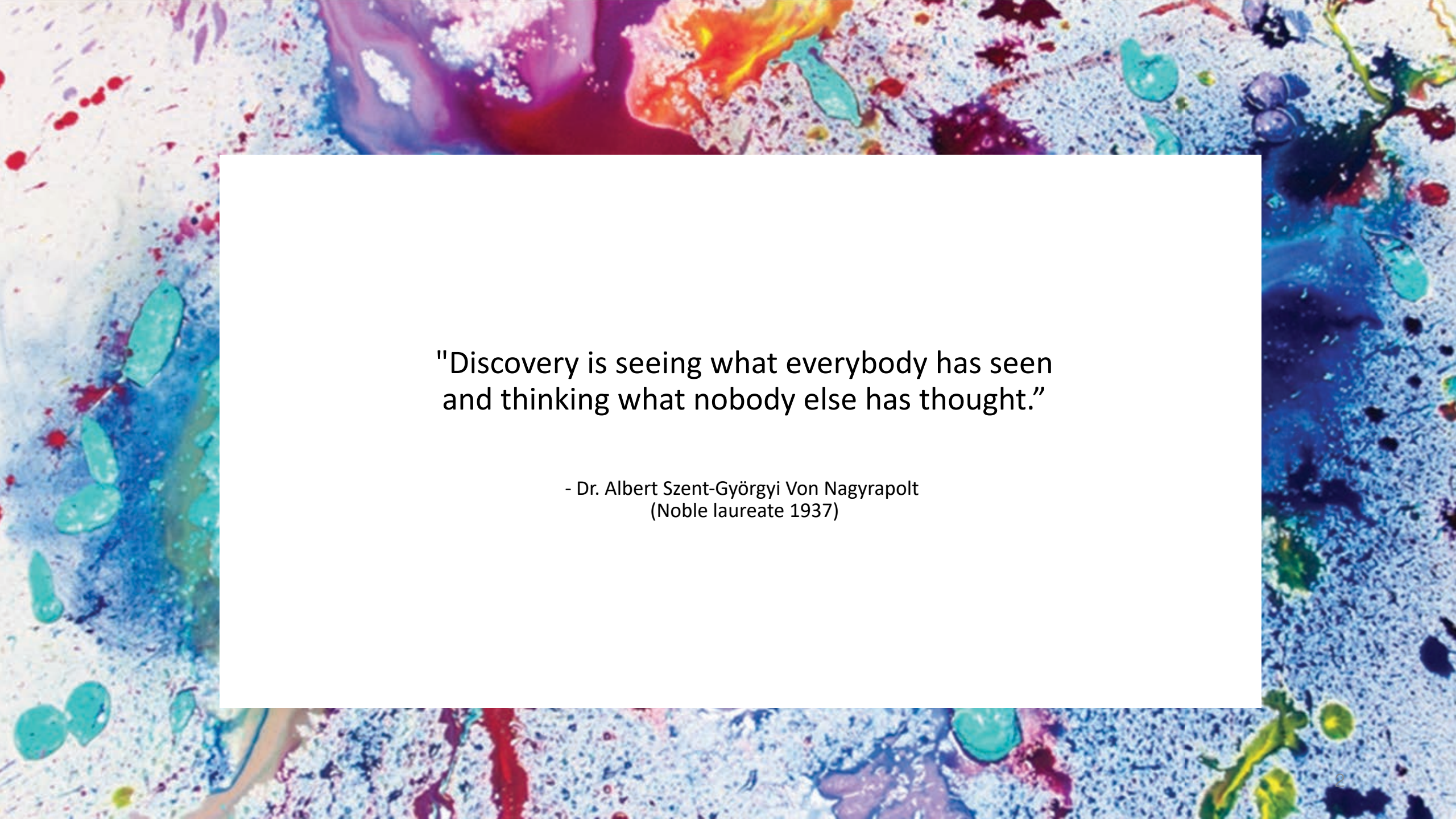




Modern Wellness: Stress, Your Self, Your Skin

Howard Murad, M.D., FAAD

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David Geffen School of Medicine, UCLA
Board Certified Dermatologist, Pharmacist, Researcher,
Founder of Murad, LLC.



"Discovery is seeing what everybody has seen
and thinking what nobody else has thought."

- Dr. Albert Szent-Györgyi Von Nagrapolt
(Noble laureate 1937)



There are over 300 different theories of aging.

The final common pathway of aging, disease, wrinkles, wrinkles and more, is always the same.

Cellular water loss.



