

Clinical & Refractive Optometry is pleased to present this continuing education (CE) article by Dr. Ron Melton and Dr. Randall Thomas entitled **Bell's Palsy**. In order to obtain a 1-hour Council of Optometric Practitioner Education (COPE) approved CE credit, please refer to page 253 for complete instructions.

Bell's Palsy

Ron Melton, OD; Randall Thomas, OD

SUBJECTIVE

A 60-year-old white female presents with a history of being unable to close her right eye for three days. She has noticed some associated blurring to her vision in that eye. There was some drooping to the right side of her face with numbness and mild pain to the involved facial area. There were no other neurological symptoms. Her last eye exam was one year ago.

OBJECTIVE

- Visual acuity is OD 6/12; OS 6/7.5
- Gross observation: definite sagging to right side of face and mouth (Fig. 1) with inability to whistle
- Lids: inability to close right upper lid (approximately 30% of normal function); left lid function normal. Strong Bell's reflex upon attempting forced right lid closure (Fig. 2)
- Conjunctiva: Grade 1 injection of the bulbar conjunctiva OD
- Cornea: Grade 1 inferior stippling to the corneal epithelium OD, with uptake of fluorescein dye (Fig. 3); decreased tear break-up time (BUT) to 2 sec OD

ASSESSMENT

- Right Bell's palsy with secondary lagophthalmus and exposure keratitis

PLAN

- Consulted with an ENT physician and recommended prednisone, p.o., starting at 60 mg, tapering over a two-week period (60 mg x 2 days; 50 mg x 2 days, 40 mg x 2 days, 30 mg x 2 days, 20 mg x 2 days, 10 mg x 2 days, and lastly, 5 mg x 2 days).
*Also recommended was Acyclovir 400 mg 5 x daily for 10 days.

- Prescribed Bion tears q.1h. OD, while awake and self eyelid patching of right lid overnight under erythromycin ophthalmic ointment. A staff member showed the patient how to patch the eye.
- Recommended forced blink frequently to stimulate the Bell's reflex, which allows the cornea to periodically be covered.
- At follow-up in one week, 50% improvement in the right facial nerve function (Fig. 4); lid function with forced closure produces 80% closure of the lids; corneal stippling has cleared. Continued the aggressive use of the viscous preservative-free artificial tears and switched from the erythromycin ophthalmic ointment h.s. OD to a preservative-free ophthalmic ointment at h.s.
- At follow-up in two weeks, 90% recovery of lid function with minimal lagophthalmus seen on normal lid closure. Switched the patient to Tears Naturale Forte 4 to 8 x daily OD, and Bion tears h.s. x 1 month. Scheduled for a complete ocular health examination in one month.
- Schedule a complete ocular health exam at one-month follow-up: 100% recovery of Bell's palsy with normal right facial nerve function (Fig. 5) and complete lid closure on normal lid closure (Fig. 6). Continued with Tears Naturale Forte, p.r.n.

Comments: In most cases, as with this patient, the etiology of Bell's palsy is unknown. It is known that the facial nerve becomes inflamed in Bell's palsy. There is evidence in the medical literature that there is a viral cause. It is still important to consult with an ENT physician regarding the controversial use of systemic steroids and anti-virals. These medicines are felt to be more effective if started within the first three to five days of the onset of the Bell's palsy.

The prognosis for recovery from the facial palsy and secondary lid disability is based on the severity of the palsy during the first days after onset. Complete palsy with no ability to blink when first seen in the office has a poorer prognosis for full recovery. Other factors worsening the prognosis include advanced age, hyperacusis (overly sensitive to sound), and severe initial pain. This patient had a good prognosis for recovery, based on her mild symptomatology and incomplete palsy at her initial visit.

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Fig. 1 This patient presented with significant drooping to the right side of her face with symptoms of numbness and mild pain to the involved facial area.

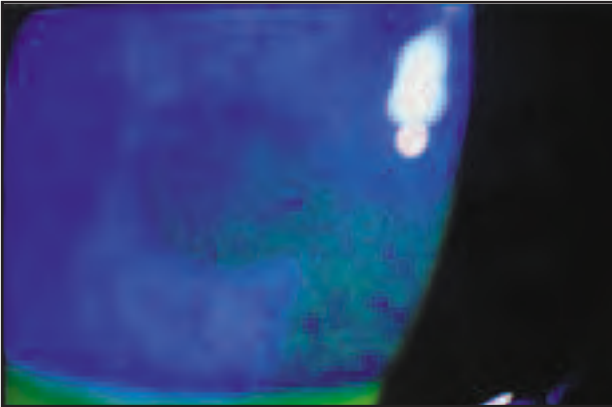


Fig. 3 The cornea shows Grade 1 stippling of the epithelium and a reduced BUT.

