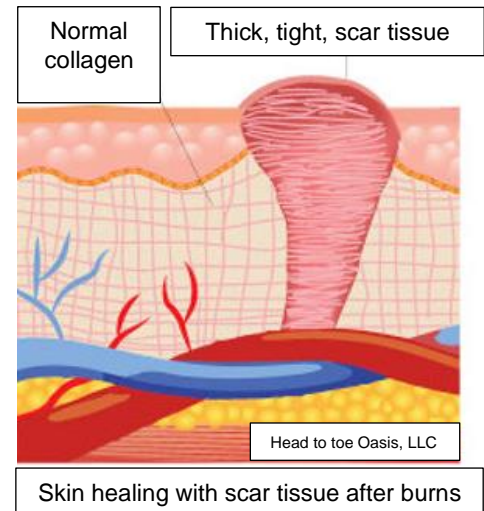


Physiotherapy after a Burn Injury

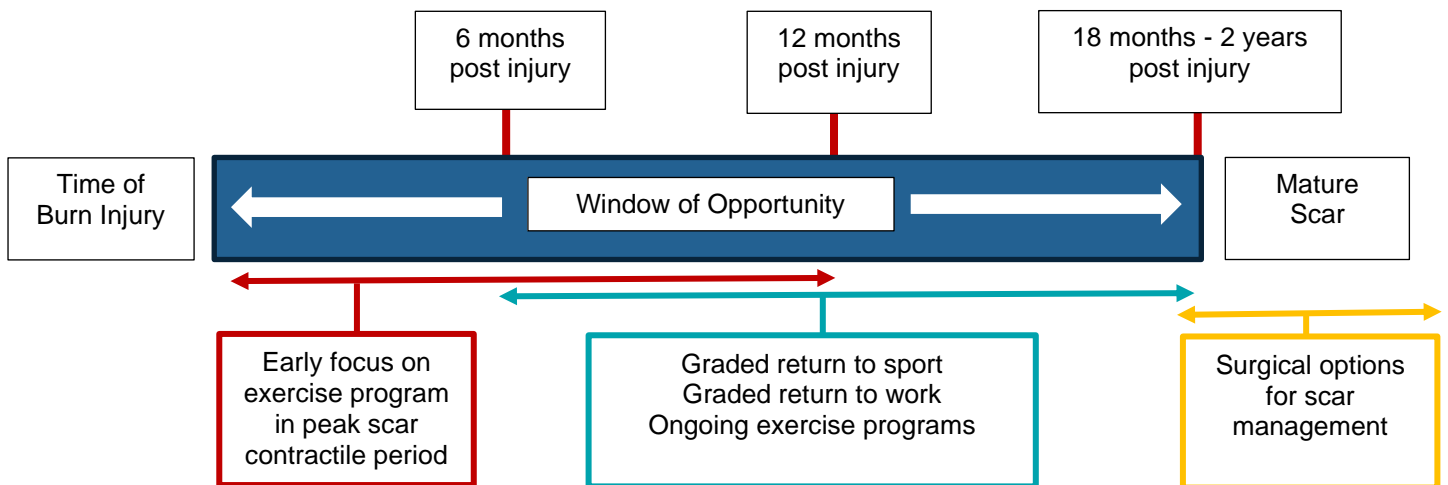
Managing your long-term program while getting your life back on track

Burn scar contracture

- A **thick, tight hypertrophic scar** may develop if wounds take **greater than 14 days** to heal.
- Hypertrophic scars remodel over time. Scars **worsen over the first 6 months** becoming progressively darker, thicker and tighter.
- Scars will eventually stabilise, becoming flatter, lighter in colour and less contractile. Everyone's burn journey is different, but on average this process takes **18 months to 2 years**. At this stage we call the **scar "mature"**.
- If left unmanaged, scars can cause significant impacts on your movement, function, appearance and comfort which in turn influences your quality of life
- While the scar is remodelling, you have a **"window of opportunity"** to get the maximal effect from your physiotherapy program. After the scar is mature, physiotherapy management options are less effective and further surgical options should be discussed with your burn surgeon.



Timeline for Maximal Physiotherapy Benefits



Benefits of Exercise after Burn Injury

Exercise is essential for a healthy lifestyle and is especially important in the rehabilitation phase after burn injury. Participating in exercise programs after burn injury has been proven to:

- **Improve skin flexibility and movement**, and **prevent the development of burn scar contracture**
- **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**



Consumers contributed to this information.

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Types of Exercise

Stretching Exercises

- 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 and Endurance Exercises

For Strengthening:

- **Strengthen muscles that oppose the likely contracture pull of the skin**
- Complete exercises that use body weight, resistance bands, hand weights, items from your home environment or commence a gym program.
- 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.



For Endurance:

- Gradually increase the amount of **aerobic exercise** you complete. This type of exercise aims to get your heart beating faster and gradually builds up your fitness levels. Aerobic exercises include walking, arm or leg cycling, rowing, swimming etc.



