



The Prefrontal Cortex and Cerebellum

In this class you will learn the functions of the prefrontal cortex. You will learn how the prefrontal cortex influences your fight and flight response, your hormones and your immune system. You will learn about the negative impacts of chronic stress, or traumatic experiences and how it can change your prefrontal cortex.

This class will also go into a part of the brain called the cerebellum. You will learn the key functions of the cerebellum and how it is involved in coordinating balance and thought, language and mood. Chiropractic care has been shown to change the processing in both these parts of the brain, which will of course also be covered in this class.

BASIC SCIENCE LEVEL 1 - CLASS 9



LEARNING OUTCOMES

After taking this class the student will be able to:

1. Summarise the evidence regarding chiropractic care and the prefrontal cortex.
2. Summarise the evidence regarding chiropractic care and the cerebellum.

LESSON CONTENT

Every lesson has a practice quiz. At the end of the lessons there is a final quiz and if you pass the final quiz, you will receive a certificate of completion.

ANIMATIONS (from ChirosHub.com)

1. [Chiropractic and the Prefrontal Cortex](#)
2. [Cerebellum Function](#)
3. [The Prefrontal Cortex Revisited](#)

1. Multimodal Integration

- Introduction to this class and the outline of the class will be covered.
- We discuss how the brain integrates all its senses from inside yourself and the outside world in a process called multimodal integration.
- And this lesson covers how the brain uses this integrated sensory information to create brain maps for a variety of tasks it performs all day, every day.

2. What does the Prefrontal cortex do?

- This lesson introduces the prefrontal cortex and describes some of its important functions, such as movement control and executive functions.
- It also discusses how the prefrontal cortex is involved in sensing pain or how pain becomes chronic.
- Finally, this lesson also covers how chiropractic care affects the PFC.

3. The first prefrontal cortex whiteboard animation

- This lesson introduces a great animation that describes the prefrontal cortex and three of its key functions.
- These three functions this animation discusses are executive functions, movement control and its involvement in pain perception.
- This animation also discusses how chiropractic care influences the processing within the prefrontal cortex.

4. Stress, trauma and the prefrontal cortex

- This lesson covers what happens to our personality and emotion when the prefrontal cortex shuts down.
- In these situations your emotional brain takes over. This shutdown of the prefrontal cortex occurs in response to traumatic experiences or chronic stress.
- Not only is your mental health affected but your immune system and endocrine system is affected as well.

5. The second prefrontal cortex whiteboard animation

- In this lesson you get to see the second whiteboard animation about the prefrontal cortex.
- This whiteboard animation shares more information about the other functions of the prefrontal cortex.
- It will help you to clarify your understanding of the prefrontal cortex so you can share the awesome benefits of chiropractic care.

6. The cerebellum

- This lesson introduces you to the cerebellum and its functions.
- You will learn how the cerebellum affects us learning new tasks and movements.
- And this lesson covers how chiropractic adjustments have been shown to change the way the cerebellum 'talks' to other parts of the brain. Yes, your spine may affect how the cerebellum works so may influence other cerebellar tasks as well.

7. The cerebellum whiteboard animation

- In this lesson you get to see the whiteboard animation about the cerebellum.
- You will learn how chiropractic adjustments can change the way your cerebellum functions. The cerebellum is known as the 'little brain' within your brain.
- Spinal dysfunction can impact the way your brain, including your cerebellum, perceives where your arms and legs are and how they move.

8. Take home messages about the cerebellum

- This lesson covers the take home messages about how important cerebellar function is for us to learn new movements or skills.
- You will learn what scientists have done to show how chiropractic care changes how the cerebellum processes sensory information.
- And you will learn how scientists have shown that chiropractic adjustment changes the way your cerebellum impacts your brain's messages to your muscles.

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