

# Charting the Path to Health in Midlife and Beyond: The Biology of Wellness

2021 Utian Translational Science Symposium

Tuesday, September 21, 2021  
6:30 AM – 6:00 PM  
Washington Hilton Hotel  
Washington, DC

**Supported by:**

The National Institute on Aging of the National Institutes of Health  
Under Award Number R13AG069384

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## **Disclosure Information**

**Ms. Coslov, Dr. El Khoudary, Dr. Faubion, Dr. Lindsey, Ms. Marlatt, Ms. Montella, Dr. Neal-Perry, Dr. Rockette-Wagner, Dr. Salive, Dr. Schiff, Dr. Shufelt, and Dr. Fugate Woods, PhD, FAAN,** report no relevant financial relationships. **Dr. Coons** reports: Speakers' Bureau: Novartis. **Dr. Epperson** reports: Grant/Research Support: Sage Therapeutics; Consultant/Advisory Board: Asarina Pharma, BabyScripts, Sage Therapeutics. **Ms. Garnier** reports: Employment: Lisa Health. **Dr. Holt-Lundstad** reports: Consultant/Advisory Board: Amazon, IDEO, Secure Senior Connections, Tivity Health, United Healthcare; Grant/Research Support: Nextdoor. **Dr. Joffe** reports: Consultant/Advisory Board: Eisai, Jazz, NeRRe/KaNdy, Sojournix; Grant/Research Support: Brigham & Women's Hospital Funds, Merck, NIH, NIA, NIMH, NCI, NeRRe/KaNdy, Pfizer, QUE Oncology, V Foundation. Spouse: Employee: Merck; Arsenal Biosciences and Tango, consulting and equity. **Dr. Richard-Davis** reports: Consultant/Advisory Board: AbbVie, TherapeuticsMD; Speakers' Bureau: AbbVie; Research/Grant Support: Amag. **Dr. Santoro** reports: Consultant/Advisory Board: Ansh Labs, Astellas, Menogenix, Grant/Research Support: Menogenix. **Dr. Shapiro** reports: Consultant/Advisory Board and Speaker's Bureau: Amgen, Aspen, Astellas, Bayer, BioSyent, Duchesnay, GSK, Merck, Mithra, Pfizer, SearchLight, Sprout, Sunovion, TherapeuticsMD. **Dr. Stuenkel** reports: Consultant/Advisory Board: ICON Clinical Research for Mithra. **Dr. Thurston** reports: Consultant/Advisory Board: Astellas, Pfizer, Virtue Health. **Dr. Wyatt** reports: Stock/Ownership: Shakabuku, Dr. Holly LLC; Grant/Research Support: Novo Nordisk; Royalty/Patents: State of Slim.

# 2021 Utian Translational Science Symposium

## *Charting the Path to Health in Midlife and Beyond: The Biology and Practice of Wellness*

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Tuesday, September 21, 2021—6:30 AM to 6:00 PM

### Program

<b>6:30 AM–7:30 AM</b>	<b><i>Breakfast</i></b> Faculty and Attendees (Georgetown—Concourse Level)
<b>7:30 AM–7:45 AM</b>	<b><i>Welcome and Introductory Remarks</i></b>  Nanette F Santoro, MD Hadine Joffe, MD, MSc
<b>7:45 AM–9:30 AM</b>	<b><i>Session I—The Epidemiology of Wellness</i></b>  Session Chairs: Chrisandra L Shufelt, MD, MS, FACP, NCMP Rebecca C Thurston, PhD, FABMR
<b>7:45 AM–8:20 AM</b>	<b><i>The Tao of Wellness</i></b>  Holly Wyatt, MD
<b>8:20 AM–8:30 AM</b>	<b>Q&amp;A With Audience</b>
<b>8:30 AM–8:50 AM</b>	<b><i>Can a Tao Be Biomarked? Measuring Wellness</i></b>  Nanette F Santoro, MD
<b>8:50 AM–9:00 AM</b>	<b>Q&amp;A With Audience</b>
<b>9:00 AM–9:20 AM</b>	<b><i>Social Connectedness: The Underpinning of Wellness</i></b>  Julianne Holt-Lunstad, PhD
<b>9:20 AM–9:30 AM</b>	<b>Q&amp;A With Audience</b>
<b>9:30 AM–10:00 AM</b>	<b><i>Break</i></b>

<b>10:00 AM–12:00 PM</b>	<b><i>Session 2—Wellness at Midlife: Does It Predict the Future?</i></b>  <b>Session Chairs:</b> <b>Stephanie S Faubion, MD, MBA, FACP, NCMP, IF</b> <b>Nanette F Santoro, MD</b>
<b>10:00 AM–10:20 AM</b>	<b><i>Disrupting a Disruptive Environment</i></b>  <b>Sarah Lindsey, PhD</b>
<b>10:20 AM–10:30 AM</b>	<b>Q&amp;A With Audience</b>
<b>10:30 AM–10:50 AM</b>	<b><i>Health Is Where the Heart Is</i></b>  <b>Samar R El Khoudary, PhD, MPH, BPharm, FAHA</b>
<b>10:50 AM–11:00 AM</b>	<b>Q&amp;A With Audience</b>
<b>11:00 AM–11:20 AM</b>	<b><i>Implementing the DPP Lifestyle Intervention Model: The Role of Movement</i></b>  <b>Bonny Rockette-Wagner, PhD</b>
<b>11:20 AM–11:30 AM</b>	<b>Q&amp;A With Audience</b>
<b>11:30 AM–11:50 AM</b>	<b><i>Lifestyle—The Silver Bullet</i></b>  <b>Cynthia Stuenkel, MD, NCMP - Presented by Dr. Marla Shapiro</b>
<b>11:50 AM–12:00 PM</b>	<b>Q&amp;A With Audience</b>
<b>12:00 PM–12:45 PM</b>	<b><i>Break and Box Lunch</i></b> (Georgetown–Concourse Level)
<b>12:45 PM–2:15 PM</b>	<b><i>Session 3—Psychological Components of Wellness</i></b>  <b>Session Chairs:</b> <b>Nina Coslov, MBA</b> <b>Genevieve S Neal-Perry, MD, PhD</b>
<b>12:45 PM–1:05 PM</b>	<b><i>Early Life Adversity Shapes Mental Health Later in Life</i></b>  <b>C Neill Epperson, MD</b>
<b>1:05 PM–1:15 PM</b>	<b>Q&amp;A With Audience</b>

1:15 PM–1:35 PM	<i>Undermining the Power of Hot Flashes to Ruin Sleep</i>
	Rebecca C Thurston, PhD, FABMR
1:35 PM–1:45 PM	Q&A With Audience
1:45 PM–2:05 PM	<i>Towards Better Mental Health: Strategies to Fortify Oneself Against Sadness and Worry</i>
	Hadine Joffe, MD, MSc
2:05 PM–2:15 PM	Q&A With Audience
2:15 PM–3:15 PM	<i>Session 4—Orienting Clinical Practice to Promote Wellness</i>
	Session Chairs: Isaac Schiff, CM, MD Marla Shapiro, CM, MDCM, CCFP, MHSc, FRCPC, FCFP, NCMP
2:15 PM–2:35 PM	<i>Validation: The Clinician’s Superpower</i>
	Nancy Fugate Woods, PhD, FAAN
2:35 PM–2:45 PM	Q&A With Audience
2:45 PM–3:05 PM	<i>Becoming the Exercise Enthusiast You Always Hated</i>
	Helen L Coons, PhD, ABPP
3:05 PM–3:15 PM	Q&A With Audience
3:15 PM–3:45 PM	Break
3:45 PM–5:45 PM	<i>Session 5—The Lifestyle Overhaul in 5 Easy Steps</i>
	Session Chairs: Ann Garnier Samar R El Khoudary, PhD, MPH, BPharm, FAHA
3:45 PM–4:05 PM	<i>Triangulating Weight Loss: Behavior, Medicine, and Surgery</i>
	Kara L Marlatt, MS, MPH, PhD
4:05 PM–4:15 PM	Q&A With Audience

<b>4:15 PM–4:35 PM</b>	<b><i>Becoming the Meditation Enthusiast You Always Hated</i></b> <b>Patti Montella</b>
<b>4:35 PM–4:45 PM</b>	<b>Q&amp;A With Audience</b>
<b>4:45 PM–5:05 PM</b>	<b><i>Food: The Best Medicine—Paving the Way to Health Through Our Forks</i></b> <b>Gloria A Richard-Davis, MD, FACOG</b>
<b>5:05 PM–5:15 PM</b>	<b>Q&amp;A With Audience</b>
<b>5:15 PM–5:35 PM</b>	<b><i>Menopause Care: An Ideal Model for Implementation Science</i></b> <b>Marcel E Salive, MD, MPH</b>
<b>5:35 PM–5:45 PM</b>	<b>Q&amp;A With Audience</b>
<b>5:45 PM–6:00 PM</b>	<b><i>Wrap-Up and Next Steps</i></b> <b>Nanette F Santoro, MD</b>

## **Symposium Evaluation**

*Your responses to the survey questions are appreciated and provide valuable feedback and also help reinforce what you've learned. It's simple and easy. Just use your smart phone, tablet, or computer to answer a few questions.*

<https://www.surveymonkey.com/r/2021Translational>

**Submit Your Evaluation Before October 21, 2021**



## Message of Welcome



**Nanette F Santoro, MD**

*Chair, 2021 Utian Translational Science Symposium*

It is a pleasure to welcome you to the 2021 Utian Translational Science Symposium *Charting the Path to Health in Midlife and Beyond: The Biology and Practice of Wellness*. Wellness means many things to many people, but in the context of midlife women's health, the dimensions of social connectedness and emotional health, stress management and resilience, and adoption of lifestyle behaviors that promote physical health are paramount. We are fortunate to have assembled a team of experts who can discuss the mechanisms and biology behind how we can help our patients (and ourselves) stay healthy and how we can promote healthy aging. Our symposium will utilize a format that is somewhat different than the usual series of academic talks. Our goals are to communicate evidence-based information and use it to develop actionable approaches in the clinical setting. Our speakers have prepared interactive, 'TED-talk' like presentations, and we have included plenty of time for audience involvement. We seek to engage you for the day and to send you home with materials that you can use every day of your practice. We are also preparing to disseminate our results to the public through a variety of media outlets. The 2021 Utian Translational Science Symposium Planning Committee is delighted to bring you the latest 'news you can use' to help your patients create their own toolkit for a long life free of disability. We look forward to engaging you.

### **2021 Utian Translational Science Symposium Planning Committee:**

Nanette F Santoro, MD  
Nina Coslov, MBA  
Samar R El Khoudary, PhD, MPH, BPharm, FAHA  
Stephanie S Faubion, MD, MBA, FACP, NCMP, IF  
Ann Garnier  
Kara L Marlatt, MS, MPH, PhD  
Genevieve S Neal-Perry, MD, PhD  
Gloria A Richard-Davis, MD, FACOG  
Isaac Schiff, CM, MD  
Rebecca C Thurston, PhD, FABMR

# The Tao of Wellness

## **Holly Wyatt, MD**

*Professor, Nutrition Sciences  
School of Health Professions  
Senior Scientist, Nutrition Obesity Research Center  
The University of Alabama at Birmingham  
Birmingham, Alabama*

A Tao can be used to describe a path, a holistic belief or a way of being. All 3 definitions can be used to describe wellness. My tao of wellness started over 25 years ago in the field of obesity medicine. I spent the first half of my career studying the best methods to help people lose weight. Later I realized knowing just what to do in weight management was really not enough and began studying why people will change their lifestyles in order to keep it off. Both the “what” and the “why” have proven to be important in long-term weight loss success. My experiences as a weight loss doctor led me to the theories of life transformation and lifestyle wellness and took me down a path to become a lifestyle change specialist. So what is wellness and what does it mean to be well? The term wellness has been around for many years but only fairly recently has it gained the public’s attention and become a mainstream topic in the medical community. It is similar to where the field of obesity was 25 years ago. When I ask my patients what being well means to them many will say it is not having or preventing a specific disease, or not taking a certain medication, or not being in chronic pain. While all that may be true for some freedom from disease is proving not to be a complete definition. Wellness involves a journey to improve and maintain your physical and mental health in order to fully engage and live your best life. It is a path, a belief and most definitely a way of being. It is much more about recognizing and optimizing what one can do than what one can’t. It involves creating a body state, mind state and a lifestyle that can support you in that life. This keynote presentation will open the door to discuss how we might define wellness, discuss possibilities to measure it and add thoughts on how eventually we can help our patients achieve it.

