LEVY (R.)

The Treatment of Laryngeal Tuberculosis,

WITH A REPORT OF CASES.

BY

ROBERT LEVY, M. D.,

DENVER, COL.,

Professor of Physiology and Laryngology in Gross Medical College; Laryngologist to Arapahoe County, St. Anthony's, and St. Luke's Hospitals, etc.

REPRINTED FROM THE

New York Medical Journal

for July 20, 1895.

Reprinted from the New York Medical Journal
for July 20, 1895.

THE TREATMENT OF
LARYNGEAL TUBERCULOSIS,

*WITH A REPORT OF CASES.**

By ROBERT LEVY, M. D.,

DENVER, COL.,
PROFESSOR OF PHYSIOLOGY AND LARYNGOLOGY IN GROSS MEDICAL COLLEGE;
LARYNGOLOGIST TO
ARAPAHOE COUNTY, ST. ANTHONY'S, AND ST. LUKE'S HOSPITALS, ETC.

"It is not very long ago that phthisis of the vocal apparatus was looked upon as a *noli me tangere*, as an affection which meant certain and not far-distant death. Yet quite a large number of cases have now been recorded and demonstrated on the post-mortem table in which tubercular ulcerations have healed, leaving healthy cicatrices." This quotation from the President's address (McBride (1) of the British Medical Association) may serve as a fitting conclusion to the introduction of my paper read in June, 1891, before the Colorado State Medical Society (2), adding weight to the opinion which was then rapidly gaining advocates, on account of the proofs which over three years have developed. When we consider the radical changes made in our conception of this

* Read before the Pueblo County Medical Society, May 13, 1895.

disease and its treatment, we must acknowledge that only writings of recent times can be of any value; and of all authors Heryng, of Warsaw, and Gouguenheim, of Paris, stand easily as the leaders.

In my previous paper I enumerated at some length a great variety of remedies and forms of treatment, and hinted at certain conclusions. The general tone of that paper can not be altered by our more mature consideration after four years of additional experience in the treatment of laryngeal tuberculosis. It is certainly not necessary to add the names of many new remedies, for it can not be denied that medicinal treatment has rapidly made way for the surgical method. The forms of treatment by and analogous to tuberculin, modified and otherwise, have gradually fallen by the way and are practically relegated to the past. Senn's dictum (3), "Away with Koch's lymph!" which he promulgated because of the great liability to general dissemination of the process, was among the many fatal condemnations this remedy received. Even the allied remedy thiosinamin, which Zendziak (4) carefully investigated, gave negative results.

The positive statements of the few and the impressions of the many, in 1891, that "cures occurred both spontaneously and under treatment," have been reversed into impressions of the few and positive belief of the many. That spontaneous cure occurs is now incontrovertible. Heryng (5) collected about three thousand cases of laryngeal phthisis, in fourteen of which spontaneous healing occurred. Grayson's case (6) has been largely quoted. Numerous other authentic cases have been reported from time to time. As to cures after treatment, there still exists some doubt in the minds of some observers, although the last majority agree that they do occur. Heryng stands foremost in reporting sixteen cases (7) in which a cure ex-

isted for periods varying from two to six years, the time under observation. In Cohen's case, in which he removed the epiglottis, the patient remains alive and comparatively well after twenty-two years (8). Browne (9) reports a case of cure after treatment by Krause's method, remaining well at the time of reporting, or three years after treatment. Gleitzman reported a case at the Tenth International Medical Congress in 1890 (10), and again on October 25, 1894 (11), referred to the same case as still cured, a period of five years. Bosworth, however, states (12) that "he was very enthusiastic about a cure twenty years ago, but longer experience has not proved the correctness of his early views."

