

Clinical Tools to Assess & Promote Evidence-based Lifestyle Changes to Enhance Physiological Age. Can We Turn Back the Clock?

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Disclaimer

- I have published a book, **Ten Years Younger**, published by Broadway Books of Random House.
 - This presents a conflict of interest as a presenter. It also provides an opportunity for you to question, challenge, and understand these health recommendations.
- My www.drmasley.com site is non commercial. The www.tenyearsyounger.net site has commercial health products for sale.

References:

- www.tenyearsyounger.net/references (10 pages as a word document)

Goals for this Presentation

- Clarify common causes of accelerated aging
- Identify markers to assess physiological age
- Aim for results you can achieve (realistic)
- Discover the benefits of the Ten Years Younger Diet
- Adopt an Age Busting Fitness Program
- Take a comprehensive approach to succeed in Turning Back the Clock
- Add a Relaxation, Detox, Skin Care, and Supplement Routine

How Big a Problem Are We Facing?

- For the 1st time in recorded history, our children are at risk for a shorter lifespan than their parents
- Everywhere you look, waistlines are expanding, muscles are shrinking, fitness is declining, cholesterol profiles are worsening, mental performance is dropping, and people feel old before their time
- Americans face a major crisis today—*The “Accelerated Aging Syndrome”*

Normal Aging

- Body fat increases by 1% per year
- Muscle mass decreases by 1% yearly
- Fitness levels (aerobic capacity = VO₂max) drop by 1% yearly
- Cholesterol profiles (your total cholesterol / HDL ratio) worsens by 0.5% yearly
- Mental performance (cognitive function) drops linearly after age 40

Causes of Accelerated Aging

- Oxidative Stress (Excessive)
- Low-carb Diets
- The Metabolic Syndrome
- Physical Inactivity

- Unmanaged Chronic Stress
- Toxins
- Inflammation

#1 Oxidative Stress

- Oxygen provides life, but causes everything to age (this is why normal aging is part of life)
 - Apples ripen to perfection, but peel away their antioxidant protection (the skin) and they rot
 - Nails rust with oxygen, add an antioxidant coating (zinc) and it occurs more slowly
 - Hence we can accelerate or slow aging
- Colorful plant foods and minerals in whole grains provide anti-aging nutrients that slow aging
- To minimize (not eliminate) oxidative stress
 - Add antioxidant rich foods to slow aging
 - Add aerobic activity to increase your antioxidant enzymes
 - Supplements may be helpful as well

#2 Low-Carb Diets

- Low-carb diets limit anti-aging nutrients (most are in healthy carbs!)
- Low carb diets often induce constipation, low energy, low libido, and bad breath
- They increase the risk for bone density loss, kidney failure, aging, mental decline—with an overall increase in oxidative stress
- Gratifying because they result in quick weight loss, but what kind of weight loss?
 - Low Carb Diets Promote a Loss in Muscle and Fat**
 - Quick weight loss means you lose muscle & fat (losing more than 1 kg per week)
 - When you gain weight back, it is usually just fat,
 - PLUS 5 pounds! Try this three times, and you are flabbier than when you started
 - A healthy diet (packed with nutrients, lean protein, and fiber) when combined with exercise is clearly the most effective method for weight control

#3 The Metabolic Syndrome

- Is a hostile take-over on your metabolism (ability to process energy) by fat cells
- Accelerates aging markedly
- You need three of the following to qualify
 - Expanding waistline, or a rise in blood pressure, triglycerides, or fasting blood sugar, or a drop in HDL (especially HDL-2)
 - 35-40% of adult Americans today
 - Also associated with a rise in clotting risk, inflammation, and cancer risk

#4 Inactivity

- A horrible crisis today
- Fitness, strength, and endurance are plummeting
- The body was designed to be active, and dieting WON'T fix weight gain caused by inactivity
- The best predictor of losing weight and keeping it off is NOT diet, rather daily exercise (National Weight Loss Registry)
 - The Importance of Muscle Mass**

- Muscle burns calories and fat, even when you are resting
- What is the best predictor of:
 - Surviving pneumonia and surgery after age 60?
 - Avoiding a nursing home placement related to a hip fracture?
 - Living independent into your 80s and 90s?