The Science of Cellular Hydration



Healthy young cell,
holding cellular water



Age, disease, free-radicals, stress and
inflammation attack the cell membrane



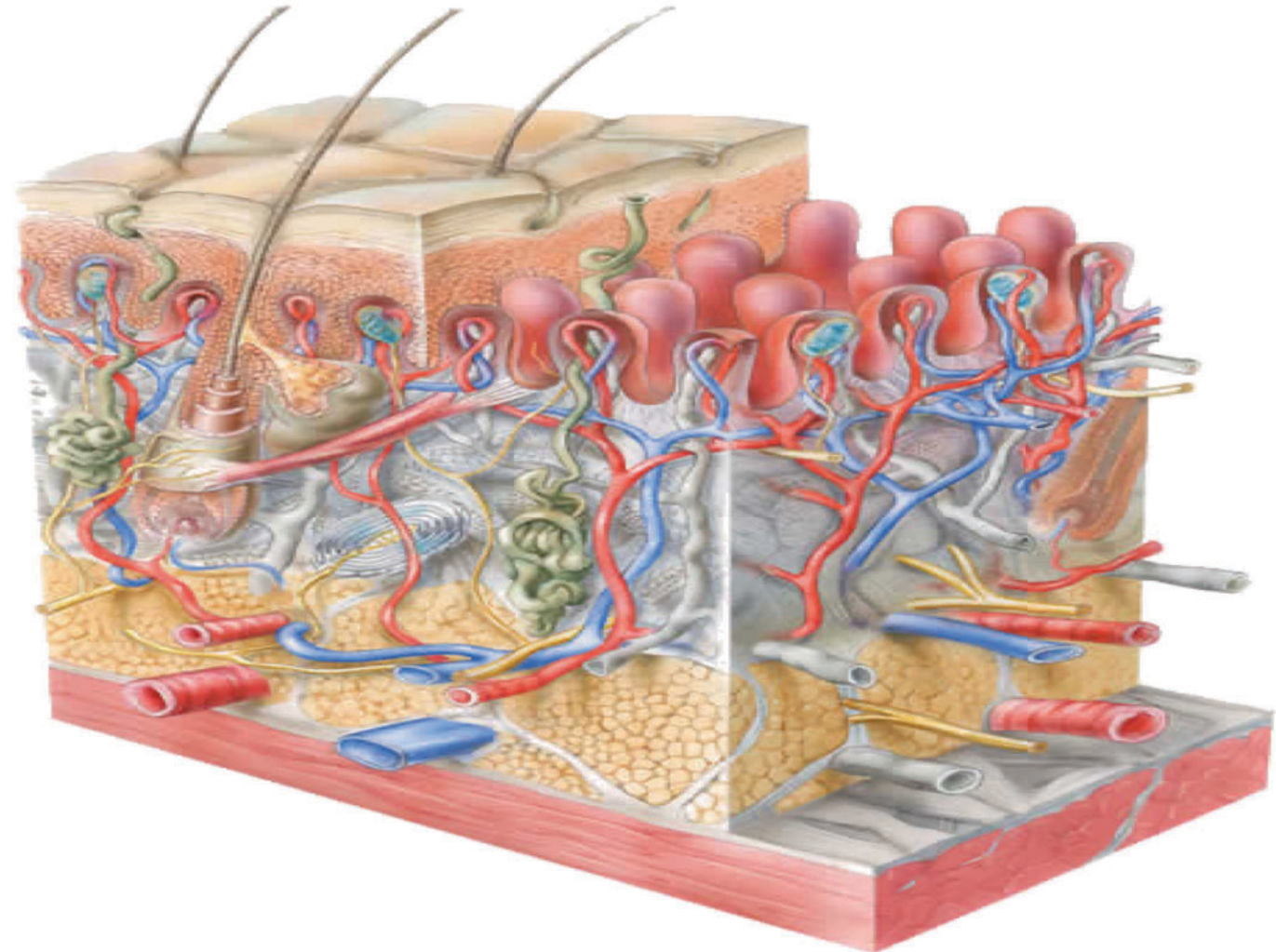
When the membrane is
compromised, water leaks out
and the cell starts to die



A Connected Beauty system creates
the ideal environment for strong cell
membranes retaining cellular water

The Skin & The Body Are Connected

- CARDIOVASCULAR
- DIGESTIVE
- ENDOCRINE
- LYMPHATIC
- MUSCULAR
- NERVOUS SYSTEM
- REPRODUCTIVE
- SKELETAL
- URINARY
- INTEGUMENTARY
- IMMUNE



The Pitcher of Wellness

Nutrition

80% in the healthy zone
20% comfort foods for an emotional lift



Dedicating 30 Years to Stress & Skin

WHY?

58% of Americans say work is a significant source of stress.

SOURCE: American Psychological Association - Stress in America survey. 2017

1 in 5 Americans say technology is a major source of stress.

SOURCE: American Psychological Association - Stress in America survey. 2017

48% of Americans feel their stress has increased over the last 5 years.

SOURCE: Statistic Brain Research Institute, American Institute of Stress, NY July 19, 2016



One in 4 millennials claim they are 'stressed out' every day.

SOURCE: Mintel 2018



The Silent Killer:

“Over the last decade, a new stress has come to our earth. I call it Cultural Stress. It's the stress of modern living. It's the rules and regulations, it's a digital dependency which is wreaking havoc on every cell in your body because the stress that's caused is pervasive and goes unabated.”

Howard Murad MD

So what is Cultural Stress:































What is Traditional Stress?	What Stress is Cultural Stress? (TODAY)	What Stress is Cultural Stress? (THE NEXT LEVEL)
<ul style="list-style-type: none">✓ A broken arm✓ A death in the family✓ Divorce or heartbreak✓ Job loss✓ An accident✓ Burglary✓ Storms & natural disasters	<ul style="list-style-type: none">✓ Techno Stress✓ Poor sleep✓ Bullying/online trolls✓ Increasing traffic & commutes✓ Work/life balance✓ Media pressure✓ Perfectionism & increased Expectation✓ Money	<ul style="list-style-type: none">✓ Loneliness / social isolation✓ Sedentary lifestyle✓ A lack of human interaction✓ Robot replacement

The pressure of reducing stress: You must do yoga. You must wear Lululemon yoga clothes. You *must* relax.

