The Evolution of Ageing: what we'll be doing in 2032

100% SKINCARE

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Overview

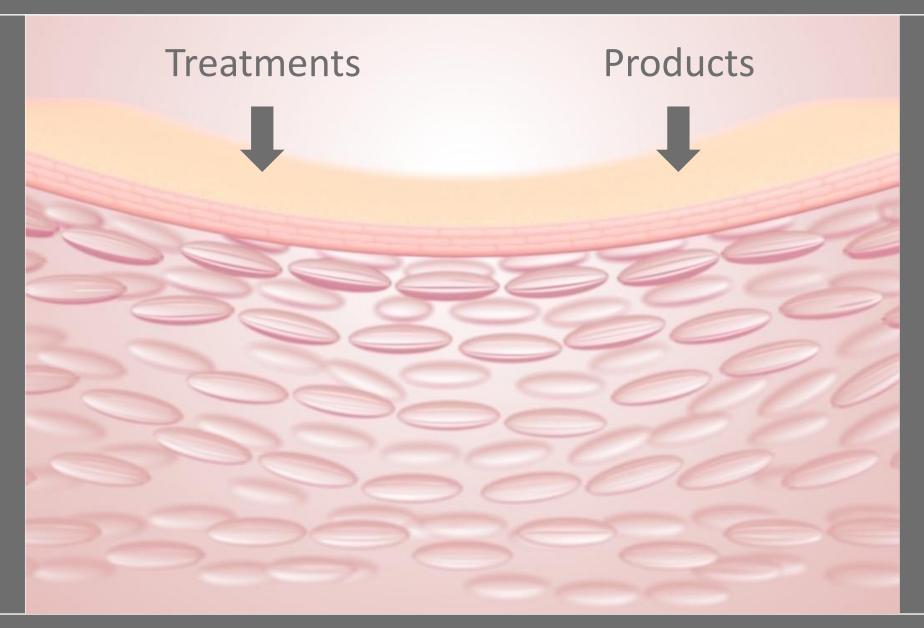
- Trends
- How to achieve 100% skincare
- The role of functional medicine
- The importance of oral supplements
- Science of supplements
- How to make 100% skincare available to all
- Where we'll be in 2032

RESULTS SOCIAL NINGS MEDIA RENTIATION PROJECT THINKING EXPERIENCE ENGAGEMENT IMPRESSION ATTITUDE COMMUNICATION POSITIVE DIRECTION REPORT FEARLESS AGMENT UNITY INNOVATIVE SOLUTION INVESTM MARKET RESULTS VALUES TRENDS SHIP STRATE **EXPERIENCE** HUMAN DEVEL ATTITUDE **IMPRESSION** RESE INFORMATION SUCCESS **PROFIT**

NGAGEMENT DATELINE

- Skin health = systemic health
- Science-based products
- Personalisation
- Sustainability
- Supplements

