

Sleep Problems after Burn Injury

For more information, contact your nearest Burn Model Systems. For a list of Burn Model Systems, go to: <http://www.msktc.org/burn/model-system-centers>

This publication was produced by the Burn Model Systems in collaboration with the University of Washington Model Systems Knowledge Translation Center with funding from the National Institute on Disability and Rehabilitation Research in the U.S. Department of Education, grant no. H133A060070. It was updated under the American Institutes for Research Model Systems Knowledge Translation Center, grant no. H133A11004.

Introduction

Sleep problems occur in more than 50% of people who have had severe burn injuries. Insomnia is the most common type of sleep problem. Insomnia can take many forms, including:

- Difficulty falling asleep.
- Difficulty staying asleep.
- Poor quality sleep.
- Waking too early.
- Nightmares.

Sleep problems are especially common right after burn injury and during the healing and recovery stages. Insomnia can come and go over the years and may require different solutions at different times. Everyone has a different experience after burn injury, and some of the following information may not apply to you.

Causes of sleep problems after burn injury

Many factors can disturb sleep after burn injury. Some may continue to affect you long after leaving the hospital and healing.

- Anxiety and post-traumatic stress disorder (PTSD), including fear of falling asleep to avoid nightmares or to remain on the alert against threat.
- Depression.
- Constantly thinking about the burn event.
- Pain.
- Itching.
- Many medications prescribed to treat any of the above problems can also disturb sleep.
- Burn injury can change hormone levels and other chemicals in the body that regulate or affect sleep.
- Sleep apnea (pauses in breathing during sleep) —symptoms include daytime sleepiness, snoring and agitation.
- Contractures caused by scar tissue—this can limit the ability to move and get comfortable.
- Difficulty breathing, if the respiratory passages (nose and throat) were affected by the burn injury.

Poor sleep can cause serious problems

It is important to get treatment for poor sleep because it can be harmful in a number of ways. It can be extremely distressing and debilitating, and actually interfere with your recovery from the burn injury. Poor sleep can:

- Make pain worse.
- Slow down wound healing.
- Cause restlessness, irritability and changes in behavior.
- Cause problems during the day such as:
 - Low mood or depression.
 - Trouble handling stress.
 - Lack of energy.
 - Difficulty concentrating.
 - Increased risk of accidents.

Role of Melatonin

Melatonin is a natural hormone made by your body that is released into your blood stream to trigger sleepiness. A decrease in light signals the body to release this hormone.

The light from electronic screens (blue light) such as that from your TV, computer, smart phone, or electronic books can interfere with the production of melatonin. These devices should be turned off at least one hour before bedtime.

Melatonin can also be taken by mouth to promote sleep. Talk to your doctor about this treatment option.

Treatment options

There are many different approaches to solving sleep problems. The choice of treatment depends on the cause, type, and severity of the problem as well as your stage of recovery from burn injury. Your doctor or medical team may talk to you about your past sleep habits and other factors that affect sleep in order to better understand your sleep problems. If necessary, your doctor may refer you to a sleep specialist.

Treatments that do not involve medications (also called behavioral or non-pharmacological treatments)

Good sleep hygiene

- Sleep hygiene is the practice of following sensible guidelines for promoting regular, restful, good-quality sleep.
- Daytime naps can disrupt normal sleep patterns. Naps may be needed in early stages of recovery, but should gradually decrease as your health improves.
- If naps are needed, they should be at the same time every day and last no more than one hour.
- Maintain a regular time for going to bed and getting up. If you have trouble falling asleep after 15 minutes, you should get out of bed and do something else (reading, word puzzles, listening to music) until you get sleepy.
- Avoid stimulant-containing drinks, food and drugs in the late evening. Caffeine is in many soft drinks, chocolate, candy, coffee and bakery products.
- Steer clear of stimulating activities late in the evening, such as surfing the Web, watching exciting or frightening movies, or playing video games.
- Start exercising regularly as soon as your doctor says it is okay. Exercise is especially helpful if you suffer from anxiety as well as trouble sleeping.
- Vigorous exercise should be done earlier in the day, at least 6 hours before bedtime.
- Mild exercise should be done at least four hours before bedtime.
- Don't go to bed hungry, but avoid large meals close to bedtime. If you have trouble staying asleep, a light snack an hour before bedtime may help you sleep through the night.
- Alcohol can cause you to sleep poorly. Also, alcohol can be dangerous if you are already taking medications that make you drowsy. Ask your doctor if it is safe for you to drink alcohol.
- Avoid smoking or using other forms of nicotine close to bedtime. Nicotine is a stimulant.

Stimulus control

If trouble falling asleep goes on for a long period of time, sometimes people develop a “habit” of thinking they won’t fall asleep, and these thoughts keep them awake. Stimulus control can help “re-program” you to associate the bedroom and bedtime with only sleep-promoting (calm and pleasant) activities rather than failure to fall asleep.

Guidelines for stimulus control:

- Go to bed only when sleepy.
- Set a regular wake-up time, no matter what time you actually fall asleep the night before.
- Get out of bed whenever you are awake for longer than 15-20 minutes.
- Avoid reading, watching TV, eating or worrying in the bed and bedroom.
- Do not nap during the day.

Relaxation training

Relaxation techniques reduce anxiety and tension at bedtime to help you fall asleep. They can also be used to fall back asleep if you awake in the night. There are several techniques:

- Progressive muscle relaxation
- Meditation training
- Imagery training
- Biofeedback
- Hypnosis
- Yoga

For any of these methods, a practitioner will teach you the formal steps or exercises involved. These methods are most successful when practiced regularly at home.

Cognitive behavioral therapy (CBT)

Cognitive behavioral therapy (CBT) teaches sleep hygiene, employs stimulus control techniques, and trains in relaxation methods/practices.

In addition, sometimes people with sleep problems develop thoughts and beliefs about sleep that keep them from falling asleep. Examples of such thoughts include “I will never be able to fall asleep,” or “I will not be able to function tomorrow since I cannot fall asleep” or “I cannot sleep well without alcohol.” A cognitive behavioral therapist can work with you to address and eliminate the thoughts that may be keeping you from being able to fall asleep.

Light therapy

Our body chemicals and hormones vary in a natural 24-hour cycle that promotes sleep or wakefulness at certain times. If this natural cycle (called “circadian rhythm”) gets disturbed for any reason, sleep problems can occur. Light therapy uses exposure to daylight (or “light boxes” that mimic daylight) to “reset” the circadian rhythms for sleeping and waking.

- Different ways to do this are using light boxes in the morning, taking daytime walks outside, or using light machines called “dawn stimulators” that mimic a gradual sunrise.
- Light therapy is often used along with sleep hygiene.

Medication (pharmacologic) treatment

There are effective medications that can help you sleep better. These may include sleep aids, antidepressants and/or anxiety medications. They can be used alone or in addition to one of the above approaches to improve sleep.

As with any medications, it is extremely important to take medications for sleep only as your doctor has prescribed and discussed with you. This includes over-the-counter sleep medications.

Bibliography

Jaffe SE and Patterson DR. Treating Sleep Problems in Patients with Burn Injuries: Practical Considerations, *Journal of Burn Care & Rehabilitation*. 2004 May-Jun; 25(3):294-305

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.

Authorship

Sleep Problems after Burn Injury was developed by Shelley A. Wiechman, Ph.D. and the Burn Injury Model System in collaboration with the University of Washington Model Systems Knowledge Translation Center.