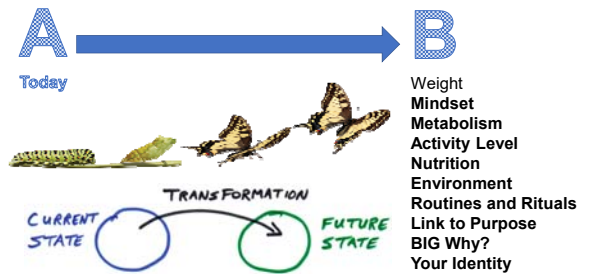
## GAME PLAN

- My **Tao** from Obesity to Wellness
- What makes **Wellness** different?
- The **mindset** of Wellness
  - Do you have it?
- What is **Lifestyle Wellness**?
  - What is it?
  - How do we **measure/study** it ?
  - How do we **achieve/change** it over time?
- Questions and **next steps**



SCHOOL OF HEALTH PROFESSIONS

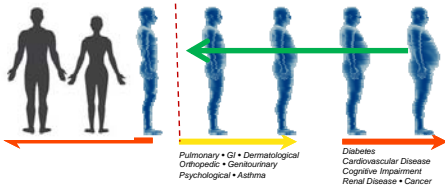
## BIGGER THAN WEIGHT LOSS



## THE MINDSET OF WELLNESS

*Positive*  
What I want more of in my life  
**Growth/possibility mindset**

*Negative*  
What I do NOT want in my life  
**Fear based/limited mindset**



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## WHAT MAKES WELLNESS DIFFERENT ?

- Hard to define and measure
- Not one thing
- Different to different people
- It's abstract
- It's a path
- It's a mindset
- It's a way we approach life
- It's a way of living
- It is a way of being
- It is MESSY!



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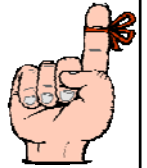
## LIFESTYLE WELLNESS- DEFINING IT

- **Lifestyle Wellness** is about engaging in the optimal way of living (body state, mental state, behavioral state) that not only prevents, treats lifestyle diseases, like type 2 diabetes and obesity, it also allows you to live your very best life.
- Lifestyle wellness impacts how you “experience” your LIFE



## TAKEAWAYS- PRACTITIONER

- Wellness today is proving to be more than simply improving health or the absence of disease
- Wellness is a path and a mindset more than a fixed algorithm or a set of outcomes to achieve.
- A wellness mindset involves “turning around” and seeing the possibilities that exist for what you want in your life AND taking action to move in a direction to experience it.



## TAKEAWAYS- PATIENT

- Wellness is a way of living and experiencing your life that brings you joy and fulfillment.
- You can have diabetes, cancer or any medical condition and still Be WELL.
- Lifestyle wellness is a specific type of wellness that is impacted by your way or style of living. Your body state, mind state, nutrition, activity level and sleep all may impact lifestyle wellness.



*\*Take  
home message*



# Can a Tao Be Biomarked? Measuring Wellness

**Nanette F Santoro, MD**—Chair, 2021 Utian Translational Science Symposium

*Professor and E Stewart Taylor Chair of Obstetrics and Gynecology  
University of Colorado School of Medicine  
Anschutz Medical Campus  
Aurora, Colorado*

By 2050, the worldwide population of people aged 65 and older will reach an unprecedented 1.6 billion. Healthy longevity has been declared a 'global grand challenge' by the National Academy of Medicine and defines a worldwide movement to improve physical, mental and social well-being for people as they age. It is imperative to be able to measure health and resilience as well as to screen for emergence of disease if we are to meet this challenge.

The cardinal diseases that cause debility and death are cardiometabolic disease, cancer, and uncompensated 'stress', conceptualized as allostatic load. Traditional screening tests carried out as part of a physical examination often include helpful measures of wellness such as glucose, blood pressure, body mass index and cholesterol levels. Simple physical measurements such as waist circumference or waist to hip ratio are also powerful predictors of health.

Research into predictors of longevity in humans has also identified other markers that are predictive of wellness. These include sex hormone binding globulin and associated proteins, which measure both cardiac and metabolic risk, nitric oxide mediated vasodilation, which measures the natural distensibility of blood vessels, cholesterol particle size, which drills down further on the nuances between 'good' (HDL) and 'bad' (LDL) cholesterol, albumin, creatinine clearance, DHEA-S, and C-reactive protein. While most of these markers are not regularly tested, some are readily available and performed as part of metabolic panels (albumin and creatinine, for example). Other measures, like heart rate variability (HRV) are available on an Apple Watch.

Some variations on these biomarkers have been proposed for different populations based on age, sex, and race/ethnicity. However, much can be learned about one's wellness by tracking these measurements.

## What Are the Impediments to Mid-Life Health?

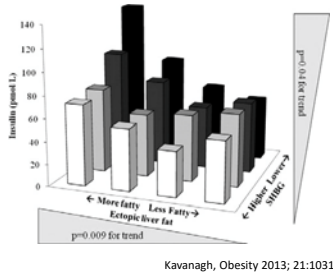
- Accumulation of cardiometabolic risk (early signs of atherosclerosis, pre diabetes)
- Chronic stress without recovery—loss of resilience
- Adverse mood>>>inflammation

## What Measurements Predict Long-Term Health?

- | Topics of Research  | Clinically Available   |
|---|--|
| <ul style="list-style-type: none"> <li>• Insulin sensitivity                             <ul style="list-style-type: none"> <li>• Dynamic (GTT, insulin levels)</li> <li>• Metabolic syndrome markers</li> <li>• Sex hormone binding globulin--SHBG</li> </ul> </li> <li>• Cardiovascular health                             <ul style="list-style-type: none"> <li>• Clean blood vessels (lipid panels)</li> <li>• Autonomic function (heart rate variation—HRV)</li> <li>• Endothelial function (NO mediated vasodilation)</li> </ul> </li> <li>• Allostatic load                             <ul style="list-style-type: none"> <li>• Indirect markers of chronic stress response</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Diabetes screening</li> <li>• BP, waist girth, cholesterol levels</li> <li>• HRV</li> </ul> |

## SHBG

- Strong and consistent positive correlation with insulin sensitivity in multiple populations
- Strong inverse correlation with liver fat in menopausal women in SWAN Kavanagh, Obesity 2013; 21:1031



## Endothelial Function and Health

- May be especially important for women
- Related to hormonal status (estrogen)
- After menopause, non-hormonal methods of preserving EF seem less effective (i.e. exercise)

Seals DR, Nagy EE, Moreau KL. *J Physiol.* 2019;597(19):4901-4914. doi:10.1113/JP277764

## How Is Allostasis Measured?

- 12 hour overnight urinary cortisol excretion
- 12 hour overnight norepinephrine/epinephrine excretion
- Serum DHEAS\*
- Mean systolic BP\*
- Mean diastolic BP\*
- Waist-Hip circumference ratio\*
- Serum HDL-C\*
- Total/HDL-C ratio\*
- HgbA1c\*

\*Clinically available

Seaman TE, et al, PNAS USA 2001; 93: 4770-4775

## Allostasis Cut Points

System	Marker	High Risk	Moderate Risk	Low Risk
CV	SBP	≥150 mmHg	120-149	<120
	DBP	≥90 mmHg	80-89	<80
	TC	≥240 mg/dL	200-239	<200
	HDLC	<40 mg/dL	40-59	≥60
	TC/HDLC	≥6	6-6	<5
Metabolic	HgbA1c	≥6.5%	5.7-6.5	<5.7
	WHR	≥0.85	>0.8-0.85	≤0.8
	BMI	≥30 kg/m <sup>2</sup>	25-30	18-25
	Albumin	<3%	3-3.8	≥3.8
	Cr Clearance	<30 mL/min	30-60	≥60
Inflammatory	CRP	>3 mg/L	1-3	<1

From Rodriguez EJ, J Urban Health 2019; 96 (Suppl 1) 3:11

## Key Points for the Clinician

- The clinical encounter is an ideal time to enforce healthy behaviors and motivate patients to do even better
- Use biomarkers of wellness to enforce healthy behaviors and educate your patients
- Advocate for mainstream adoption of validated measures of health, not just disease!

## Key Points for the Consumer

- LEARN the markers of good health for yourself as best you can (sex, age group, hormone status, race/ethnicity)
- ASK your healthcare provider for monitoring in the areas you are working on
- ADVOCATE for health coverage for measurement of validated measures of health!

# ***Social Connectedness: The Underpinning of Wellness***

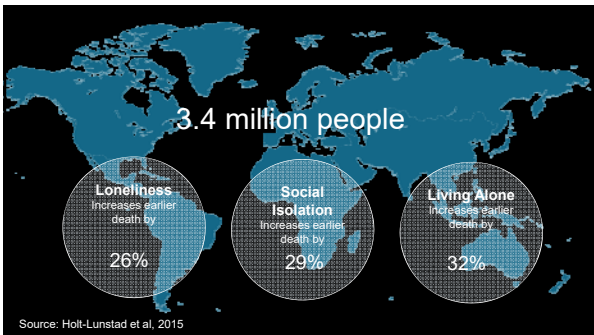
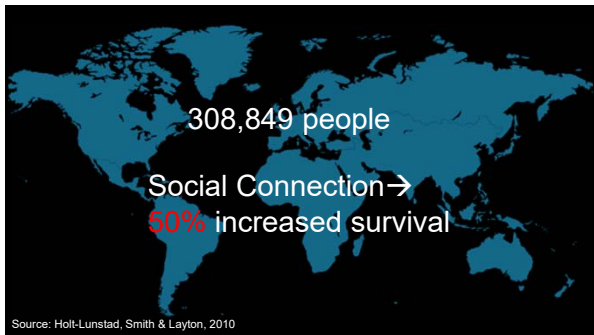
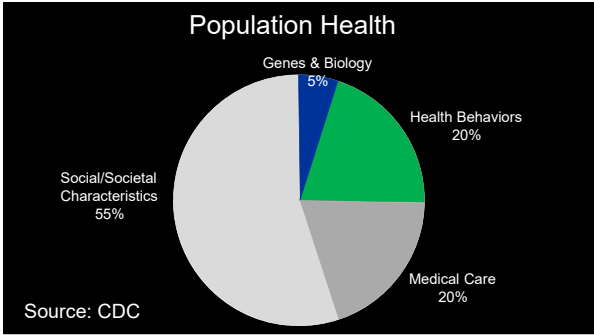
**Julianne Holt-Lunstad, PhD**

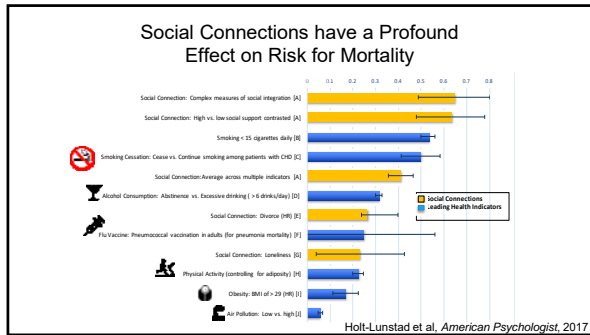
*Professor of Psychology and Neuroscience  
Brigham Young University  
Provo, Utah*

The importance of human connection and concerns over the effects of isolation rose to the level of a simultaneous public health crisis during the Covid-19 pandemic; however, much of the focus was on secondary effects on mental health and emotional well-being. There is now robust evidence from decades of interdisciplinary science documenting the protective effects of social connections on health and well-being, with the strongest evidence on longevity. Evidence strongly suggests that social connection qualifies as a protective factor for chronic disease and premature mortality. This talk will summarize this evidence, providing the scope of the health effects, potential mechanisms, and risk factors. Importantly, this evidence points to several implications for solutions across sectors and systems. This evidence points to the importance of prioritizing social connection for personal and public health.



**JULIANNE HOLT-LUNSTAD**  
**NAMS 2021**





- ## Key Takeaways
- Social connection is fundamental to health and well-being.
  - The independent influence of social connection on health and longevity, is strong and well-documented.
  - Robust evidence points to the importance of prioritizing social connection for personal and public health.

