

#### **Activity 4**

This is patient AM, a 28-year-old male who came in the ER because of drooping of his left face. He said he woke up and he could not move his left face.

He has no other muscle weakness. He is conscious and coherent although he had a little difficulty speaking because the left side of his lips drooped. He had normal blood pressure and he had no other comorbidities. He was diagnosed to have Bell's palsy. Name 5 muscles which are affected and list its actions. Describe the mechanism of his muscle weakness.

*What other symptoms could the patient exhibit as a result of facial muscle weakness?*

#### **Muscles Affected:**

1. Orbicularis oris - closes and protrudes lips, as in kissing; compresses lips against teeth; and shapes lips during speech.
2. Orbicularis oculi - closes eye
3. Corrugator supercillii - draws eyebrow inferiorly and wrinkles skin of forehead vertically as in frowning
4. Platysma - draws outer part of lower lip inferiorly and posteriorly as in pouting; depresses mandible
5. Buccinator - presses cheeks against teeth and lips, as in whistling, blowing, and sucking; draws corner of mouth laterally; and assists in mastication (chewing) by keeping food between the teeth (and not between teeth and cheeks)

#### **Mechanism of Muscle Weakness:**

Bell's palsy, also known as facial paralysis, is a unilateral paralysis of the muscles of facial expression. It is due to damage or disease of the facial (VII) nerve. Possible causes include inflammation of the facial nerve due to an ear infection, ear surgery that damages the facial nerve, infection by the herpes simplex virus, impaired immunity from stress, sleep deprivation, physical trauma, minor illness, or autoimmune syndromes, and damage to the myelin sheath (fatty covering that insulates nerve fibers). The paralysis causes the entire side of the face to droop in severe cases. The person cannot wrinkle the forehead, close the eye, or pucker the lips on the affected side. Drooling and difficulty in swallowing also occur. Eighty percent of patients recover completely within a few weeks to a few months. For others, paralysis is permanent. The symptoms of Bell's palsy mimic those of a stroke.

**Other Symptoms of Facial Muscle Weakness:**

1. Drooling from one side of your mouth
2. Difficulty closing an eyelid, which causes eye dryness
3. Facial pain or abnormal sensations
4. Excessive tearing in one eye
5. Problems with taste
6. Low tolerance for loud noises
7. Pain around the jaw and behind the ear
8. Problems eating or drinking

**References:**

Bell's Palsy. (n.d.). National Institute of Neurological Disorders and Stroke.  
<https://www.ninds.nih.gov/health-information/disorders/bells-palsy>

Tortora, G. J., & Derrickson, B. (2017). *Principles of Anatomy and Physiology* (15th ed.). Langara College.