Before concluding as to the cure or curability of cases of tuberculous laryngitis, it is necessary to define exactly what class of cases is included in the diagnosis. Instances of syphilis, of chronic catarrhal laryngitis, of catarrhal ulcers, of pachydermia, are all likely to be cited as tubercular. Pulmonary tuberculosis may be associated with a variety of non-tubercular laryngeal lesions and thus may arise a wide difference in statistics. Schroetter (13) found laryngeal tuberculosis in 6·08 per cent., while Mackenzie (14) found it in thirty-three per cent. of cases with pulmonary phthisis. The existence of chronic catarrh of the larynx in phthisical subjects is very common, and while it can not be considered as tuberculosis of the larynx, it must be looked upon as predisposing to its development in this organ. This view was insisted upon in my former communication (15) and is supported by Thrasher, Wolfenden (16), Heinze, and others.

Pachydermia laryngis presents conditions sufficiently distinct to avoid error in diagnosis, and still, as Michelson (17) states, it may greatly resemble tuberculosis, and may be found with tuberculosis in the same larynx. A case should not be considered tubercular unless the laryn-

goscope reveals a fairly diagnostic image, and in collating my cases I depend upon the peculiar tumefaction of the epiglottis or of the arytænoid cartilages, the presence of yellowish nodules, the existence of superficial ulcerations, or characteristic deep destruction of tissue. These signs may exist alone or combined, and when taken with the history and systemic conditions make the diagnosis positive. It is true that at times much doubt may arise, especially in very incipient cases; here the tubercle bacilli may assist; but too much dependence should not be placed upon their presence, for they by no means decide that a chronic laryngeal catarrh in a tubercular patient is tubercular.

Purely medicinal treatment, as before stated, has but few adherents, and still we must acknowledge that there remain several remedies and methods of medicinal treatment which have been of much value. Insufflations of iodoform with morphine, tannic acid, and other medicaments have always been highly lauded by Bosworth. It forms one of the most satisfactory plans of procedure today in cases unsuited for surgical measures.

Intralaryngeal injections have certainly produced marked improvement in some of my cases both in the laryngeal and pulmonary symptoms. A solution of menthol, twenty per cent. in glymol, acts as an antiseptic, anæsthetic, and stimulant, relieving the pain, diminishing the cough, and giving the patient a feeling of general well-being. Downie (18) injects two drachms of a mixture containing twelve to twenty per cent. menthol, two to four per cent. guaiacol, and olive oil or vaseline. Bronner (19) recommended injections of salol or a combination of menthol and salol or guaiacol. Chappel (20) recommends the following: Creosote (beechwood), ol. gaultheria, each two drachms; ol. hydrocarbon, one drachm; ol. ricini, three drachms. This he uses either as a spray, an intralaryngeal

injection, or by submucous injections, and reports remarkable results. I have used this only in a few cases, but the disagreeable taste, the severe pain, and aggravation of the cough caused me to discontinue its use. I used the intralaryngeal injection and found but one beneficial effect, that of cleaning the ulcerations, giving the granulations a more active appearance.

Schmidt's method of incising the swollen tissues and that of injecting lactic acid subcutaneously have not met with universal approval; in fact, the results seem to be rather negative.

Lactic acid alone is of much value in superficial ulcerations, but not where the membrane is intact (Cohen (21)). It should be used in ten to eighty per cent. strength, and is capable of doing harm if used too strong or on unbroken mucous membrane. Its value is directly proportionate to its proper use both as to the nature of the lesion as well as to the method of its use. Thoroughness and friction in its application are essential.

Heryng states (22): "Superficial tubercular ulcers of the vocal cords, or deeper but isolated ulcerations of the epiglottis, false cords, or arytænoid region, even though they be covered or surrounded by soft granulations, are most quickly excited to cicatrization by treatment with twenty-five- to eighty-per-cent. solution of lactic acid." Schroetter (23), who is most conservative in his handling of this subject, believes lactic acid to be the best remedy of any medicament as yet named.

The treatment known as surgical, or that by currettement alone or in conjunction with rubbings of lactic acid, has certainly at the present time more to its credit and a larger following than any other. Heryng, who is the father of this method and its strongest adherent, is still not so biased or sanguine as to report healing in any but the most

favorable cases. In most instances he alleges nothing more than palliation (24). MacIntyre may be classed as among the most conservative when he says (25) scraping and medication are often hopeless; while Wright (26) voices the sentiments of the opposite side in the statement that "We can not fail to admire Dr. Heryng's courage, but we can not share it."

