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# Vocal abuse in rock-and-roll singers

## *Report of five representative cases*

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ROCK-AND-ROLL music, because of its extremely high sound intensities, poses a serious threat to the hearing of its creators, according to a recent report by Jerger and Jerger.[1] It would seem that some of those young singers are placing themselves in double jeopardy. Characteristically, contemporary rock-and-roll musical groups generate intense sound levels not only instrumentally but often vocally in competition with their instruments. The empiric conclusion that these singers probably abuse the vocal mechanism is not unreasonable. Excessive laryngeal muscular contraction obviously characterizes the voice production of many a rock-and-roll artist.

Vocal abuse is an inevitable byproduct of certain factors that seem to predominate in rock-and-roll entertainment today, and it is proposed that many of these young singers are particularly vulnerable to vocal injury for a number of reasons. First, there is the aforementioned tendency to sing excessively loudly. Despite electronic amplification of the voice, instrumental intensity is so high that anything less than maximum vocal output must certainly seem inadequate to the singer. The effects of auditory masking on vocal intensity are well known.

In addition, the high sensory input (and no doubt the use of a drug in some cases) seems to generate an emotional frenzy that impels the singer to even greater vocal output. For special effect, he may emit a shriek or, playing on vocal nuance, purposely modify the tone in such a way that a cacophonous timber, strongly suggestive of excessive paraglottic constriction, is heard.

The vocal intemperance of the young man who is a rock-and-roll singer leads him to sing high—higher perhaps than anything heard in adult male voices (except that in yodeling) since the papal ban on soprano castrato. In order to produce his unusually high tones, he often resorts to the falsetto voice. Produced correctly, this technic eliminates the strain one hears when the singer forces his fundamental register to its uppermost limits. Unfortunately, once vocal cord lesions begin to form, or muscular tonus or coordination is affected by repeated strain, the falsetto voice deteriorates. At that point, the vocalist understandably is tempted to compensate with added mechanical force as he manipulates and adjusts the vocal apparatus to produce the most from it.

As an art form, rock-and-roll music requires a vocal technic not often

heard in other singing styles. This is the glottal stroke that when delicately produced is recognized in the clear stacatto tones of the coloratura soprano. The vigorous glottal stroke heard in rock-and-roll singing, however, more closely resembles a series of high-pitched grunts. The exaggerated glottal stroke is generally known to be harmful to the vocal cords. Mechanically, the cords are adducted with such great force that only strong subglottic pressure can set them to vibration. Excessive use of vigorous glottal stroke is a well-known etiologic factor in the development of contact ulcers of the vocal cords.

Many rock-and-roll singers sing not only excessively high, but immoderately loudly and long. The enormous popularity of these musicians makes exhausting demands on them. An evening's performance frequently lasts three or four hours, and the singers have insufficient vocal rest. Some groups perform almost every evening, and for some there are recording sessions, frequent rehearsals, and considerable arduous travel from engagement to engagement. Moreover, as a team member, usually without ready replacement, a singer is strongly tempted to perform despite illness. Most members of the rock-and-roll aggregations are young, and rely on their youthful resiliency to carry them through. They would do well to remember that singing is a physical activity in precisely the same sense that pitching baseball is a physical activity. Abuse of the pitching arm, particularly after fatigue noticeably has set in, can be catastrophic to the serious athlete.

A final factor in vulnerability is the matter of inadequate vocal training. It is probably safe to assume that few rock-and-roll singers give serious thought to the arduous training periods that, for example, opera singers undertake as a matter of course. Systematic vocal development has not been a requisite for the more intimate singing styles that came into vogue with the advent of radio. The popular singers of recent decades made the most of electronic amplification, virtually incorporating it as an integral part of their vocal instrumentation. The physical demands of rock-and-roll singing, by contrast, are much more nearly equivalent to those of dramatic operatic styles that require sturdy, robust, vocal mechanisms that are achieved only after many years of careful cultivation through appropriate vocal exercise. The vocal apparatus seems able to withstand a considerable workload so long as the instrument is healthy and strong. Once there is a breakdown in vocal health, the road back is usually a long and difficult one.

The following case presentations are a brief report of experience with one successful group of five young rock-and-roll musicians who were recently examined. These young men lacked formal vocal training but had good natural voices. They had sung professionally as a group for approximately four years. Recording contracts and public appearances for the ensuing year were being considered, and their manager wanted each one to have a thorough laryngologic examination before proceeding with scheduling. The

young men typified a moderate form of rock-and-roll singing; they were not exponents of the most stentorophonic style known as *hard rock.*

## Report of cases

**Case 1.** The youngest member of the group was a 22-year-old man. His principal vocal concern was deterioration of his falsetto voice. This register constituted about 50 percent of his singing performance, and he observed that it had become "muffled" in recent months. Indirect laryngoscopy revealed hyperemia of the vocal cords, apparently due to vocal strain. The diagnosis was traumatic laryngitis simplex.

