

# Blood Flow Restriction Training (BFR)

**What It Is:** Blood flow restriction training (BFR) is the newest training tool to hit the rehab and performance worlds. BFR is used to increase muscle size and strength while completing low training intensities (20-30% of 1 rep max).

**How It Works:** Exercise is performed while an inflated cuff is wrapped around an arm or leg. The pressure around the limb will restrict arterial blood flow to the muscles while preventing venous return of blood back to the heart. This will decrease oxygen that is delivered to muscles and cause a cascade of unique physiological responses and hormones to be released. It allows a person to exercise at a lighter intensity while receiving a response to similar to that of high intensity training.

## Physiological Responses Include:

- Cell swelling from accumulation of lactic acid, which causes increased protein synthesis and muscle growth
- Higher levels of growth hormone
- Improved bone density
- Increased recruitment of fast-twitch muscle fibers

**Who would benefit?** Over 800 research articles have shown BFR to be safe and beneficial for several groups of people.

- Bed ridden
- Casted or immobilized
- Post-operative rehab
- The elderly or older adult at risk of muscle wasting
- People who are unable to lift heavy due to pain
- To treat muscle strains
- Active recovery for athletes

## Contraindicated for individuals with:

- Cancer
- Acidosis
- Infection within the extremity
- Severe hypertension
- Increased intra cranial pressure
- Venous thromboembolism
- Lymphedema
- Impaired circulation
- Open fracture or wound
- Sickle cell anemia
- Vascular graft or revascularization of limb

**What to Expect:** It is important to understand what a normal response to this treatment is.

- It is important to achieve a burning fatigue during the process due to the buildup of lactic acid.
- You shouldn't feel numbness or tingling sensations
- Muscle soreness and fatigue following the BFR treatment is to be expected