

Reed-Maker's Elbow

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Stress-overuse syndromes are a common cause of upper extremity symptoms in professional musicians and in others who take an active part in musical performance.¹ It is well known that each instrument, or class of instruments, may produce problems peculiar to its use. It is the purpose of this brief report to describe a specific type of inflammatory condition peculiar to the double-reed player, and to consider specific activities that may produce it. Additionally, corrective measures will be discussed, which may be helpful in treatment and in preventing recurrences.

Repetitive Motions

The double reed (for oboe, English horn, or bassoon) is a model of precision in its manufacture, beginning with a single piece of cane which is formed, folded, and tapered according to a specific pattern. The thinning or scraping of a reed is accomplished by the reed maker, using a sharp knife held in the dominant hand. The reed itself is held on a mandrel and gripped in the nondominant hand while such scraping or contouring is performed. Since a miniscule amount of cane is removed with each pass of the knife, it follows that repetitive motions of the dominant hand will be required to produce the desired thinness of reed and the appropriate differences within it necessary for production of specific notes.

Hand and wrist motions involved in such scraping include pronation and extension of the dominant wrist, with a strong ulnar deviation component to each stroke. Stabilization of the wrist during this action is assisted by the wrist extensors, thus controlling the amplitude of motion. Generally, each scraping motion is about 6 to 10 mm in length. The nondominant hand, in

contrast, holds the reed absolutely still, producing a solid "platform" upon which the scraping motion is performed.

Lateral Epicondylitis

Considering the repetitive nature of such motions, it is not unlikely that stress or overuse symptoms may develop, especially in those persons who hold the reed in a position such that the dominant hand is poorly supported from the elbow distally. This posture may indeed lead to the production of a lateral epicondylitis from such repetitive stress, considering the thousands of such motions performed in the making of even just a half-dozen reeds.

Two case reports will serve to describe and clarify this condition.

Case 1

W. E., a 46-year-old male symphony bassoonist, had a 4 to 6 month history of lateral right elbow pain. Symptoms were worse on reed scraping rather than on playing of his bassoon. Physical examination confirmed the presence of pain localized to his right (dominant) lateral humeral epicondyle, aggravated by active contraction of the wrist extensor muscles. Treatment consisted of two injections of local steroid into the extensor tendon origin, several weeks apart, plus intermittent use of oral non-steroidal anti-inflammatory (NSAI) agents. Good relief of symptoms occurred. The patient was instructed in the use of correct upper extremity mechanics to avoid recurrences, and has been asymptomatic for the past 12 years.

Case 2

W. D., a 44-year-old amateur bassoonist, active in chamber music and other groups, had noted pain on the lateral side of his dominant right elbow following reworking of reeds bought from local music shops; the thick nature of these reeds necessitated much revision for his needs. Other uses of the elbow and wrist did not cause such symptoms. Examination demonstrated local pain at the extensor origin in his right elbow without loss of strength or motion. Symptoms abated with the use of correct upper extremity mechanics for reed holding and scraping, and were not exacerbated by his continued playing of the bassoon.

Discussion

Lateral humeral epicondylitis is a well-recognized entity² frequently described in the literature of sports medicine.^{3,4}

Obviously it may occur in many ways when the extensor muscle group at risk is subjected to excessive stress or overuse. This report merely delineates a mechanism peculiar to double reed makers, most of whom are also performers. The abnormal mechanics are described above, and the treatment principles have been well documented.⁵ Activity modification and anti-inflammatory medications remain the mainstay of therapy in this condition.

Prevention

Prevention of the problem or its recurrence is as important as its diagnosis and basic treatment; indeed, adherence to the techniques of prevention may cause this type of lateral humeral epicondylitis to disappear. Paramount to the comfortable and effective use of the reed-maker's dominant hand and forearm is its adequate stabilization on a firm surface such as a table or desk. An alternative is the fixation of both forearms and elbows against the body, thus minimizing the use of proximal muscles for stability. This position allows all effective force to be transmitted to the hand and fingers, decreasing extensor forces across the elbow.

References

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