About ten years ago Heryng, of Warsaw, introduced the use of the simple curette; Krause, of Berlin, followed with a double curette; then came Gouguenheim, of Paris, with his "*emporte-pièce*," similar to Krause's instrument. Various modifications and extensive experiments by these masters and others but little less eminent have developed a form of treatment of which the most skeptical must take cognizance. The principle upon which this treatment depends is "to limit the tubercular infiltration, to localize it and clean ulcerations," and to "endeavor to convert a tubercular into a benign ulcer" (27). Further, the objects, as stated by E. Fraenkel (28), are "to follow, step by step, the exciting cause of the disease, and either to directly remove the resulting diseased products in the tissues, or, by introducing medicated substances, to influence them so that a destruction of the injurious agent is effected." Of course, this presupposes the correctness of the view held by Fraenkel that the tubercular changes in the larynx are to be referred to an invasion of bacilli from the surface and not by escape of bacilli from blood-vessels and lymphatics, thus penetrating from within. The *rationale* of this treatment for the relief of pain is thoroughly proved by Gouguenheim, who believed dysphagia to be due to certain nerve lesions. Danzac (29), studying the histological changes, concluded that there existed a "proliferation of the nervous terminations of the peripheral nervous filaments—a veritable neuroma of regeneration." The removal of this nervous tu-

mor by surgical procedures is followed by disappearance of pain. Relief from dyspnœa may in like manner be obtained; and still there are not a few cases in which the treatment by curettement should not be applied. It is contraindicated in very weak patients with high fever, in very nervous patients, in those whose general condition is so low as to indicate speedy death, and in those who would be much depressed by a few days of increase of local pain. Patients who change doctors frequently, as Heryng says, are unsatisfactory subjects for this form of treatment. Much of the success following surgical measures here depends on the thoroughness of the operation, the site of the lesion influencing this, and the after-care. It is my plan after operation to spray the throat daily with a solution of pasteurine or with Dobell's solution, followed by insufflation of iodoform alone, or with morphine if there be much pain. Of all the forms of treatment as yet devised for laryngeal tuberculosis, the surgical, as exemplified by curettement, supplemented by rubbings of lactic acid, stands easily at the head, for no other method can boast the number of cures, nor can any offer more rational and logical premises. Other surgical measures have from time to time been advised. *Electrolysis* and the *galvanic cautery* are considered by Heryng (30) as of some value, but slow in their action, the latter leaving an eschar which may excite inflammation. These same objections are supported by Gouguenheim (31). Schmidt's advocacy of *tracheotomy* has not had many followers. Gouguenheim considers it only in the light of an auxiliary (32); Browne condemns it in all cases, performing it only at the request of the patient, even if urgent dyspnœa exists (33). Two cases have come under my observation in which severe dyspnœa due to perichondritis and œdema disappeared without recourse to tracheotomy, although it was urgently advised. So radical a measure as

laryngectomy has been advocated by some, but only to be severely condemned by others.

The *climatic treatment* is necessarily of intense interest to us. Wagner's belief that great altitudes improved laryngeal tuberculosis in case the pulmonary disease was benefited is still quoted. Very little light has been shed upon this subject. Solly concludes (34) that "in earlier and medium cases high altitudes, with appropriate treatment, afford relatively, though not actually, as good a chance of arrest or delay in laryngeal as in pulmonary tuberculosis." Heryng holds (35) that a change of climate can not be substituted for local treatment, but admits its value in such exceptional and mild cases as undergo spontaneous cure. My own experience is based upon accurate records of two groups of cases—the first group of thirty, reported in 1891 (36); the second group of forty-two, observed since then, a table of which is appended. In this latter group the same plan of arriving at conclusions is used as in the former, except that the effect of Colorado is noted at the time of first observation, and an additional column of ultimate result is affixed. The ultimate result is estimated from the last personal knowledge of the patient, making it somewhat more correct than in trusting to reports of patient or friends. In those instances in which the patient improved until leaving Colorado and then grew worse, the condition during residence here is used in arriving at the following conclusions: Of the forty-two cases, the lungs were improved in thirteen, worse or unchanged in twenty-nine; the larynx was improved in twelve cases, worse or unchanged in thirty. Of the cases in which the lungs were improved, the larynx grew worse in three instances The ultimate results of the thirty cases reported in 1891 show two remaining improved out of seven then improved; five of the twelve improved cases remain unknown as to results.

