

# A BRIEF UPDATE

From the Long-Term Follow-Up Study

April 2012

<http://ltfu.stjude.org>

## Topic:

### FATIGUE, SLEEP, & MENTAL FUNCTIONING

#### Why we studied sleep and fatigue issues:

- Fatigue and reduced sleep quality are commonly reported by childhood cancer survivors. About 45 percent of the general population have symptoms of fatigue. Rates as high as 90 percent have been reported in certain groups of cancer survivors.
- Survivors are also at increased risk of experiencing problems with mental functioning that can affect their well-being and quality of life. We wanted to learn more about the associations between fatigue and poor sleep quality and mental functioning among adult survivors.

#### Who we studied:

Over 1500 survivors and siblings of survivors

- 48 percent Male
- 52 percent Female

#### What we studied:

The effects of day-time sleepiness, fatigue, poor sleep quality, and low vitality (energy levels) on mental skills, including:

- **Task efficiency:** The ability to complete everyday tasks at work, home, or school
- **Emotional regulation:** The ability to control one's emotional responses
- **Organization:** The ability to organize one's environment
- **Memory:** The ability to remember information over time (short-term and long-term)

The information for this study came from responses to study questionnaires. To assess mental functioning survivors and siblings responded to statements such as "I have problems completing my work," "I get frustrated easily," and "My desk/workspace is a mess."

## We found that . . .

- Problems with mental functioning were reported by more than 20 percent of survivors in this study.
- Survivors of brain tumors had the highest rates of problems with mental functioning. Survivors of leukemia and Hodgkin lymphoma also had increased problems with task efficiency.
- Those with fatigue and sleep disturbance were approximately 2 to 3 times more likely to experience reduced mental function.
- Fatigue, sleepiness, poor sleep quality, and low vitality had a negative impact on survivors' mental functioning that was independent of the effects of radiation, steroids, or antimetabolite chemotherapy drugs (drugs such as methotrexate that destroy cancer cells by interfering with cell division.) This means that fatigue and sleep problems were associated with mental functioning difficulties even in survivors who did not receive these treatments.

*Sleep problems and fatigue have a direct effect on mental functioning that is independent of the effects of treatment.*

## In summary:

- Mental functioning in long-term survivors of childhood cancer appears particularly vulnerable to the effects of fatigue and sleep disruption.
- Health care providers should inform survivors about health habits they can practice to improve sleep quantity and quality.
- Improving sleep quality may lead to improved mental functioning and a better quality of life for survivors.

## Reference

Clanton NR, Klosky JL, Li C, Jain N, Srivastava DK, Mulrooney D, Zeltzer L, Stovall M, Robison LL, Krull KR. Fatigue, vitality, sleep, and neurocognitive functioning in adult survivors of childhood Cancer: A report from the childhood cancer survivor study. *Cancer* 2011;2559-67.

# Improve Your Sleep, Improve Your Life

## by practicing good sleep hygiene

Poor sleep and fatigue can have serious consequences – they can contribute to emotional problems such as depression, increase the likelihood of serious accidents, and affect personal productivity on the job and at home. Improving sleep quality and learning to achieve natural sleep can help prevent these negative effects.

Practicing good **sleep hygiene** can help ensure you get the sleep you need. According to the National Sleep Foundation (web link below) sleep hygiene simply refers to the “variety of different practices that are necessary to have normal, quality night-time sleep and full day-time alertness.” When these practices become habits, sleep usually improves.

### Sleep-promoting habits

- Try not to nap during the day.
- Spend time outdoors in the sunlight every morning and avoid bright light late at night.
- Go to bed at the same time every night and get up at the same time every morning, even on weekends.
- Avoid alcohol and caffeine 4-6 hours before going to bed.
- Stop watching television and turn off your computer at least an hour before bedtime.
- Exercise regularly but not right before bed.
- Do something relaxing before you go to bed, such as listening to soft music or meditating.
- Keep your bedroom dark, and comfortably cool.
- Use your bedroom only for sleeping and avoid falling asleep on the couch or anywhere outside of your bedroom.

*It's best to keep the TV out of your sleeping area!*



### Other factors that can affect sleep

- Some physical conditions, such as acid reflux or snoring, can make sleep more difficult.
- Stress and anxiety interfere with sleep quality.
- Depression can cause excessive sleepiness.
- Many medications can cause sleeplessness as a side effect.

### See your doctor if . . .

- You have any of the conditions listed above.
- You have tried practicing the sleep hygiene suggestions above and you still have trouble falling or staying asleep at night.

Your doctor may recommend dietary changes or environmental changes or prescribe supplements or short-term sleep medications. The goal is to help your body learn to sleep naturally!

### Web Links

St. Jude Children's Research Hospital offers a number of “handouts” on our website on the subjects of mental functioning and healthy sleep:  
<http://www.stjude.org/sjlife/handouts>

The National Sleep Foundation provides a variety of sleep hygiene resources:  
<http://www.sleepfoundation.org>

Physical fitness promotes healthy mental functioning, improved quality of life, and a good night's sleep. Check here for fitness tips:  
<http://www.health.gov>