Physiological benefits of Stair Climbing

Although climbing stairs and running or walking all engage a similar set of large lower body muscles, stair climbing exercise really excels when you consider how it engages these muscles which creates the ultimate cardio and strength workout:

- The vertical movement of climbing stairs requires you lift your body weight against gravity, which stimulates both the cardiovascular system and the muscular system providing an **efficient** exercise to achieve both health and fitness goals in a minimum amount of time.
- The intense engagement of these large lower body muscles requires that the heart and lungs have to provide more oxygen to power these muscles which **burns more calories** and over time produces **significant increases in cardio vascular fitness** strengthening the entire cardiovascular system
- Climbing stairs also challenges your Leg, Gluteus, and Core muscles under load to stabilize and balance your body as you lift and move from one leg to the other **challenging balance** making it an excellent "**Functional exercise**"
- Functional strength training involves performing work against resistance in such a manner that the improvements in strength directly enhance the performance of movements so that an individual's **activities of daily living (ADL)** are easier to perform. Stair Climbing is considered one of the essential **ADL**.
- Stair Climbing is **low impact** so it's easy on the joints, yet its weight bearing and helps **build healthy bones.**
- Because stair climbing challenges your aerobic and anaerobic systems it is perfect for **cross training**, it can help runners, swimmer, cyclists and other competitive athletes improve their endurance and sprint performance. Not only is there an aerobic component but also there is a significant strength component involved in all stair climbing, which makes it a very efficient cross training modality

Positive Health outcomes from Stair Climbing

- Reduces the risk of heart disease, diabetes, cancer and osteoporosis
- Helps control weight, cholesterol and blood pressure
- Reduces stress, anxiety and feelings of depression
- Promotes psychological well-being, better cognition and social interaction

Benefits of the Escalate

- The "**Adjustable Step Height**" allows users to choose the step height that is most comfortable for each individual.
- Beginning with a 4" step height a user can choose any height up to 8". This allows a **wider range of users** with different levels of conditioning and flexibility to enjoy the benefits that Stair Climbing provides. Traditional Stair Climbers have only a fixed 8" step that is far too challenging for all but the fit users, which most clubs report is less than 10% of their membership. Facilities that have Escalate report as many as 50% of their members enjoy the benefits of this excellent exercise.
- By allowing users to progress in small increments of step height users will be able to see and feel continual progress towards their goal, which maintains and increases motivation.
- For the **fit user** adjusting both the step height and the speed controls offers a new dimension in creating **high intensity training intervals** unmatched by existing Stair Climbers.

- The width of the step combined with the well-placed handrails, the ergonomic position of the speed and incline controls, the low starting step height and overall solid platform creates a "personal safe space" that no other climber provides
- The Escalate "mounting steps" "allow a wide range of users to mount and dismount the machine in a safe and secure manner"

Differences between a stepper and an Escalate

1. The single biggest difference between a stepper and stair climber is that on a stepper your foot remains on the platform on a stepper versus a stair climber where you lift your foot off the step as you place it on the next step. This helps stimulate the neurological connection that increases the "Functional" aspect of a Stair Climber over a stepper.
2. Steppers however have been proven many times to reproduce the movements of actual stair climbing, however because the users choose the height of each step, steppers encourage each step to get shorter as fatigue sets in. This allows a off-loading of body weight as the steps get shorter and shorter. With a stair climber you are always sure that whatever height the step is set at is the actual vertical distance that you must perform.

Escalate vs. Elliptical or ARC Trainers

- Elliptical and ARC trainers do not have a vertical component nor do they provide a movement pattern that replicates common movements that we engage in everyday life or athletics, so they are not "Functional"
- Both provide resistance via a mechanical device in the horizontal plane and while they are weight bearing do not require any vertical movement of a user's body weight.
- There are may claims by Fitness manufacturers as to the number of calories burned on various machines. A 2010 study done at the University of California at San Francisco found that most categories (TM, Climber, Bikes) consoles calculate the actual calories a bit high ranging from 7-13% over the actual value, however Elliptical machine on average overstate the actual caloric expenditure by 42%! One reason that contributes to this number is that elliptical use caloric algorithms for either walking/running or bike riding which are not accurate representations of the movement
- A recent Mayo Clinic study drawing on statistics gathered by the National Institute of Health states that a 160 lb. person jogging on an elliptical trainer burns on average 365 calories per hour, whereas the same person running stairs burns 657 calories an hour. This difference is completely because you are vertically moving your body weight.