The results as shown by the second group, observation of which has extended over a period varying from three months to four years, are more encouraging than in the first group. But the ultimate results of the first group, observation of which extends over more than four years, bring the general conclusions to a somewhat less favorable aspect. And still, judging from these seventy-two cases and many others treated in hospital and dispensary of which records have not been kept, I can not but believe that under proper treatment laryngeal improvement will go *pari passu* with that of the lungs. Of the cases apparently contracted in Colorado I can not but believe that they were not influenced in attacking the larynx by the climate, but developed as a natural secondary complication. That one case developed here is, however, beyond question, and the history of this patient is given in another place. Gardiner reports ten cases of pulmonary tuberculosis contracted in Colorado in none of which any laryngeal lesion existed (37). The case whose history leaves no doubt as to its having developed in Colorado shows also much in favor of its being primary laryngeal tuberculosis. It is not my purpose to discuss the question of the actual occurrence of a primary laryngeal affection. Wolfenden states that this question can be of little more than academical interest (38); and still, were it positively settled affirmatively, surgical treatment might avoid secondary complications. Doubtless many cases have been reported as primarily of laryngeal origin in which pulmonary lesions were present but undetected. That the larynx may be primarily affected is certain from the report of Demme's case (39), so frequently quoted. Here a child died of tubercular meningitis; a post-mortem revealed laryngeal tuberculosis and no pulmonary invasion. The only evidence that the case here reported was one of primary laryngeal tuberculosis is in the

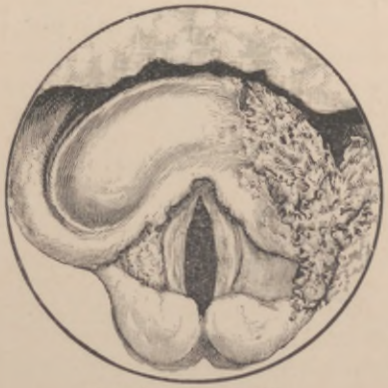
fact that a careful examination of the lungs revealed no physical signs pointing to pulmonary invasion. Two months and a half after beginning treatment the lungs showed unmistakable signs of involvement, the disease running a very rapid course.

Case I.—Mrs. W. H. K., aged thirty-three years, consulted me May 5, 1894. Has been married eleven years, during which time has been twice pregnant; the first child died at birth, the second, born three years ago, remaining well to date. Was born in St. Louis, coming to Colorado twelve years ago, since which has lived here permanently. Complains of huskiness of voice, a sensation of "lump" in the throat, and "stitches" on swallowing. Has been suffering with these symptoms for two weeks, having taken cold about that time. Patient gives a history of having had a severe cough lasting six weeks about six years ago, and an attack of pleurisy affecting the right side two years ago. Recovered perfectly from both. Failed slowly after last pregnancy, three years ago. Her family history is negative, except that one sister died after having a cough and hoarseness, but never sick enough to see a doctor until toward the end; supposed cause of death, lung trouble. Patient's usual weight is a hundred and three pounds; is anæmic; temperature at 3 P. M., 100° F.; pulse, 100, soft. Slight night sweats of late; coughs in the morning; scanty expectoration; examination for bacilli by Dr. Axtell, negative; appetite is poor, bowels constipated, menstruates regularly; patient's voice is distinctly dysphonic, and there is slight pain on deglutition, radiating to right ear. Laryngoscope reveals left arytænoid cartilage red and swollen; right arytænoid cartilage and arytæno-epiglottic fold swollen, pale gray, and covered with muco-purulent secretion; over right arytænoid there appear several small superficial ulcerations extending posteriorly. Careful examination of lungs revealed normal vesicular murmur throughout. The treatment consisted in rubbing with lactic acid, alternating with insufflations of iodoform, tannin, and morphine, supplemented by constitutional remedies such as creosote, etc. The disease progressed rapidly and steadily, intense dysphagia, complete

