



## Brown-Séquard syndrome

Lesion on the patient's right

1. loss of all sensation, hypotonic paralysis
2. spastic paralysis and loss of vibration and **proprioception** (position sense) and fine touch
3. loss of pain and temperature sensation

The hemisection of the cord results in a lesion of each of the three main neural systems:

- the principal [upper motor neuron](#) pathway of the [corticospinal tract](#)
- one or both [dorsal columns](#)
- the [spinothalamic tract](#)

As a result of the injury to these three main brain pathways the patient will present with three lesions:

- The corticospinal lesion produces spastic paralysis on the same side of the body below the level of the lesion (due to loss of moderation by the [UMN](#)). At the level of the lesion, there will be flaccid paralysis of the muscles supplied by the nerve of that level (since lower motor neurons are affected at the level of the lesion).
- The lesion to [fasciculus gracilis](#) or [fasciculus cuneatus](#) (dorsal column) results in ipsilateral loss of vibration and [proprioception](#) (position sense) as well as loss of all sensation of fine touch.
- The loss of the spinothalamic tract leads to pain and temperature sensation being lost from the contralateral side beginning one or two segments below the lesion.