

Quiz Policies

Eligibility

The NCSF online quizzes are open to any currently certified fitness professional, 18 years or older.

Deadlines

Course completion deadlines correspond with the NCSF Certified Professionals certification expiration date. Students can obtain their expiration dates by reviewing either their certification diploma or certification ID card.

Cancellation/Refund

All NCSF continued education course studies are non-refundable.

General Quiz Rules

- You may not have your quiz back after sending it in.
- Individuals can only take a specific quiz once for continued education units.
- Impersonation of another candidate will result in disqualification from the program without refund.

Disqualification

If disqualified for any of the above-mentioned reasons you may appeal the decision in writing within two weeks of the disqualification date.

Reporting Policy

You will receive your scores within 4 weeks following the quiz. If you do not receive the results after 4 weeks please contact the NCSF Certifying Agency.

Re-testing Procedure

Students who do not successfully pass an online quiz have the option of re-taking. The fees associated with this procedure total \$15 (U.S) per request. There are no limits as to the number of times a student may re-test.

Special Needs

If special needs are required to take the quiz please contact the NCSF so that appropriate measures can be taken for your consideration.

Quiz Rules

What Do I Mail Back to the NCSF?

Students are required to submit the quiz answer form.

What do I Need to Score on the Quiz?

In order to gain the .5 NCSF continued education units students need to score 80% (8 out of 10) or greater on the CEU quiz.

Where Do I Mail My Quiz Answer Form?

You will mail your completed answer form to:

NCSF

Attn: Dept. of Continuing Education

5915 Ponce de Leon Blvd., Suite 60

Coral Gables, FL 33146

How Many CEUs Will I Gain?

Professionals who successfully complete the any continuing education quiz will gain .5 NCSF CEUs per quiz.

How Much does each quiz cost?

Each quiz costs the student \$15.00.

What Will I Receive When The Course Is Completed?

Students who successfully pass any of the NCSF online quizzes will receive their exam scores, and a confirmation letter.

How Many Times Can I Take The Quizzes For CEUs?

Individuals can take each NCSF quiz once for continuing education credits.

The Centers for Disease Control and Prevention (CDC) data collected with the National Health Interview Survey (NHIS) from 2004-2006 demonstrates that an estimated 70 million Americans are negatively affected by chronic sleep loss or sleep disorders.

The data collected was analyzed for the prevalence of smoking, alcohol use, physical inactivity, and obesity as they relate to usual sleep duration. Furthermore, the data was stratified by gender, age, and race/ethnicity. The goal of the study was “to identify variations in prevalence of these health risk behaviors by usual sleep duration and to identify subgroups for which these associations may be particularly noteworthy.” Although determinations of causality cannot be inferred from correlation studies, conclusions can be drawn about the possible clustering of behaviors that result in negative health outcomes.

For both genders, smoking prevalence was substantially higher in those who slept less than six hours; and especially among younger age groups. Adults 18-44, sleeping less than 6 hours were 38% more likely to be current smokers than same aged adults who slept 7-8 hours per night.

Similarly, the data found that men of all ages who slept less than 6 hours per night were 31% more likely to also consume five (5) alcohol drinks in one day. The likelihood was slightly higher for the 18-44 demographic. Women’s results were not significantly different for those who slept little and those who slept adequately.

Interestingly, physical inactivity rates were highest for both genders when individuals slept either less than 6 hours, or 9 hours or more. This was independent of race or ethnicity. Leisure-time inactivity rates for non-Hispanic white adults who slept less than 6 hours were about 42%, and 45% for those who slept 9 hours or more. Non-Hispanic black adults who slept 9 hours or more had 58% rates of inactivity and those who slept less than 6 hours experienced inactivity rates of 49%.

As far as obesity is concerned, one in four adults studied was found to be obese. Adults who slept less than 6 hours were characterized by a 33% obesity rate, while those who slept 7-8 hours were characterized by a 22% rate. Fortunately, research has gone into elucidating some of the underlying physiological mechanisms that clarify why a lack or surplus of sleep may manifest changes in hunger patterns and alter body composition.

Sleep patterns and hunger mechanisms are interrelated. Several studies over the past few years have studied the relationship between sleep and eating patterns. This knowledge has become increasingly relevant because over the past few decades, an increase in industrialization has been accompanied by a decrease in sleep hours and, coincidentally, an increase in obesity.

Independent studies at the University of Chicago, Stanford University, and the University of Toronto have demonstrated that experimental sleep restriction is associated with an adverse impact on glucose homeostasis, insulin sensitivity, and neuroendocrine control of appetite.

The major endocrine indices focused on by these studies were leptin, ghrelin, adiponectin, orexins, and neuropeptide γ (NPY). NPY is a neurotransmitter found in the brain that stimulates food intake (1). Even small doses injected into the hypothalamus have been found to stimulate feeding in animal studies. Ghrelin is a hormone produced mainly by cells lining the human stomach and epsilon cells of the pancreas that stimulates appetite. It is essentially antagonistic to the hormone leptin. Leptin, released from adipocytes, inhibits neurons containing NPY - essentially inhibiting appetite. It is known as the “satiety” hormone. Obese individuals are characterized by chronic high serum levels of leptin resulting in receptor down-regulation - a decreased sensitivity similar to Type 2 Diabetic insulin-resistance. This decreases “satiation” likely perpetuating their obesity. Furthermore, the visceral fat located around the organs is dysfunctional in regards to its release of leptin. It releases very little leptin which may also be a mechanism perpetuating appetite and further weight gain. Combined, high levels of visceral and subcutaneous adiposity can result in a dysfunctional hunger mechanism characterized by unusual highs and lows with regard to levels of leptin. Adiponectin binds cellular receptors increasing AMP kinase activity which, among other actions, increases fatty acid oxidation and decreases cholesterol synthesis. It also has a similar yet additive effect on NPY neurons as leptin. Finally, orexins promote both wakefulness and hunger. Orexin-secreting cells are inhibited by leptin.

