the organ wandering about is proof that its pedicle is long; and when there is a long pedicle, it is not improbable that in course of time the tumor may become so rotated on its axis as to affect its blood-supply very seriously, or even to arrest it altogether. It is well known that this occurs in some cases of ovarian tumors, and accounts for the development of acute symptoms of a very urgent character. It is in these cases that immediate operation becomes necessary to save life. Ordinarily in cases of wandering spleen no operation is performed unless it produces some constitutional disturbance.

In view of the comparative simplicity and safety of an early operation, and of the other fact, that this wandering spleen, from twisting of its pedicle, may quickly place the patient's life in peril, would it not be in the interest of the patient to advise early excision? This is the recognized practice in all ovarian tumors, and the change from the old plan of waiting till some constitutional disturbance arose, accounts in some degree for the small mortality in ovariectomy in comparison with the results obtained twenty years ago. Now every operator, as soon as his diagnosis is made, proceeds to remove the tumor; he finds no adhesions, and almost every case recovers. This patient, with nothing but a small indurated mass in the left umbilical region, is in better health than she was with her wandering spleen. From the fact that many persons regain excellent health after the excision of the spleen, it is clear that the organ is not essential to life. From this point of view, therefore, there is no reason why it should not be treated the same as a cystic ovary.

The recovery of this patient from so grave a condition, and in the manner related, is without parallel in the annals of surgery. The attempt at removal was not made. On making the exploratory incision, the state of matters disclosed left no doubt that the patient would die on the table if excision were proceeded with; but nature rescued the patient by using the tract of the incision as a channel by which to eliminate the pus and broken-down fragments of the gangrenous spleen from the system.

CURE OF THE FALSETTO VOICE.¹

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At puberty, voice in the man, as every one knows, undergoes a remarkable change. Its timbre and intensity may remain the same, but its pitch becomes much lowered; the puerile becomes masculine.

¹ Read before the American Laryngological Society, September, 1888.

In some this change occurs quite suddenly, in more the transformation is gradual, but in a very few, though puberty be fully established, the voice remains unaltered, or, more usually, its pitch becomes higher—reaches the falsetto; the boy is man in everything but his voice.

Very frequently this condition undergoes spontaneous cure. At a period of uncertain length after puberty—it may be months, it may be years—the lad in some vocal effort, hitherto untried, finds that the voice of a man issues from his chest. He repeats the experiment, and the heretofore unused, or misused, muscles which control the lower register, having once felt the stimulus of action, automatically respond to future exigencies.

More rarely—indeed, this condition is quite a rare one—this falsetto voice persists beyond the second into the third decade when social and business interests begin to cluster about the man, and his condition is made a very humiliating one.

Until recently I was under the impression that every laryngologist was familiar with this anomaly and its cure, but the history related me by my last patient, of various attempts made in this direction, convinced me that I need not apologize for the introduction of the subject at this meeting, further fortified by the fact that, within my knowledge, the theme has received but little attention in literature.

Mr. S. G. F., banker's clerk, aged twenty-five, until within sixteen months a resident of Washington, D. C., but for the period mentioned an inhabitant of St. Louis, consulted me with regard to an infirmity of the voice in November, 1887. His statement, made in quite a high falsetto key, revealed the fact that he had never yet talked in any other manner, with the following exception: He had occasionally rendered monosyllabic imitations of his brother's deep basso voice, but had been warned to avoid this, for fear of injury to the vocal apparatus.¹ He had never yet uttered a complete sentence in other than his present squeaking, puerile voice. He felt sure that his voice was of higher pitch than previous to puberty.

There existed a partial, not a literal, exception to this latter assertion. Direct questioning elicited the important and instructive fact that, in laughing, the voice was of low pitch, as in other men. He had quite given up hope of relief, inasmuch as a specialist of repute at his own home, having unsuccessfully treated him during several months, had then called in consultation a veteran and distinguished laryngologist from another city, who could, however, suggest no other therapeutic measure than the one already chiefly employed, namely, electricity. He had further consulted another laryngologist in a large Eastern city without avail. He was told uniformly that the trouble was of paralytic nature, and given an unfavorable prognosis.

Instrumental examination revealed a condition, crudely speaking, of perfect health of the upper air-passages. He was in all other respects a normal individual, including his genital organs. It is matter of common knowledge that boys who have been castrated—the eunuchs of the East

¹ Nature asserted itself, but was promptly suppressed.

