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### Case Report

The signs and symptoms we have included under the name Satchmo's syndrome have not been previously described, to our knowledge, as a clinical entity. Satchmo was a nickname of the great trumpet player of New Orleans, the king of jazz, Louis Armstrong. We used his name to label this syndrome because apparently it was associated with the symptoms he experienced in his lips in 1935 that obliged him to stop playing the trumpet for 1 year.

### Case Report

Three years ago, a famous trumpet player came to me about his lips, because "They were broken". Through my research I learned that the symptoms he presented are not unusual among musicians who play brass wind instrument and especially among trumpeters. His father, also a trumpet player, was forced to retire long ago because of the same problem.

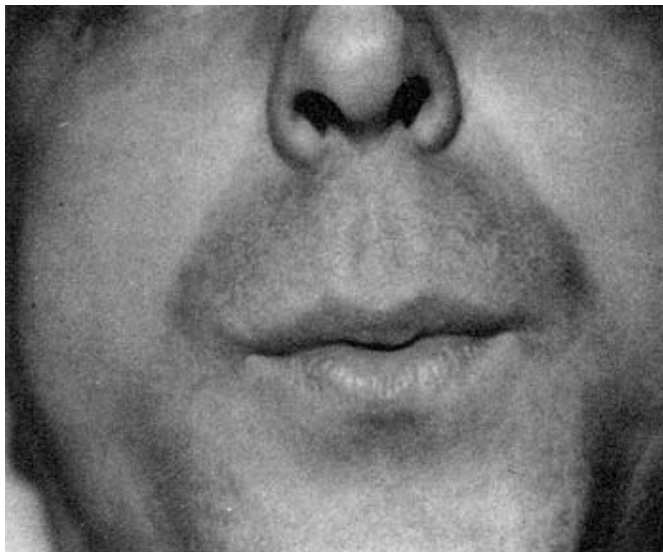


Fig. 1 Preoperative condition. Forceful pouting of lips and retention of air in the mouth when blowing were impossible to achieve

The patient explained that while he was experimenting with a new mouthpiece for the instrument after a long and tiring concert, he suddenly noticed a pain in his lower lip.

Since then, he and his fellow musicians also noticed that his high notes were somewhat flat and not as bright as usual.

The sounds trembled, and he could not maintain certain notes for a long time. He was very much interested in showing me the way his lips should press on the mouthpiece of the instrument to produce the vibrations necessary to obtain the best sounds, which were, of course, very new to me. However, when he was pouting his lips trembled and looked weak and especially flat in the middle part of the lower lip (Fig.1), the zone which he always pointed with his finger when he referred to his problem. Thinking of the possibility of a lesion of the orbicularis oris muscle, I proposed a surgical exploration, which he accepted.

### Surgical Technique

The operation was done under general anesthesia with nasal intubation in order to avoid any change in the anatomic relationships in the region. A short vertical incision was made in the center of the lower lip. Two fingers pressing on each side of the incision produced a bloodless field. The orbicularis muscle was found ruptured with its end joined by a fibrous band (Fig.2) similar to the fibrous union usually found in ruptured tendons. The most posterior fibers were intact but stretched. The fibrous band was carefully dissected and removed, and the muscle was approximated with two nonabsorbable sutures.



Fig.2 Ruptured fibers of the orbicularis oris muscle were joined by a fibrous band. The posterior fibers were only stretched.

The lax posterior fibers were plicated with one stitch. The patient was advised to allow his lips to remain relaxed for a period of 3 weeks. Recovery was uneventful and rapid. The patient's function and ability returned completely, and soon he rejoined the orchestra. Nine months later, the scar was red, swollen, and painful. A small incision discharged some turbid liquid, and two sutures extruded spontaneously. The small wound closed down, and now the patient is playing again as actively as he did before he had this problem (Fig.3).



Fig.3 After repair of the ruptured fibers, the function of the orbicularis oris allows for strong pouting (left) and retention of the air in the mouth when blowing (right).

After inquiring about this patient and some other musicians, I found that these symptoms, sometimes preceded by bleeding crevices and fissures in the lips, as happened to Louis Armstrong, are not rare in brass wind instrument musicians. Some of these musicians may spontaneously regain enough useful movement to resume active playing after a long period of rest and without any specific treatment. Perhaps this may be due to spontaneous recuperation of the muscle fibers or to the ability of the lips to adapt to new local conditions.