#5 Unmanaged Chronic Stress

- Some stress is good—it gives purpose, challenges, and reason to get up in the am
- Excessive stress increases epinephrine and cortisol levels, good hormones when chased by a lion, but deadly when elevated long term
- With prolonged unmanaged stress, mental performance drops, waistlines expand, muscle mass shrinks, plus cholesterol, blood pressure, and blood sugar control all worsen

#6 Toxins

- You can eat well, exercise, manage your stress, but if you poison yourself, you still age quickly
- The American diet is packed with toxins:
 - Corn syrup, white flour, and sugar
 - Horrible fats, like trans or hydrogenated fat, and excessive saturated fat, too
 - Mercury, pesticides, and other heavy metals
 - Inadequate intake of garlic, onions, curry spices, and cruciferous vegetables that enhance detoxification

#7 Inflammation

- Inflammation is a critical component of aging
- High glycemic load carbs increase hs-CRP levels
- Omega-6 oils increase inflammation
- The lack of omega-3 fatty acids in the American diet is a significant cause of inflammation

Mini-Summary

● Seven Key Aging Accelerators Can Be Modified with Lifestyle

- Oxidative Stress
- Low carb (low nutrient) diets
- Metabolic Syndrome
- Inactivity
- Unmanaged chronic stress
- Toxins
- Inflammation

How Old Are You? Measuring Age Markers

- My earlier efforts (1990s) started as a lifestyle intervention that was very successful for **reversing** and **preventing** type 2 diabetes and cardiovascular disease
- When applied to average Americans, it appeared to provide a total make-over
- Seeing the improvement, I researched several markers of physiological aging that I have found practical and useful

Potential Useful Age Markers

● Measure and Track:

- Body Fat
- Muscle Mass (Strength)
- Aerobic Fitness (VO₂max)
- Cholesterol Profile (TC/HDL)
- Cognitive Performance

Assess Body Composition, Not Just Weight

- Weight is the worst measure of body comp
- BMI is better, but not good enough
- Much better would be to measure your percent body fat
- Look at your lean mass, too, and follow them over time
- Also compare your waist/hip ratio
- More fat on your waist means fat on your heart and liver (note handout)

Muscle (Lean) Mass

- Muscle is the motor that burns calories and influences basal metabolic rate
- Add 1 lb muscle, increase BMR by 40 kcal/day = 4 lb loss / year
- Muscle mass is the best predictor of surviving pneumonia, surgery, and being independent into your golden years
- Muscle mass makes people shapely and fit
- Measuring your strength is EASY and FUN to do! (See handout)

Aerobic Fitness

- Benefits:
- Increases BMR, Best predictor of keeping weight off
- Enhances mental performance
- Best predictor of avoiding a CVD event
- Mets achieved and 1-min HR recovery post maximal exertion
- The best measure is to test your aerobic capacity on a treadmill
- Medical providers need to put more emphasis on assessing fitness

Aerobic Activity Remains Important for Weight Loss

Exercise capacity is the most powerful predictor of mortality

- Myers J, et al. Exercise capacity and mortality among men referred for exercise testing. N Engl J Med 2002;346:793-801.
- A healthy artery dilates with exercise and as the heart pumps harder, the systolic BP rises and the diastolic BP drops, indicating dilation
- In contrast, a steep rise in systolic and diastolic blood pressure is a solid sign of sick arteries

Treadmill Testing

- The best part of treadmill testing is measuring fitness
- Fitness is the best predictor of future CVD risk
- Abnormal treadmill testing indicates advanced arterial blockage, ~ 70% obstructed flow
- 1-Minute heart rate recovery is
- An excellent measure of cardiac fitness

—The best predictor of CVD mortality

- BP response is a great measure of artery health

VO₂ Max is the Best Single Measure of Fitness

Hawkins SA et al. A longitudinal assessment of change in V02max and maximal heart rate in master athletes. Med Sci Sports Exerc 2001;33:1744-50.

—Somewhat expensive to measure as it requires gas measurements during stress testing

—You can multiply the met level achieved by 3.5 to give a rough estimate of VO₂Max

—Class I indication for testing only noted for CHF (assessing for heart transplant)

Cholesterol Profile

- The best laboratory test predictor of developing CVD events is your Total Cholesterol / HDL ratio

—Better than LDL, Apo-B, non-HDL, hs-CRP

- For your patient's perspective, it reflects the ratio of garbage to garbage trucks and predicts artery cleanliness

- Simple inexpensive, blood test, doesn't even need to be fasting

TC/HDL Ratio

- Not normally thought of as a marker of aging

- LDL receptor activity decreases with age

—LDL levels tend to rise, likely related to LDL receptor activity

- HDL levels are more stable

- TC and LDL increase by ~1 mg/dl per year

Cognitive Performance

- Mental speed, reaction time, and brain flexibility decrease linearly with age

- Memory does not change linear with time

- The goal is to maximize mental performance, and then minimize loss

- Cognitive testing

—Your Brain Symptom Score

—On the computer Central Nervous System Vital Signs (CNS VS)