—maintain their puerile voices after the age of puberty, and it has been written that as late as in the last century choir boys with fine voices suffered castration that their high tenor or falsetto voices might remain unchanged after puberty to serve in the choirs of cloistered orders of monks. The general public, acquainted with these facts, is prone to consider that a full-grown man with a falsetto voice must be lacking in genital development. One of my patients insisted on proving to me that he was not deficient in this respect. I need not say that the public is entirely wrong in the suspicion.¹

Observation with the laryngoscope proved in the patient in question that, far from there being any parietic condition present, the true and false cords during phonation approximated more closely than they should have done; an observation proven by comparison in the same individual a few moments later, when his falsetto voice had given way to a normal baritone. It could then be readily seen that the vocal click was now much larger; that the whole larynx was lacking in the element of muscular tenseness which had characterized the vocal attitude of the falsetto voice. The patient was told with an air of confident authority, after careful and prolonged laryngoscopic examination, that his vocal apparatus was in a condition of perfect health; that the error was purely physiological, and consisted in the faulty use of his voice, and that he would leave the consulting room cured of his falsetto tones. This information was given in this confident manner that it might carry conviction; that it might stimulate the nerve element involved to a correct performance of function.

The chin of the patient was now depressed on the sternum, this being done for its mental effect rather than to relax tension or depress the larynx; and whilst in this position I uttered a low guttural, and asked the patient to imitate me, which he at once did. His attention was then drawn to the fact that he *could* utter low tones. His head being again depressed, he at once readily imitated my low tones in counting. A conversation ensued, his confidence was established, and the cure almost accomplished. The patient must, however, be assured that his newly acquired voice is proper to him, for at first he can scarcely believe that the unfamiliar tones form his normal voice.

In a word, the remedy consists in telling the patient that he has a normal voice, and, by some device, proving it to him. For the first few days, unless the patient fixes his attention on each vocal effort, he is apt to commence a sentence in his former falsetto key.

My patient was, therefore, requested to remain at his lodgings for two days to escape business diversions, and concentrate his attention on his voice; to practise speaking and reading aloud. At the end of this time he found that, even when his mind was diverted from his voice, that he spoke quite naturally. At the end of three months, on being requested to speak in his former falsetto key, he found himself utterly unable to do so.

¹ The matter is embarrassing to the patient, who is conscious that the public suspect him to be a eunuch.

I have thus far had three cases, their history and cure being similar. In my first case, occurring fourteen years ago, I noticed that the individual spoke in falsetto tones, but laughed in quite natural ones, and it was the clew to my successful theory and treatment. It occurred to me that laughing was a natural act, articulate speech an artificial one, the product of imitation and training. It therefore suggested itself to me that the artificial tone of speech could be trained to imitate the natural one of laughter.

The muscles at physiological fault are undoubtedly the thyro-arytenoids, from the physiological fact that they are the internal tensors of the larynx, and from the clinical fact that in my cases the ellipse between the cords during vocalization was much larger after restoration of the normal voice.

This belief is further strengthened by laryngoscopic observations in a *totally opposite* class of cases, to which also—indeed little, if any—attention has been made by authors, namely, paralysis of the thyro-arytenoids in adults, *caused by excessive use of the high register before puberty.*

I have been consulted by two gentlemen for voice troubles whose history was identical. In both, direct questioning drew forth the history that there had been habitually excessive use of the high register for two or three years before puberty; in the one case in singing, and in the other in elocution. At puberty both found their voices changed, to become husky, very deep, rough, incapable of maintaining so long a sentence, without inspiring, as before puberty, so aptly termed phonative waste of breath, and both unable, with any effort, to reach a note higher than the middle register of a baritone.

Their ages at the time of observation were, respectively, twenty-seven and thirty-two. Their voices had undergone no change from the one into which they passed at puberty. In both the vocal ellipse was very large, the sickle shape of the cords during phonation being well marked. There existed the well-known clinical picture of paralysis of the thyro-arytenoidei.

My purpose in mentioning this class of cases is to offer the conclusion that if, in the one, the subjective and objective signs collectively be the exact antithesis of those in the other, and it be admitted that in the one paralysis of the thyro-arytenoids be the exact diagnosis, hyper-tension of the same muscles must be chiefly concerned in the emission of the falsetto voice.