

# Lesson 08: The Effects of Chronic Stress

## Lesson Objectives:

- Students will learn the characteristics of chronic stress.
- Students will learn the effects of chronic stress on various systems of the body.
- Students will search for and report on an article describing effects of chronic stress.

Why do people take stress management courses? What is the point of learning about stress? Well, we know that stresses cause a chain of events in the body to change the biochemistry of the body. Some of these effects of stress are negative and cause or accelerate symptoms of disease. So, some people might learn about stress management in order to reverse illnesses, to increase their current state of health, or to prevent stress-related diseases.

In this lesson you'll learn about the effects of **chronic** (long-term, constant) stress on the body.

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Remember the lesson on the Sympathetic Nervous System? Two of the things stimulated by the SNS are the adrenal glands. These are small glands on top of each of the kidneys. They are considered part of the Endocrine System because they secrete chemical messages to the body. When a person is stressed, their adrenal glands secrete corticoids: adrenaline, epinephrine, and norepinephrine. These corticoids are transported through the bloodstream to the different recipient organs. When these corticoids are secreted by the adrenal glands, they have the following effects.

### **Corticoids:**

- Inhibit digestion
  - Inhibit the reproductive system
  - Inhibit tissue growth and repair
  - Inhibit the immune system response
  - Inhibit the inflammatory response.
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Let's consider some life situations or events that could be chronic

stressors. Perhaps some of the following could create a chronic stress response in some people:

- A lengthy divorce
  - Diagnosis of a life-threatening illness, cancer, etc.
  - Caring for an elderly parent
  - Single parenting
  - Participation in a military operation or war
  - Living in a hostile neighborhood, area, etc.
  - Stressful or hostile work environments
  - And many more.
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Going back to lesson 1, a person could have **chronic** stressors that are: coming from the external environment; social stressors (from jobs, family obligations, financial problems, etc.); continuous physiological stressors; and internally originating as thoughts (negative, worrisome thoughts, fears, etc.). That is, any stressful situation is long-term, and the body does not have a chance to relax and let the SNS response end, or the PNS increase.

This chronic state of "fight-or-flight" is not healthy for the body. Long-term stress can result in:

- muscle tension and fatigue
- hypertension (high blood pressure)
- migraine headaches
- ulcers
- chronic diarrhea
- Amenorrhea (cessation of menstruation)
- Failure to ovulate
- Impotency in men
- Loss of libido in men and women
- Increases symptoms of asthma, bronchitis, and other respiratory conditions
- Suspends tissue repair and remodeling
- Can lead to de-calcification of bones, osteoporosis, susceptibility of fractures

- Inhibits immune system and inflammatory responses
- Increases susceptibility to colds, the flu, and other viruses
- Can exacerbate cancer, AIDS, and other immunodeficiency syndromes

As you can see in this partial list, chronic stress can harm almost every system in the body. This is why stress management is so important for people in stressed cultures to learn!!

## Grading Rubric:

**To get a 10:** All answers are correct the first time, or within first revision. You can have no grammatical or structural errors, within the first revision. Answer in complete sentences; all lesson requirements have been met.

**To get a 9:** You can have 1 incorrect answer. You can have 2 grammatical errors (spelling, punctuation, capitalization, wrong word, etc.) Answer in complete sentences; all lesson requirements have been met.

**To get an 8:** You can have 2 incorrect answers. You can have 3 grammatical errors (spelling, punctuation, capitalization, wrong word, etc.). Answer in complete sentences; all lesson requirements have been met.

**To get a 7:** You can have 3 incorrect answers. You can have 4 minor grammatical errors (spelling, punctuation, capitalization, wrong word, etc.). Answer in complete sentences; all lesson requirements have been met.

**To get a 6:** You can have 4 incorrect answers. You can have 5 minor grammatical errors (spelling, punctuation, capitalization, wrong word, etc.). Answer in complete sentences; lesson requirements have not been met or missed.

**To get a 5:** 6 or more incorrect answers. Plagiarism - purposeful or mistaken, which will lower your final grade for the course (so be very careful when posting your work!); lack of effort, disrespect, or attitude (we are here to communicate with you if you don't understand something); or 6 or more errors of any kind. Answer in complete sentences; lesson requirements have not been met.

Note: For this class it is necessary to post the questions over each answer. Failure to do so will result in asking for a revision. You will also be given two chances to revise your work after your initial post.

## Assignment: Students,

**Please be sure to post the questions over each answer when you submit your work.**

Do not submit text that you have copied from sources, including websites. All of your work should be in your own words. Using copied text would be considered plagiarism. For more information, review our page on [Plagiarism and Citation](#).

### **Part I:**

1. How does chronic stress affect the reproductive system women?
2. How might chronic stress affect the healing of a broken bone?
3. In your own words, how might you describe chronic stress?
4. Describe a chronic stressor in your life (past or present) or in the life of someone close to you (past or present).
5. If you were teaching a class about stress management to your peers, what would you say to them about chronic stress and how it affects the body? (Up to 1 paragraph)
6. How does chronic stress affect a person with cancer or AIDS?
7. Is a job that involves handling harmful chemicals considered a chronic stressor?
8. How might chronic stress affect a man and woman who are trying to conceive a baby?

### **Part II:**

Locate an article on the web (newspaper, magazine, website, etc.) that focuses on and describes the effects of chronic stress. It could be targeting a specific group, like the elderly or AIDS patients, or it could be an article on the chronic effects of corticoids in the bloodstream, etc.

- List the website address,
- List the source (like Times Newspaper),
- List the date of the publication or posting,
- Write 3-5 paragraphs describing what the article is about
- Write 1-2 paragraphs on what you learned from the article.

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