

Module 5 – SCI Biology Part II: Secondary Complications

Introduction to Secondary Complications of an SCI

In the previous module we discussed the biology of the spinal cord, what happens to the spinal cord at the point of injury and why these events are of interest in SCI research.

In Part II we will look at what it means to age with a spinal cord injury and the various secondary complications that can occur.

Many people with SCI experience “secondary complications” which are health issues that arise as a direct result of the initial injury and/or complications resulting from the post-injury effects to the function of the body.

Some of these secondary complications are a direct result of the injury, and are caused by the interruption to communication between the brain and the body, such as:

- Bowel and bladder dysfunction.
- Sexual dysfunction.
- Breathing problems.
- Problems with the heart and circulatory system.
- Inability to sweat or regulate body temperature.
- Problems with digestion.

Other secondary complications arise as consequences of loss of motion or sensation, or because of the ways an SCI affects daily life, such as:

- Illnesses and injuries caused by muscle weakness or loss of mobility, such as respiratory infection and pressure injuries in the skin.
- Bone density loss caused by lack of weight-bearing activity.
- Bone fractures caused by osteoporosis.
- Muscle atrophy loss, unhealthy weight gain, and other consequences of reduced physical activity.
- Injuries to joints and muscles that become worn or overused, such as shoulder injuries from pushing a wheelchair.
- Effects on emotions and mental health.

Part of a research advocate's role is to help researchers understand the significance of secondary complications, how they affect daily life, and how they impact participation in clinical research studies.

Although secondary complication specifics may vastly differ by individual, even between those with identically identified SCI, this module will address common examples and explain their relation to an SCI.

In this module you will learn:

- How SCI directly affects the function of many organ systems throughout the body in addition to affecting sensation and motor function; and
- How the indirect effects, loss of movement or weight-bearing activity, can lead to other secondary complications.