

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
P.O. Box 163908
Miami, FL 33116

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.

Phytonutrients – Another Major Reason to Eat Your Fruits and Vegetables

Phytonutrients (*phyto* = Greek for plant) are specific, organic components found in plants believed to promote health benefits. They are officially categorized as non-nutrients and unlike vitamins are not considered essential due to the fact that no known nutritional deficiencies occur without intake. Even though phytonutrients are considered nonessential, there are several means by which they are believed to protect human health. These mechanisms include serving as antioxidants; enhancing immune system function; enhancing cell-to-cell communication; altering hormonal balance (such as estrogen metabolism); converting beta-carotene into vitamin A; eradicating cancer cells; and repairing DNA damage caused by smoking or other toxic exposure. The numerous types of phytonutrients can be divided into different classes. The common classes include carotenoids, flavonoids (or polyphenols), isoflavanoids, inositol, lignans, isothiocyanates, phenols and cyclic compounds, saponins, sulfides and thiols, and terpenes. Carotenoids and polyphenols are currently the most understood and have received the greatest deal of attention in research.

Carotenoids are the red, orange, and yellow pigments found in various fruits and vegetables. The six known types of carotenoids include alpha-carotene, found in carrots; beta-carotene, found in leafy green and yellow vegetables such as broccoli and sweet potatoes; beta-cryptoxanthin, found in citrus fruits, peaches and apricots; lutein, found in most leafy greens such as kale and spinach; lycopene, found in tomatoes, pink grapefruit, watermelon and guava; and zeaxanthin, found in green vegetables, citrus fruits and (surprisingly) eggs. Fruit and vegetable sources rich in these carotenoids appear to protect against certain

cancers, heart disease, and age-related macular degeneration (loss of vision).

Polyphenols are found in a variety of vegetable roots, grapes, berries, nuts, and certain beverages. Polyphenols can be subdivided into flavonoids and nonflavonoids compounds; of which, quercetin (a type of flavonol) and catechins (commonly associated with green tea) have received the greatest attention in research. The known types of flavonoids include anthocyanins, found in various fruits; catechins, found in wine as well as tea; flavanones, found in citrus fruits; flavones, found in various fruits and vegetables; flavonols, found in certain fruits, vegetables such as onions, tea, and wine; and isoflavones, found in soybeans. The known types of nonflavonoids include ellagic acid and coumarins. Ellagic acid is found in various berries while coumarins are found in bell peppers, bok choy, cereal grains, and broccoli. Sources of polyphenols appear to protect against certain types of cancer and heart disease similar to carotenoids, and they may also have anti-inflammatory properties.

Evidence that fruit and vegetable consumption protects human health is growing due to a wealth of data from epidemiological, human feeding, and cell culture studies. Some of these health benefits are thought to be derived from the phytonutrient components. According to current statistics, however, most individuals are not consuming sufficient levels of phytonutrient-rich foods in their diet. Based on data from the National Health and Nutrition Examination Survey (NHANES), the average American consumes 3.3 total servings of vegetables each day; this means half the population does not meet the minimum requirement. Of greater concern is the 10% of the population that consumes less than one serving per day.

Furthermore, dark green and deep yellow vegetables (rich in phytonutrients that provide tangible benefits according to research) only represent an average of 0.2 daily servings. Even worse, nearly 71% of Americans do not consume the minimum of two servings per day recommended for fruit. Again, about 50% of the population consumes less than one serving each day. These issues seem to be a worldwide

occurrence according to a recent study, which demonstrated that 77.6% of men and 78.4% of women from 52 low- and middle-income countries consumed less than the recommended minimum requirements.

