

Jeffries (B. Joy)

WITH THE COMPLIMENTS OF THE AUTHOR.

15 CHESTNUT STREET, Boston, Mass.

REPORTS OF SIXTEEN CASES OF CATARACT  
OPERATIONS.

By B. JOY JEFFRIES, M. D.,

OF BOSTON,

*Ophthalmic Surgeon to the Massachusetts Eye and Ear Infirmary, the Carney Hospital,  
and the New England Hospital for Women and Children.*

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Presented by  
J. R. Chadwick M. D.  
Boston  
Box 40



## REPORTS OF SIXTEEN CASES OF CATARACT OPERATIONS.<sup>1</sup>

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*Ophthalmic Surgeon to the Massachusetts Eye and Ear Infirmary, the Carney Hospital, and the New England Hospital for Women and Children.*

LAST season I published in the JOURNAL<sup>2</sup> the records of one hundred and five cases of cataract operations, in seventy-one of which I used Graefe's operation for other than congenital, soft, or traumatic cataracts. To these I have now to add the records of sixteen more cases, being those which I have done since last season. The resulting vision in all comes within the range of success, and they therefore bring up the percentage. The relations of the family physician, the ophthalmic operator, and the surroundings of the cataract patient, I discussed in my previous article, and will say nothing further here on these topics.

The success I have met with I must attribute to the employment of Graefe's method of operating, from which I have varied only as the individual case required. Whilst in some or many of these eighty-seven cases I could have used the old flap operation with equal success, on the other hand, Graefe's operation alone was in place in all. I have not yet seen reason to depart from it, as I believe it gives me the largest number of successful operations. I was taught the old flap operation in Europe. Graefe's method came into use after my return, and I adopted it as soon as I became convinced of its superiority from its adaptability to all cases of cataract extraction.

In looking over my cases I can realize how valuable this method is, for I recognize many in which I should hardly have dared attempt any other. I have not thought it good ophthalmic surgery to try to prove by practice or precept in what way *other* than Graefe's modified linear extraction a cataract could be removed, but rather by the steady use of it, as most in place in all cases, to give my patients the best chance so far as the operation was concerned. That cataracts can be removed, and successfully, by various cuts through the cornea, I know and admit, but to me Graefe's operation still seems the safest and, as time shows, the most useful.

<sup>1</sup> Read before the Suffolk District Medical Society.

<sup>2</sup> Boston Medical and Surgical Journal, October 1, 1874.

My friend Mr. Carter, in his recent work, has expressed these relations so practically and clearly that I can best serve my own purpose by quoting them at some length here. After explaining how Graefe was led to his operation and discussing the subsequent introduction of various forms of spoons, he says, "From this time onwards the history of cataract extraction bears a great surgical analogy to the history of ovariectomy; for just as one by one the causes of death have been eliminated from the latter operation by careful study and successive setting aside of the conditions which tended to the production of a fatal result, so in like manner the causes of failure have been eliminated from the former. Von Graefe then strove to combine an incision so small that it should produce little risk of corneal sloughing with one so made and so situated that it should permit the exit of the lens without injurious pressure. The result was that method of 'modified linear-extraction' which was the last of his great contributions to the art he loved so well. But in order that Graefe's incision should avoid the cornea, and should at the same time preserve the direction of a plane passing from the margin of the cornea through the centre of the eyeball, it became necessary that its extremities should lie very near to the ciliary region; and hence arose the danger already mentioned of inflicting an injury liable to be followed by cyclitis and irido-choroiditis in the eye which was operated upon, and by sympathetic ophthalmia in its fellow. In order to avoid these risks, many operators prefer a somewhat more extended incision in an anterior plane, not, as in the old method, in a plane parallel to the iris, but in one which, although inclined with reference to the iris, would not pass through the centre of the globe. In this preference I myself concur, and perhaps the best rules for making such an incision are those which have been laid down by M. de Wecker. I do not think, however, that an experienced operator will allow himself to be very closely bound by any rules of procedure, but he will vary every operation a little, in accordance with the size and prominence of the eye, the position of the cornea, and the estimated size of the hard nucleus of the lens."

As to various innovations proposed by one or another, Mr. Carter is quite outspoken, and with what he says I must agree. "During the period," he remarks, "when real and important changes were being effected in the methods by which cataracts were removed, the surgeons engaged in the work had many followers who made changes which for the most part were only apparent. It is hardly possible for two pairs of human hands, especially if endowed with different degrees of skill, to execute all the steps of a complicated operation precisely in the same way; and so it came about that each of several operators found it more convenient to himself, more suited to the requirements of his own eyes and fingers, to deviate in some minute point of detail from the practice of somebody else, of whom, nevertheless, he was in the main an imi-

tator. Of such changes there were none really worthy of record, or which possessed more than a fleeting or personal interest. They mostly suggested themselves as natural correctives to some kind of manual incapacity, and will suggest themselves again, as it were instinctively, to those who share the defects of dexterity in which they had their origin."

