Fasted sprint interval training results in some beneficial skeletal muscle metabolic, but similar metabolomic and performance adaptations compared to carbohydrate-fed training in recreationally active males

**METHODS**

Recreationally active males (n=18)

- FAST
- CHO

SIT: (3 weeks, 9 exercise sessions)

**RESULTS**

SIT
- ↑ mitochondrial gene expression
- ↑ mitochondrial enzymatic activity
- Δ pan-acetylation
- ↑ aerobic/anaerobic performance

**FAST vs. CHO (Acute)**
- ↑ PDK4, NAMPT, NNMT mRNA
- ↔ pan-acetylation
- ↔ PARP1 protein

**FAST vs. CHO (Chronic)**
- ↑ NRF-2, PPARδ mRNA
- ↔ PARP1, Ac-MnSOD protein
- ↓ pan-acetylation
- Δ serum metabolome
- ↔ mitochondrial enzymes
- ↔ performance increases

**CONCLUSION**

Fasted SIT positively influenced some muscle and serum metabolic adaptations compared to CHO-fed, however, these did not result in additional performance benefits.