# Disrupting a Disruptive Environment

## **Sarah Lindsey, PhD**

*Associate Professor, Department of Pharmacology  
Tulane University School of Medicine  
New Orleans, Louisiana*

Favorable cardiovascular effects of estrogen are found in observational studies with younger and healthier women, while randomized clinical trials failed to find favorable effects in older women many years past menopause. Many factors may contribute to the lack of cardiovascular protection, including biological aging, underlying disease, and endocrine disruptors. Moreover, recent clinical findings suggest that cardiovascular risk factors may be unique in postmenopausal women. We assessed the impact of estrogen loss, aging, endocrine disruption, and hypertension on estrogen receptor expression and the vascular response to exogenous estrogen in female mice. We found that estrogen loss induces arterial stiffening before increases in blood pressure, which may be used as a better indicator of cardiovascular risk in postmenopausal women. We also found that aging, the endocrine disruptor Bisphenol A, and hypertension induced by angiotensin II all significantly downregulate estrogen receptors and decrease the vasodilatory response to estrogen. In conclusion, there are many factors which may influence the cardiovascular response to menopausal hormone therapy. Only after understanding the impact of the environment can we effectively prevent postmenopausal cardiovascular disease and extend life in aging women.

# DISRUPTING A DISRUPTIVE ENVIRONMENT

Sarah Lindsey, PhD  
Associate Professor  
Tulane University School of Medicine  
Department of Pharmacology

**Tulane**  
SCHOOL OF MEDICINE

## WHAT OTHER FACTORS MAY IMPACT THE CARDIOPROTECTIVE EFFECTS OF ESTROGEN?

- Timing hypothesis
- Formulation
- Aging process
- Healthy cell bias

(Sex-specific markers)  
(Endocrine Disruptors)

← Premenopause → Perimenopause ← Postmenopause →

15-25 yrs 25-35 yrs 35-45 yrs 45-55 yrs 55-65 yrs 65 yrs

Benefits of endogenous and exogenous estrogens      Primary benefits of ET/HT      No benefits of ET/HT

**TAKEAWAY 1:** Many factors may contribute to the lack of cardiovascular protection in the WHI study.

**Tulane** SCHOOL OF MEDICINE *Mikkola et al. (2004) Ann Med.*

## ESTROGEN LOSS INCREASES ARTERIAL STIFFNESS BEFORE BLOOD PRESSURE

Systolic Blood Pressure (mmHg) vs Intact vs OVX (p=0.9812)

PWV (m/s) vs Intact vs OVX (p=0.0232)

Systolic Blood Pressure (mmHg) vs Adult vs Middle Aged (p=0.0018)

PWV (m/s) vs Adult vs Middle Aged (p<0.0001)

**TAKEAWAY 2:** Early cardiovascular risk factors may be different in postmenopausal women.

**Tulane** SCHOOL OF MEDICINE *Lindsey Lab (unpublished data)*

## AGING ATTENUATES ESTROGEN'S EFFECTS

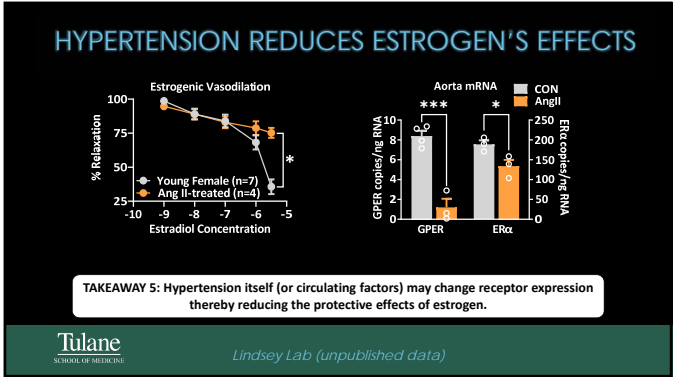
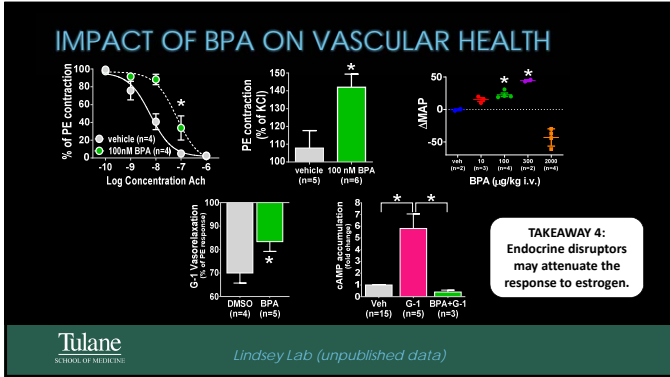
% of PE contraction vs E2 Concentration (Log M)

Legend: Aged (n=4) (grey circles), Adult (n=5) (blue circles)

Aorta mRNA: GPER (24w vs 52w), ERα (24w vs 52w)

**TAKEAWAY 3:** Aging may change receptor expression thereby reducing the protective effects of estrogen.

**Tulane** SCHOOL OF MEDICINE *Gurrula et al. (2021) Geroscience*



### TAKEAWAYS FOR THE PRACTITIONER

1. Early cardiovascular risk factors may be different in postmenopausal women.
  - Should we be measuring PWV instead of blood pressure?
2. Aging may change receptor expression thereby reducing the protective effects of estrogen.
  - Is there a way we can know this before treatment?
3. Endocrine disruptors may attenuate the response to estrogen.
  - Can we reduce or monitor exposure in patients?
4. Hypertension itself (or circulating factors) may change receptor expression thereby reducing the protective effects of estrogen.
  - Are some antihypertensives better at restoring receptor expression?

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### TAKEAWAYS FOR THE PATIENT

1. It is important to monitor your cardiovascular health as we approach and progress through menopause.
  - Devices like the Apple watch have a Heart Rate Variability function.
2. Make a plan with your practitioner for if and when you will start menopausal hormone therapy.
3. Follow EPA guidelines for reducing our exposure to endocrine disruptors.
  - This may become more important as we approach menopause.
4. Be sure to monitor and treat high blood pressure.

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# Health is Where the Heart Is

**Samar R El Khoudary, PhD, MPH, BPharm, FAHA**

Associate Professor, Department of Epidemiology, Epidemiology Data Center  
University of Pittsburgh  
Pittsburgh, Pennsylvania

Whether one is working, exercising, relaxing, or even just sleeping, their heart keeps on beating. This amazing organ works non-stop to keep the rest of the human body regulated and well-maintained. As such, it is critical to preserve excellent heart health for continued physical health and overall wellbeing. Although non-intervenable characteristics such as age and genetics play an important role in one's overall heart health, there are several modifiable factors that can be adjusted to conserve a healthy heart. *Life's Simple 7* are seven risk factors, defined by the American Heart Association, that can be modified by lifestyle changes to achieve ideal heart health. These are blood pressure, total cholesterol, blood sugar, physical activity, diet, weight, and smoking. Improvements to these areas, especially in women, can help maintain a healthy heart. This is because during midlife women go through menopause and experience multiple adverse changes in cholesterol, body fat composition, weight, blood pressure, glucose, and insulin, all of which are vital markers of the metabolic syndrome. Additionally, during midlife, women's vascular health becomes vulnerable with notable increases in arterial stiffness and carotid artery thickness, and narrowness in the adventitial diameter. Therefore, a woman's risk of cardiovascular disease (CVD) is likely to accelerate at midlife impacting her physical wellness and future health. Data characterizing the status of *Life's Simple 7* in women transitioning through menopause are limited but indicate poor cardiovascular health status. However, there is data, although limited, suggesting that a multidimensional lifestyle intervention can prevent weight gain while reducing blood pressure, triglycerides, glucose, insulin, and subclinical carotid atherosclerosis, among women undergoing the menopause transition. More efforts are needed to educate women about midlife acceleration in cardiovascular risk and the importance of implementing a heart-healthy lifestyle to reduce risk of CVD in later life. Clinicians should closely monitor women's heart health during midlife and promote lifestyle modifications as a vital approach to help counteract the consequences of the menopause transition, which would ensure better future heart health and physical wellness.

## Session 2—Wellness at Midlife: Does It Predict the Future?

### Health Is Where the Heart Is

Samar R El Khoudary, PhD, MPH, BPharm, FAHA  
Associate Professor, Department of Epidemiology, Graduate School of Public Health  
University of Pittsburgh

Translational Science Symposium NAMS 2021



### Our Amazing Heart!

- An incredible organ that works hard without stopping to keep us going
- Beat about 100,000 times each day
- Pumps about 2,000 gallons of blood each day
- Maintains oxygen and fuel supplies to all body part

Health Heart = Better Overall Physical  
Health and Wellbeing



## 7 STEPS TO A HEALTHIER HEART



Source: Life's Simple 7 American Heart Association

### The Menopause Transition has been Linked to Adverse Changes that are Critical to Heart Health

Adverse changes in:  
Body fat distribution  
Lipids/ Lipoproteins  
Vascular health measures



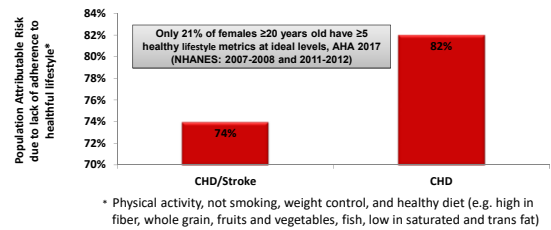
El Khoudary SR et al. Circulation. 2020 Dec 22;142(25):e506-e532.

## Women's Cardiovascular Health at Midlife: Current Status

- $\geq 42\%$  of US women 40-59 Yrs of age have a BMI  $\geq 30$  kg/m<sup>2</sup>
- Age-adjusted obesity prevalence is 7.7% higher in middle-aged than younger women
- Only 7.2% of midlife women in the Study of Women's Health Across the Nation (SWAN) reported physical activity that met recommendations
- Data from SWAN study showed that 62.2% of midlife women never smoked
- Only 17.8% of midlife women in SWAN consistently stayed in the top tertile of the Healthy Eating Index
- Women >60 Yrs of age are less likely to have controlled blood pressure compared with younger women

El Khoudary SR et al. Circulation. 2020 Dec 22;142(25):e506-e532.

## Healthy Lifestyle Could Prevent a Substantial Majority of CVD in Women!



Nurses' Health Study 1980-1994: N=84,129, 14 years of follow up

Modified from Stampfer et al. NEJM 2000; 343:16-22

## Key Points for Midlife Women

- Menopause matters for women's heart health
- Midlife women experience accelerated adverse changes in multiple metrics relevant to heart health
- Midlife women should strive for a heart-healthy lifestyle to counteract the menopause consequences and to better control their risk of heart disease later in life

## Key Points for Health Care Practitioners

- The menopause transition is a uniquely impactful period of time associated with adverse changes in CVD risk
- Behavioral interventions can be used effectively during midlife to reduce adverse CVD profiles
- Practitioners should raise awareness about the CVD risk linked to menopause. They may consider an aggressive prevention-based approach to decrease the probability of a future CVD event
  - ✓ A reasonable lifestyle intervention would target ideal body weight with low central adiposity and maintenance of skeletal muscle mass



# **Implementing the DPP Lifestyle Intervention Model: The Role of Movement**

## **Bonny Rockette-Wagner, PhD**

*Assistant Professor, Department of Epidemiology  
Graduate School of Public Health  
University of Pittsburgh  
Pittsburgh, Pennsylvania*

The Diabetes Prevention Program (DPP) study showed that under ideal conditions a lifestyle intervention with goals of 7% weight loss and achieving 150 minutes/week of moderate intensity physical activity can reduce risk for type 2 diabetes by 58% and the metabolic syndrome by 41% in high risk individuals when compared to a control group. Long-term results from the DPP showed that the lifestyle arm initially became more active and maintained a higher activity level over the study period of more than 10 years when activity was measured subjectively and objectively. This may, in conjunction with weight change, partially help explain the lower cumulative diabetes incidence in the lifestyle arm over the long-term follow-up period. Examining activity further, post hoc analyses showed that over the ~12-year follow-up physical activity level was related to lower risk of diabetes development (Kriska et al. *Diabetes Care* 2021). This relationship was particularly strong in participants with lower baseline physical activity, supporting national guidelines suggesting the potential for greater benefits as a result of increasing activity levels in those relatively less active. After the success of the DPP, translational efforts were needed to develop and evaluate programs that would be acceptable and feasible across a wide range of communities. Toward this goal, the Diabetes Prevention Support Center (DPSC) was formed at the University of Pittsburgh by members of the DPP lifestyle intervention core group to help guide community translation efforts in a similar manner to the guidance they provided for the DPP. The DPSC (under the larger umbrella of the CDC Diabetes Prevention Program) developed a 12 month in-person group-based version of the DPP, the Group Lifestyle Balance Program (GLB), to use in the community setting. With the same goals as the DPP, the GLB program was tested in several settings including community centers, military, and a workplace. The results showed that the GLB program had excellent attendance and resulted in clinically relevant improvements in weight, self-reported physical activity levels, and cardiometabolic risk factors. With the development of successful translational programs came the need to better tailor proven programs to increase reach and improve effectiveness in various subgroups with unique needs. Through implementation of the GLB it became clear that some individuals may initially struggle to reach the 150 minute/week moderate intensity physical activity goal for various reasons (physical difficulty, lack of motivation, etc). As the ability to track and report sedentary behavior improved, the knowledge of the effects of sedentary behavior on diabetes development increased. The combination of these factors suggested that some participants in DPP based lifestyle interventions may benefit from an additional goal to initially reduce sedentary behavior. The group at University of Pittsburgh spearheaded the development and testing of an alternative version of the CDC recognized GLB program with the purpose of providing the GLB-Sedentary program as an alternative version that might be more acceptable for participants who would benefit from a goal to reduce sedentary behavior before adding the standard physical activity goal of 150 minutes/week of moderate intensity physical activity. Preliminary results show excellent attendance and participant satisfaction with significant improvements in weight, self-reported physical activity, and step counts for participants in the GLB-sedentary program. Additionally, there were improvements in cardiometabolic risk factors, with greater improvement when the analyses were limited to those with a clinically-defined abnormal value for that specific risk factor prior to intervention.

