**ABSTRACT**

Naval Special Warfare SEAL Operators must possess musculoskeletal and physiological characteristics necessary to meet mission related tasks, preserve health and physical fitness, and maintain physical readiness. Previous reports of physical training and fitness characteristics of SEALs are not contemporary, and have not investigated these characteristics as they relate to tactically-relevant activities. PURPOSE: To examine the relationship between musculoskeletal and physiological characteristics and Tactical Performance in Naval Special Warfare Operators.

**STUDY DESIGN**

- Cross-sectional, correlational research design

**SUBJECTS**

- 38 NSW SEAL Operators (30.4±5.8 yrs, 1.86±0.1 m, 88±13.2 kg)

**PROCEDURES**

- **LABORATORY DATA COLLECTION (Day 1)**
  - Body Composition (BOD POD Body Composition System, Cosmed, Chicago, IL) (Figure 1)
  - Isokinetic Strength (Biodex Multi-Joint System 3 Pro Dynamometer, Shirley, NY) (Figure 2)
  - Maximal Oxygen Uptake (VO2Peak) and Lactate Threshold (LT) (Figure 3)

- **TACTICAL TASK COLLECTION (Day 2)**
  - Medicine ball toss
  - Broad jump
  - 5-10-5 agility drill
  - 25 lb pull-ups
  - Body weight bench press
  - 1 RM dead lift
  - 300 yd dash

**RESULTS**

- The following significant correlations were revealed:
  - CTTR with body fat (BF%), fat mass (FM), fat free mass (FFM), shoulder, knee, and lumbar strength (Table 1)
  - Medicine Ball toss with FFM (Table 2)
  - Broad jump with BF%, FM, VO2 Peak, shoulder, knee, and lumbar strength (Tables 2-3)
  - 5-10-5 with BF%, FM, VO2 @ LT, shoulder, knee, and lumbar strength (Tables 2-3)
  - Dead lifts with FFM and knee strength (Tables 2-3)
  - 300 yd dash with BF%, FM, VO2Peak, VO2 @ LT, shoulder, knee, and lumbar strength (Tables 2-3)

**SUMMARY AND CONCLUSIONS**

- Laboratory-based physiological and musculoskeletal characteristics are significantly correlated to physical, tactically-relevant tasks.
- Optimizing these characteristics through physical training may enhance a NSW SEAL Operator’s overall tactical readiness.
- These results may provide practical implications for assessing the tactical-readiness of NSW SEAL Operators.

Research is warranted to examine the relationship between muscle characteristics and physical, tactically-relevant performance of NSW SEAL Operators.