Suggested Exercise Programs

Any exercise program should **include all exercise types** described above:

- 1) **Stretch first** to improve range of motion to maximum limits
- 2) Follow stretches with **strengthening exercises**. 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 **aerobic / endurance exercises** building up to **60 minutes of aerobic exercise on most days of the week**. You could use a wearable device to monitor your step count, time spent exercising, or distance achieved. This may help you to gradually progress your aerobic exercise.



Exercise Precautions

- There are **no restrictions to exercise** at this stage after burn injury
- If you have any pre-existing problems with your heart, lungs, bones or joints, your physiotherapist can develop an **individualised program** at the appropriate exercise intensity for you.
- As sweat glands may be affected in some burned areas, you may feel like you are overheating while exercising. Usually, non-burned areas will compensate to sweat more and assist to cool you down.

To improve comfort and **avoid overheating while exercising**:

- Exercise in cooler or air-conditioned environments
- Drink plenty of water to remain well hydrated
- Use an ice pack in non-burned areas to cool you down



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 prior to commencing your exercise session can help make your session more comfortable.
- **Other techniques** that may assist with managing pain during physiotherapy sessions – **relaxation and breathing techniques**, distraction by **listening to music** or **watching TV or Netflix** etc.



Scar Massage

Scar massage aims to soften and improve the flexibility of the skin.

Tips for Scar Massage



- To minimise risk of skin reactions, use a **water-based, non-perfumed moisturiser**.
- Apply firm pressure (until skin blanches) and use a **circular motion to targeted scar areas** (areas that blanch, are thickened, have contracture bands or are stuck down)
- Scar massage can be commenced at 2-4 weeks post skin-graft. Please check with your physiotherapist before starting scar massage.
- Massage is most effective when performed in combination with a stretch held at the maximum limit of your skin.



- Massage should not be done on fragile skin or open wounds
- If the skin becomes inflamed (very red) or blisters after you perform massage, then stop the massage and discuss further with your physiotherapist



Managing wound breakdown

- The skin remains **fragile to small knocks / bumps in the initial 6-month period** after a burn injury. This may result in skin breakdown or small wounds developing.
- There is **no need to stop or limit your stretching / strengthening program if skin breakdown occurs**.
- Ensure **appropriate dressings** are applied to the wounds and continue your exercises.
- If you are concerned about the wound, discuss further with your Burn surgeon at the next burn clinic.



Itch

- Almost everyone with a burn injury will experience problems with itch at some point in their recovery. Itch tends to
 - **be worse at night** when you have no other distractions, making it hard to fall asleep.
 - **be more likely during or after exercise, standing in one position** for prolonged periods or **during hot temperatures**.
 - make it **hard to concentrate on tasks** and may **cause you to scratch**, leading to small wounds in newly healed skin.



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Tips for dealing with Itch



- **Scar massage** is one the best ways to reduce itch
- Use an **oatmeal based moisturising cream** – this may help to reduce itch if the skin is dry
- **Compression garments** and **silicone products** can help – discuss these options further with your occupational therapist
- Use **unscented laundry detergents and lotions** to minimise the risk of irritation
- Keep **fingernails short** to minimise scratching
- Discuss with the burn surgeon about **medications** to assist with itch eg antihistamines, gabapentin and sleep medications

Sun Protection

- Newly healed scar tissue is more susceptible to sunburn. Time in the sun can also have an impact on skin pigment (changing the overall skin colour). **Use a SPF50+ sunscreen** over healed burn scars and **cover up when out in the sun.**



Return to Sport and Recreational Activities

- Due to the fragile nature of the skin, it is advisable to **avoid contact sports for the first 6 months post injury.**
- Please check with your physiotherapist about your skin condition, as some types of training can often be commenced sooner.
- **Swimming** can be commenced once all wounds are healed. Prior to this, there is a risk of wound infection. Please seek guidance from your burn team if you are unsure.



Return to work

- Returning to work is another important phase of recovery and can further improve your strength and flexibility by completing work specific tasks.
- It is normal to have some fears about returning to work. Fears are usually around **not feeling physically ready** or **not feeling mentally ready.**
- **Physiotherapy sessions can help you prepare physically** through strengthening exercises and gym programs. During your physiotherapy sessions, discuss with your physiotherapist the specific physical tasks you need to complete in your work environment. The physiotherapist can incorporate this into your exercise program.
- **Discuss return to work with your burn team** (Burn Surgeon, Occupational Therapist and Physiotherapist). The team can:
 - assess your current strengths / limitations and help you set achievable return to work goals
 - evaluate need for graded return to work options eg modified duties, modified work schedules
 - evaluate need for appropriate footwear, protective equipment, changes to work environment
 - provide education / documentation about any work requirements to your employer.



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