## Can we prevent diabetes with behavioral lifestyle intervention?

**Efficacy:** The first step is to show that under ideal conditions a lifestyle intervention consisting of moderate weight loss and adequate physical activity levels can reduce risk for type 2 diabetes (2002) and the metabolic syndrome (2005) in high risk individuals.



**Effectiveness:** The subsequent challenge is to translate this intervention into the "real" world so that it works in a variety of diverse communities at a reduced cost so that the maximum number at risk can benefit.



## The Diabetes Prevention Program: The Strength is in the Diverse Cohort

3,234 individuals with BMI  $\geq 24$  kg/m<sup>2</sup> and pre-diabetes across 27 United States sites



\* Goals: 7% weight loss and 150 minutes/week moderate+ intensity physical activity



## Lifestyle Translation: From Efficacy to Effectiveness...

DPP was successful at improving activity and weight. Under these "ideal" conditions the lifestyle intervention was shown to reduce diabetes development and cardiovascular risk



Now the challenge became, how do we take this into the "real" world?

1. A support system was needed to promote translation and dissemination efforts
2. Translational studies were needed to develop programs that were appropriate and feasible across communities



The Diabetes Prevention Support Center (DPSC) was formed at the University of Pittsburgh by DPP lifestyle intervention core group members to guide translation efforts; similar to the guidance they provided for DPP.

The University of Pittsburgh Group Lifestyle Balance (GLB) translational research study was funded by National Institutes of Health (Kriska, PI)

**Purpose:** Evaluate the GLB lifestyle intervention in several different settings alongside community partners:

- Community centers affiliated with Allegheny County
- Worksite
- Military

**Community-based Recruitment:** Presentations at centers, fliers/posters, direct mailers to local zip codes, local paper inserts



## Implications of Work

The DPP lifestyle intervention was highly successful at preventing diabetes and reducing CVD risk in high risk adults. The success across a diverse cohort (race, ethnicity, age, sex, and geography) led to the successful GLB-DPP translation for use in community efforts across the US and abroad.

The US Congress authorized the CDC to establish the National Diabetes Prevention Program in 2011 to disseminate evidence-based cost-effective diabetes prevention interventions.

Due to the success of CDC-recognized community translation efforts using DPP- based materials (like GLB), in 2018 reimbursement of these translation programs for Medicare recipients was approved.



There is an ongoing problem involving the ability and motivation of participants to increase their physical activity levels. Thus, creating a need for lifestyle intervention programs for individuals who initially find it difficult to perform moderate intensity activity.

## Group Lifestyle Balance MOVES Research Project, University of Pittsburgh (Kriska, PI)

### Purpose:

To determine the impact of 2 different movement goals incorporated within the GLB program (increase physical activity and decrease sedentary behavior; as measured via questionnaire and accelerometry)



## Preliminary Results:

### Behavioral and Cardiometabolic Change in GLB-MOD and GLB-SED Intervention Arms at 6 Months

Participants in both the GLB-MOD and GLB-SED groups had significant weight loss and improvements in step counts compared to the delayed-control group

*GLB-MOD= Movement goal to achieve 150 minutes/week moderate intensity activity*

*GLB-SED= Movement goal to reduce sedentary by 30 minutes/day*

Improvements in cardiometabolic risk factors and physical function were also significant over the follow-up period for participants in both intervention arms



## Implications of Work

Decreasing sedentary behavior is an important strategy for both improving cardio-metabolic risk factors and eventually increasing an individual's ability/motivation to perform more intense levels of physical activity.

The successful GLB-SED program was one of the first DPP based-community interventions for reducing sedentary time (focusing mainly on leisure sitting time) and not just utilizing a sitting desk.

Participant satisfaction with both the original GLB-MOD and the new GLB-SED interventions was high; ~ 87% reporting efforts to increase activity / sit less benefited other aspects of their lives.



# Lifestyle—The Silver Bullet

## **Cynthia A Stuenkel, MD, NCMP**

*Clinical Professor, Department of Medicine  
University of California, San Diego, School of Medicine  
La Jolla, California*

The menopause transition can be considered a ‘portal to the second half of life,’ providing a critical window to assess lifestyle, identify health concerns, and reinforce a proactive approach to future wellbeing. Preventive measures—particularly lifestyle measures—promote cardiovascular, cognitive, and bone health, while combatting obesity and associated disorders, including cancers. The National Institute on Aging and the National Academy of Medicine now prioritize health longevity—extending the lifespan and improving the quality of health. Cardiovascular disease (CVD), the primary killer of women, manifests a decade or more following the menopause, however, CVD risk factors often emerge during the menopause transition. A 2020 American Heart Association (AHA) Scientific Statement focuses on CVD risk specifically during the menopause transition. In partnership with the American College of Obstetricians and Gynecologists, the AHA, in 2018, established an approach to promote risk identification and reduction of CVD, emphasizing the AHA’s Life Simple Seven—lifestyle measures (exercise, nutrition, weight control, and smoking cessation) that contribute to management of common risk factors: hypertension, diabetes, and dyslipidemia. The Women’s Healthy Lifestyle Project, in 2001, confirmed the benefits of lifestyle—primarily increased exercise and limitation of dietary fat—when initiated in women before transitioning to menopause. Women approaching menopause can ‘pay it forward’ and as a result, stave off weight gain, waist gain, deterioration of lipids, and progression of subclinical atherosclerosis. A large observational study, including Nurses’ Health Study participants, reported that healthy lifestyle (never smoking, maintaining a healthy BMI, engaging in  $\geq 30$  minutes/day moderate to vigorous physical activity, moderating alcohol intake, and ingesting healthy foods) was associated with substantial reduction in all-cause (74%), cancer associated (65%), and CVD (82%) mortality. Better yet, these measures were observed to extend life expectancy beyond age 50 (29 years in women with zero low risk factors, life expectancy, 79 years), by 43.1 years when all five low-risk factors were present, yielding 14 additional years (life expectancy, 93 years). In 2021, the AHA recommended physical activity as a critical component of first-line treatment for elevated blood pressure or cholesterol. What is good for cardiovascular health is good for cognitive health. World Health Organization 2019 guidelines to reduce cognitive decline recommend regular exercise, maintaining a healthy weight, regulating blood sugar levels, and keeping cholesterol within recommended limits, while giving up unhealthy habits such as drinking and smoking. A study from the United Kingdom Biobank program suggested that lifestyle measures could reduce the risk of cognitive decline, even in those at high genetic risk for dementia. Recent identification of exercise-induced circulating factors, or exerkinins, suggests how exercise mediate effects to improve neurogenesis and prevent neurodegenerative disorders. Another incentive to adopting a healthy lifestyle is cancer prevention. Common risk factors for CVD are also risks for breast cancer. In the Women’s Health Initiative Observational Study, weight loss was associated with a 12% lower risk of new breast cancers. For women with existing breast cancer, a 35% reduction in mortality was observed. Endometrial and colon cancers are associated with obesity. Recognizing the myriad challenges to adopting beneficial lifestyles and behaviors, the 2019 American College of Cardiology/ AHA Guideline on primary prevention of CVD suggests team-based care, consideration of social determinants of health, and recommends that individuals ingest a healthy diet, manage  $\geq 150$  minutes/week of moderate intensity physical activity, maintain a desired weight, and quit tobacco. When discussing healthy lifestyle behaviors, the powerful incentive to reduce CVD expands exponentially when considering additional benefits: extend life, preserve cognition, prevent cancers, and improve bone health. In a motivating report, women who were latecomers (starting after age 50) to competitive running managed to be as swift and well-muscled as lifelong runners. It is reassuring to realize that it may never be too late to take up healthy behaviors—the silver bullet, indeed!

Circulation

AHA SCIENTIFIC STATEMENT

### Menopause Transition and Cardiovascular Disease Risk: Implications for Timing of Early Prevention

A Scientific Statement from the American Heart Association

**ABSTRACT:** Cardiovascular disease (CVD) is the leading cause of death in women, who have a notable increase in the risk for this disease after menopause and typically develop coronary heart disease several years later than men. This observation led to the hypothesis that the menopause transition (MT) contributes to the increase in coronary heart disease risk. Over the past 20 years, longitudinal studies of

Samar R. El Khoudary, PhD, MPH, FAHA, Chair  
Brooke Aggarwal, EdD, MS, FAHA  
Theresa M. Beckie, PhD, FAHA  
Margaret M. Medler, MD

El Khoudary SR, et al. *Circulation* 2020;142:e506-e532.



### American Heart Association Life's Simple 7

Circulation

ORIGINAL RESEARCH ARTICLE

### Impact of Healthy Lifestyle Factors on Life Expectancies in the US Population

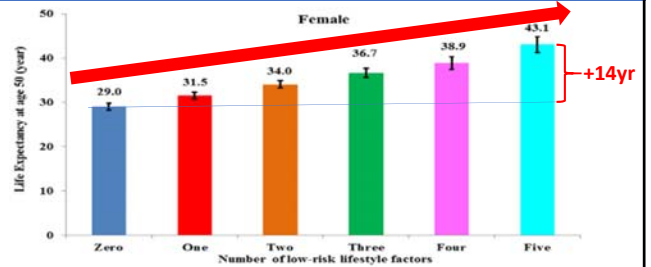
**BACKGROUND:** Americans have a shorter life expectancy compared with residents of almost all other high-income countries. We aim to estimate the impact of lifestyle factors on premature mortality and life expectancy in the US population.

**METHODS:** Using data from the Nurses' Health Study (1980–2014; n=78 855) and the Health Professionals Follow-up Study (1986–2014; n=44 354), we defined 5 low-risk lifestyle factors as never smoking, body mass index of 18.5 to 24.9 kg/m<sup>2</sup>, ≥30 min/d of moderate to vigorous physical activity, moderate alcohol intake, and a high diet quality score (upper 40%), and estimated hazard ratios for the association of total lifestyle score (0–5 scale) with mortality. We used data from the NHANES (National Health and Nutrition Examination Surveys; 2013–2014) to estimate the distribution of the lifestyle score and the US Centers for Disease Control and Prevention WONDER database to derive the age-

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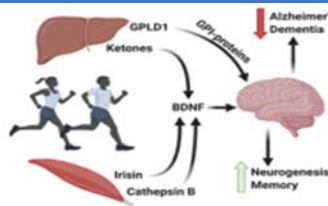
Li Y, et al. *Circulation* 2018;137: April 30

### Estimated Life Expectancy at age 50 According to Number of Low-Risk Factors



Li Y, et al. *Circulation* 2018;137: April 30

## New Horizon: Exercise and a Focus on Tissue-Brain Crosstalk...*exerkines*



**Figure 1** Exercise increases circulating exerkines, which work directly or indirectly on the brain to improve neurogenesis and prevent neurodegenerative disorders. Abbreviations: BDNF, brain-derived neurotrophic factor; GPLD1, glycosylphosphatidylinositol-specific phospholipase D1;

Townsend LK, et al. *J Clin Endocrinol Metab* 2021;106(8):2147-2163.

## AHA SCIENTIFIC STATEMENT

### Physical Activity as a Critical Component of First-Line Treatment for Elevated Blood Pressure or Cholesterol: Who, What, and How?