INTERACT

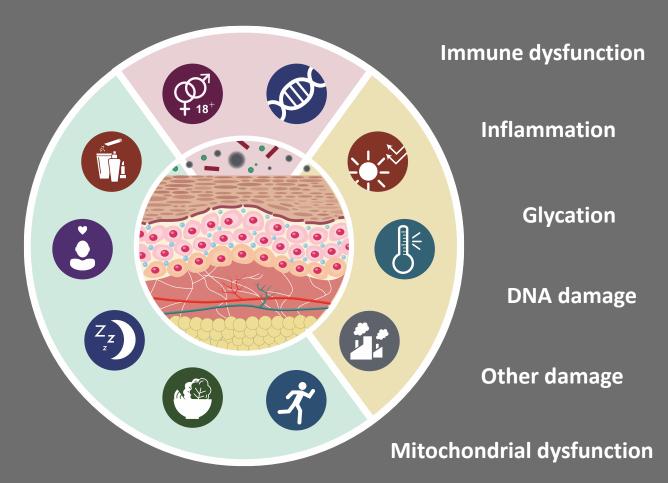






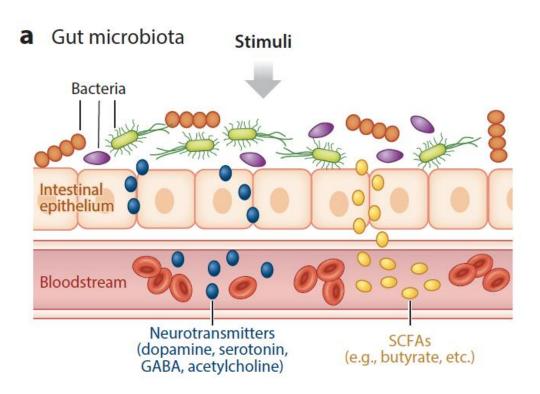


Reactive Oxygen Species



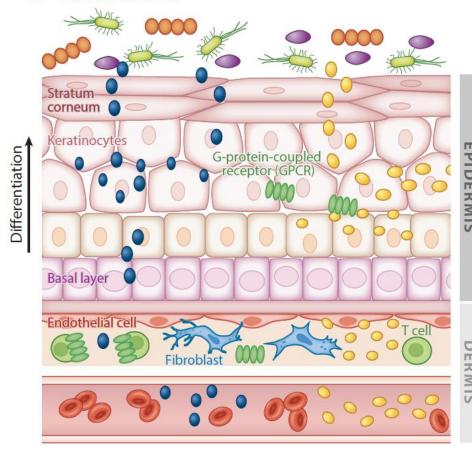
Cellular senescence

Gut and gut microbiome Reactive Oxygen Species Immune dysfunction Immune dysfunction Inflammation Inflammation **Neurotransmitters** Metabolites Glycation Hormones DNA damage **Nutrient supply Glycation** Other damage **Blood flow** Mitochondrial dysfunction **Oxidative stress DNA** damage Cellular senescence



Woodby et al. 2020

b Skin microbiota



Altered skin microbiome Altered skin barrier function Increased differentiation

Increased melatonin synthesis

Treg/Th17 accumulation (depending on species)

Increased collagen synthesis Increased IGF signaling Altered hair growth Increased TGF_β Increased IL10

Woodby et al. 2020

Lifestyle change

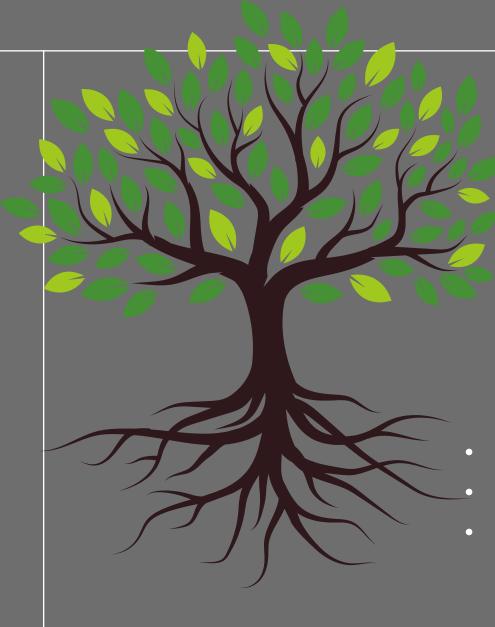


Topical

- Protection
- Treatment
- Products

Oral skin care

- Supplements



Functional medicine

- Systems biology-based approach
- Numerous factors contributing to disease
- Identify and address the root causes



Chronic eczema

- A functional medicine approach



Treatments







100% skincare for healthy skin



Skin Supplements



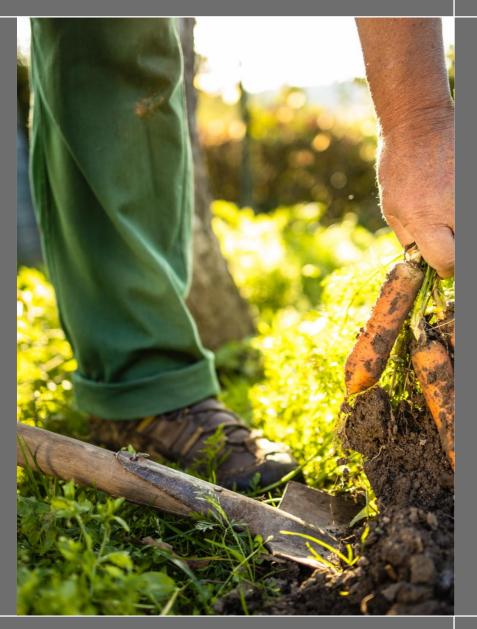






Why not just eat healthily?

- Nutrient need vs supply
- Quality of food



'Fruits and vegetables are less nutritious than they used to be'

Fruit and vegetables

↓ protein, calcium, iron,

phosphorous, vit B2 and C

Wheat

↓ protein, iron, manganese,zinc, magnesium

Regenerative farming

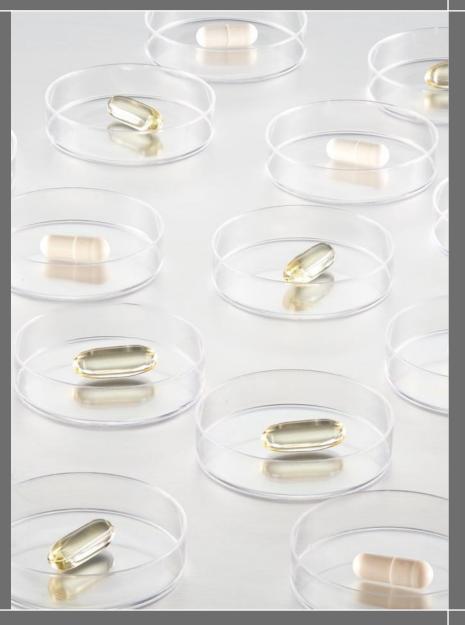
† vit K, E, B1. B3, B5, calcium,
potassium, carotenoids,
phytosterols

Davis et al 2004, Mariem et al 2020



Why not just eat healthily?

