



CAIRIBU URO-AGING RESEARCH INTEREST GROUP (UroAging RIG)

CAIRIBU URO-AGING KNOWLEDGE EXCHANGES

EXECUTIVE SUMMARY 1/26/2026

URO-AGING RESEARCH INTEREST GROUP

FEAT: CANDACE PARKER-AUTRY, MD, JENNY
LACROSS, PT, DPT, PHD, ATC, CLT

1/26/26 [3-4PM ET]

(2PM CT | 12PM PT)



Goal: Facilitate knowledge exchange and spur collaborations in uro-aging research and adjacent fields

Summary

Dr. Candace Parker-Autry's Presentation: Evidence for a Clinical Care Pathway for Geriatric Urinary Incontinence – the Geriatric Syndrome

Background and Significance of Geriatric Clinical Research

- In the US, by 2040, the population aged 65 and older is projected to reach approx. 78.3 million, accounting for 22% of the total population. Women's life expectancy has increased since the 1950s, living an average of 81 years.
- **Women make up the majority of older adults** and are the caregivers for all. More than 50% of older women live with disabilities, such as poor physical performance and function, dementia, and other cognitive impairment. Though research on women's health has grown in the last 20 years, very little has focused on aging women's health.
- 50% of all women >65 years will have urinary incontinence (UI). UI becomes more severe and bothersome after 70 yrs.
- **Dr. Parker-Autry hypothesized that differences in the aging process of women impact success of UI treatments.**
- Geriatric syndrome is a prevalent multifactorial condition affecting older adults. It has multiple causes and multiple pathogenic pathways leading to one manifestation (i.e., UI).
- Shared risk factors and geriatric syndromes contribute to frailty which leads to poor outcomes.
- UI is a geriatric syndrome and is complex, poorly defined, and without clinical recognition as a diagnosis.
- **Geriatric UI is a distinct phenotype of incontinence.**

The Impact of Aging on the Pelvic Floor

- Pelvic floor muscles change with aging. Age-related sarcopenia contributes to skeletal muscle weakness and loss of skeletal muscle mass.
- Loss of sarcomere alters muscle architecture, decreasing muscle length-tension and force-velocity relationship.
- 80% of women in nursing homes affected by sarcopenia.
- Sarcopenia is an independent-risk factor for stress and mixed UI (SUI and MUI).
- Women with metabolically unhealthy obese phenotype with sarcopenia were at the highest risk for both SUI and MUI.
- Aging contributes to smaller and weaker pelvic floor muscles resulting in less functional pelvic floor muscles (sarcopenia).
- Another age-related change is **abnormal accumulation of collagen** in the intramuscular extra-cellular matrix (muscle fibrosis).

Research Findings

- Women in the Health ABC Cohort were previously-continent women who underwent functional impairment evaluation.
- 33% of older women (≥ 70 years) developed UI when observed over 4 years.
- Older women who developed UI had significant declines in physical performance, indicating functional impairment. **The most impactful driver of this decline in function was significant decline in standing balance.**
- Older women with UI have significant declines in physical performance and increased risk of sarcopenia.
- The interdependence and cumulative contributions of multiple impairments contribute to geriatric UI: **estrogen deficiency, skeletal muscle loss, mobility impairment, balance impairment, cognitive impairment.**

- **Dr. Parker-Autry** designed a prospective cohort study to characterize geriatric UI and its impact on treatment effectiveness.
- In characterizing geriatric UI, she found the majority of women had a more severe type of UI that was significantly associated with functional impairment.
- Pelvic physical therapy for 12 weeks did not decrease UI symptoms in older women.
- Upon further investigation those with increased UI severity more commonly had 4-6 geriatric impairments.
- Despite the majority of UI treatments being minor procedures, there was a higher risk of urologic complications when frailty was present.
- For next steps, **Dr. Parker-Autry** is incorporating the definition of geriatric incontinence syndrome (to include UI and impairments) into clinical practice to establish a clinical care model.

