Blood flow restriction training (BFR) is a popular training program that uses a pressure cuff to restrict blood flow to a targeted muscle group, resulting in muscle hypertrophy and increased muscle strength when combined with a low-intensity training program.¹

Questions still remain about its relative safety and contribution to adverse events during exercise.

Adverse event: any injury, harm, or disability sustained during BFR

**Purpose**

- To review the available evidence on BFR in order to determine the relative safety of BFR through adverse event reporting
- To determine if BFR negatively impacts the musculoskeletal, neurologic, and cardiovascular systems

**Results**

- **Blood Pressure**
  - ↑ BFR
  - ↑ HIT

- **Heart Rate**
  - ↑ BFR
  - ↑ HIT

- **Nerve Conduction Velocity**
  - ↔ BFR
  - ↑ HIT

- **Stroke Volume**
  - ↓ BFR
  - ↔ HIT

- **Muscle Damage**
  - ↑ BFR
  - ↑ HIT

**Clinical Relevance**

- Low pressure (80% resting SBP) eliminates possibility of thrombus formation³
- BP elevation: wide cuff > narrow cuff⁴

**Limitations & Future Directions**

- Interpreting the relative safety of BFR is challenging given the inconsistency of adverse event reporting in the literature
- Future research should consider and report safety of BFR in geriatric, postoperative, and cardiac rehabilitation patients as well as injured athletes to determine appropriate use in patient populations

**Conclusions**

**Given low adverse event reporting, BFR appears to be a safe training modality for healthy individuals and presents no greater musculoskeletal, cardiovascular, or neurologic risk than traditional exercise modes**

**References**