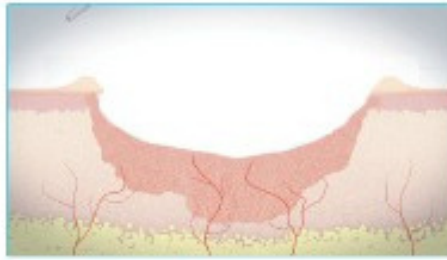
# The process of wound healing

## Inflammatory phase



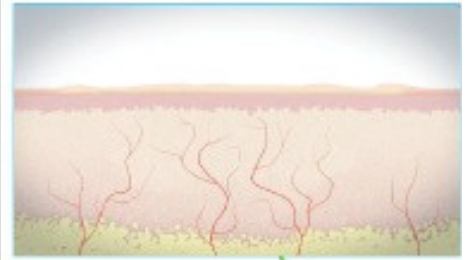
- Begins when the wound develops, lasts 4–6 days
- Marked by oedema, erythema, inflammation and pain
- Healing process triggered
- Immune system works to prevent microbial colonization

## Proliferative phase



- Lasts another 4–24 days
- Granulation tissue fills in the wound
- Fibroblasts lay collagen in the wound bed, strengthening new granulation tissue
- Wound edges begin to contract
- Epithelial cells migrate from the wound margins

## Maturation phase



- Can last 21 days–2 years
- Length of time depends on patient- and wound-related complicating factors (e.g. duration of wound, patient comorbidities, wound infection status)
- Filled-in wound is covered and strengthened
- Scar tissue forms

## “ Our holistic approach to optimal scars

Firstly by **good preparation** - optimising health before surgery, dietary control, vitamin boost ,and stopping smoking are all key.

Then, of course, the **surgical planning**. No tension on the scars in the skin is key. The ‘weight’ of the facelift is held in the ‘deep plane’, (layer 3 of the face), and the skin (layer 1) is free to move naturally on top. The scars are placed in natural lines of skin relaxation, and the natural creases that hide scars. We do not fear long scars, just the creation of bad quality ones. We want narrow, soft, supple and stable scars; natural of colour, soft of consistency, and flat of contour.

After the surgery we are in the **‘repair’ phase**. We optimise the dietary aspects, maintain sun protection, and if necessary will swing into action with scar modification techniques - which include topical silicone, and injectable scar modification with steroids and botox - yes botox - which acts to reduce collagen contraction in over active scars... (a topic for another day).

So, whether I am planning surgery for reconstruction, restoration, or appearance change ... at the Jonathan Britto clinic; we’ve got the detail covered.

# Professional-C®

## Suncare

Product of the Month

Professional-C Suncare SPF 30 helps improve appearance of the signs of skin aging while the sunscreen ingredients protect against the sun. While protecting against skin-damaging UVA and UVB rays, 10% L-Ascorbic Acid (Vitamin C) helps improve the appearance of skin aging.

Vitamin C is often acclaimed for its ability to defend the skin against visible signs of ageing caused by environmental factors.

The L-Ascorbic Acid form is the most powerful form of vitamin C. It helps neutralise free radicals, minimise the look of fine lines and wrinkles, and brighten skin tone.

### Daily Use of Vitamin C

- Proactively fortifies the skin defenses against environmental assaults.
- Encourages skin to rebound from previous, visible damage for an improved appearance of fine lines, wrinkles and uneven skin tone.
- Aids in restoring skin's antioxidant strength to help skin appear younger for longer.



Visit us at the Jonathan Britto clinic for a consultation.





# LIVE YOUR BEST LIFE

We hope you have enjoyed this issue of our newsletter.  
If you would like to learn more about topping up with  
vitamin C or to book a consultation please contact us.