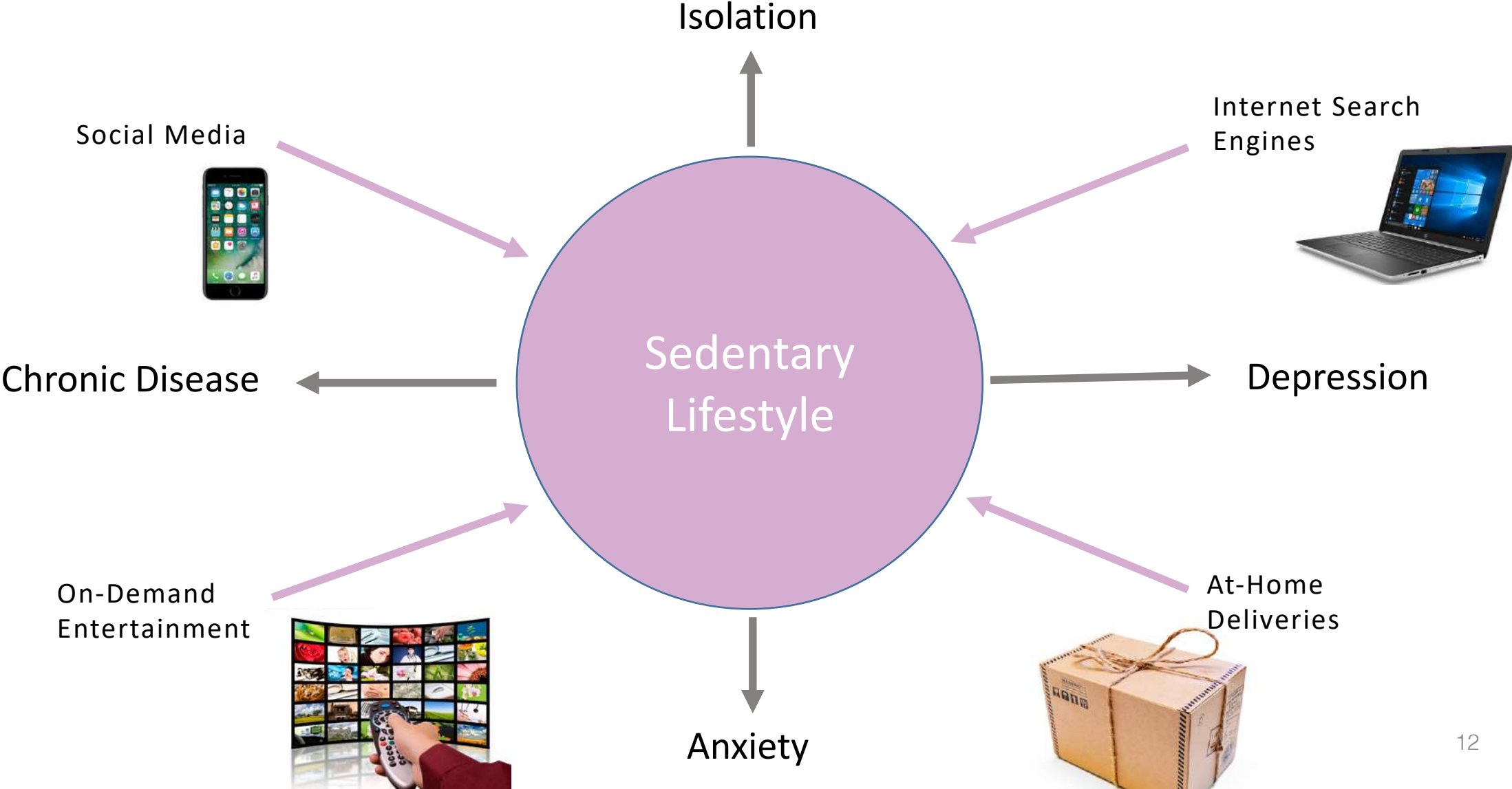
Looking Ahead – Then & Now



The Sharing Economy

The Result of Cultural Stress

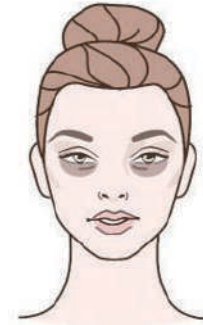


Effects of Stress on Skin



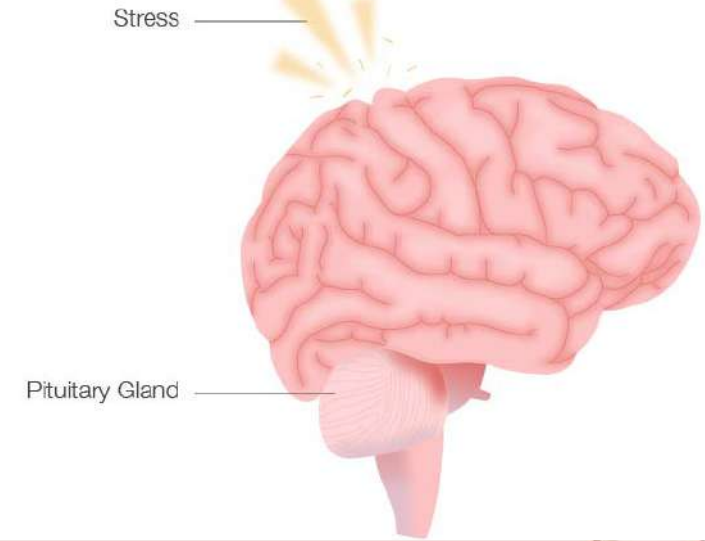
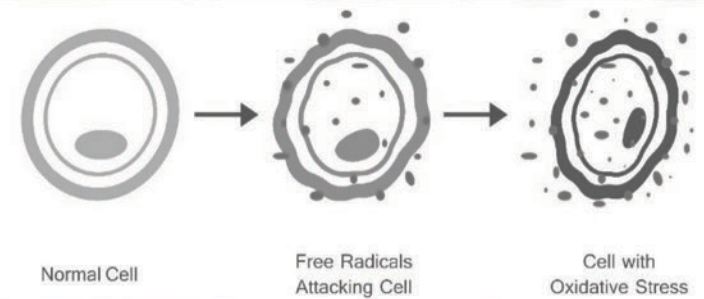
Breakouts
& Inflammation