aphonia, and emaciation appearing. In the early part of June Dr. Waxham confirmed the diagnosis. In July Dr. Hawkins saw the case with me and examination of the lungs revealed dullness and moist râles in the right apex. The patient succumbed September 13, 1894.

The evidence is clear that this patient contracted her trouble here, although at no time surrounded by tubercular patients, therefore free from infection. Whether the larynx was first affected or not is open to question, of course, but the most conscientious examination revealed no pulmonary complications until two and a half months had elapsed.

Case II. *Tubercular Laryngitis; Cure.*—W. E. G., male, aged twenty-five years; occupation, a clerk; first consulted me October 22, 1891, having been referred by Dr. Munn. Patient arrived in Colorado October 20th, having lived in Pittsburg.

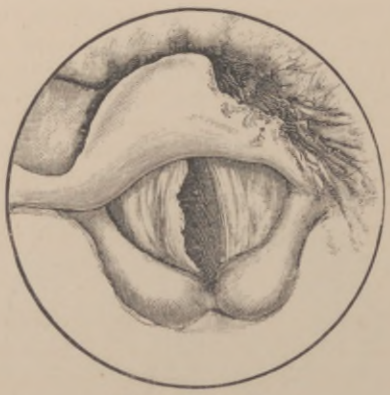


Case 2, October 22, 1891.

Complains of great pain in swallowing and aphonia. Has been sick about a year, having lost his voice six months ago. Has never had any serious illness until the recent one. Is married. Has not had syphilis. Weight, ninety-eight pounds; tempera-

ture, 102° F. at 3 P. M.; pulse, 128; coughs considerably, appetite poor, general condition failing. Laryngoscope reveals œdematous, turban-shaped epiglottis, large ulcer on its left half, extending down arytæno-epiglottic fold. Large flat ulceration over right ventricular band; arytænoids pyriform, mucous membrane irregularly thickened throughout the larynx. Examination of lungs by Dr. Munn showed marked though slight affection of both apices; no breaking down of pulmonary tissue.

The treatment consisted up to December 2d in insufflations of iodoform and morphine and general tonics. Upon this date the pain in swallowing was less, the ulcerations being the



Case 2, May 5, 1895.

same, but œdema and inflammation had somewhat subsided. Iodoform, menthol, zinc iodide, and a variety of local remedies were applied at different times, but without any marked or permanent improvement. January 20, 1892, the ulcerations were curetted and lactic acid, twenty per cent., applied. The reaction was not severe, and frequent subsequent rubbings of lactic acid were made. A rapid improvement took place; the ulcers cleaned and finally cicatrized. Resorcin, tinctura ferri chlor., and iodine solutions were alternately used, and the infil-

tration slowly became less, the patient assumed his usual occupation, his voice gradually improving. His last treatment was August 22d, 1892, although frequent examinations were made until February 4, 1893. His present condition is excellent as to general health, although he still has some cough and has occasional slight hæmorrhages.

Laryngoscopic examination, May 5, 1895, shows the following: The left half of the epiglottis presents a large notch bound to the ary-epiglottic fold by a firm cicatrix, otherwise the epiglottis is normal; right vocal band slightly irregular in outline, ventricular band thicker than normal; left vocal band thickened as well as ventricular band and interarytænoid fold. No ulcerations to be seen, although sites of former ones are thickened by cicatricial tissue. The left crico-arytænoid joint moves less freely than the right. There is absolutely no pain, and the voice is loud, though low in pitch and slightly husky. The condition here is affirmed as one of cure on account of the cicatrices in the sites of old ulcerations and the restoration of the laryngeal functions. The irregular thickenings are attributed to the remnants of the original hyperplasias. There has been and is now no return of the ulcerations, although a period from August 22, 1892, has elapsed—two years and nine months.