- Nutrient need vs supply
- Quality of food
- Targeted support



Science of supplements

- Varying degrees of robustness
- Nutrient dependent
- Challenges
- Overview of research on:
 - UV protection
 - Ageing
 - Pigmentation
 - Hydration





Challenges

- Few human trials
- Small trials
- Lack of placebo
- Lack of RCT
- More prone to publication bias
- Measurement tools
- Combination products
- Dose
- Difficult to make comparisons



UV protection

- Vitamin C
- Vitamin E
- Omega 3 fatty acids
- Flavanols
- Carotenoids (long term)
- Probiotics

Michalak et al. 2021, Woodby et al. 2020, Thomsen et al. 2020, Lolou et al. 2019)



Ageing

- Probiotics
- Omega 3 fatty acids
- Vitamin A and derivatives
- Zinc
- Hydrolyzed collagen
- Carotenoids

Michalak et al. 2021, Woodby et al. 2020, Yu et al. 2022, Lupu et al. 2019, Jawar et al. 2019, Miranda et al. 2021, Vollmer et al. 2018, Lolou and Panayiotidis 2019





Pigmentation

- Probiotics
- Vitamin E
- Carotenoids

Hydration

- Probiotics
- Ceramides
- Collagen

Michalak et al. 2021, Yu et al. 2022, Sun et al 2022

Lifestyle change



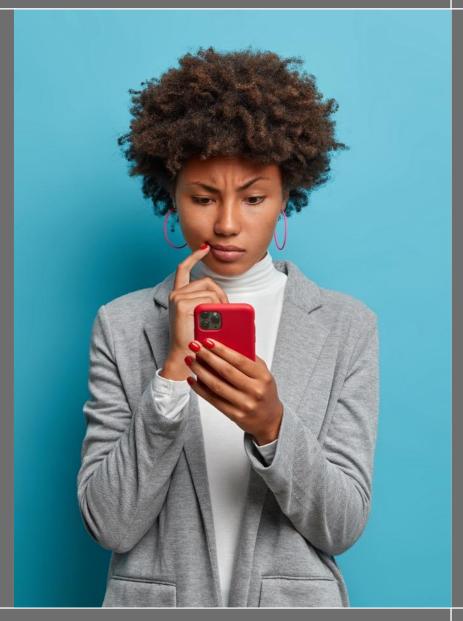
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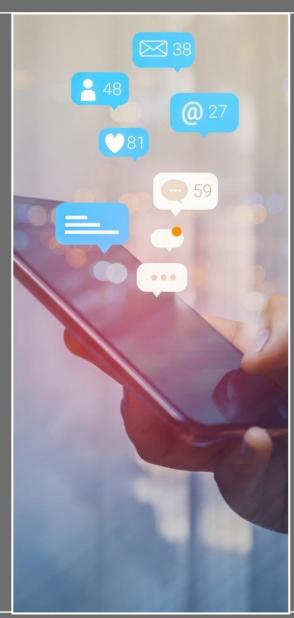




Challenges

- Ignorance
- Not a quick fix
- Confusing information
- Misleading marketing
- Variable quality of products
- Expensive





How to overcome these challenges?

Education

- No quick fix
- Show the science
 - Benefit of lifestyle change
 - How to change lifestyle
 - Benefit of supplements
 - What supplements to take
 - How to choose
 - Importance of quality
- Before and after photos

Social media





- Nutrient combinations



- Before and after photos
- Ongoing education
- Relevant group support





Key Points

Growing focus on:

- Wellbeing
- Skin health is a reflection of systemic health
- Supplement use

Desire for:

- Science-based products
- Personalisation
- Sustainability

Are these trends valid?

Skin health is a reflection of systemic health



Numerous modifiable factors affect our skin

- External
- Internal

For the most effective and sustainable results

- Topical protection, products, treatments
- Lifestyle change
- Oral skin care supplements

Skin has 2 sides



Oral supplements

- Likely that we need them
- Not all equal
- Science
 - Varying degrees of robustness
 - Strong studies
 - ↓ signs of ageing
 - ↓ pigmentation
 - 1 hydration
 - ↑ protection from UVR

How to make accessible and increase motivation

- Challenges are real
- Key is education
 - Ongoing
 - Social media
 - Group support

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