Dark circles &
Puffiness

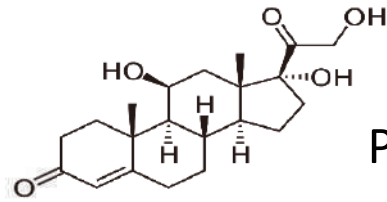


Expression lines
& Crows feet

Dehydration &
Dullness



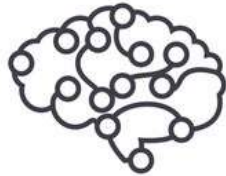
Stress and Skin Aging



People with a high baseline cortisol look on the average
3.5 years older¹

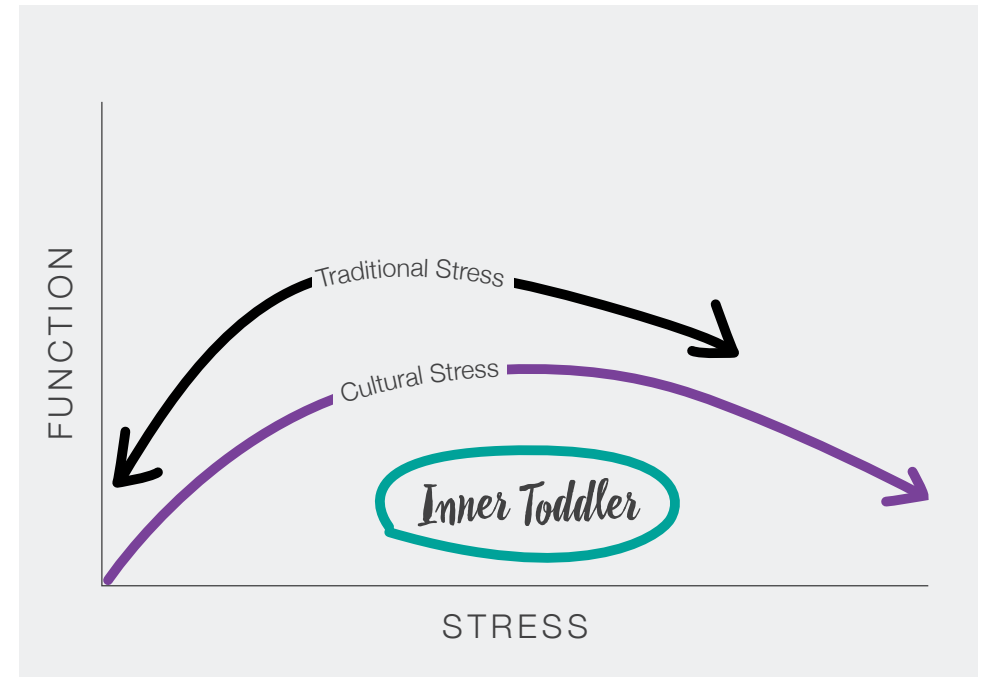
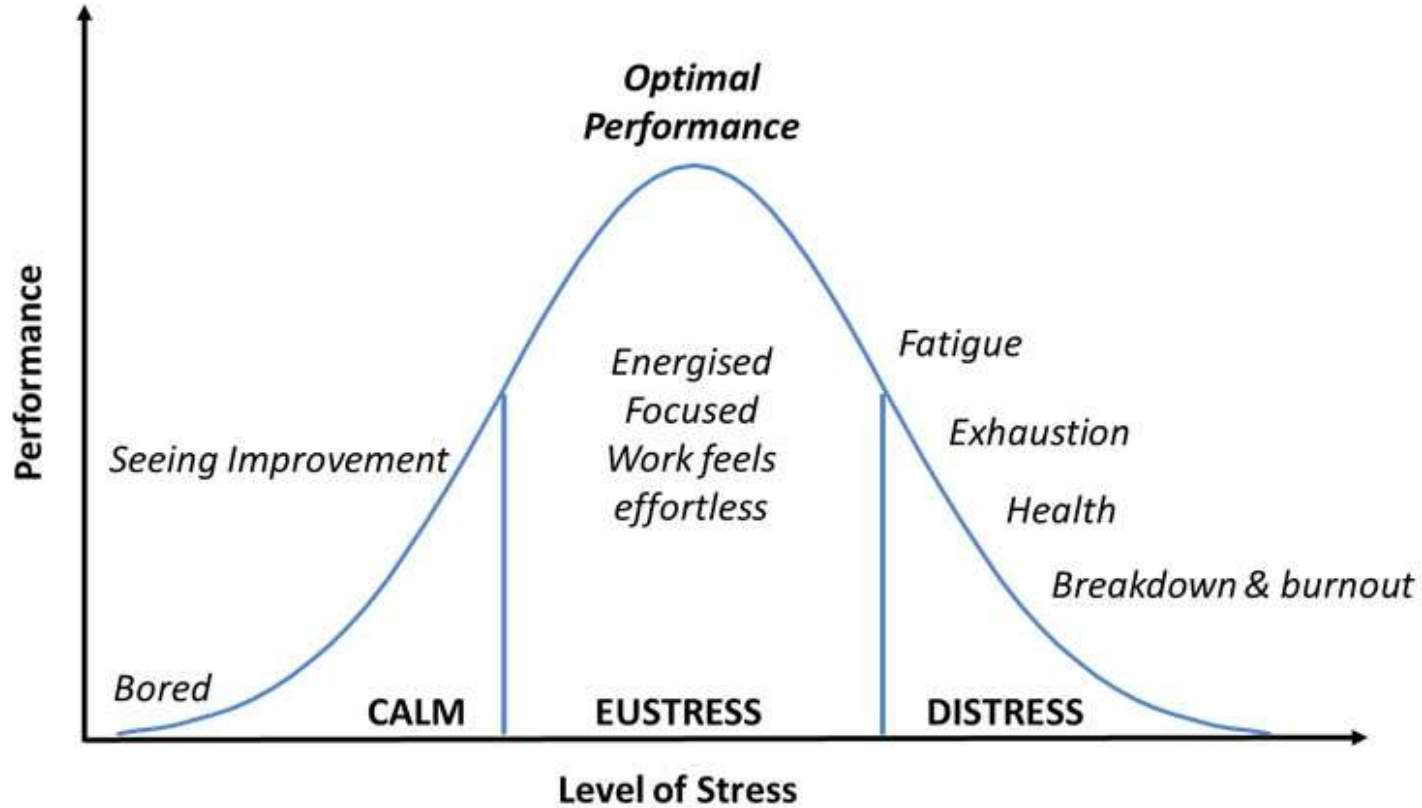