As to the *prophylactic*, *general*, and *palliative* treatment of tubercular laryngitis, nothing new has been developed in recent years. The general acceptance of the contagiousness of tuberculosis compels observance of those rules of isolation, etc., which hold good in the prevention of other communicable diseases. I desire, however, to reiterate the warning that it is necessary to place the upper air-passages in as hygienic and sanitary a condition as possible in order that chronic laryngitis and pachydermia laryngis may not be re-enforced by tubercular deposits. The general treatment with reference to systemic medication, the application of tonics and specifics, should here be followed out with the

same persistence and judgment that characterize the administration of these remedies in pulmonary tuberculosis. In order that the best possible vitality may be preserved, *feeding* becomes an important and serious question, and in those cases in which great dysphagia exists the stomach tube and application of palliatives should be thoroughly and systematically followed out. The method of feeding by the inclined-plane position or that described by Wolfenden offers many advantages, and in certain instances becomes a great boon to the patient. As to the strictly palliative treatment, the application of cocaine or morphine administered both locally and constitutionally affords relief in many instances, but is not always reliable. Browne, in the *Journal of Laryngology and Rhinology* for April, 1894, p. 189, recommends local painting of the parts with a mixture of compound tincture of benzoin, compound tincture of camphor, tincture of belladonna, and yolk of egg.

Whether we accept the surgical and lactic-acid treatments for their curative effects or not, I am convinced that judicious application of these substances not infrequently affords great relief to our patient. Instances have occurred where cocaine, morphine, and a variety of palliatives afforded no relief whatever; upon application to the ulcerations of a fifty-per-cent. solution of lactic acid these patients became extremely comfortable so far as the pain was concerned.

Even heroic curettement has given some patients complete relief from pain in swallowing food after the immediate effects of the operation had subsided. I have no hesitancy, therefore, in offering as the *best palliative* at our command a judicious application of *lactic acid*, or *curettement*, or *both combined*.

References.

1. *Jour. of Laryng., Rhin, and Otol.*, September, 1894, p. 558.

2. *Trans. of the Colorado State Med. Society*, 1891.

3. *Medical News*, 1891.

4. *Jour. of Laryng., Rhin., and Otol.*, March, 1894, p. 116.

5. *Ibid.*, August, 1894, p. 471.

6. *Medical News*, Nov. 4, 1893, p. 520.

7. *Jour. of Laryng., Rhin., and Otol.*, September, 1893, p. 425.

8. Burnett's *System*, vol. ii, p. 806.

9. Lennox Browne, 4th ed., p. 422.

10. *N. Y. Med. Jour.*, Oct. 11, 1890.

11. Laryng. Section, N. Y. Acad. of Med., Oct. 25, 1894.

12. Discussion, N. Y. Acad. of Med., Oct. 25, 1894.

13. *Vorlesungen über die Krankheiten des Kehlkopfes*, etc., d. 147.

14. *Diseases of the Nose and Throat*, 1880, p. 358.

15. *Op. cit.*, under prophylactic.

16. *Jour. of Laryng., Rhin., and Otol.*, November, 1891, p. 454.

17. *Berlin klin. Wochen.*, No. 7, 1892.

18. *British Med. Jour.*, April 18, 1891.

19. *Jour. of Laryng., Rhin., and Otol.*, June, 1894, p. 311.

20. *N. Y. Med. Jour.*, March 30, 1895.

21. Burnett's *System*, vol. ii, p. 811.

22. *Jour. of Laryng., Rhin., and Otol.*, May, 1894, p. 230.

23. *Op. cit.*, p. 162.

24. *Jour. of Laryn., Rhin., and Otol.*, August, 1893, p. 363.

25. Pres. Address. *Jour. of Laryng., Rhin., and Otol.*, January, 1894, p. 11.

26. *N. Y. Med. Jour.*, February, 1894, p. 233.

