

► diseases and disorders

► Bell's palsy

BY FELICIA M. WILLIS

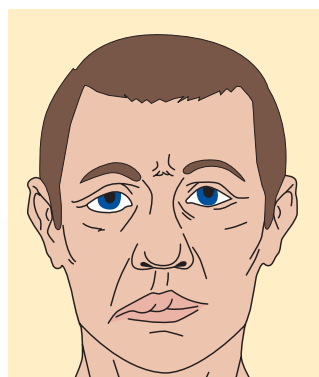
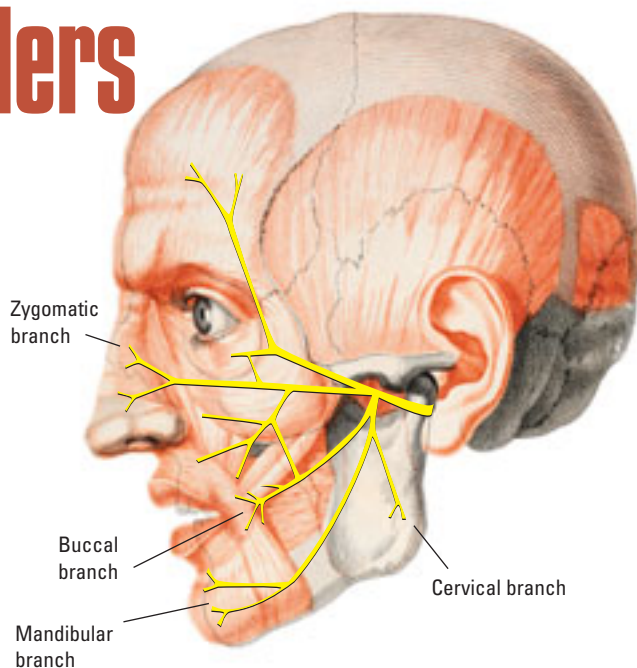
The most common cause of facial paralysis is Bell's palsy, a neurological disorder caused by damage to the facial nerve that controls the muscles that move the eyebrows, close the eyes, and move the mouth and lips. The nerve also controls the tear glands, one of the salivary glands, and the taste buds in the front of the tongue.

An idiopathic viral attack on the seventh cranial nerve, Bell's palsy occurs in approximately 11 out of 10,000 people worldwide and 40,000 Americans each year. It causes the facial muscles, usually on one side, to suddenly weaken or become paralyzed. Milder symptoms, including tingling around the lips and a dry eye, usually progress quickly, reaching maximum severity in 48 hours or less. In addition to one-sided facial paralysis with an inability to close the eye, symptoms may include pain, tearing, drooling, hypersensitivity to sound in the affected ear, and impairment of taste.

Bell's palsy is named for the Scottish surgeon and anatomist Sir Charles Bell, who in 1811 established through his book, *An Idea of a New Anatomy of the Brain*, that the nerves of the special senses could be traced from specific areas of the brain to their end organs. He demonstrated that spinal nerves carry both sensory and motor functions and that sensory fibers traverse the posterior roots whereas motor fibers run through the anterior (known as Bell's law). He also showed that although one cranial nerve was sensory to the face and motor to mastication, a different cranial nerve controlled the muscles of expression.

Bell's palsy can strike almost anyone at any age, but risk factors include situations that compromise the immune system, such as HIV, stress, and pregnancy. Similarly, people with diabetes are more than four times as likely to develop the disorder as the general population. Other risk factors include bacterial infections such as Lyme disease and typhoid fever; neurological disorders such as Guillain-Barré syndrome, multiple sclerosis, and myasthenia gravis; traumatic injury to the head or face; and viral disorders such as influenza, the common cold, and mononucleosis.

Bell's palsy is commonly associated with the herpes simplex-1 virus (HS1). According to the National Institute of Neurological Disorders and Stroke, a division of the National Institutes of Health, researchers in Japan recently identified evidence that proves that HS1 is the primary cause of idiopathic Bell's palsy. Nearly 80% of all Bell's palsy patients studied were found to have this virus. The recent research in Japan on HS1 has led to the production of antiviral medications, which have been shown to be somewhat effective against Bell's palsy as long as the medication is administered 1–6 days after an attack.



Ipsilateral upper and lower facial asymmetry.

Statistics show that about 50% of all sufferers have complete spontaneous recovery within the first 30 days without any treatment or intervention. Another 20% recover between 1 and 3 months, and another 5–10% between 4 and 6 months. Patients who have not completely recovered by the end of month 6 are often considered “residual”, and they usually require some form of facial muscle rehabilitation. In rare cases, the symptoms never completely disappear.

Recent studies suggest that steroids as well as the drug acyclovir (combined with prednisone) are effective in improving facial function. Other treatments are usually aimed at protecting the eye from painful drying; these include artificial tears instilled every two hours. Finally, some physicians may prescribe a corticosteroid drug to help reduce inflammation and an analgesic to relieve pain.

Although surgery is not the best option and is highly controversial, some sufferers of Bell's palsy are treated using a delicate microsurgical procedure for decompression of the facial nerve to relieve symptoms. The procedure is controversial because, although this type of surgery can make a critical difference with some types of severe nerve damage, that is not generally the case for Bell's palsy. Also, the procedure is unlikely to be of any benefit over prompt treatment by standard medications, and there are serious risks. The most common complications are hearing loss and more severe damage to the facial nerve, which can be permanent. If this procedure is done for any reason, it should be performed within three weeks of nerve damage. After three weeks, statistics show no benefit for enduring the surgery and the potential risks.

Disorders of the facial nerve, including paralysis, are not uncommon and have a wide array of causes. A proper diagnosis and suitable treatment are important for achieving the greatest possible recovery of facial nerve function.

Disorders of the facial nerve, including paralysis, are not uncommon and have a wide array of causes. A proper diagnosis and suitable treatment are important for achieving the greatest possible recovery of facial nerve function.

Further reading

National Centers for Facial Paralysis, Inc.; www.bellsypalsy.com.
Your Health.com; www.yourhealth.com/ahl/1062.html. ■

ILLUSTRATIONS: ADAPTED FROM WWW.MAYO.EDU