High cortisol correlates with reduced facial attractiveness in
young women (early 20's)²



High stress lifestyle is associated with accelerated telomere
shortening, equivalent to 9-17 years of aging³

Scale of Cultural Stress



Yerkes-Dodson Human Performance Curve

A Pilot Study on Cultural Stress: The Gene Study

OBJECTIVE

The purpose of this pilot study is to explore the effectiveness of a Murad's Inclusive Health method to treat Cultural Stress (CS).

OVERVIEW

- Six subjects recruited into the Murad Inclusive Health Program (IHP)
- Total Program length: 24 weeks
- Blood and skin biopsy samples collected at baseline (time 0), 12 weeks, and 24 weeks
- General health parameters were collected throughout the study by Dr. Murad's personnel (Including self-assessments completed by the subjects throughout the course of the study)



The Gene Study Program

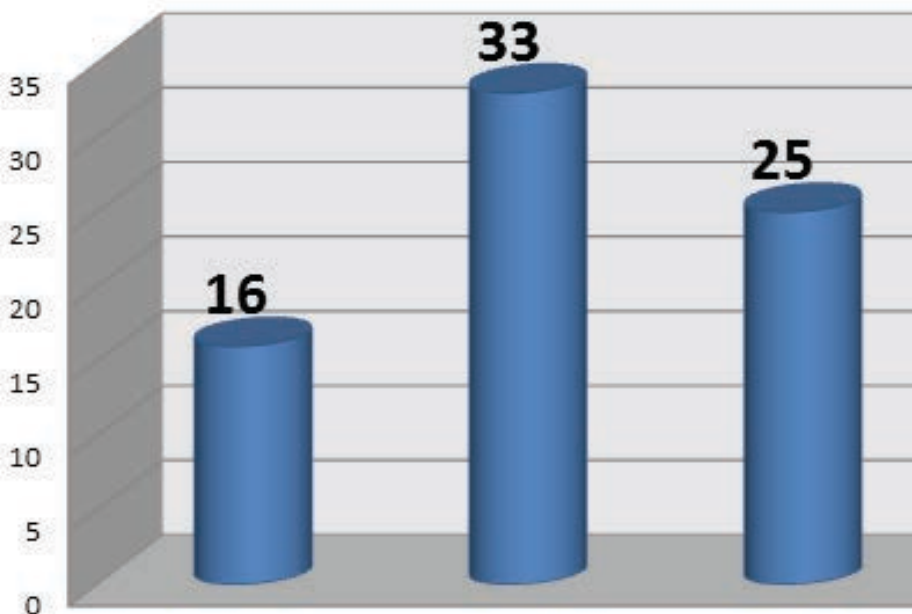
STUDY ACTIONS

Measurements taken at week 1, 12 and 24

