

the testosterone and exercise interventions and related fidelity procedures, and implementation challenges for this multi-modal intervention prior to and during the COVID-19 pandemic. In addition, the underlying mechanisms by which testosterone and exercise are expected to have a synergistic effect on muscle strength and function will be discussed.

THE STEP-HI TRIAL: PRAGMATIC CHALLENGES AND DESIGN ISSUES

Ellen Binder, *Washington University in St. Louis School of Medicine, Saint Louis, Missouri, United States*

Multi-modal interventions present many implementation challenges, especially for studies of frail older adults. The STEP-HI study is an ongoing multi-center, randomized, controlled, double-blinded clinical trial that is evaluating whether six months of topical testosterone therapy combined with a supervised center-based exercise-training program can improve mobility, functional performance, and quality of life after hip fracture, compared to exercise training alone or Enhanced Usual Care. Female hip fracture patients ≥ 65 yrs. old who are living in the community or assisted living are being randomized within 26 weeks of surgical repair for the fracture, and re-evaluated 24 weeks later. This presentation discusses the rationale and study design, and modifications to the protocol in response to challenges, including the COVID-19 pandemic.

RECRUITMENT CHALLENGES AND STRATEGIES FOR MULTIMODAL INTERVENTION TRIALS

Jenna Bartley, *Center on Aging, UConn Health, Farmington, Connecticut, United States*

Determining ways to improve hip fracture recovery in older adults is important, however recruitment of this target population into clinical trials is challenging. Multimodal interventions that target multiple mechanisms of recovery may improve outcomes, but each component presents unique recruitment barriers. While exercise interventions have been shown to be beneficial for hip fracture recovery, offering exercise following completion of conventional physical therapy can be viewed as a burdensome time commitment. Hormone replacement therapy may hold promise for overcoming anabolic resistance, but concern about adverse side effects can also deter participation. STEP-HI is a multisite trial testing whether exercise and testosterone can improve hip fracture recovery in older women. In this talk, recruitment barriers experienced in STEP-HI and strategies employed to overcome these barriers will be discussed. Strategies include: partnering with hospitals, skilled nursing facilities and orthopedic surgeons, providing talks and education materials; and featuring past participant testimonials in recruitment materials.

IMPLEMENTATION OF A REMOTE FIDELITY OVERSIGHT PROGRAM FOR A MULTI-SITE EXERCISE INTERVENTION

Jennifer Stevens-Lapsley, *University of Colorado School of Medicine, Aurora, Colorado, United States*

The STEP-HI exercise protocol is a supervised, 2 phase, multimodal, high-intensity exercise program that emphasizes resistance training. Exercise sessions are conducted at an exercise facility and occur on two non-consecutive days/

week for 6 months. During specified exercises, the exercise interventionist targets the participant's eight-repetition maximum (8-RM), defined as the greatest resistance that can be moved 8 times through full range of motion with good form. A rigorous, remote fidelity monitoring program maximizes consistency of the intervention across sites. This fidelity oversight program is a model for future exercise studies because of its unique remote, hierarchical structure. All exercise interventionists are initially certified by written examination and direct observations. Some exercise sessions are also video recorded and reviewed using fidelity checklists. After initial certification, repeated direct observation and video-based verification of fidelity are repeated at prescribed intervals for each interventionist to ensure sustained consistency of implementation across sites.

HOW DOES TESTOSTERONE AUGMENT THE ANABOLIC RESPONSE TO EXERCISE IN FRAIL OLDER ADULTS?

Shalendar Bhasin, *Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, United States*

Testosterone treatment increases muscle mass, strength, and leg power in menopausal women, hypogonadal men, older men with mobility limitation, COPD and ESRD. Testosterone's effects on muscle mass and strength are augmented by exercise training and growth hormone. Testosterone treatment improves some measures of physical performance, such as stair climbing power and aerobic capacity; the improvements in gait speed have been modest. Testosterone increases muscle mass by inducing the hypertrophy of type 1 and 2 muscle fibers, and by increasing satellite cell number. Testosterone promotes the differentiation of mesenchymal progenitor cells into myogenic lineage and inhibits their differentiation into adipogenic lineage by activating Wnt-target genes, including follistatin that plays an important role in mediating testosterone's effects on the muscle. Testosterone also increases polyamine synthesis in the muscle. Combined administration of testosterone plus multi-component exercise intervention that includes functional training may be needed to improve function and mobility in older adults.

Session 3125 (Symposium)

THE IMPLICATIONS OF AGING COUPLES' LINKED LIVES: DYADIC ASSOCIATIONS IN HEALTH AND WELL-BEING

Chair: Stephanie Wilson

Co-Chair: Christina Marini

Discussant: Amy Rauer

Older adults age in the context of their intimate partnerships. Partners' lives—their emotions, behaviors, and health—are intricately linked as they navigate the challenges associated with aging. This symposium presents research that illuminates ways partners influence one another later in life. The talks are diverse with regard to their timescale (e.g., years vs. hours) and context (e.g., dementia vs. pain). Dr. Martire will examine associations between declines in one spouse's physical health over 5 years and the other's mental health. This talk will further consider whether discussing health concerns exclusively with one's spouse intensifies such