Ask yourself the following 10 questions:

- **Do I lose things often? (keys, pens, glasses)**
- **Is it getting harder to find my car in a big parking area?**
- **Can I remember a 7 digit phone number long enough to dial it?**
- **Do I find myself writing lists to help my memory more than I used to?**
- **Am I forgetting names of movie and sport stars I once knew well?**
- **Is it easier to remember an event from 20 years ago than 2 days ago?**

- **Do I have trouble dealing with math problems? (Balancing my check book, calculating percentages for tipping)**

- **Am I challenged when I have to learn new things? (software programs, instructions to put together a new barbecue)**

- **Do I stay focused during a detailed lecture or meeting or does my mind start drifting sooner than it used to?**
- **When working on a project, do I find it hard to get back into the groove after being interrupting by a phone call or office visitor?**

Computerized Cognitive Testing

- I find computer-based cognitive testing extremely useful during my optimal health evaluations
- Measures memory, mental speed, reaction time, attention, and cognitive flexibility
- Well documented as a measurement for people with impaired cognition
- New concept that you can improve cognitive performance with lifestyle
- I offer cognitive testing on my website (www.tenyearsyounger.net)

TESTING YOUR AGE

- **Body Composition**
 - Tanita bioelectrical impedance scale
 - Skin-fold thickness
- **Cholesterol testing**
 - Total cholesterol / HDL ratio
 - Also consider:
 - Homocysteine, hs-CRP, advanced lipids
 - Measuring artery plaque
- **Fitness testing**
 - Treadmill testing
 - Measure VO₂max (or MET levels)
 - Strength and flexibility testing
- **Mental Performance**
 - Brain Symptom Score
 - Central Nervous System Vital Signs testing

To Be 10 Years Younger

- Decrease Your Fat Mass 10%
- Increase Your Strength 10%
- Lower Your Total Cholesterol/HDL ratio 5%
- Improve aerobic fitness (VO₂max) 10%
- Improve Your Reaction Time and Cognitive Flexibility

Younger, Trimmer, Fitter Study Results

- 58 subjects randomized into either a control group or the Ten Years Younger—*Younger, Trimmer, Fitter Program* (YTF for short at Carillon)
- Subjects were asked to gradually add the foods and activities over 4 weeks, then continue them for another 6 weeks
- Results were measured on entry and after the ten weeks

TYF Intervention

- Meet with a trainer weekly

- Weekly lectures to educate and empower into action
- 2 Massage treatments
- Nutrition evaluations
- Shopping excursion
- Posture assessment

The results have been submitted to the Annals of Family Medicine for publication, the data is embargoed, and hence not included in the handout

Principles Behind Successful Dietary Changes

- Add Foods
 - 100 Foods Used in the Meal Plans
 - www.tenyearsyounger.net)
- Limit toxins
- Pass out recipes in your practice, your patients will love it!

SWEET SIXTEEN VITALITY FOODS

- Greens
- Lean not mean protein
- Seafood
- Beans
- Soy
- Whole grains
- Crucifers
- Berries
- Nuts
- Flax for hormone symptoms
- Fresh garlic
- Herbs
- Green tea
- Nonfat yogurt is the best dairy food
- Red wine is divine (but 1-2 serving or none)
- Chocolate & cocoa

Ten Simple Principles

- Eat > 30 grams of fiber daily
- Eat 4-5 cups of colorful produce daily
- Reduce saturated fat and shun trans fat
- Eat healthy omega-3 fats (or supplement)
- Choose whole grains, not refined, limit flour
- Seek calcium and magnesium
- Hydrate
- Save room for a planned healthy dessert

- Watch portion sizes
- Select healthy snacks

Fiber: >30 grams daily

Insoluble fiber:

- Found in whole grains, fruits, and vegetables
- Prevents colon cancer and constipation.
- Contains many nutrients

Soluble fiber:

- Pectins and guar gum
- Found in citrus fruits, apples and oats.
- Reduces cholesterol if taken in substantial quantities
- Slows down the digestion of sugars thereby reducing insulin resistance.