Every 2 weeks face to face meeting
& journal review

Every 2 weeks /facial or massage

First Stage Positive Depression Screening: % at risk



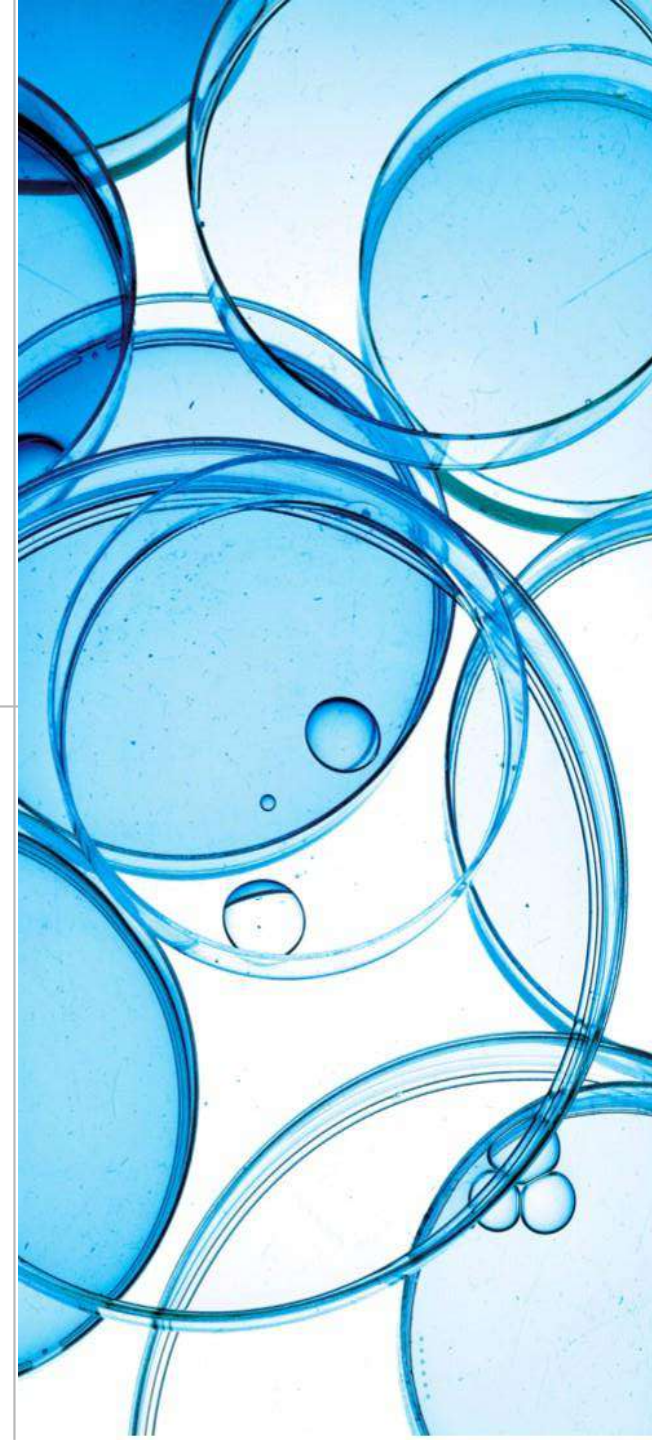
STUDY ACTIONS

Workout group sessions 2-3
times per week

Art therapy class every 12 weeks

Cooking class every 12 weeks

Hike every 12 weeks



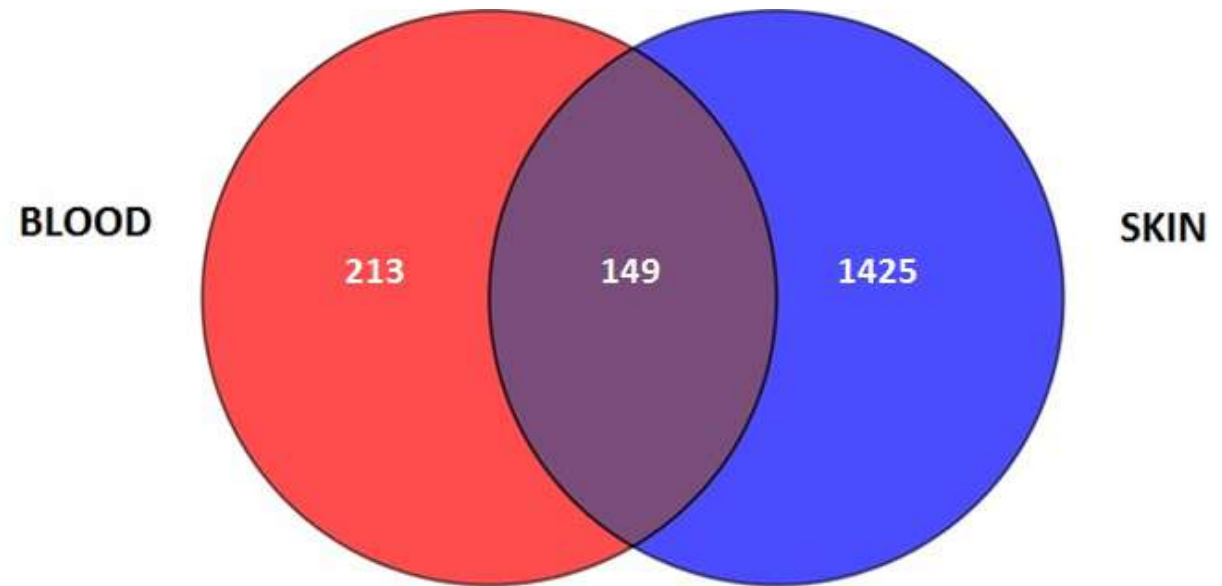
Gene Expression

FINDINGS

Global gene expression analysis was carried out using Affymetrix microarrays to identify gene expression changes correlated with improved health outcomes as a result of the program.

Affymetrix microarrays contain approximately 45,000 transcripts representing the ~23,000 human genes and are an ideal method for screening the entire genome.

Comparison of the Genes in the Blood and Skin Datasets



As expected, the blood and skin datasets have little in common. Based on the small overlap in specific genes, each tissue was further analyzed independently.