Dr. Jenny LaCross' Presentation: From Clinic to Community: The Morphological Impact of Aging and Physical Activity on the Pelvic Floor

Introduction to Physical Activity and the Pelvic Floor

- Only 1 in 5 adult women in the US meet combined aerobic and muscle-strengthening physical activity guidelines.
- 1 in 2 women have a pelvic floor problem that starts much earlier in life. Dakic *et al* (2021a, 2021b) found that **about half of women with pelvic floor symptoms had previously completely stopped or significantly modified their participation in physical activity.**

Factors that Influence Pelvic Floor Morphology and Function Across the Lifespan

- **Dr. LaCross** introduced a lifespan model of pelvic floor function, emphasizing the impact of vaginal birth and aging. As pelvic floor health declines, women develop symptoms such as UI or pelvic organ prolapse.
- Birth injuries and recovery paths have different implications for stopping or modifying participation in physical activity.
- Individuals may experience continued levator and urogenital hiatus enlargement following childbirth, which is a precursor to the development of pelvic organ prolapse. **Those with small urogenital hiatuses are less likely to develop pelvic organ prolapse even 20 years after delivery.**
- Higher levels of physical activity are thought to increase hiatal size via repetitive exposure to intra-abdominal pressure, yet they are also associated with greater muscle health and full body health for aging individuals.

Research Findings

- Using data from the Study on Muscle, Mobility, and Aging (SOMMA) study, a prospective cohort of community-dwelling older adults (70+), **Dr. LaCross** and her colleagues analyzed MRI and skeletal muscle testing data from a random sample of parous and nulliparous women.
- While nulliparous females had higher waist circumference and multimorbidity burden, physical activity level and all of their clinical characteristics were similar between groups.
- In nulliparous females, none of the 7 skeletal muscle measures were associated with urogenital or levator hiatus length. But in parous females, longer 400-meter walk times (slower walking speeds) were associated with greater levator hiatus length. This could suggest either greater risk of pelvic organ prolapse in deconditioned parous women or that symptoms of prolapse may prevent physical activity or be a barrier to physical activity leading to a deconditioned state.
- Looking at women across the lifespan using data from SOMMA and SOMMA Junior (a cohort of women 30 to 69 years old), Dr. LaCross and her team hypothesized that higher age and parity were associated with greater hiatal dimensions in community-dwelling women across the entire adult lifespan.
- Key findings showed that resting urogenital hiatus length and levator hiatus area were greater with aging and among community-dwelling women regardless of parity or levator injury status. **Aging plays a significant role in pelvic floor morphology changes across the adult lifespan and community-dwelling women independent of parity and body size.**
- Neither physical activity volume nor intensity was associated with pelvic floor morphology in older women, suggesting that physical activity should not be discouraged to prevent changes in morphology and later pelvic floor dysfunction.

Candace Parker-Autry, MD is an Associate Professor at Atrium Health Wake Forest Baptist in Winston-Salem, NC where she serves as a Urogynecologist and Clinical Researcher with a focus on the clinical care of women with geriatric incontinence. She received an MD from Wake Forest School of Medicine. Her research has been NIH-funded. During the peak of the COVID19 pandemic, she led the effort to screen underserved and historically black communities in Forsyth County NC. She is chair of the Scientific and Community Outreach committees of the Twin City Medical Society and is also its President..

Jennifer A. LaCross (Kurzt), PT, DPT, PhD is a board-certified Clinical Specialist in Women's & Pelvic Health Physical Therapy, Certified Athletic Trainer, and a Postdoctoral Research Fellow with the Pelvic Floor Research Group at the University of Michigan. Her clinical practice at MOVE Physical Therapy centers on helping women with pelvic floor disorders across the lifespan remain active at their desired level. Dr. LaCross earned her Doctorate of Physical Therapy from Washington University, completed residency in pelvic health at University of Pittsburgh, and received a PhD from Texas Woman's University. Her research is both NIH- and foundation-funded. She is active within the Region 9 Perinatal Quality Collaborative and serves as a research consultant for BumpUp™, a maternal health app funded by NIH-INBRE and NIH-NICHD, designed to increase physical activity access and improve obstetric outcomes in rural communities. Dr. LaCross is currently Vice-Chair of the Academy of Pelvic Health's Research Committee and Vice-Chair of the Early Career Researchers Special Interest Group in the Academy of Physical Therapy Research.