

Exercise following a burn injury

Exercise is an essential part of a healthy lifestyle, including for those people impacted by a burn injury. The benefits of exercise are well known – improvements in strength, endurance, flexibility, mood and self-confidence. Following a burn injury, exercise will be an essential part of a person's recovery... whether they exercised previously or not! Regardless of their previous or current function, exercise can be tailored to a person's needs.

Feeling weak and deconditioned following a burn injury is common. People may have spent prolonged periods in bed during their admission. Additionally, following a burn the body is in 'overdrive' as it uses more energy to repair itself – this is called a **hyper metabolic state**.

Exercise aims

The main aim of exercise following a burn is to restore any deficits in strength and movement, whilst building endurance so people can carry out everyday activities when they are at home.

The importance of exercise

There are many reasons why exercise is important following a burn injury, the main reasons being:

1. Counteract the effects of bed rest - whilst in hospital, people may spend a lot of time in bed. The strength in muscles can significantly decrease in a matter of days and people may become fatigued very easily
2. Body 'overdrive' - following a burn, the body can go into a hyper metabolic state, meaning it is working in 'overdrive' to help repair itself. This state can last for up to 12 months, and can lead to muscle weakness; exercise can help to maintain and/or build up muscles
3. Burns scarring and contracture development – Depending on the severity of the burn, a scar may occur. A scar is not as flexible as normal skin, and if lying over a joint, can lead to tightness and decreased movement at that joint. Stretching and exercise can help maintain movement at joints and reduce the risk of contracture development.

Suggested exercises

A general exercise program should be developed by a clinician, and may consist of:

- 1) Stretching / range of movement exercises (please refer to “stretching exercises” factsheet)
 - If the burn crosses over a joint, it is especially important for people to complete stretching exercises of this joint for many months/years following burn injury to reduce the risk of contracture development.
- 2) Aerobic / endurance exercise
 - May include walking, jogging and cycling and swimming
 - Aims to increase your overall cardiovascular fitness
 - An ideal amount of aerobic exercise is 30-60 minutes per day. However, people may initially only be able to exercise for short periods – as a therapist, you will need to guide people as to the appropriate level to start exercising and likely progression
- 3) Strength exercises
 - Aims to maintain / increase muscle mass and strength
 - Strength exercises should be completed three times weekly to provide most benefit (with a rest day in between each session)
 - It may be beneficial to increase repetitions first, and then increase resistance to avoid muscle fatigue
 - Specific strength exercises of muscle groups which oppose the anticipated contracture line should be implemented to reduce any losses in ROM (e.g. Posterior knee burn – strengthen quadriceps to prevent knee flexion contracture).
 - Can include hand weights, machines, resistance band, or simply a person’s own body weight
- 4) Return to sport
 - Although there are generally no restrictions to stretch and strengthening programs once cleared by VABS clinicians, it is recommended that contact sports are avoided for 6-8 months given the vulnerability of the recovering skin.
 - Swimming can be commenced when wounds are fully healed. If doing so outdoors, ensure SPF30 sunscreen is used. Clients also need to be mindful of skin drying out in the salt and or chlorine. Liaise with VABS clinicians regarding return to swimming.

People don’t necessarily need to join a gym –designing a program to do at home is a great way of encouraging consistency with exercises and supporting recovery in the home environment.

Exercise Precautions

As with all people, prior to starting an exercise program for a person following a burn injury, ensure you have assessed if they have any problems with their heart, lungs, muscles, bones or joints. Guiding your clients towards an individualized exercise program that will assist to improve their function and quality of life is important for ongoing and sustained recovery.

Following a burn injury, people are more prone to **overheating** when exercising. Sweat glands are often affected by burn injury, therefore the burned areas of skin are unable to sweat, and the body is unable to cool. It is important people remain well hydrated and avoid exercising in hot and humid conditions. People should be aware of the signs of overheating, such as headache, blurred vision, ringing in your ears, dizziness, nausea, and feeling faint.

Care must be taken not to knock or bump the skin as it will be vulnerable to skin breakdown. If, however, there ARE small areas of skin breakdown, there should be no need to cease or limit stretching/strengthening exercises – ensure the wound has appropriate dressings. IF the area fails to heal, or gets bigger in size, contact VABS for guidance.

Contact Details
Email: burnsunit@alfred.org.au
Attention: Victorian Adult Burns Service, Allied Health