27. *Jour. of Laryng., Rhin., and Otol.*, August, 1893, p. 369.

28. *Ibid.*, September, 1894, p. 421.

29. *Ibid.*, June, 1894, p. 317.

30. *Ibid.*, August, 1893, p. 370.

31. *Ibid.*, August, 1894, p. 510.
32. *Ibid.*, August, 1894, p. 510.
33. *Op. cit.*, p. 425.
34. *Therap. Gazette*, Nov. 15, 1893.
35. *Jour. of Laryng., Rhin., and Otol.*, May, 1894, p. 228.
36. *Op. cit.*
37. *Am. Jour. of the Med. Sciences*, July, 1892.
38. *Jour. of Laryng., Rhin., and Otol.*, November, 1891, p. 454.
39. Lennox Browne, 4th ed., p. 400.

No.	Name.	DURATION OF DISEASE.		WHERE CONTRACTED.		EFFECT OF COLORADO UNTIL DATE OF EXAMINATION.		Length of residence in Colorado.	Results at last report.
		Of lungs.	Of larynx.	Disease of lungs.	Disease of larynx.	On lungs.	On larynx.		
1	F. A. R.	1½ years.	1 year.	New York.	New York.	Worse.	Worse.	3 months.	Returned East; died.
2	L. S. W.	2 "	6 months.	Pennsylvania.	Pennsylvania.	Improved.	Improved.	6 "	" " "
3	C. H.	1½ "	1½ year.	Wisconsin.	Wisconsin.	Worse.	Worse.	1 year.	" " "
4	T. S. C.	3 "	1½ "	Ohio.	Ohio.	"	"	2 months.	Unknown.
5	C. G. C.	16 months.	8 months.	Pennsylvania.	Pennsylvania.	"	"	2½ "	Died.
6	R. O.	9 "	2 "	New York.	New York.	"	Improved.	6 "	Returned East; no report.
7	A. McA.	1 year.	1 year	New York.	New York.	"	Worse.	2½ years.	Worse.
8	J. G. B.	1 "	3 months.	Pennsylvania.	Colorado.	"	"	2 "	Died.
9	W. T. W.	1 "	1 year.	Illinois.	Illinois.	Improved.	Improved.	9 months.	Unknown.
10	E. H.	13 months.	8 months.	Colorado.	Colorado.	Contracted.	Contracted.	6 years.	Died.
11	J. N. L.	2 years.	1 year.	Nova Scotia.	New Jersey.	Improved.	No change.	2 months.	Went to Texas; improved.
12	J. L. P.	14 months.	9 months.	Virginia.	Virginia.	Worse.	Worse.	6 "	Died.
13	C. H. T.	16 years.	10 years.	Michigan.	Michigan.	Improved.	Improved.	8 years.	Worse for 1½ year; returned East; died.
14	F. C. Z.	3 "	3 "	Ohio.	Ohio.	"	"	3 "	Improving.
15	J. W.	3 "	9 weeks.	Rhode Island.	Colorado.	"	Worse.	6 weeks.	Returned East; worse.
16	F. W.	4 months.	4 months.	Ohio.	Ohio.	No change.	Improved.	1 month.	No change; too recent.
17	J. W. T.	1 year.	3 weeks.	Colorado.	Colorado.	Contracted.	Contracted.	4 years.	Died.
18	A. W. J.	2 years.	1 year.	Massachusetts.	Colorado.	Improved.	Worse.	2 "	Growing worse.
19	C. O. J.	15 months.	14 months.	Ohio.	Ohio.	"	Improved.	10 months.	Improving.
20	G. R.	2 years.	2 years.	Ohio.	Ohio.	"	Worse.	7 "	Growing worse.
21	C. R.	6 months.	5 weeks.	New York.	New York.	Worse.	"	1 month.	Died.
22	W. G. N.	2 years.	23 months.	Pennsylvania.	Pennsylvania.	"	"	17 months.	"
23	R. E. McI.	4 "	4 years.	Ohio.	Ohio.	Improved.	Improved.	1 month.	Improving.
24	W. J. McK.	18 months.	18 months.	Massachusetts.	Massachusetts.	"	Worse.	4 months.	"
25	J. H. L.	4 years.	3 weeks.	Kentucky.	Colorado.	Worse.	"	5 "	Growing worse.
26	J. L.	1 year.	11 months.	Missouri.	Missouri.	Improved.	"	7 "	" "
27	M. J. K.	14 months.	1 month.	Illinois.	Colorado.	Worse.	"	1 month.	Unknown.
28	K. K.	3 years.	1 year.	New York.	New York.	"	"	11 months.	Died.
29	W. H. K.	.....	2 weeks.	.....	Colorado.	.....	"	12 years.	"
30	L. J.	2 years.	1 year.	Dist. of Columbia.	Dist. of Columbia.	Worse.	"	1 year.	Growing worse.
31	D. B. F.	3 "	15 months.	Pennsylvania.	Pennsylvania.	No change.	No change.	2 weeks.	No change; too recent.
32	W. K. E.	8 months.	5 "	New York.	New York.	Improved.	Improved.	5 months.	Improving.
33	S. C.	11 "	12 "	New York.	New York.	"	"	8 weeks.	Unknown.
34	C. P. C.	1 year.	1 year.	Illinois.	Illinois.	Worse.	Worse.	5 months.	Growing worse.
35	M. B.	10 months.	9 months.	Illinois.	Illinois.	"	"	6 "	Died.
36	W. C. A.	14 "	7 "	Illinois.	Illinois.	"	"	5 "	"
37	W. E. G.	1 year.	1 year.	Pennsylvania.	Pennsylvania.	Improved.	"	2 "	Larynx cured.
38	R. C.	2 years.	6 months.	Colorado.	Colorado.	Worse.	"	6 years.	Died.
39	W. H. R.	5 "	4 years.	Pennsylvania.	Pennsylvania.	Improved.	Improved.	3½ "	"
40	E. S.	2½ "	2 "	Michigan.	Michigan.	"	"	2 "	Improving.
41	H. B. H.	1 year.	6 months.	Maryland.	Maryland.	Worse.	Worse.	5 months.	Died.
42	F. E. H.	2 years.	7 "	Ohio.	Ohio.	"	"	4 "	"

