

Respiratory Changes with Spinal Cord Injury



HOW SCI AFFECTS BREATHING

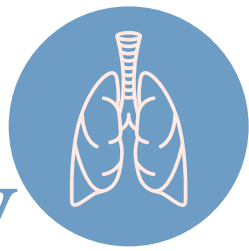
Spinal cord injuries can result in damage to the nerves that power the muscles that control breathing. With a complete SCI, nerves below the injury will not power the muscles they control effectively. With an incomplete SCI, the nerves that are below the injury may be able to power the muscles at partial or full capacity. With this type of injury, it can be difficult to know what muscles will work and how well they will work.



MUSCLES INVOLVED IN RESPIRATION

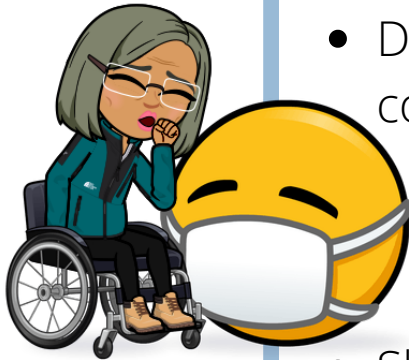
Muscles	Location	Role	Nerve
Diaphragm	Under the lungs	Contracts to create more room for air to enter the lungs	C3-C5 Phrenic Nerve
Intercostals	Between each rib	Contract to lift the rib cage to create more room for air to enter the lungs. Contract to lower the rib cage for forceful exhalation	T1-T11 Intercostal Nerves
Abdominal Muscles	Core	Contracts abdominal muscles for forceful exhalation	T6-T12 & L1

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SYMPTOMS

- Shortness of breath
- Difficulty breathing deeply and coughing forcefully
 - Increased risk for pneumonia and other respiratory infections
- Sleep-disordered breathing



MANAGEMENT

- Talk to your doctor about beneficial vaccines
- Avoid the buildup of fluid in the lungs - talk to your doctor or respiratory therapist about assisted coughing
- Hydrate - drinking lots of fluids can help keep mucus/secretions thin and easier to clear
- Do not smoke/ avoid secondhand smoke
- Elevated head on bed to open the airway