Color Your Plate

Select Colorful Foods

- They are good for you
- Colorful fruits, vegetables, herbs, and spices are packed with anti-aging, antioxidant plant pigments
- They create beautiful meals
- They make your meals tastier

Colorful Fruits and Vegetables

- Rich in fiber
- Rich in antioxidants (anti-aging compounds)
- Full of minerals (calcium and magnesium)
- Full of fluid (helps you to feel full)
- Fill you up
- **Eating more fruits and vegetables is the best dietary predictor of weight control**

Choose Healthy Fats

- Aim for seafood (cold water, small mouthed fish) 2-3 times per week or take a fish oil supplement
- Enjoy one handful of nuts daily
- Slash saturated fats (<16 grams per day)
- Eliminate trans fats

Age Busting Fitness

- Aerobic training
- Strength training (resistance training)
- Flexibility

Aerobic Activity

- Maximize the return on time invested by achieving an optimal heart rate during exercise
- Maintain 70-85% of the maximum heart rate you can achieve at maximum effort, and maintain that for 30 minutes per week

- Preferably 5-6 days per week

Strength Training

- Once per week to maintain muscle
- Two, preferably three, times per week to build muscle mass
- Use a balance of 12 muscle groups
- Essential to becoming younger and permanently impacting body shape and composition

Stretch (Flexibility)

Stretching after your workouts

- Prevents injuries
- Improves performance
- Yoga/tai chi fabulous in many ways
- Flexibility will do wonders for your golf swing

A Comprehensive Approach Promotes Success

- Relaxation Routine
- Detoxification (Minimizing toxins)
- Skin Care
- Clarify Your Supplement Needs
 - More isn't always better
 - Identify what you need !!!
- Over 100 Recipes with Shopping Lists
 - You only need about 10-20 recipes to succeed

Relaxation Routine

- As noted, chronic unmanaged stress is a clear age accelerator
- Add activities that provide calm and relaxation regularly
- Ensure adequate sleep (at least 7 hours)
- Aim for daily exercise
- Intimacy, attitude, and meditation/prayer can markedly enhance stress management

Detoxification

- If you eat well, exercise, manage your stress, but poison yourself, you still suffer from accelerated aging
- I share information to:
 - Limit pesticides (80% from meat, poultry, dairy)
 - Avoid mercury (large mouth fish intake)
 - Minimize heterocyclic amine (carcinogen) intake (mostly from grilling and barbecuing)
 - Add garlic, curry spices, and cruciferous vegetables to increase toxin removal

Skin Care Is More Than Cosmetic

- Skin is a wonderful barometer for aging
- A healthy diet is terrific for your skin
- You can do more to look younger, and also limit your risk for skin cancer

- Moisturize your skin
- Use vitamin A on your skin
- Consider hydroxy acids for your skin
- Cutting edge products are now available to make your skin structurally younger

Improve Skin Architecture

- Build collagen
- Minimize wrinkling
- Make your skin appear fresher, pinker, with more uniform coloration
- The result is that your skin can appear, feel, and be ten years younger!

Supplements

- Everyone should be taking a quality, customized multi-vitamin
- Supplements won't make you younger, but they can slow aging
- 80% of Americans are nutrient deficient
- They get plenty of calories, some would say far to many

What to Look For?

- Look for quality, not just price
- GMP and USP labels mean something important

Some Ingredients that Can Slow Aging

- B vitamins
- Vitamin D
- Magnesium, Calcium, Selenium
- Omega-3 fats
- Glucosamine sulfate

Choosing a Multi-Vitamin

- Ensure adequate B vitamins, vitamin D, calcium, magnesium, and selenium
- Look for obvious signs of cheap ingredients (magnesium oxide, calcium carbonate)
- Pick a GMP product line with additional USP products
- Detailed information is available on my website: www.tenyearsyounger.net

Fish Oil

- You could eat cold water, small mouth fish 2-3 servings per week (assuming you are free of health issues and don't need more)
- Fish oil decreases inflammation, aging, and cardiovascular events, helps memory, and enhances weight control
- Or, you could take a fish oil supplement
- 90% of fish oil supplements are horrible, containing rancid fat
- Chew a capsule to see if it is good quality

Summary

- Lifestyle interventions can allow people to
- Lose fat mass

- Gain lean mass and strength
- Enhance aerobic fitness, including VO₂max
- Improve cholesterol profiles
- Enhance cognitive performance
- These represent potential markers of physiological aging

**•You can make a difference with your patients!
A Lifestyle That Works Should Make You Feel Terrific!**

- Most people have forgotten how wonderful they can feel
- People can look, feel, and test to be ten years younger
- People can sleep better, enjoy sports more, enhance their romantic life, and achieve weight control
- People just need to be empowered!!!**

**YOU CAN PROMOTE SUCCESS !
Four Features Make Lifestyle Interventions Successful**

- Proven results (Weight watchers, exercise)
- Realistic changes are more important than idealistic (ADDING works!)
- Comprehensive
- More than just diet
- Must add an activity component
- People feel terrific, making it worth sticking with the changes

When You Feel Terrific, It Promotes Success

For additional questions, visit www.drmasley.com