A Scientific Statement From the American Heart Association

Bethany Barone Gibbs, PhD, FAHA, Chair; Marie-France Huet, MD, MMSc; Gerald J. Jerome, PhD, FAHA; William E. Kraus, MD, FAHA; Sara K. Rosenkranz, PhD; Erica N. Schorr, PhD, RN; Nicole L. Spartano, PhD; Felipe Lobelo, MD, PhD, FAHA, Vice Chair; on behalf of the American Heart Association Council on Lifestyle and Cardiometaabolic Health, Council on Cardiovascular and Stroke Nursing, and Council on Clinical Cardiology

**ABSTRACT:** Current guidelines published by the American Heart Association and the American College of Cardiology broadly recommend lifestyle approaches to prevent and treat elevated blood pressure and cholesterol. For patients with mildly or moderately elevated blood pressure and blood cholesterol, lifestyle-only approaches are the first line of therapy. The purpose of this scientific statement is to: (1) highlight the mid-moderate-risk patient groups indicated for lifestyle-only treatment for elevated blood pressure or cholesterol; (2) describe recommendations, average effects, and additional considerations when prescribing lifestyle treatment with physical activity; and (3) provide guidance and resources for clinicians to assess, prescribe, counsel, and refer to support increased physical activity in their patients. An estimated 21% and 28% to 37% of US adults, respectively, have mid-moderate-risk blood pressure and cholesterol and should receive lifestyle-only as first-line treatment. Of the recommended lifestyle changes, increasing physical activity has extensive benefits, including improving both blood pressure and blood cholesterol, that are comparable, superior, or complementary to other healthy lifestyle changes. Physical activity assessment and prescription are an excellent lifestyle behavior treatment option for all patients, including for the large population of mid-moderate-risk patients with elevated blood pressure and blood cholesterol.

Gibbs BB, et al. *Hypertension* 2021;78:e26-e37.

## Lifestyle—The Silver Bullet Key Points for the Practitioner

Address some aspect of lifestyle benefits to heart, brain, cancer prevention, and bone health at every patient visit

- Team-based care is an effective approach
- Incorporate social determinants of health into plan
- Healthy diet: vegetables, fruits, nuts, whole grains, fish
- $\geq 150$  minutes/wk of moderate intensity physical activity (or 75 min/wk of vigorous-intensity)
- Achieve and maintain weight loss if overweight/obese
- Strongly advise to quit tobacco use (at every visit)

Arnett DK, et al. *JAMA Cardiology* 2019; July 31

## Lifestyle—The Silver Bullet Key Points for the Consumer

Know that lifestyle (exercise, nutrition, weight control, stop smoking) benefits your heart and brain, provides cancer prevention, and helps to preserve bone health

- Team-based care is an effective approach (it's hard to do alone)
- Incorporate challenges regarding where you live, your income, and your family situation into your plan
- Healthy diet: includes vegetables, fruits, nuts, whole grains, fish
- Exercise  $\geq 150$  minutes/week of moderate intensity or 75 min/week of vigorous-intensity; walking is a good start
- Achieve and maintain weight loss if overweight/obese (every little bit helps)
- Quit tobacco use (get help in formal program)

Arnett DK, et al. *JAMA Cardiology* 2019; July 31

# Early Life Adversity Shapes Mental Health Later in Life

## **C Neill Epperson, MD**

*Robert Freedman Endowed Professor and Chair, Department of Psychiatry  
Executive Director, Helen and Arthur E. Johnson Depression Center  
Executive Director, Colorado Women's Behavioral Health and Wellness  
University of Colorado School of Medicine  
Anschutz Medical Campus  
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The concept that life experiences across development contribute to risk or resilience for common health concerns is not new. The question is how and what. How do these experiences alter physiology and behavior and what can we do to mitigate the negative effects of adversity and harness the positive effects of social and environmental support? A critical first step is to identify individuals at-risk for adverse health effects of childhood adversity, encourage adaptive health behaviors and intervene even when subclinical mental health concerns are present. How these life experiences get “under the skin” to create enduring risk for mental illness, cognitive difficulties and other health concerns is multi-factorial and complex. This talk provides guidance regarding how to screen for childhood adversity and describes several potential mechanisms for how early life stress exerts an enduring impact on brain health.





The three types of ACEs include

ABUSE	NEGLECT	HOUSEHOLD DYSFUNCTION
Physical	Physical	Mental Abuse
Emotional	Emotional	Substance Abuse
Sexual		Divorce

BEHAVIOR

- Lack of physical activity
- Smoking
- Alcoholism
- Drug use
- Missed work

PHYSICAL & MENTAL HEALTH

- Severe obesity
- Diabetes
- Depression
- Suicide attempts
- STIs
- Heart disease
- Cancer
- Stroke
- COPD
- Broken bones

**WHAT IMPACT DO ACEs HAVE?**

**BETTER HEALTH for all, for life.** <https://www.cdc.gov/ohcn/prevention/aceessays/index.html>



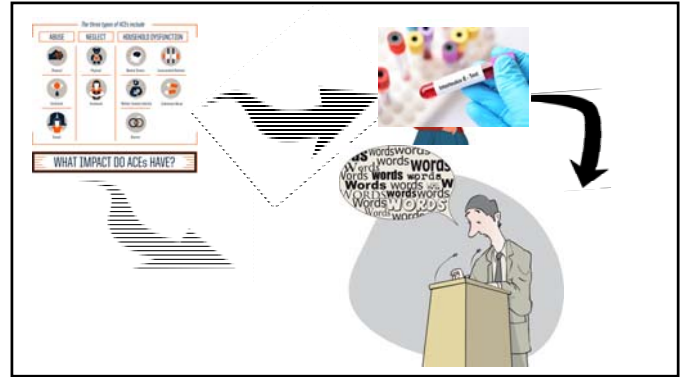
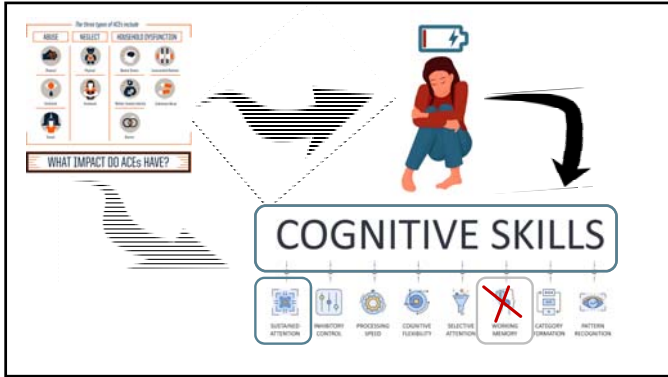
Childhood Adversity Decades Later

**COGNITIVE SKILLS**

- SUSTAINED ATTENTION
- INHIBITORY CONTROL
- PROCESSING SPEED
- COGNITIVE FLEXIBILITY
- SELECTIVE ATTENTION
- WORKING MEMORY
- LANGUAGE FORMATION
- ATTENTION RECOGNITION

Department of Psychiatry  
Sharmagan S, Loughhead J, Cao W, Sammel MD, Satterthwaite TD, Ruparel K, Gur RC, Epperson CN. Neuropsychopharmacology. 2017 Apr 12; doi: 10.1038/npp.2017.54





### Take Home Message: Clinicians

1. Screen your patients for childhood adversity and traumatic exposures.
2. Consider treating even minor depression and anxiety symptoms if patients also complain of executive function difficulties. Sleep is also critical to cognition.
3. Enhance use of motivational interviewing for behavior change among high ACE women as they are at greater risk for cognitive & mood issues during the peri- and post-menopause.

### Take Home Message: Patients

1. Childhood adversity is common. You are not alone.
2. Childhood adversity has lasting effects on health outcomes.
3. Focus on health promoting behaviors to reduce negative effects on of childhood adversity and current stress.

# ***Undermining the Power of Hot Flashes to Ruin Sleep***

## **Rebecca C Thurston, PhD, FABMR**

*Pittsburgh Foundation Chair in Women's Health and Dementia*

*Professor of Psychiatry, Psychology, Epidemiology and Clinical and Translational Science*

*Director, Women's Biobehavioral Health Research Program*

*Director, Cardiovascular Behavioral Medicine Research Training Program*

*University of Pittsburgh*

*Pittsburgh, Pennsylvania*

Most women transitioning through the menopause will experience menopausal symptoms, such as vasomotor symptoms (VMS) and sleep problems. In fact, up to 70% of women will have VMS, or hot flashes and night sweats. Approximately half of women will report sleep problems, such as trouble falling asleep, waking up during the night, or waking up earlier than expected. For many women, these symptoms can last for a decade or more. VMS and poor sleep degrade women's functioning during the menopause transition and are consistently associated with poorer mental, physical, and social quality of life. They increase the risk for mental health problems, such as depression and anxiety, and are even linked to physical health problems, such as cardiovascular disease risk. Although the precise nature of the relationships between VMS and sleep are complex, VMS are likely a key contributor to poor sleep during the menopause transition. Effective treatments for VMS and poor sleep are available. However, many women with VMS and/or poor sleep during the menopause transition go untreated, with associated implications for their life and functioning. This talk will discuss the epidemiology and physiology of these symptoms, the relationships between VMS and poor sleep, the implications of these symptoms for women's health, and empirically-supported treatments for VMS and sleep problems, with an emphasis on behavioral approaches.

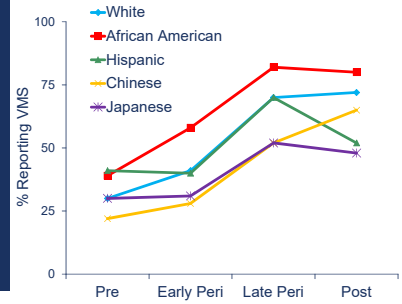
## VASOMOTOR SYMPTOMS (VMS)



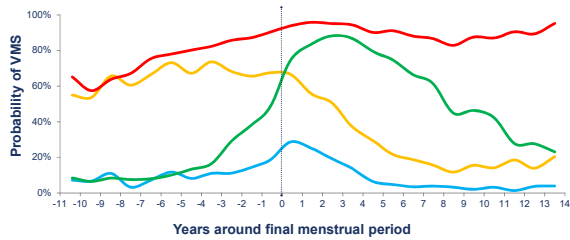
- VMS: Hot flashes (flushes) / night sweats
- Episodes of intense heat accompanied by sweating and flushing
- >70% of women experience during menopause transition
  - 30% frequent or severe
- Frequent VMS persist for 7-10 years  
(Avis...Thurston, *JAMA Intern Med*, 2015)

## VMS OVER THE MENOPAUSE TRANSITION

(Gold et al., 2006, *AJPH*)



## TRAJECTORIES OF VMS

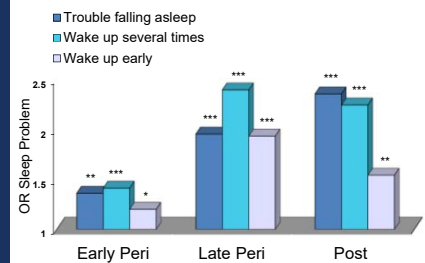


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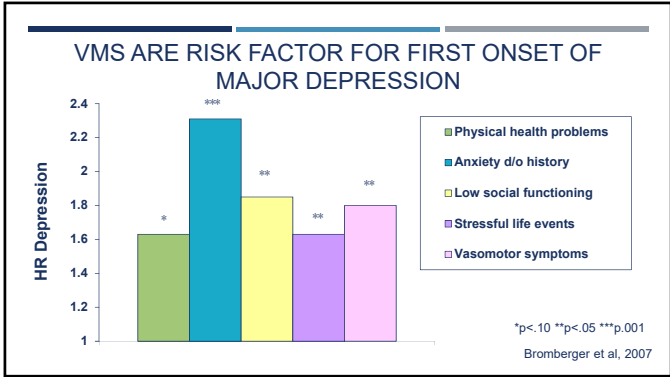
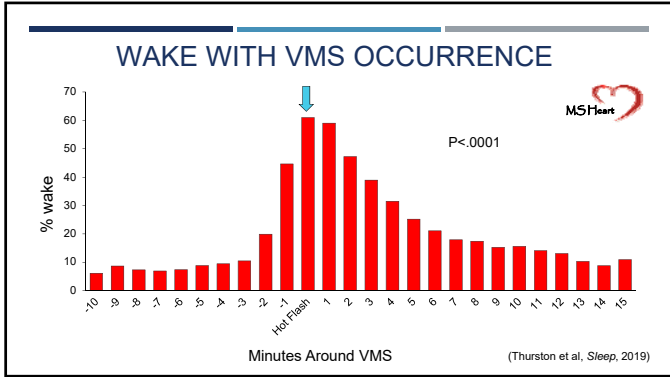
(Tepper...Thurston, *Menopause*, 2016)

