

Exercise After Burn Injury

April 2015

www.msktc.org/burn/factsheets

BURN Factsheet

This factsheet explains the importance of exercise or movement after a burn injury. The information describes what activities you can do to make your muscles stronger and keep your joints moving.

How does a burn injury affect your body?

A burn injury causes stress to your body. Your heart and lungs may not work as well as before. Your bones may not be as strong. Remember that muscles get weak or smaller when they are not used—being on bed rest probably caused you to lose some muscle. For each day of bed rest people can lose 1% of their muscle.

Also, as your burns heal you may notice that your skin feels tighter. You may not be able to move your joints as far and as freely as before. This tightness and lack of movement may make it harder to take care of your everyday activities like bathing, dressing, and eating.

Why Exercise is important?

The sooner you begin everyday activity, the better. Sitting up, getting out of bed, and walking will help you get out of the hospital sooner. Being active or exercising will:

- Help your breathing
- Help your body to fight infections, like pneumonia
- Improve your flexibility and ability to move
- Lower your risk of developing scars or contractures that limit your ability to move
- Make it easier to take care of your everyday activities
- Give you a sense of well-being

What can I do?

The chart below shows the types of exercises that can benefit you. Please consult your physician before engaging in these exercises.

Type of Exercise or Activities	
Stretching	Stretching is an important part of your exercise program. <ul style="list-style-type: none">• Stretching increases flexibility, which is important for preventing and treating contractures.• The goal of stretching is to move the joint to the point where the skin stretches.• Hold the stretch for 20 seconds to 2 minutes. Relax and repeat three times.
Aerobic activities make your heart beat faster and can make your heart, lungs, and blood vessels stronger and more fit.	Walking is an easy way to get aerobic exercise. <ul style="list-style-type: none">• Walk outside or on a treadmill inside.• Start slow.• Increase the time you walk by about 1 minute per day.• Build up to walking 30 minutes to 1 hour three times a week.• You should feel as if you are working, but you should not be so short of breath that you can't talk. When cleared by your doctor, try using a stationary bike or swimming.

The Burn Model System Program is sponsored by the National Institute on Disability, Independent Living, and Rehabilitation Research, Administration for Community Living, U.S. Department of Health and Human Services. (See <http://www.msktc.org/burn/model-system-centers> for more information).

Type of Exercise or Activities	
Strengthening activities make your muscles do more work than usual and make your muscles stronger.	Resistance training or muscle strengthening is exercise that uses weights, elastic bands, or your own body weight. Weights don't need to be heavy. They just need enough tension to raise your heart rate and tire your muscles. Yoga, Tai Chi, or Pilates are also ways to make your muscles stronger and keep you moving.
Recreational activities	Playing sports, gardening, and dancing are good recreational activities that can help you build strength and endurance. Children will benefit from playing games that require movement or simulated activities using technology like the Wii.

Special considerations

When exercising after a burn injury, keep in mind:

- **Pain**—Use pressure garments to decrease pain and increase the ability to exercise.
- **Dry skin**—Put on creams to moisturize the skin before stretching. Creams can prevent cracking or tearing of skin. Ask a family member or loved one to massage the area of tightness. Massaging the area gently before exercising can help you stretch.
- **Water**—Drink water or fluids so you do not get dehydrated during exercise.
- **Exercising in the heat**—Many people with burn injury are uncomfortable in the heat. Be sure to protect yourself from the sun when exercising outdoors. Cover up with a hat and long sleeves. Use waterproof sunscreen. Start slow and build up to longer times in the heat. Research shows that people with burns of less than 40% of total body surface area (TBSA) can build up a tolerance to the heat if they slowly increase exposure.
- **Open wounds or exposed tendons**—Talk with your doctor or therapist about what you can do to exercise safely if you have open wounds or exposed tendons.

Stretching exercises to help with tightness

The chart below shows exercises for different parts of the body where skin is tight because of a burn injury. Talk to your primary care doctor or the burn care team about the exercises that are right for you.

Face	<ul style="list-style-type: none"> • Look into a mirror and make facial expressions like smiling or looking surprised. • Close eyes tightly and massage skin around eyes. • Stretch your mouth open and massage the edges of your mouth. • Say the alphabet, exaggerating the letters with your mouth.
Neck	<ul style="list-style-type: none"> • Combine stretching your neck with face stretching. • Stretch in the opposite direction of tightness. • Lie on your back on the bed. Look up to stretch the front of your neck. As you get better, let your head jut out over the edge of the bed.
Chest	<ul style="list-style-type: none"> • Lie on your back with a ball or cushion in the middle of your back. <ul style="list-style-type: none"> • Start with your hands on your hips. • Arch your back. • Stretch both arms out to the side or over your head to increase the amount of stretch on your chest.
Shoulders	<ul style="list-style-type: none"> • Hold a stretch band with each hand. Use one arm to hold the other arm at the point of pull. Repeat to stretch the other shoulder. • Prop your arm on the back of the couch or chair when sitting.
Elbows	<ul style="list-style-type: none"> • Sit with your elbows all the way straight and your palms facing forward or up.

Hands	<ul style="list-style-type: none"> • Stretch each finger at the knuckle to help get the hand into a fist (see photo to the right). • For a longer stretch, wrap your hand in a fist position. • To get your hand into an open position, press down against a firm surface. <ul style="list-style-type: none"> • Increase the amount of stretch by using the other hand to press down on the back of the open hand. 	
Knees	<ul style="list-style-type: none"> • To help get the knees straight, sit with your legs propped up. <ul style="list-style-type: none"> • Increase the amount of stretch by pressing on your thighs or knees with your hands. 	
Ankles	<ul style="list-style-type: none"> • Standing helps stretch your ankles to get your feet flatter on the ground. • Stand on a step as if you are about to go up the steps. Lower your heel off the step. 	
Toes	<ul style="list-style-type: none"> • Toes tend to curl up. First, massage the scar. Then use your hand to stretch the toes. 	

Keeping your body fit and healthy may mean going to a gym, a swimming pool, or being out in public. It's natural to be worried about how you look or how people may react to your burn scars. Check out the links below for resources that may help you.

Body Image After Burn Injury (<http://www.msctc.org/burn/factsheets/Understanding-And-Improving-Body-Image-After-Burn-Injury>)
Social Interaction After Burn Injury (<http://www.msctc.org/burn/factsheets/Social-Interaction-After-Burn-Injury>)

Authorship

Exercise After Burn Injury was developed by Karen Kowalske, M.D., Radha Holavanahalli, Ph.D., Gretchen Carrougher, R.N., M.N., Oscar Suman, Ph.D., and Cindy Dolezal, P.T., MLS in collaboration with the Model Systems Knowledge Translation Center.

Source: Our health information content is based on research evidence and/or professional consensus and has been reviewed and approved by an editorial team of experts from the Burn Injury Model Systems.

Disclaimer: This information is not meant to replace the advice of a medical professional. You should consult your health care provider regarding specific medical concerns or treatment. The contents of this fact sheet were developed under a grant from the Department of Education, NIDRR grant number H133A110004. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

Copyright © 2015 Model Systems Knowledge Translation Center (MSKTC). May be reproduced and distributed freely with appropriate attribution. Prior permission must be obtained for inclusion in fee-based materials.