As to the various transverse corneal incisions for cataract-extractions, I am agreeably surprised to find Mr. Carter so entirely agreeing with my own views and experiences. He says, "Transverse corneal incisions stand self-condemned on *a priori* grounds. They have the single recommendation that it is very easy to make them, and they might perhaps be attempted with advantage by a benevolent traveler who was sojourning among a savage tribe, or by an ophthalmic surgeon upon whom the infirmities of age were creeping, or by one who was prevented by the natural quality of ambi-sinistrousness from employing better methods with ordinary prospects of success. Even in such cases Lord Melbourne's pithy inquiry, 'Couldn't you have let it alone?' would be likely to suggest itself to reasonable men. As a matter of first principles, an incision through the front of the cornea must in a large proportion of cases be followed by adhesion of the iris to some part of the cicatrix; and adhesion of the iris, even if vision is for a time restored, entails a perpetual liability to the occurrence of destructive morbid changes. Moreover, again in a large proportion of cases, such an incision must be followed by alteration of curvature during the healing process, that is to say, by such a distortion of the cornea as to interfere seriously with vision. We see this every now and then in clean corneal wounds made accidentally by broken glass or by some sharp instrument, and in which the lens has escaped injury. It was seen still more frequently a few years ago, when flap-extraction was commonly performed, in the cases in which that operation had been badly done. On all the above grounds I have abstained from seeking any personal experience of transverse corneal sections, feeling that they cannot be said to fall within the boundaries of legitimate surgical experiment."

As will be seen by the following table, the ages of these sixteen patients varied from forty-two to eighty-three. That my material was not favorable is shown by six, or more than one third, being recorded as not in good health at the time of operating. In one case the cataract was due to injury, in two there was old choroidal trouble, in four the cataract was old or "overripe." Hence the *average* of resulting vision is not large, but thanks, I think, to Graefe's method, there was a successful result in all. Ether was given in all cases, and I cannot say I have ever seen cause to withhold it, or evil consequences from its use.

## REPORTS OF SIXTEEN CASES OF OPERATION FOR CATARACT.

No.	Age.	Sex.	General Health.	Quality and Duration of Cataract.	Functional Examination.	Method of Operating; Incidents; Anesthesia, in all cases by Ether; Remarks; After-Treatment.	Duration of Treatment.	Resulting Vision and Date of Record.
1	83	M.	Good.	Hard, more than ripe. O. S.	All normal.	Graefe upwards. Very large lens. Patient had done so well with previous operation on the other eye that after the wound healed in 48 hours he took off the bandage and got up and went about, opening inner angle of wound in which tag of iris is. This has given no trouble one year later.	18 days.	1 year. V. = 15-100. Sn. 5½.
2	71	F.	Fair.	Senile. O. S.	Good.	Graefe up. Normal. Patient very restless, and bandages kept on with difficulty.	21 days.	1 year. V. = Sn. 3½. V. = 20-70.
3	57	M.	Feeble.	Senile. O. S.	Normal.	Graefe up. Vitreous fluid, and flowed at completion of cut. Lens sank and removed with spoon. Did well till 9th day, when patient had an attack of neuralgia and conjunctivitis from being sent into a cold ward by mistake. The case, however, did well, and vision improving when discharged.	37 days.	37 days. V. = 20-50. Sn. 6½.
4	48	M.	Good.	Senile. O. S.	Good.	Graefe up. Quite normal, considering the posterior synechia.	16 days.	16 days. V. = 20-100. Sn. 1½.
5	58	F.	Feeble.	Senile. O. D.	Very convex cornea and spots on it from ulceration.	Graefe up. Normal, except the thin and very prominent cornea fell in quite flaccid, which did not prevent healing normally.	21 days.	21 days. V. = 20-100. Sn. 3.
6	48	M.	Good.	Senile. O. D. of No. 4.	Good.	Graefe up. Normal, except much cortical left, as patient was irritable under ether.	17 days.	17 days. V. = 20-100. Sn. 2½.
7	42	F.	Good.	Traumatic. 6 months. O. S.	Good.	Graefe up. Normal.	11 days.	11 days. V. = 20-70. Sn. 4½.
8	73	M.	Good.	Senile. Hard. Overripe. 10 years. O. S.	Good.	Graefe up. Normal, except considerable blood, and a large but flat lens emerged through a wound made large on purpose. Patient did very well till 12th day, when inflammation came on and some small pieces of cortical proliferated. Patient had senile delirium. Pulled off bandages constantly, and found on floor pulling off clothes. The mass in anterior chamber became absorbed under atropine, leeches, etc. In 4 months most of pupil cleared. The case did well beyond expectation.	25 days.	4 months. V. = 8-90. J. 12.

9	70	M.	Good.	Senile, Hard. Overripe. O. S.	Good.	Large amount of cortical, showing lens was liquefying.	14 days. V. = 15-30.
10	66	M.	Good.	Senile. Hard. O. D.	Good.	Normal. Either minute tag of iris or pigment in inner angle of the wound.	37 days. V. = 20-50. Sn. 1½.
11	65	M.	Good.	Senile. O. S.	Good.	Normal. Considerable soft cortical. Patient constantly interfered with bandage.	21 days. V. = 20-70. Sn. 2.
12	64	F.	Fair.	Senile. Overripe. O. S.	Good.	Eye very deep set. A hard, smooth lens escaped, quite clear of cortical.	25 days. V. = 20-70. Sn. 3½.
13	45 to 50	F.	Fair.	From old irido-cho- roiditis.	Good.	Upon pressure a large, pretty firm mass escaped through the cut, with a cup-shaped depression on its anterior surface. On pressure again another mass came, the size of a nucleus, but of no firmer consistency than the former. Resulting vision is no better on account of former choroiditis.	20 days. V. = 20-200.
14	65	F.	Good.	Senile. O. D.	Good.	Normal.	14 days. V. = 20-70. Sn. 1½.
15	66	F.	Fair.	4 years. From old choroidal trouble.	Good.	Against orders patient had eaten; he vomited during ether, requiring its suspension. Operation rendered difficult. Long-continued ciliary redness.	46 days. V. = 8-40. Jäger, 8.
16	60	M.	Good.	Senile. 2½ years.	Good.	Normal. Twice, without apparent cause, a little blood in anterior chamber.	21 days. V. = 20-80. J. 5.

