

Physiotherapy after a Burn Injury

An early start provides the best outcomes

Why is Physiotherapy important early after burn injury?

Even though it may be uncomfortable, it is important to start exercising right from the day of your injury. Starting as early as possible will help you to recover quicker and improve your ability to function. Exercise programs, started as early as possible after your burn injury, have been proven to:

- **Improve lung capacity and fight potential chest infections** like pneumonia
- **Improve skin flexibility and movement** while it is healing. This improves your function and prevents burn scar contracture development
- **Improve muscle strength**, overcome the effects of bed rest and symptoms of weakness
- **Increase muscle mass**. After a major burn injury, the body uses your muscle mass (or muscle proteins) to drive the healing process. This may leave you feeling weak. This process can last for up to 12 months after burn injury, so strengthening exercises are important to re-build your muscle mass
- **Improve endurance**, overcome symptoms of deconditioning and fatigue
- **Improve balance, function, confidence, and independence** with completing everyday activities
- **Improve mental health, general well-being and quality of life**



Fear of movement while your skin is healing - you can't do any damage!

- After a burn injury, **your skin will tighten** to try to heal the wounds as quickly as possible.
- This process of **skin contraction is most active in the first 6 months post burn injury** but may last up to 2 years. Timeframes are different for every individual and depends on your burn size, location, and the type of management you receive. However, **burn scar contractures** that limit your movement and function may develop if the skin is not stretched enough during the healing process.
- It is **normal to feel nervous or fearful about starting an exercise program** in the early stage after a burn injury as your main focus is often on ensuring the wounds are healing.
- **It is completely safe to move directly after your burn injury. You can not do any further damage to the skin by performing exercises.**
- In fact, exercise will only help the healing process by
 - **Decreasing the swelling**. Exercise activates your muscles to pump the swelling fluid out of the area. Reducing the swelling results in faster wound healing
 - **Stretching the skin** to prevent skin tightness described above
 - **Allowing you to be more independent** in normal everyday functional activities



Pain

- Burn injuries are painful but **pain does not mean that you are causing damage** to healing skin. Exercise may be uncomfortable or painful, especially when the skin is on maximal stretch. Discuss with your Burn Surgeon about appropriate **pain relief medication** to assist you to continue your exercise program. Timing pain medications before your exercise session can help make the session more comfortable.
- **Other techniques** may assist with managing pain during physiotherapy sessions - **relaxation and breathing techniques**, distraction by **listening to music** or **watching TV or Netflix** etc.



Consumers contributed to this information.

Metro North Health



Queensland Government

Types of Exercise and Physical Activity

Stretching Exercises

- Your physiotherapist will provide you with stretching exercises to **improve the flexibility of your skin**. The skin responds best to **slow stretches**.
- Push your stretch to maximal movement, hold this position for a **sustained stretch of 1 minute** to allow the tight skin to give and change length
- **“Skin Blanching”** is where the skin becomes white during a stretch before you’ve achieved maximal movement in that area. This is usually a sign that the skin is tight and needs more stretching exercises in that area.



Strengthening Exercises

For Strengthening:

- Your physiotherapist will provide you with strengthening exercises to **build up your muscle strength to oppose the likely contracture pull of the skin**
- Strengthening exercises will be gradually progressed by adding resistance in the form of body weight, resistance bands, hand weights and even formal gym programs.
- To avoid muscle fatigue, **increase repetitions first before increasing the load or weights used**. This allows you to continue daily strengthening exercises without muscle soreness.



Endurance Exercises

For Endurance:

- Your physiotherapist will provide you with **aerobic exercise** to improve your endurance. This type of exercise aims to get your heart beating faster and gradually builds up your fitness levels. In the early stages after a burn, **the best aerobic exercise is walking or mobilising by your usual means**. If you can’t walk, then propelling a wheelchair, cycling with your arms or using an exercise bike can help to build up your endurance



Exercises to encourage Functional Independence

- Practicing normal daily activities is a good way to maintain your flexibility, strength and endurance. Activities like sitting in a chair, walking to the bathroom, feeding yourself, brushing your teeth all contribute to improving your overall activity levels.



Suggested Exercise Programs

Exercise programs after burn injury should **include all exercise types** described above:

- 1) **Stretch first** to improve range of motion to maximum limits
- 2) Follow stretches with **strengthening exercises** to build up the strength in your muscles. You should complete this combination of stretching and strengthening exercises **4 to 5 times per day** to overcome the contracting force of the skin and build up your strength to pre-burn levels.
- 3) Complete **endurance exercises to build up your mobility distance**. You could use a wearable device to monitor your time exercising or distance achieved to help you to gradually progress.
- 4) Complete **functional independence activities** daily eg at meal times, assist with showers etc



Exercise Safety



- **It is safe to exercise** directly after your burn injury.
- Your physiotherapist will provide you with an **individualised program at the appropriate exercise intensity for your condition** from Day 1 after your injury.
- The intensity of your exercise program will be based on the **burn injury location** and if you have any **pre-existing conditions** with your heart, lungs, bones or joints.
- The only time you may need to **pause your exercise program** is if you need to have a **skin graft or other type of surgery** to allow your burns to heal.
- The time period for this pause is dependent on the type of surgery you have
 - Standard skin grafts – approximately 3 to 5 days
 - Other skin substitutes – longer time frames – approximately 7 to 10 days
- Your physiotherapist will guide you back to full movement at the appropriate time after surgery.

Tips for exercising in the early stage after burns



- Start early from the day of injury
- Do your exercises 4 to 5 times per day, every day.
- Doing multiple smaller sessions per day is better than doing one session and resting for the remainder of the day
- Try to do one exercise session when your dressings are off and there is no restriction from bandages
- Try to walk or mobilise in your usual way 3 to 4 times per day aiming for a minimum of approximately 1000 steps per day
- You only need to stop exercising for a short period of time after surgery such as a skin graft

Fatigue / Confusion / Memory problems

- Burns are a major traumatic injury and can have an impact on your bodily functions, thoughts, feelings and emotions. It is not unusual to experience many symptoms or emotions that may impact on your ability to do your exercise program such as:
 - **Poor memory or attention** – difficulty recalling instructions or information
 - **Multiple emotions** - Confusion, anxiety, feeling disoriented, scared, sad, angry, fatigued, restless, agitated or withdrawn
 - **Disoriented, not sleeping well**



Tips to help deal with these symptoms



- **Talk regularly** with burn unit staff, family members, friends about your experiences
- **Keep a diary or write down any questions** for burn unit staff to help with memory
- Your physiotherapist can provide you with **exercise sheets and written information** to help remind you of how to perform your exercises and how often to do them
- **Minimise daytime naps and participate in physical activity during the day.** This resets the day / night sleep cycle and improves your chance of sleep at night



If you have any questions about your exercise program, please discuss with your physiotherapist at your next appointment or call the **RBWH Physiotherapy department on 3646 4319** to speak with your physiotherapist for more information.

Scan this QR code for more information on our website