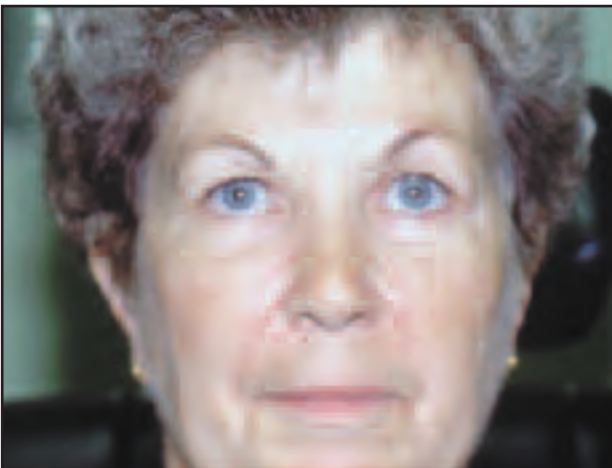


Fig. 5 Six weeks after her initial presentation to the office the right facial paralysis had resolved completely.

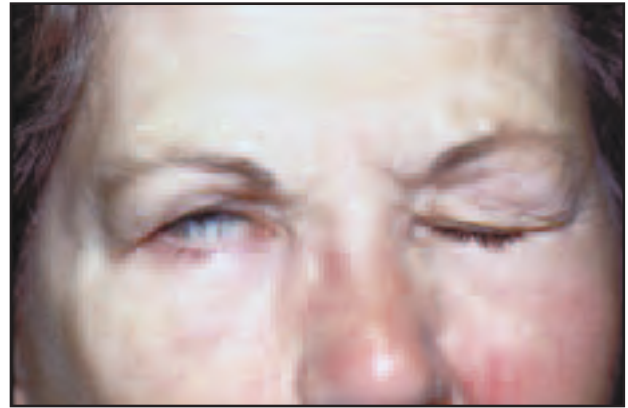


Fig. 2 There is an inability to close the right eyelids, and upon attempting forced lid closure, a strong Bell's reflex (eye moving up as lids are closed) is observed.



Fig. 4 There is a 50% improvement in the right facial nerve function after one week



Fig. 6 Six weeks after the Bell's palsy event, the patient returned for a complete eye examination and had returned to normal lid function with complete lid closure.

The key to the patient's ocular health during the Bell's palsy event is the aggressive use of viscous preservative-free artificial tears and/or ointment during the day and proper self-patching of the eyelids at bedtime. If the cornea has mild superficial punctate epithelial breakdown, then prophylaxes with erythromycin ophthalmic ointment initially is helpful to prevent an infectious keratitis. If there is significant corneal breakdown associated with the Bell's palsy, then it may be necessary to use an ophthalmic antibiotic drop such as moxifloxacin 0.5% (Vigamox) along with the viscous preservative-free artificial tears) and Polysporin ophthalmic ointment under the patch at bedtime until the cornea has healed.

The success one will have in keeping the cornea healthy during the Bell's palsy event is also determined by the degree of education provided to the patient. Frequent follow-up with a more aggressive Bell's palsy will allow the practitioner to continually encourage the patient to follow the prescribed plan.

GENERAL OBSERVATIONS

- Unilateral facial paralysis secondary to dysfunction of the ipsilateral seventh (facial) cranial nerve.
- Seventh nerve palsy can be very complex because of diverse etiologies, including central nervous system (CNS) lesions, postviral sequelae, Lyme disease, and numerous others; most are idiopathic. For this reason, if there is any neurologic component to the Bell's palsy presentation, neurologic consultation is indicated. Consider at least a telephone consult with an ENT physician regarding treatment considerations and, if recommended, an otolaryngologic exam to rule out vesicles, masses or other lesions.
- Ocular complications secondary to lagophthalmos (mostly exposure keratitis)
- Bell's palsy is seen most commonly in adults.
- In 80% to 90% of patients, this presentation self-limits in one week to three months. If recovery is not evident by three months, a complete neurological workup is indicated.