## SLEEP PROBLEMS PREVALENT OVER MENOPAUSE TRANSITION

(Kravitz et al, 2008, *Sleep*)



\*p<0.05, \*\*p<0.01, \*\*\*p<0.001 vs. premenopausal  
Adjusted for age, race, site, vasomotor sx, E2, FSH, N=3045



KEY POINTS  
PRACTITIONER

- VMS are prevalent (~70%)
- Sleep problems common (~50%)
- Linked to poor mental, physical health
- Effective treatments exist!
- Behavioral:
  - Cognitive behavioral therapy (tailored\*)
  - Brief behavioral therapy for insomnia
  - Mindfulness-based therapies (tailored\*)

*\*Specific protocols tailored to VMS or sleep*

KEY POINTS  
PATIENT

- Most women get VMS (~70%)
- Sleep problems common (~50%)
- Linked to poor mental, physical health
- Effective treatments exist! Not all require medication
- Behavioral treatments:
  - Cognitive behavioral therapy
  - Brief behavioral therapy for insomnia
  - Mindfulness-based therapies
- ❖ Seek from trained therapist / clinician

# Towards Better Mental Health: Strategies to Fortify Oneself Against Sadness and Worry

## **Hadine Joffe, MD, MSc**

*President, The North American Menopause Society  
Executive Director, Mary Horrigan Connors Center for Women's Health and Gender Biology  
Paula A Johnson Professor of Psychiatry in the Field of Women's Health, Harvard Medical School  
Executive Vice Chair for Academic and Faculty Affairs, Department of Psychiatry  
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Boston, Massachusetts*

Disturbance of mood is common in midlife women across the menopause transition. While clinical depression is less prevalent, subsyndromal depressive symptoms, anxiety, and irritability can affect a large proportion of women in the perimenopause and early postmenopause. Some women with a history of depression are specifically susceptible to endocrine changes across reproductive transitions that precipitate an episode of depression or may have accumulated health conditions that predispose them to recurrence of depression in midlife. However, not all affective symptoms occurring during the menopause transition are attributable to menopause—its underlying hormonal changes, core brain symptoms of hot flashes and sleep disturbance, or the life experience of this transition. Given the 4-year median duration of the perimenopause, it is common that life events and stressors that women endure may confer vulnerability to mood disruption. The indolent biological process underlying and the protracted time course of the perimenopause therefore may each contribute to depression risk.

Mental illness is the leading burden of illness in women, who are increasingly aware of the imperative for good mental health and wellbeing. Poor mental health in midlife erodes wellbeing at a time when women are at their most productive in the workplace, shoulder family responsibilities, and are adapting to changes in their physical health. Many women recognize the mind-body connection and seek to understand how changes in their body and in their environment might influence their mood state; they seek strategies to counter these pressures and bring balance to their lives. The intersections between midlife, the menopause transition, and mood are complex to disentangle. Strategies to protect mental health and improve any emergent distress and depression symptoms require a causal attribution in order to select the most specific treatment approach(es).

In order to maximally protect the mental health and wellbeing of our midlife patients, we must take a broader view to consider a range of contributing factors, which will then point toward specific strategies to recommend for prevention and/or treatment. The focus of this talk is to present a framework for understanding mental health in midlife women. Data supporting the range of possible causal factors will be systematically considered such that prioritization for prevention and treatment approaches can be conceptualized.

BRIGHAM HEALTH  
BRIGHAM AND WOMEN'S  
Connors Center for Women's Health & Gender Biology

WHAR  
Women's Hormones and Aging  
Research Program

HARVARD  
MEDICAL SCHOOL

## Towards Better Mental Health: Strategies to Fortify Oneself Against Sadness and Worry

**Hadine Joffe, MD, MSc**

Executive Director, Connors Center for Women's Health and Gender Biology  
Paula A. Johnson Associate Professor of Psychiatry in the Field of Women's Health  
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Executive Vice Chair for Academic and Faculty Affairs, Dept. of Psychiatry  
Brigham & Women's Hospital, Harvard Medical School

### At the intersection of the mind/brain, body, & exposome

### Clinical depression & depressive symptoms in perimenopause

1. ↑ risk of subsyndromal depressive symptoms in perimenopause
2. ↑ risk of major depression in perimenopause
3. ? ↑ risk of 1<sup>st</sup> lifetime onset of major depression in perimenopause?
  - Data are mixed
4. Menopause-specific associations with subsyndromal depressive symptoms and 1<sup>st</sup> episode major depression are:
  - Fluctuating estradiol and FSH
  - Hot flashes and sleep disturbance

Clinical studies show that mood is better as ovarian activity is more normalized in perimenopausal women.

Conversely, the more abnormal the hormonal profile, the worse the mood.

Maki, Menopause 2019; Joffe, J Clin Endo Metab 2011; Freeman, Arch Gen Psych 2006; Daly, Am J Psychiatry 2003; Joffe, J Clin Endo Metab 2016; Worsley, Maturitas 2014; Bromberger, Arch Gen Psych 2010; Bromberger, Psychol Med 2015; J Clin Endo Metab 2020

### Pathway to mood disturbance varies by diagnosis and illness severity

#### Depressive symptoms

#### Clinical depression

Joffe, J Clin Endo Metab 2011; Joffe, J Clin Endo Metab 2020; Freeman, Arch Gen Psych 2006; Daly, Am J Psychiatry 2003; Joffe, NAMS 2016; Worsley, Maturitas 2014; Bromberger, Arch Gen Psych 2010; Bromberger, Psychol Med 2015; Bromberger, Psychol Med 2015

## How do you know if depression occurring in a perimenopausal woman is related to her being perimenopausal?



### Key factors to examine

1. Careful history taking re chronology, temporal relationship to menstrual cycle changes and co-occurring hot flashes & sleep interruption
2. Depressive symptoms vs. clinical depression
3. Past history of depression – is this a recurrent episode?
4. Precipitating stressful life events
5. Risk/benefit profile for antidepressants, hormone therapy, behavioral therapy, and other strategies

True, true, related?

True, true, unrelated?

## What can a clinician do?

- ✓ Healing the human brain and experience is complex



- ✓ Collaborate, monitor together over time



- ✓ Know the many resources for treatment



## What can a woman do?

**E** Empower

**M** Monitor

**P** Protect



**R** Relieve



# Validation: The Clinician's Superpower

**Nancy Fugate Woods, PhD, FAAN**

*Professor and Dean Emeritus  
University of Washington  
School of Nursing  
Seattle, Washington*

**Objectives:** Outcomes for clinicians include: 1) using validation as a clinical tool to promote health and wellness with midlife women; 2) differentiating the clinician's validation of emotions, experiences, and health-related information; and 3) identifying examples of clinician invalidation and potential consequences for patient-provider relationships.

**Approach:** Clinical validation strategies are designed to help healthcare providers communicate with patients in ways that make them feel understood. Validation strategies include: being present by listening carefully to emotions and experiences; accurately reflecting what the clinician has heard without judgement, asking clarifying questions; restating the person's perspective, giving a person an opportunity to correct or affirm your statement; and matching feelings if comfortable. Two data-based strategies include: normalizing the thoughts and feelings, emphasizing how they make sense given past experiences or present context; and validating information about experiences, e.g. sharing the proportion of women with certain types of symptoms during the late reproductive stage and menopausal transition. Validation efforts that led to satisfaction with clinical encounters include being heard and supported and having experiences normalized as appropriate for age or journey to menopause. Clinician behaviors that led to dissatisfaction with care included: being dismissed (concerns not taken seriously, not listened to, brushed off) and being told their concerns were unrelated to menopause because they were "too young" or still having regular periods.

**Takeaway messages for clinicians include:** a broad range of symptoms occurs on the path to menopause, with many starting before menstrual cycle irregularity of 7 days or more; anticipatory guidance about these experiences provides a foundation for a strong patient-provider relationship; and validating patients' experiences and information helps build a trusting relationship for promoting health and wellness. Messages for patients include: seeking experiences of others and trusted sources to learn what is ahead in the menopausal transition and sharing your experience with others; seeking help from a healthcare provider if symptoms interfere with activities of daily living or relationships; and finding a healthcare provider who will collaborate with you, listen to and validate your feelings and experiences and information about this transition.



# Validation: The Clinician's Superpower

Nancy Fugate Woods  
In collaboration with  
Nina Coslov and Marcie Richardson  
With appreciation to the participants in the Women Living Better Survey

In 15 minutes, you will know...

1. How to use validation as a clinical tool for promoting health and wellness with midlife women
2. The importance of validating emotions, experiences, and health-related information
3. Ways clinicians inadvertently invalidate and potential consequences for the patient- provider relationship

Have you ever...

- Had the experience of talking to a health care provider who **really understood** what you were experiencing?
  - One you believed could help you get through a challenging experience?
  - How did you know they understood?
- Have you ever talked to a health care provider who did **not** seem to understand what you were going through?
  - How did that make you feel?
  - What did you do?
  - What did you learn from that experience?

## Components of a Validation Strategy: Helping People Feel Understood

Being Present	Accurate Reflection	Restating Perspective	Normalizing	Matching Feelings
<ul style="list-style-type: none"><li>• listen to emotions and experiences</li><li>• eye contact</li><li>• nodding</li><li>• use silence</li><li>• be in touch with how YOU feel</li></ul>	<ul style="list-style-type: none"><li>• summarize what you heard without judgement</li><li>• ask clarifying questions</li></ul>	<ul style="list-style-type: none"><li>• correct your statement, if needed</li><li>• affirm their perspective</li></ul>	<ul style="list-style-type: none"><li>• relate to how their feelings make sense given past experiences or present context</li></ul>	<ul style="list-style-type: none"><li>• share your own vulnerability with the patient</li></ul>

Putting it into practice:

*"I haven't slept in months – I wake up, have a hot flash, and then worry for the rest of the night"*

Being Present	Accurate Reflection	Restating Perspective	Normalizing	Matching Feelings
<ul style="list-style-type: none"> <li>listen to emotions and experiences</li> <li>eye contact</li> <li>nodding</li> <li>use silence</li> <li>be in touch with how YOU feel</li> </ul>	<p>"I hear you haven't had a good night's sleep in a long time and hot flashes and worry are keeping you awake"</p>	<p>"So you must be feeling pretty tired and worried right now"</p>	<p>"Many women tell me they have trouble sleeping during this time and for some it is related to menopause"</p> <p>"In one study about 40% of women were waking up and staying awake for more than an hour"</p>	<p>"I struggle with sleep too – it can be really difficult"</p>

Validation in Healthcare Interactions: WLB Survey Results

Not Validated	Validated
<p><b>Dismissed</b></p> <p><u>Verbally</u></p> <p>"It's not hormonal. You're too young and healthy and have normal periods". It has been beyond frustrating.</p> <p>"They ignored me and suggested that it was all in my head."</p> <p>"Initially, I was completely dismissed when discussing all of my perimenopause symptoms."</p> <p><u>Body language</u></p> <p>"It was shrugged off."</p> <p><u>Both:</u></p> <p>"Feel like I'm not being listened to. It's impacted on every aspect of my life. It's taken away a lot of my life. Drs just look at you and nod."</p>	<p><b>Felt heard and supported</b></p> <ul style="list-style-type: none"> <li>"Well, she was supportive and guided me to start antidepressants, which has really helped."</li> </ul> <p><b>Normalized, appropriate for age or acknowledged potential link to perimenopause</b></p> <ul style="list-style-type: none"> <li>"Given explanation for normalcy during perimenopause."</li> <li>"She didn't think I was particularly more forgetful than any other multi-tasker of my age, given my descriptions."</li> <li>"My OBGYN said that was normal for perimenopause."</li> </ul>

Three takeaways for the clinician

- A broad range of symptoms occurs on the path to menopause. These often start **before** menstrual cycle changes of 7 days or more.
- Anticipatory guidance about these experiences provides a foundation for a strong patient-provider relationship.
- Validating patients' experiences and information helps build a trusting relationship foundational to promoting health and wellness.

Three takeaways for Health Care Recipients

- Seek the experience of others and trusted sources to know what's coming and when. Freely share your experience with others ... it will help.
- If any symptom interferes with your daily activities or relationships, seek the opinion of a health care provider.
- Find a provider who will collaborate with you, listen to and validate your feelings, experiences and information about this transition. Think broadly about the type of provider (e.g., nurse midwives, nurse practitioners, physicians). NAMS has a provider locator that may be helpful.