GENE EXPRESSION

The Results



qPCR Validation

qPCR analysis confirmed decreased gene expression in skin samples at 12 weeks (compared to baseline) for the following genes:

- ESSRG [Estrogen- related receptor gamma]
- LIPE [Hormone- Sensitive Lipase]
- ITGB6 [Integrin beta 6]
- GPC6 [Glypican 6]

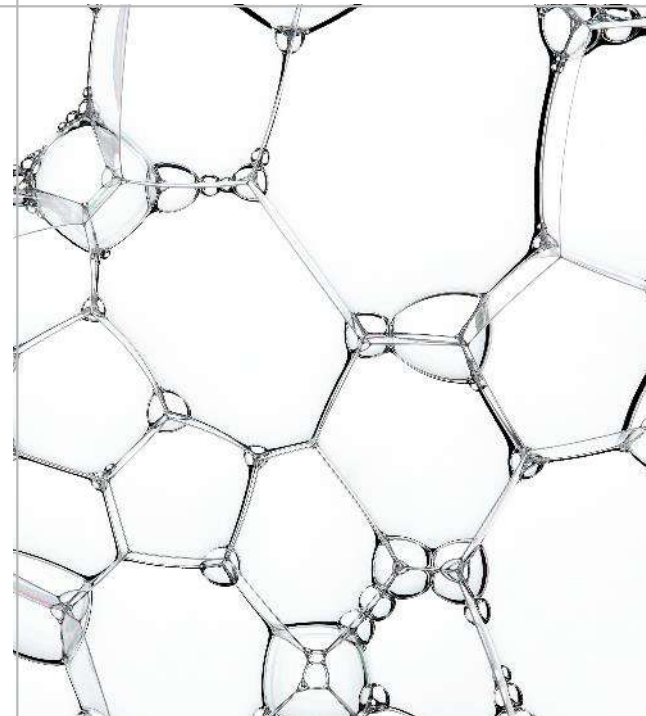
ITGB6- Integrin Beta 6

ITGB6 inhibits keratinocyte proliferation

- Keratinocytes proliferation is required for cell renewal and turnover
- Decrease in an inhibitor may produce an increase in bioactivity
- **Decreasing** it is an important growth factor in the skin, and a variety of extracellular matrix molecules 1

ESSRG- Estrogen Receptor Gamma

- Decreased gene expression in the skin in 5 out of 6 subjects
- The decrease in ESSRG would increase estrogen bioactivity



Conclusions

Further research to investigate changes in expression of genes related to health and aging, as well as levels of transcription factor that regulate expression of genes regulating cellular hydration is indicated.

Further research directions

Long term studies on how lifestyle modification can effect gene expression

Further Reading:

Murad H (2017) A Pilot Study on Cultural Stress Anxiety Syndrome, Its Implications on Aging, Gene Expression and Treatment Strategies. J Gerontol Geriatr Med 3:



ADDITIONAL STUDIES

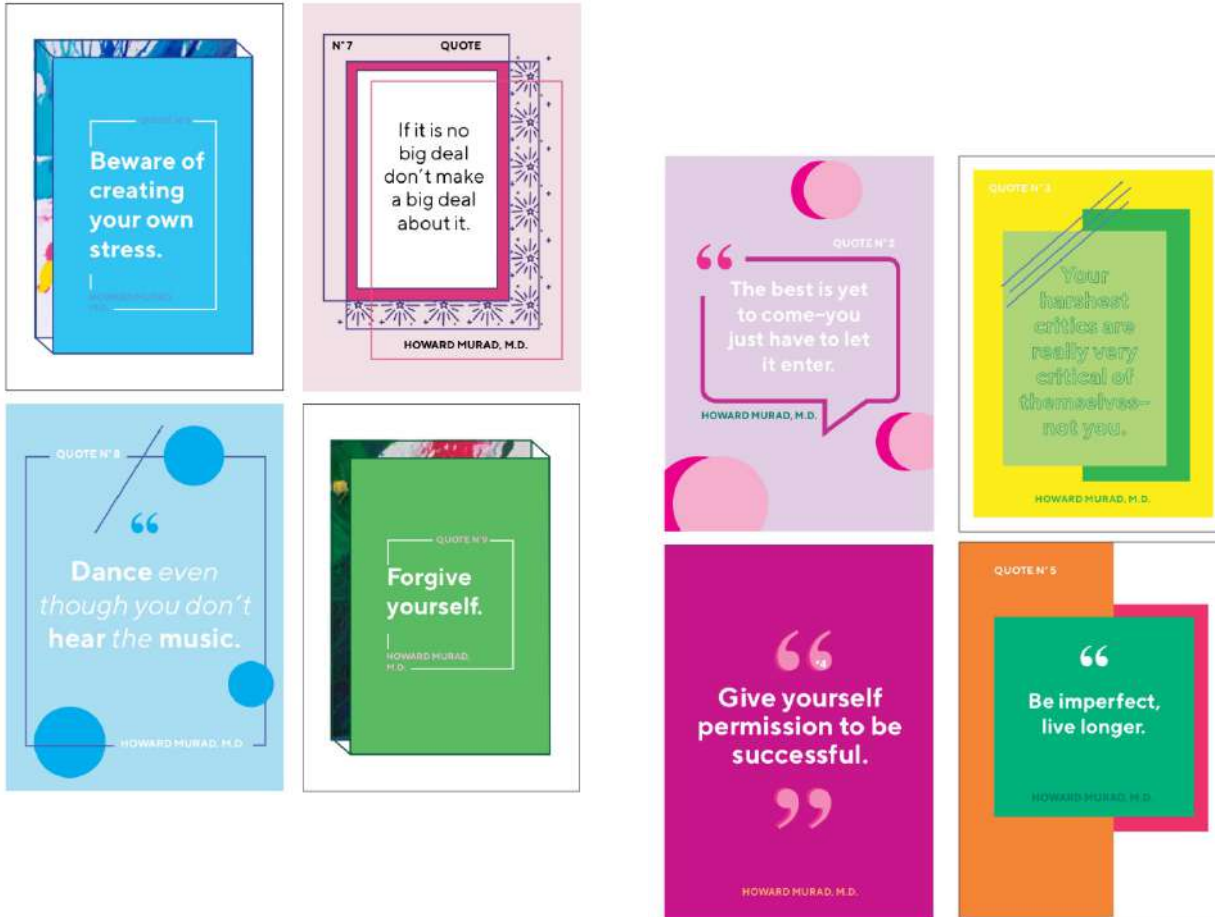
White Paper

Effectiveness of positive insights for emotional well-being and stress reduction:
A four- week intervention in participants experiencing Cultural Stress