- Ocular findings: If the eyelids are incapable of full closure and/or if ectropion is present, exposure keratopathy may occur. This is more likely if the normal Bell's reflex is absent, so always be sure to check for this.
- Treatment:
 - Systemic corticosteroids (in order to reduce the potential swelling and inflammation associated with the seventh cranial nerve involvement)
 - Systemic antiviral medications (viral etiology suspected): acyclovir (Zovirax), famcyclovir (Famvir), or valacyclovir (Valtrex)
 - Protection of cornea with non-preserved artificial tears or ophthalmic lubricating ointment
- Ocular therapy: Aggressiveness of therapy depends upon the extent of exposure keratopathy. Generally, non-preserved artificial tears by day and ointment, with or without eyelid taping, at bedtime will treat and/or prevent epithelial desiccation.
- Systemic corticosteroid, antibiotic, or anti-herpes therapy has been shown to be helpful for certain known etiologic factors. However, most systemic therapeutic approaches remain controversial.
- This is an ophthalmic manifestation of a primary nonophthalmic disorder. Simple idiopathic Bell's palsy can be managed by primary caregivers. Bell's palsy, as a component of generalized seventh nerve disease, should be comanaged with an appropriate medical specialist, i.e., ENT, neurologist, internist, etc.

Disclaimer: Not every detail of every case is discussed, rather the key clinical findings are described. For example, if nothing is said about the corneal status, you should assume that the cornea is normal, etc. When vision is recorded, it should be assumed to be best corrected or pinholed. Regarding therapy, we show how we treated the particular case. Given that medicine is an art, as well as a science, therapy will — and often does — vary with each unique patient presentation depending on severity, known drug allergies, prior treatment, response to therapy, etc.



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QUESTIONNAIRE

Bell's Palsy

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1. In this Case Report, which of the following is an objective sign of Bell's Palsy?
 - Sagging to right side of face and mouth
 - Strong Bell's reflex upon attempting forced right lid closure
 - Grade 1 inferior stippling to the corneal epithelium OD
 - All of the above
2. Which of the following is **NOT** part of the patient's subjective presentation?
 - Severe pain to the eye area
 - Inability to close the right eye
 - Drooping to the right side the face
 - Numbness to the involved facial area
3. Which of the following statements regarding the condition's etiology is **FALSE**?
 - Medical literature points to a possible viral cause
 - The facial nerve becomes inflamed
 - Bell's Palsy is most often trauma-related
 - The etiology is unknown
4. Which of the following was prescribed as treatment in this case?
 - Prednisone, p.o., starting at 60 mg, tapering over a three-week period
 - Acyclovir 200 mg 5 x daily for 10 days
 - Bion tears q.2h. OD, while awake
 - Self eyelid patching of right lid overnight under erythromycin ophthalmic ointment

5. Which of the following was **NOT** part of the follow-up regimen in this case?
- At one week, discontinued use of the preservative-free artificial tears
 - At two weeks, switched from Tears Naturale Forte 4 to 8 x daily OD
 - At one week, switched from erythromycin ophthalmic ointment h.s. OD to preservative-free ophthalmic ointment at h.s.
 - At one month, continued with Tears Naturale Forte, p.r.n.
6. Which of the following statements is **FALSE**?
- One-week follow-up revealed 50% improvement in right facial nerve function
 - At one week, lid function with forced closure produced 80% closure of lids
 - Two-week follow-up revealed 90% recovery of lid function
 - At two weeks, secondary lagophthalmus was severe
7. Factors worsening prognosis include the following, **EXCEPT**:
- The severity of the palsy during the first days after onset
 - Advanced age
 - Severe initial pain
 - Previous ocular trauma or palsy
8. Which of the following statements is **FALSE**?
- If recovery is not evident by two months, a complete neurological workup is indicated
 - Consultation with an ENT physician regarding systemic steroids and anti-virals is important
 - Aggressive use of viscous preservative-free artificial tears is essential
 - Proper self-patching at bedtime is an important element of recovery
9. Which of the following describes Bell's Palsy?
- It is seen most commonly in adults
 - In most cases, presentation self-limits in one week to three months
 - Ocular complications secondary to lagophthalmus may occur
 - All of the above
10. Etiologies of seventh nerve palsy may include all of these, **EXCEPT**:
- CNS lesions
 - Bacterial infection
 - Lyme disease
 - Post-viral sequelae