# Becoming the Exercise Enthusiast You Always Hated


**Helen L Coons, PhD, ABPP**

*Associate Professor and Director, Adult Psychology  
Clinical Director, Women's Behavioral Health and Wellness Service Line  
Department of Psychiatry  
University of Colorado School of Medicine, Anschutz Medical Campus  
Aurora, Colorado*

**Regular Physical Activity Improves Health and Well-Being.** Research highlights the benefits of exercise across the life span to improve physical, cognitive, emotional and sexual health. The Center for Disease Control and Prevention (CDC) recommends at least 50 minutes/week of moderate intensity aerobic exercise for adults. Unfortunately, over 60% of U.S. women do not engage in ideal amounts of physical activity, more than a quarter are not active at all, and physical inactivity is more common among women than men (CDC.Gov). Women's health providers are well positioned to help patients initiate, increase, and sustain physical activity throughout their mid-life and beyond. **What Gets in the Way of Physical Activity Among Mid-Life Women?** Initiating and sustaining physical activity during the midlife can be challenging – especially for women. Exercise is highly impacted by income, ethnicity, education, employment, children, gender beliefs, relational and cultural context, among other factors (Healthy People 2020, CDC). Asian-American, Hispanic and African-American women are less likely to engage in physical activity than non-Hispanic white females during the midlife (Lee & Im, 2010; Im, Ko et al 2013). Social determinants of health (e.g., income, living environment) impacts access to childcare, gyms or recreational centers and safer areas for walking and biking. Employment and children also affect rates of physical activity in women who frequently return home from work to caregiving responsibilities. Individuals may also carry gender-based beliefs about role expectations including the acceptability of exercise, while others live with cultural messages and power dynamics impacting their right to control their own health decisions including engagement in physical activity. **Clinical Strategies to Promote Physical Activity in Midlife Women.** Ask midlife women direct and detailed questions about their physical activity. Review the type, frequency, and intensity of their exercise, and ask them to reflect on benefits of their efforts. Use motivational interviewing (MI) to explore how women feel and function when they are active. Discuss barriers to, expectations about, and need for support to initiate and sustain self-care including regular physical activity. Invite women to view exercise as essential contributor to their health and well-being, and to schedule dedicated time to exercise. Negotiate short-term, realistic physical activity goals, and write a prescription for personalized exercise with the dose and frequency – just as you would for other physical and behavioral health treatment recommendations. Consider asking members of your inter-professional practice team to follow-up with patients about their fitness goals by electronic medical record (EMR), phone or letter. **Strategies to Activate Self-Care in Midlife Women - Think Out of the Box!** Many women enjoy common types of exercise (eg, walking, biking, yoga, pilates, classes by video or in person). Others have little interest in any of these examples, but will engage in alternative types of physical activity. Popular back door options to increase exercise levels include destination walking, dancing, skating, Thai Chi/Qi Gong, team membership and fitness challenges, heavy gardening, using a desk treadmill, etc. Women with physical/ability challenges may also benefit from regular seated movement with strengthening and stretching exercises. **Activate Support for Physical Activity among Midlife Women.** Practical and social support from family and friends readily promotes self-care including exercise. Engage mid-life women in discussions about their support needs to initiate, increase, and sustain physical activity. Encourage women to exercise with family members, meet neighbors and friends at specific times for walks, attend community fitness programs, join teams, and walk during meetings with co-workers. Many patients will also benefit from communications coaching before asking family for support around their self-care. **Research Gaps on Promoting Physical Activity in Midlife Women.** Additional research is essential to address the varied and interacting gender, racial, ethnic, and social determinants related to initiating and sustaining self-care in general and specifically physical activity across highly diverse women to improve their health and well-being in the midlife and beyond.

**Department of Psychiatry**  
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

## Becoming the Exercise Enthusiast You Always Hated



**North American Menopause Society 2021**  
Translational Science Symposium  
*Charting the Path to Health In Mid-Life and Beyond*  
September 21, 2021

Helen L. Coons, PhD, ABPP  
Associate Professor and Clinical Director  
Women's Behavioral Health and Wellness Services  
Department of Psychiatry  
University of Colorado School of Medicine | Anschutz Medical Campus  
Aurora, Colorado

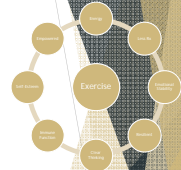
## Benefits of Regular Physical Activity

**Improves**

- ▶ Energy, stamina
- ▶ Strength, flexibility, coordination
- ▶ Pain
- ▶ Focus
- ▶ Body image
- ▶ Weight regulation
- ▶ Sexual energy
- ▶ Bone health
- ▶ Body image
- ▶ Immune function
- ▶ Healing
- ▶ QoL & well-being

**Risk Reduction**

- ▶ Hot flashes
- ▶ DM
- ▶ Cardiovascular disease
- ▶ CVA
- ▶ Cancer
- ▶ Dementia
- ▶ Irritability, depression & anxiety
- ▶ Falls
- ▶ Recurrent ER+ BC
- ▶ Overall morbidity & mortality



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### Mid-Life Women Typically Understand the Benefits of Exercise

**What Gets in the Way?**

**More than 60 % of US women do not get the recommended amount of physical activity (CDC)**

- > Initiating physical activity
- > Sustaining physical activity

## Strategies to Activate Self-Care in Mid-Life Women

**Rx for Health**

- ▶ Statins
- ▶ Opioids
- ▶ HRT
- ▶ Vitamins
- ▶ Antidepressants
- ▶ Sleep meds

**Rx for Health & Well-Being**

- ▶ Motivational interviewing
- ▶ Address barriers & expectations
- ▶ Rx
  - ▶ Physical activity




## Think Out of the Box!

**Back Door to Get Moving**

- ▶ Typical types of exercise or >
- ▶ Destination walking
- ▶ Dancing
- ▶ Skating
- ▶ Thai Chi/Qi Gong
- ▶ Gardening
- ▶ Seated movement/strengthening
- ▶ Mall walks

**Activate Support**

- ▶ Family > Children & Grandchildren
- ▶ Friends & Neighbors
- ▶ Community programs
- ▶ Parks & recreation
- ▶ Walking Meetings



## Gender, SES, Ethnic & Cultural Differences in Physical Activity in Women



- ▶ Second shift for family & work
- ▶ SES > childcare, gyms, time off
- ▶ Safety in neighborhood
- ▶ Gender stereotyping
- ▶ Cultural norms > what women do & don't do
- ▶ Culturally based power & control of women's bodies

## Mid-Life Patient Care: Clinical Providers

A	Ask specific questions about patients' activity level
I	Review what is getting in the way of initiating & sustaining regular exercise
M	Use motivational interviewing for behavior change to prompt & sustain physical activity
S	Support small steps in follow-up clinical communication about health & well-being

## Mid-Life Women >

### Become the Exercise Enthusiast you Always Hated

How do you feel about yourself after you exercise?

What gets in the way of starting & sustaining regular physical activity?

Who can support & join you in small steps towards regular exercise?

What can you do today to take good care of your-self?

# Triangulating Weight Loss: Behavior, Medicine, and Surgery

**Kara L Marlatt, MS, MPH, PhD**

*Exercise Physiologist and Postdoctoral Fellow*

*Pennington Biomedical Research Center*

*Baton Rouge, Louisiana*

The menopause transition is characterized by distinct changes in circulating hormones, energy balance, and body composition that contribute to increased cardiometabolic risk. In this presentation, we will first review the changes in circulating hormones—particularly the decline in estradiol—and their relationship with reductions in energy expenditure and increases in energy intake. This positive energy balance leads to weight gain and increased adiposity, namely in the abdominal region. Common menopausal symptoms (e.g., vasomotor symptoms, sleep disturbances, changes in mood, etc.) can also exacerbate weight and abdominal fat gain during menopause and will be discussed. Next, we will explore three different treatment opportunities for weight management, including behavior modification, medication usage, and surgical intervention, that might be relevant for the menopausal women wanting to lose or maintain their weight. The timing, order, and/or combination of these treatment options need to be individualized for each woman experiencing menopause to maximize efficacy.

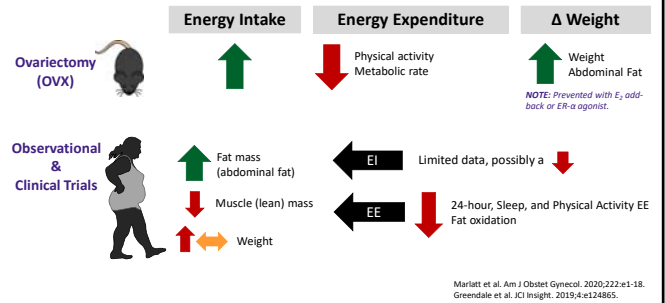
# Triangulating Weight Loss: Behavior, Medicine, and Surgery

Kara L. Marlatt, PhD, MPH  
Assistant Professor-Research  
Pennington Biomedical Research Center



09/21/2021

## Changes in energy balance with menopause



## General recommendations regarding therapeutic options for adult obesity<sup>1-3</sup>

### Comprehensive lifestyle management

- First-line intervention — appropriate for all levels of disease severity
- Patient candidates
  - BMI ≥ 30
  - BMI 25 to 29.9 with risk factors<sup>a</sup>
- Other approaches are adjunct to this core approach

### Adjunct Therapies

#### Pharmacotherapy

- Patient candidates
  - BMI ≥ 30<sup>2</sup>
  - BMI ≥ 27 with obesity complications/manifestations

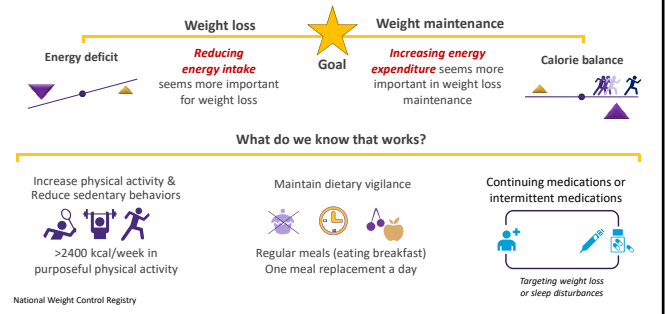
#### Bariatric surgery

- Reserved for severe disease
- Patient candidates
  - BMI ≥ 40<sup>2</sup>
  - BMI ≥ 35 with obesity complications<sup>2,3,b</sup>

<sup>a</sup>AACE—lifestyle modification is also appropriate for individuals with BMI of 25 to 29.9 with no complications, with less emphasis on weight loss and more on preventing weight gain.  
<sup>b</sup>AACE—severe comorbidities; ASBP—BMI≥30 with complications.

1. Moyer V, et al. *Ann Intern Med.* 2012;157:373-378.  
2. Jensen MD, et al. *Obesity.* 2013;22(suppl 1):S3-S410.  
3. Garber A, et al. *Endocr Pract.* 2013;19(suppl 2):1-48.

## Behavioral strategies for weight loss







# Becoming the Meditation Enthusiast You Always Hated

## **Patti Montella**

*Author and Thought Leader*

*Senior Faculty Member, Art of Living Foundation and the International Association for Human Values*

*Boone, North Carolina*

The American Medical Association (AMA) reports a burnout epidemic that is affecting both physicians and patients. According to Gallup's 2021 State of the Global Workplace report, US workers are the most stressed employees in the world. Add fluctuating hormones and disturbed sleep during menopause to the mix, and it's no wonder that women find this time in life, even more stressful.

Medscape reports that about two-thirds of physicians say their burnout has become more intense since the COVID-19 pandemic, with women representing a higher percentage. Burnout is characterized by emotional exhaustion, depersonalization, a feeling of low personal accomplishment, and a lack of empathy and/or a cynical attitude toward patients. There is a financial side to burnout as well; the AMA estimates it costs between \$500,000 to \$1 million to replace just one physician at an organization. Additionally, physicians report significant grief and trauma that arose from treating patients with COVID-19, while NCBI cites physician suicide as a growing public and professional health concern.

Scientific research shows that yogic breathing techniques may just be the key to better health and a more peaceful and productive mind. Empowering practitioners and patients, with evidence-based breathing and meditation protocols, such as SKY Breath Meditation, provides a practical and effective approach to improving their overall health and quality of life. These techniques are shown to release anxiety and depression, improve sleep, decrease trauma symptoms, enhance brain activity, increase resilience, and boost immunity. This presentation includes a short guided meditation for relaxation.