**Case 2.** A 23-year-old man was one of the three leading singers. His position in the group required almost constant singing, often during periods of three or four hours, repeated five or six nights a week. Two years previously the group had spent an entire summer at a lakeside resort. Until that time the patient had sung falsetto most of the time but could no longer do so, he said: "...after that damp summer. I lost my falsetto and never did get it back." Additionally, hoarseness became more and more persistent as time went on. The patient stated, "I'm hoarse all the time now, and I can't reach my high notes."

Laryngeal examination revealed hyperemia of the vocal cords and bilateral vocal cord nodules. The diagnosis was traumatic laryngitis with bilateral vocal cord nodules.

**Case 3.** The third member of the group was a 25-year-old man. He too had begun to notice hoarseness two years previously. Severity fluctuated, depending on the amount of singing. Hoarseness invariably cleared after two or three days of resting his voice. His position in the group seldom called for singing in the falsetto register.

The physical examination revealed edematous and hyperemic vocal cords with bilateral vocal cord nodules. The diagnosis was traumatic laryngitis with bilateral vocal cord nodules.

**Case 4.** The fourth member of the group also was a 25-year-old man. During the course of an evening's performance he sang about 50 percent of the time. Eighteen months previously, he had had influenza, characterized by a head cold with slight fever and laryngitis that lasted two weeks. He sang through this episode, reporting that his voice "never came back completely after that." Hoarseness was particularly noticeable when he tried to use his falsetto voice. The urge to clear his throat was strong and persistent.

On advice of his local physician, the patient had observed voice rest for one month before his appointment at the Cleveland Clinic. On physical examination, the entire larynx was edematous and hyperemic, and there were vocal cord nodules with keratosis over the nodules and the anterior half of each cord. The diagnosis was traumatic laryngitis with bilateral vocal cord nodules and cordal keratosis.

**Case 5.** The oldest member of the group was a 26-year-old man. Hoarseness had troubled him for the previous five or six years. He said he had a strained feeling when he sang, and that singing increased the hoarseness.

Physical examination disclosed hyperemia of the entire laryngeal mucous membrane, including the vocal processes, and mild keratosis of the mucous membrane of the anterior third of each vocal cord. The diagnosis was chronic traumatic laryngitis, with early keratosis.

*Comment.* The five patients and their business manager were informed of the laryngologic findings, and the implications of the results were carefully interpreted to them. Vocal cord trauma was an obvious factor and it was important that each member of the group recognize and accept that fact. The immediate goal in vocal management was recovery of vocal health. It was imperative initially to suspend all singing activity and to cooperate fully in a prescribed program of vocal hygiene for several weeks. Specific recommendations for vocal recovery were deferred until the effects of a modified form of voice rest could be assessed for each patient.

## Discussion

Management of vocal disorders in singers is at best a difficult undertaking. Voice rest and possibly surgical treatment usually are only the first steps in rehabilitation. Correction of faulty vocal technics, which are a common cause, is a highly important part of therapy. In some cases the laryngologist and speech pathologist join with the singing instructor in the overall effort to bring about vocal restoration. Strict cooperation of the singer himself usually can be counted on in the case of the serious professional artist. The hazards of misusing the voice are a nagging source of anxiety to many performers, some of whom use extreme measures to pamper the mechanism. Whatever his emotional reaction is to a stringent rehabilitative regimen, the goals of a professional singer make him want to vocalize efficiently, and above all to avoid poor phonatory habits.

The professional rock-and-roll singer's cooperation may be grudgingly given. His financial rewards can be ample, and can pose a serious obstacle to whole-hearted cooperation. Elements of vocal strain are as important a part of the rock-and-roller's singing technic as his ear-splitting instrumental sounds are inherent in the fabric of his art. He does not necessarily exaggerate when he insists that a radical change in vocal style will lead to his oblivion as an artist.

Nonetheless, specialists who diagnose and treat vocal disorders have the responsibility of being explicit to the patient in regard to the problem of vocal abuse. An appeal to logic may fail, but there can be no argument when the effect of mechanical trauma is evident. There remain but few, if any, approaches to lasting vocal health to the rock-and-roll victim of vocal abuse who refuses to alter his vocal style. At the least, he should become conversant with the principles of conservation of voice. Adequate vocal rest is imperative, and regular laryngeal examinations should be a routine procedure. Abstinence from smoking and alcohol also is advised in order to prolong his professional life. Improved auditory monitoring of his vocal efforts by electronic means is highly recommended.

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## Reference

1. Jerger, J., and Jerger, S.: Temporary threshold shift in rock-and-roll musicians. J. Speech Hearing Res. **13:** 221–224, 1970.