Insight Study

Effectiveness of positive insights in emotional wellbeing and stress reduction



Insight Study

What these insight cards encourage

Results

Measured Vitals	Baseline (SD)	Week 4 (SD)
PSS Total Score	19.75 (4.75)	17.64 (3.15)*
Heart Rate	75.15 (13.04)	72 (13.44)*
Systolic Blood Pressure	122.15 (17.33)	120.63 (15.69)
Diastolic Blood Pressure	78.48 (11.76)	77.35 (9.93)
ICW	26.35 (3.96)	26.58 (4.03)

Stress Intervention Insight Cards

In a clinical study titled "Effectiveness of Positive Insights for Emotional Wellbeing and Stress Reduction" by Murad Medical Group, in partnership with Unilever R&D, results showed that simply reading Dr. Murad's positive insight cards twice daily and journaling every day for four weeks actually reduced stress and improved overall wellness.

Yes, you read that right: Just reading these cards led to less stress for the study participants. Try it for yourself!

THE DATA

	BEFORE	AFTER 4 WEEKS OF READING CARDS
Perceived stress	19.75	17.64
Heart rate	75.15	72
Systolic blood pressure	122.15	120.63
Diastolic blood pressure	78.48	77.35
Cellular water (hydration)	26.25	26.5

“
*Be thrilled with
who you are.*”

HOWARD MURAD, M.D.



The Future of Skincare & Beyond

“Modern life calls for Modern Wellness. Skin is the body’s window to Wellness.”

Howard Murad MD

The future is not in medicine or technology (although these will all play their role) –the future is in **modern wellness**, an inclusive approach which addresses all the usual factors, but also addresses the pressure of cultural stress & its negative impact. Murad refers to these solutions as our 4 pillars of wellness.

“Eat Your
Water”

01

“Be Kind to
Your Mind”

02

“Awaken
Your Body”

03

“Nourish
Your Skin”

04





Pillars to Total Skin Health

“Eat Your Water”

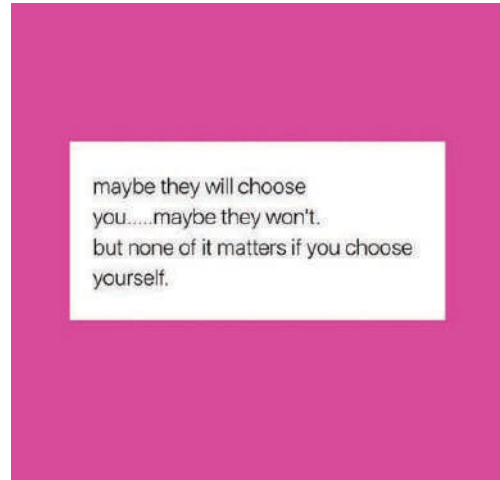
01



"By eating water-rich fruits and vegetables, nutrients are better absorbed for skin health."

“Be Kind to Your Mind”

02



"By caring for your emotional self, you can reduce the cellular impact of stress which can lead to signs of unhealthy skin."

“Awaken Your Body”

03



"By exercising, you'll help promote circulation – skin is the largest organ in the body. Increased blood flow carries oxygen to cells."

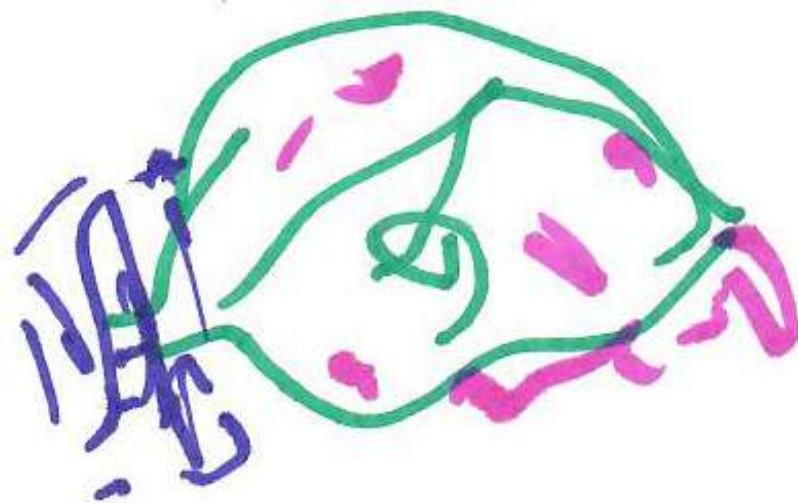
“Nourish Your Skin”

04



"Skin is beautiful when it's healthy at the cellular level, so we create products with powerful, hydrating ingredients that support the skin's barrier function."

What do you see?





“A bear hug a day keeps the Doctor and
Psychiatrist away.”

Howard Thural MD



Q & A

With Dr. Howard Murad
+
Jason Choy, Director of Deacon Medical Sdn Bhd





Thank You!

QUESTIONS OR MORE INFORMATION?

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