### References:

American Medical Association

<https://www.ama-assn.org/practice-management/physician-health/what-should-be-done-about-physician-burnout-epidemic>

<https://www.ama-assn.org/practice-management/physician-health/how-much-physician-burnout-costing-your-organization>

Gallup's 2021 State of the Workplace report

<https://www.gallup.com/workplace/349484/state-of-the-global-workplace.aspx>

Medscape

<https://www.medscape.com/slideshow/2020-physician-covid-experience-6013151?faf=1#9>

NCBI

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6690303/>

SKY Breath Meditation

<https://www.artofliving.org/us-en/research-sudarshan-kriya>




**PATTI MONTELLA**  
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## BECOMING THE MEDITATION ENTHUSIAST YOU ALWAYS HATED!

### EVERY EMOTION HAS A CORRESPONDING RHYTHM OF BREATH

Emotion



Breathing Pattern


“Rather than allowing the emotions to change the breath, through rhythmic breathing, we can transform our state of mind.”

*Pierre Philippot, Gaëtane Chapelle & Sylvie Blairy*

### COLLECTIVE RESEARCH MEDITATION

INCREASES/IMPROVES	DECREASES	BRAIN FUNCTION
POSITIVE EMOTIONS	PAIN	INCREASES CORTICAL THICKNESS, ESPECIALLY IN AREAS RELATED TO INTROSPECTION & ATTENTION
<b>LIFE SATISFACTION</b>	INFLAMMATION	
IMMUNE FUNCTION		INCREASES GREY MATTER RELATED TO MEMORY & THOUGHT
SOCIAL CONNECTION		
EMPATHY/COMPASSION		INCREASES BRAIN VOLUME SPECIFICALLY IN AREAS FOR EMOTION REGULATION, POSITIVE EMOTIONS AND SELF-CONTROL
HELPFULNESS		
RESILIENCE IN HARD TIMES		

### Benefits Practitioner



“This course has been really exceptional. ...We talk about burnout, compassion fatigue, secondary traumatic stress, and this allows us to gain tools in combating these issues.”  
– **Dominique Chariot-Swiley, Ph.D., Children’s Health Center**

**RESEARCH SHOWS THAT BREATHING PRACTICES ARE POWERFUL**

Decrease anxiety and depression

Increase happiness and calmness

Improve sleep

Increase mental clarity and cognitive function

Increase energy and vitality

Reduce physical, mental & emotional stress

Why? The breath is linked to our autonomic nervous system. Daily breathing practice activates the parasympathetic nervous system, which is associated with resting and digesting (i.e. a more peaceful mind and body).

From reducing stress to getting better rest, these techniques have a demonstrated measurable impact on quality of life.

**100+ independent studies**  
on SKY Breath Meditation (SKY)

Over 100 independent studies conducted on four continents and published in peer-reviewed journals, have demonstrated a comprehensive range of benefits from practicing **SKY Breath Meditation**.

## Benefits: Consumer/Patient

### RESEARCH SHOWS THAT BREATHING PRACTICES ARE POWERFUL



Develop clarity and focus



Reduce symptoms and improve



Improve sleep



Strengthen your ability to regulate emotions



Support immune response



Reduce respiratory ailments & infections

Why? The breath is linked to our autonomic nervous system. Daily breathing practices activate the parasympathetic nervous system, which is associated with resting and digesting, or a more peaceful mind and body.

**100+** Independent studies on SKY Breath Meditation (SKY)

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# ***Food: The Best Medicine—Paving the Way to Health Through Our Forks***

## **Gloria A Richard-Davis, MD, FACOG**

*Professor and Division Director  
Reproductive Endocrinology and Infertility  
Medical Director, PA Program  
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Culinary medicine is practical discipline that integrates the art of preparing, cooking, and presenting food with the science of medicine to achieve desired health outcomes.

There is a growing body of evidence of improved well-being and reduced healthcare resource utilization as the result of culinary medicine interventions. Menopausal women are a growing segment of our population (over 120 million) with increasing prevalence of chronic diseases. Chronic disease increases with aging and obesity is a major risk factor for development of chronic diseases. Over 50% of women over 50 have one or more chronic diseases. Physiological, genetics and exogenous factors contribute to weight gain in menopausal women. The increasing prevalence and costs of chronic disease in the United States is unsustainable and calls for low-cost, high-impact interventions that can be readily incorporated into people's daily lives. Culinary medicine is one such intervention.

## Culinary Medicine:

Evidence based field in medicine which blends the art of food and cooking with the science of medicine

- Using food to live healthier and fight chronic disease by making health promoting food:
  - Palatable
  - Affordable
  - Easy to prepare
  - Accessible
  - The first tool clinicians think of for themselves and their patients



## Culinary Medicine Course

Health Meets Food Curriculum

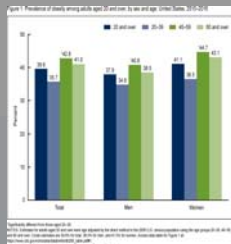
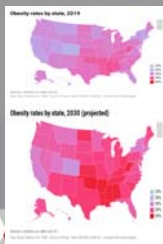


- 8 weeks longitudinal flip classroom with hands on culinary sessions
- Safety and Sanitation and Introduction to Culinary Medicine
  - Weight Management and Portion Control
  - Fats
  - Food Allergy and Intolerance
  - Protein, Amino Acids, Vegetarian Diets and Eating Disorders
  - Sodium, Potassium and Hypertension
  - Carbohydrates
  - Geriatric Diet

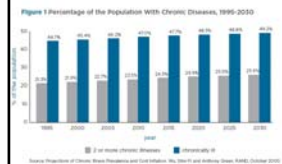
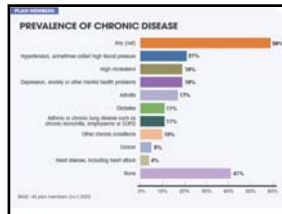
[www.culinarymedicine.uams.org](http://www.culinarymedicine.uams.org)



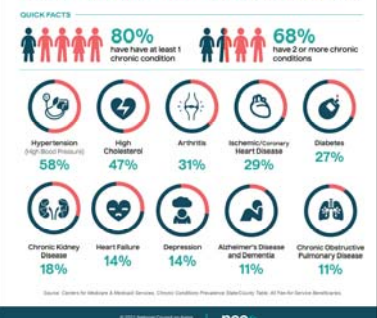
## Obesity Rates and Co-morbidities in US

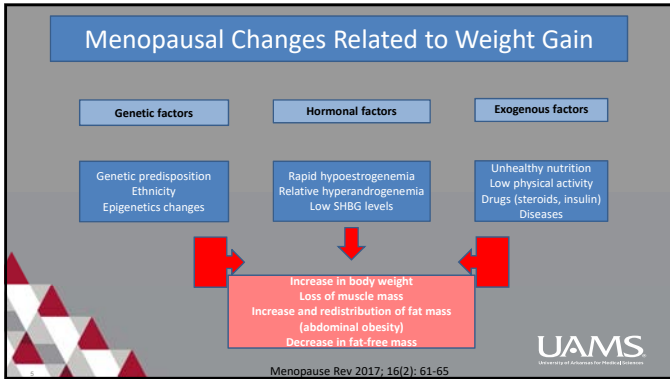


National Health and Nutrition Examination Survey



## 10 Common Chronic Conditions for Adults 65+





### DIETARY SPECTRUM

AMERICAN COLLEGE OF Lifestyle Medicine

THE AMERICAN COLLEGE OF LIFESTYLE MEDICINE DIETARY POSITION STATEMENT  
ACLM recommends an eating plan based predominantly on a variety of seasonally produced vegetables, fruits, whole grains, legumes, nuts and seeds.

#### WHAT AMERICA EATS

Increased risk for Obesity, T2Diabetes, Heart Disease, and some Cancers  
Poor nutrition is the leading cause of death globally.

#### WHOLE FOOD PLANT-BASED EATING PLAN

Decreased risk for Obesity, T2Diabetes, Heart Disease, and some Cancers  
Chronic disease treatment and potential reversal

**TIPS FOR IMPROVED NUTRITION AND HEALTH**

- Any movement toward WFFB eating is positive
- More movement toward a WFFB eating plan increases impact
- Tailored and sustainable approaches are recommended

UAMS  
UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

- ### KEY POINTS (Providers)
- Culinary Medicine is an evidence-based field blending the art of food and cooking with the science of medicine
  - US rates of obesity is 35% with DM paralleling this incline. Hypertension, heart disease and cancer are prevalent and correlates with obesity being a risk factor
  - Weight gain is a primary concern for menopausal women
    - Women gain an average of 5 lbs in menopausal transition
  - Genetic, hormonal and exogenous factors contribute to weight gain
  - Healthy diet (plant based) and lifestyle reduces weight gain and chronic diseases
- UAMS  
UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

- ### Key Points (Consumer)
- Culinary Medicine is an evidence-based field blending the art of food and cooking with the science of medicine
  - Obesity, diabetes and many other chronic diseases increases with aging
  - Genetics, changes in hormone and poor lifestyle contributes to menopausal weight gain, obesity and co-morbidities
  - Mediterranean or plant-based diet is simple and reduces chronic diseases
- UAMS  
UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

# ***Menopause Care: An Ideal Model for Implementation Science***

**Marcel E Salive, MD, MPH**

*Division of Geriatrics and Clinical Gerontology  
National Institute on Aging  
Bethesda, Maryland*

While menopause care has been outlined as a body of knowledge, there are gaps in its practice in primary and specialty medical care. Implementation science can serve as a tool to conduct studies of approaches to integrate evidence-based interventions into practice. The scope of menopause care includes symptom management and preventive services (immunizations, screening and counseling for healthy behaviors). Innovative care models and approaches to menopause care can be designed and tested using the approach of implementation science.

This talk will explore the potential for conducting research to improve the uptake of menopause care. Many of the evidence-based elements of menopause care are covered by insurance programs and could be provided at no cost to the patient.



## Menopause Care: An Ideal Model for Implementation Science

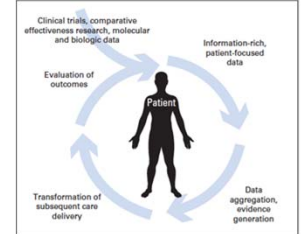
Marcel Salive  
National Institute on Aging  
September 21, 2021



## What is implementation science?

- Studies how to successfully integrate evidence-based interventions into health care
- Provides tools to close the gap between what we know works and what is actually done in practice

## A Learning Health System



Source: Institute of Medicine (2010)



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## Push and pull of implementation

- Push—systematic efforts to help adopters
- Pull—Adopters want them and make their own effort to incorporate



## Symptom management in menopause

- Vasomotor
- Musculoskeletal
- Neuropsychiatric
- Sexual
- Pregnancy/menstrual
- Fat deposition
- Skin, eye, ear, oral
- Guidelines from NAMS not widely available, and difficult to interpret with regard to strength of evidence
- Grade "A" Clinical trial evidence for symptom management not be available for all topics





## Recommended Preventive Services/Focus

	Issues	Indicators/timing
SCREENINGS	Breast cancer screening	Mammogram within 2 yrs
	Cervical cancer screening	Pap test within 3 yrs
	Colorectal cancer screening	Timely within limits
	Cholesterol screening	Within 5 yrs
IMMUNIZATIONS	Influenza vaccination	Within past year
UP TO DATE WITH SERVICES	Up to date/Clinical preventive	Influenza, cancer screenings
	Physical inactivity	Leisure activity within 1 month
RISK FACTORS	Smoking	Current
	Binge drinking	Within past month
	Obesity	Current status
	High blood pressure	Ever had high blood pressure
	Depressive symptoms	Moderate-within 2 wks

Grade	Definition
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.

**Affordable Care Act section 2713 requires that new health plans must cover services rated A or B by USPSTF, ACIP vaccines without cost sharing**

## Active Implementation Funding Opportunities

- PAR-19-274, 275 and 276 Dissemination and Implementation Research in Health (R01/R21/R03)
  - May include clinical trial or not
- [PAR-18-932](#): Increasing Uptake of Evidence-Based Screening in Diverse Adult Populations (R01 Clinical Trial Optional)

## Key takeaways

- We know more about menopause care than we use
- Innovative approaches to menopause care can be designed and tested to improve uptake of the care
  - Symptom management
  - Preventive Services & lifestyle modification
- Insurance/managed care ensures many of the elements of menopause care could be provided at no cost to the patient