Epidemiologic studies in both children and adults demonstrate consistently that a lack of sleep (characterized as 5 hours vs. an 8 hour control group) increases the risk of diabetes. Sleep curtailment is also associated with neuroendocrine control of appetite dysfunction. Serum leptin and ghrelin levels are markedly decreased and increased respectively in sleep deprived groups. One study found that there was a 15.5% lower leptin level and 14.9% higher ghrelin level in 5 hour sleep groups vs. 8 hour sleep groups (2).

In this way, chronic sleep deprivation alters the ability of leptin and ghrelin to accurately signal caloric need. This may contribute to an inaccurate perception of caloric requirements and often leads to overeating. This pattern can lead to chronic hyperphagia (overeating) and actually create a negative feedback loop that culminates in obesity. Multiple epidemiologic studies have shown an association between short sleep periods and higher body mass index after controlling for a variety of possible confounders (1).

In conclusion, maintaining a healthy sleep schedule is vital in maintaining not only psychological health, but physiological well-being as well. Sleep is intimately tied to hunger-mechanisms and therefore dietary balance. The general recommendation seems to be 8 hours of sleep on a consistent day-to-day cycle to maintain circadian rhythms and neurological control of perceived caloric need. The data for the NHIS from the CDC can be found at www.cdc.gov/nchs/pubs/pubd/hestats/sleep04-06/sleep04-06.htm

References

1. Molecular characterization of the ligand-receptor interaction of the neuropeptide Y family.

Cabrele C, Beck-Sickinger AG.

Department of Pharmacy, ETH Zurich, Switzerland.

2. Short sleep duration is associated with reduced leptin, elevated ghrelin, and increased body mass index.

Taheri S, Lin L, Austin D, Young T, Mignot E.

Howard Hughes Medical Institute, Stanford University, Palo Alto, California, USA.

3. Hypocretin/Orexin: a molecular link between sleep, energy regulation, and pleasure.

Ganjavi H, Shapiro CM.

University of Toronto, Toronto, Canada.

CEU Quiz

1. According to the CDC, how many Americans are estimated to be negatively affected by sleep patterns/disorders?
 - a. 2 million
 - b. 10 million
 - c. 70 million
 - d. 300 million

 2. Which of the following seems to be affected by a lack of sleep (<6 hours per night)?
 - a. obesity
 - b. alcoholism
 - c. smoking
 - d. all of the above.

 3. What percentage of U.S. adults were found obese according to the 2004-2006 NHIS?
 - a. 10%
 - b. 25%
 - c. 35%
 - d. 45%

 4. Which sleep cycle is correlated with the highest amounts of physical activity?
 - a. less than 6 hours
 - b. more than 6 hours
 - c. 9 hours
 - d. 7-8 hours

 5. Less than six hours of sleep is most highly associated with drinking in which demographic?
 - a. all adults 18-44
 - b. women 20-40
 - c. men 16-30
 - d. men 18-44

 6. Which of the following *directly* stimulates the appetite?
 - a. adinopectin
 - b. orexins
 - c. leptin
 - d. NPY (neuropeptide Y)
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7. Which of the following inhibits appetite and is known as the “satiety” hormone?
- ghrelin
 - NPY
 - leptin
 - insulin
8. Obese individuals are often characterized by lipid profiles with _____ levels of leptin.
- low
 - high
 - normal
 - none of the above
9. Serum leptin and ghrelin levels are markedly _____ and _____ with sleep deprivation, possibly contributing to overeating.
- reduced; elevated
 - elevated; reduced
 - reduced; reduced
 - elevated; elevated
10. From the information provided, shorter sleep cycles are associated with _____ BMIs.
- elevated
 - reduced
 - unchanged
 - both elevated and reduced

Quiz Answer Form

FIRST NAME _____ LAST NAME _____ M.I. _____

TITLE _____

ADDRESS _____ APT. _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____ POSTAL CODE _____

CERTIFICATION NO. _____ CERTIFICATION EXP. ____/____/____

MEMBERSHIP NO. _____ MEMBERSHIP EXP. ____/____/____

Quiz Name	Member Price	Total
	\$15	



Discover



Visa



Mastercard



Amex



Check/Money Order

Account No. _____

Exp. Date _____

Security Code _____

Signature _____

Date _____

Quiz Answers

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

Fill in each blank with the correct choice on the answer sheet. To receive 0.5 CEUs, you must answer 8 of the 10 questions correctly.

Please mail this Quiz answer form along with the proper enclosed payment to:

NCSF
5915 Ponce de Leon Blvd., Suite 60
Coral Gables, FL 33146

Questions? 800-772-NCSF