#### Summary

Rupture of the orbicularis oris in a trumpet player has been described. Direct repair is advised for correcting this severe occupational disability.

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## Discussion

### Rupture of the Orbicularis Oris in Trumpet Players (Satchmo's Syndrome)

by Jaime Planas, M.D.

Discussion by Bernard I., Kaye M.D., D.M.D.

The strength and agility of the lip musculature is the most important armamentarium of a trumpet player or brass instrument performer.

The embouchure, or method by which the performer adjusts his lips to the mouthpiece of his instrument, is a sum total of strength, sensitivity, flexibility, and agility in the lip musculature produced by years of training practice. To play high notes with the brilliance and clarity that is required in the upper register, the player must exert enormous pressures and great lip tension to produce the highly educated lip vibrations which the mouthpiece and instrument transform into the beautiful sounds the trumpet is capable of producing. Severe disability may result when the symphonic musician announces "I cannot form an adequate embouchure", or a jazz player says, "Man, I lost my chops".

We are indebted to Dr. Planas for establishing the anatomic basis of a serious problem among trumpeters and for successfully treating the problem surgically. As he pointed out, it is not unusual for a trumpet player to suddenly find that he cannot produce his high notes adequately. Sometimes this impairment may be preceded by pain. The problem may occur when the musician is altering his embouchure to accommodate to new circumstances (e.g., trying out a new mouthpiece) and thereby producing new stresses and strains on his lip musculature. When the injury occurs, the trumpeter may be forced to choose one of several possible courses: (1) stop playing for many months, (2) try using a "crutch" mouthpiece, such as "peashooter" (small-bore mouthpiece), one with a shallow cup, or a "cushion" (wide rim), although most trumpeters consider these devices to be poor substitutes, (3) restrict his playing to the low register (impractical because of most music demands), or (4) switch to piano. Based on the patient's history and physical findings of weakness and flatness in the middle part of the lower lip, Dr. Planas made the diagnosis of an anatomic defect in the continuity of orbicularis oris. In spite of the rationality and justification for his diagnosis, I think it took great courage on Dr. Planas's part to undertake to make an incision on a trumpet player's lip and explore the orbicularis oris. If I were considering doing such an operation, I would have great fear and trepidation about the sequel of a scar on the most active and sensitive part of the lower lip in a trumpeter. In Dr. Planas's case, the end justified the means, because the musician was able to return to his playing and could perform as well as he did prior to the injury.

In future cases of his kind, it may be better to use long-acting absorbable sutures for the muscle repair. In retrospect, one might predict that constant high pressure of the lips on the metal mouthpiece would encourage late extrusion of sutures made of permanent material.

Some trumpeters have reported that after experiencing such a "loss of lip", they could return to active playing after abstaining and resting their lips for a long time—weeks or months. A few of these players claim that although they have recovered, they cannot produce their high notes with as much brilliance or volume as they did before their injury. This experience could be explained by Dr. Planas's finding of fibrous tissue interposition between the separated ends of the orbicularis muscle. Presumably a muscle rupture occurred, and the fibrous scar tissue interposition produced a lengthening of the circumference of the orbicularis oris. As we know from experience with lengthened long muscles, such muscles cannot exert much pull as muscles of normal length.

Finally, the condition described in this paper is to be differentiated from weakness of the buccinators shown by certain trumpet artists, particularly Dizzie Gillespie. When the Diz blows, his cheeks puff out like a blowfish. One can justifiably postulate attenuation and stretching of the buccinator fibers, so severe that only the physical tensile strength of his cheek skin contains the pressure he needs to vibrate his lips. In his case it is obvious that his rather odd blowing technique is more than adequate to produce his delightful music. To my knowledge, this is the first report of an anatomic lesion being demonstrated as the cause of an embouchure problem. I am sure it will be of great interest to performers and teachers of the trumpet and other brass instruments. However, if I were to encounter such cases in this country, I would probably be inclined to treat it nonoperatively. I am not sure that all surgeons would obtain the highly successful results that Dr. Planas had in his case. I might even be inclined to refer such patients to Dr. Planas.

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