The New York Medical Journal.

A WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M.D.

THE PHYSICIAN who would keep abreast with the advances in medical science must read a *live* weekly medical journal, in which scientific facts are presented in a clear manner; one for which the articles are written by men of learning, and by those who are good and accurate observers; a journal that is stripped of every feature irrelevant to medical science, and gives evidence of being carefully and conscientiously edited; one that bears upon every page the stamp of desire to elevate the standard of the profession of medicine. Such a journal fulfills its mission—that of educator—to the highest degree, for not only does it inform its readers of all that is new in theory and practice, but, by means of its correct editing, instructs them in the very important yet much-neglected art of expressing their thoughts and ideas in a clear and correct manner. Too much stress can not be laid upon this feature, so utterly ignored by the "average" medical periodical.

Without making invidious comparisons, it can be truthfully stated that no medical journal in this country occupies the place, in these particulars, that is held by THE NEW YORK MEDICAL JOURNAL. No other journal is edited with the care that is bestowed on this; none contains articles of such high scientific value, coming as they do from the pens of the brightest and most learned medical men of America. A glance at the list of contributors to any volume, or an examination of any issue of the JOURNAL, will attest the truth of these statements. It is a journal for the masses of the profession, for the country as well as for the city practitioner; it covers the entire range of medicine and surgery. A very important feature of the JOURNAL is the number and character of its illustrations, which are unequaled by those of any other journal in the world. They appear in frequent issues, whenever called for by the article which they accompany, and no expense is spared to make them of superior excellence.

Subscription price, $5.00 per annum. Volumes begin in January and July.

PUBLISHED BY

D. APPLETON & CO., 72 Fifth Avenue, New York.