The following results summarize contemporary population studies that link fruit and vegetable consumption to health benefits and reduction in the risk for disease or early mortality:

- Greater overall fruit and vegetable consumption has been directly linked to a decreased risk of stroke. With each added serving, up to three daily servings, individuals demonstrated a 22% decrease in risk of stroke, including transient ischemic heart attack.
- Older men who had the highest intake of dark green and deep yellow vegetables had about a 46% decrease in the risk for heart disease and a 70% lower risk of being diagnosed with cancer compared to men with the lowest intake. The intake levels were not exceedingly large between the groups (about 2.2 serving per day vs. 0.8 servings per day), indicating that small, consistent changes in vegetable consumption can have a significant impact.
- Consumption of tomato products, which are rich in lycopene, has been linked to a decrease in the risk for prostate cancer. Men who consumed ten or more servings a week have an approximate 35% decrease in risk compared to counterparts that consumed less than 1.5 servings per week. Of note, the bioavailability of lycopene increases dramatically when tomatoes are cooked, making tomato paste and tomato sauce better sources than raw tomatoes.
- Individuals with the highest intake of spinach or collard greens, two vegetables rich in lutein, experienced a 46% decrease in the risk for age-related macular degeneration compared with those than consumed these products less than once a month.
- Flavonoid consumption has been linked to a lower risk of heart disease in some studies. Older Dutch men with the highest flavonoid intake benefitted from a 58% reduction in the risk for heart disease when compared to their low-intake counterparts. In similar fashion, Finnish subjects with the highest intake experienced a reduction in the risk of mortality from heart disease by about 27% among women and 33% among men. Other flavonoid intake studies have not predicted a lower rate of ischemic heart disease with consumption. In fact, one investigation weakly but positively associated flavonol intake with ischemic heart disease mortality.

It seems clear that research has established significant benefits associated with phytonutrient-rich fruit and vegetable consumption, but most scientists believe that claims made in the media and advertising

commonly surpass what we convincingly understand concerning these compounds. Established proof documenting the health benefits of each of the various phytonutrients is far from concrete, but scientist's understanding

of these compounds is rapidly improving. More precise information and recommendations concerning phytonutrient consumption and human health is expected in the near future. Current recommendations suggest the nutrients are best consumed in their naturally occurring

state over herbal supplements due to the added nutritional benefits.

One could reference the *NCSF Sport Nutrition Specialist* course materials for more detailed information concerning this topic and others of similar interest.

Phytonutrients - Another Major Reason to Eat Your Fruits and Vegetables

CEU Quiz

1. Phytonutrients are categorized as _____, and are not considered essential because there are no known nutritional deficiencies associated with low intake.
 - a. Vitamins
 - b. Minerals
 - c. Non-nutrients
 - d. Antioxidants
2. Phytonutrients are believed to perform which of the following functions, thereby improving general health?
 - a. Enhanced immune system responses
 - b. Repair DNA damage caused by toxins
 - c. Vitamin metabolism and conversion
 - d. All of the above
3. Which of the following phytonutrient classes have been shown to protect age-related vision loss (macular degeneration)?
 - a. Polyphenols
 - b. Carotenoids
 - c. Sulfides
 - d. Lignans
4. *True or False?* The carotenoid referred to as lycopene, found in tomatoes, is believed to reduce the risk for prostate cancer.
 - a. True
 - b. False
5. Which of the following non-plant food sources has been found to contain the phytonutrient referred to as zeaxanthin?
 - a. Beef
 - b. Chicken
 - c. Fish
 - d. Eggs

6. Consuming an additional serving of fruits and vegetables each day (up to three) can reduce the risk for stroke by _____.

- a. 12%
- b. 17%
- c. 22%
- d. 31%

7. Which of the following beverages contains polyphenols?

- a. Wine
- b. Milk
- c. Water
- d. Soda

8. *True or False?* Roughly 20% of the American population consumes less than one serving of fruits each day.

- a. True
- b. False

9. Higher intake of dark green and deep yellow vegetables is associated with a significant decrease in the risk for which of the following:

- a. Type 2 diabetes
- b. Dyslipidemia
- c. Cancer
- d. Immune disorders

10. Which of the following phytonutrients are found in soybeans?

- a. Flavonols
- b. Isoflavones
- c. Flavanones
- d. Anthocyanins

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
P.O. Box 163908
Miami, FL 33116

Questions? 800-772-NCSF