

RANDOLPH (R. L.)

A SERIES OF FIFTY CONSECUTIVE OPERATIONS
FOR CATARACT.

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and to the Presbyterian Eye, Ear and Throat Hospital, Baltimore,
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Statistics of operations for cataract are so numerous nowadays that little is left to be said beyond the mere tabular report. Nearly every surgeon, though, learns from his own particular experience something which is new and which is worth adding to the history of this operation.

As regards the operation with and without iridectomy, thus far I have seen no reason to abandon the iridectomy, though I confess that had the surroundings of my patients been such as the majority of cataract patients enjoy I would have practiced simple extraction more frequently. Few operators are in a position to put about their patients the comforts and safeguards that may be had in a hospital like this one or the Presbyterian Eye and Ear Hospital of this city. Out of the fifty operations here recorded six were performed in a hospital, namely, three in the Johns Hopkins Hospital and three in the Presbyterian Eye and Ear Hospital, and all did well. With the exception of eighteen, the remaining twenty-six were among the poorer classes of a country population of Virginia and in a mining region in the western part of this State. The first case reported here was operated upon in a log cabin near Warrenton, Virginia, and the old man was nursed by his daughter, who only saw him at mealtimes and at night. He was compelled, then, to help himself the greater part of the time, and as a consequence exposed himself to risks every hour of the day. He went through the same experience a year later, and, as in the first instance, he obtained excellent vision. Case 8 was a colored man 87 years old and blind for three years. He lived on the extreme end of my father's plantation in Virginia and was nursed by his wife. His cabin was too dark to perform an operation in with safety, and I put him on a cot and operated out in the yard. He was very



timid, and jumped when I performed the iridectomy, causing some loss of vitreous. He counted my fingers after the operation, and I assisted him upstairs to a room next to the roof, as the only other room in the house opened out into the yard. He remained there for a week, and at the end of that time was allowed to come downstairs. He made an uneventful recovery, and subsequently obtained perfect vision with the proper glasses. Case 39 was operated upon in a cabin full of negro children and his daughter looked after him. The result was most satisfactory.

Home nursing at best is rarely comparable to good hospital nursing. The majority of these fifty cases were subjected to indifferent care and attention at the hands of, for the most part, ignorant persons, and among these twenty-six cases there were eighteen whom I did not see the second time till two weeks after the operation. Eight out of these eighteen had three visits a week from the family physician, and the remaining ten had absolutely no medical attention beyond what members of the family could give until I saw the patient two weeks after the operation. It is true, under these circumstances, I gave the most explicit directions to that member of the family to whose special care I would entrust my patient, but at best the after-treatment of this class of patients differed radically from what we see even in a general hospital where there are no special provisions for cataract patients. Among these fifty cases only two failed to recover sight, and as the circumstances peculiar to these two were rather unusual, and as such would probably explain the failure, I shall give the histories.

Case 49, woman 78 years old, had been troubled many years with dacryocystitis, more marked in the left eye than in the right. She had been blind from cataract for three years. Refused treatment for the lachrymal trouble, saying she was too weak and old to stand the pain incident upon the probing. She was made acquainted with the additional risk of a cataract operation performed on an eye when there was disease of the lachrymal sac. She was willing, however, to run the risk of infection from this source, so I operated on the least affected eye. The result was a perfect success. A year later she presented herself for operation upon the second eye. The operation was smooth and she counted fingers with ease immediately afterward. I left the city that evening, not expecting to see

her again for two weeks. She was entrusted to the care of the physician who assisted me in the operation. It is well to state here that she belonged to a most ignorant class of white people, and though nearly eighty years of age, was accustomed to going barefooted in warm weather. The first time I operated she had shown herself unmanageable and walked around the house three days after the operation. That was in the winter time. The second operation was in June last, and when I saw the patient two weeks after the operation her physician told me that she got up out of bed the next day, tore the plaster off her good eye and came downstairs and sat in the yard and smoked her pipe. The second day after the operation she walked nearly a mile barefooted to see her daughter. Whatever were the causes which produced it, when I saw her the second time the eye was lost. It is impossible, then, to say whether to attribute the loss of the eye to infection from the mucocele or to carelessness and exposure after the operation. Before each operation the contents of the lachrymal sac were pressed out, and, as far as possible, the conjunctival sac was rendered aseptic by irrigating it with a solution of corrosive sublimate $\frac{1}{4000}$.

The second case (Case No. 47) is that of a man sixty-one years old. He had been subject for many years to rheumatism, and had suffered also for a long time with varicose veins on both legs, and as a result of the latter condition his right leg was covered with an eczema. The blood-vessels at his wrists and temples were tortuous and hard. Left eye, total cataract and good field of vision for light. The operation was as smooth as any I ever performed, and after the delivery of the lens the patient could see my face and count fingers readily. I removed the speculum and closed the eye, putting on the usual bandage. Ten minutes later, and just before I was about to leave the house, he complained of violent pain in the eye. I suspected hemorrhage and immediately removed the bandage to investigate. I found the latter soaked with blood. The mass of blood and protruding vitreous were cleaned away and strong pressure applied. On returning six hours later it was found that the oozing had continued and he was still suffering pain. The lids were opened and a clot of vitreous was discovered between the edges of the wound. This was removed, and after first irrigating the conjunctival sac with a very weak sublimate solution, a pressure bandage

was applied. At my visit the next day I found the bandage quite moist and there was every evidence that the oozing was persisting. I cleaned out the sac again and renewed the bandage. On the afternoon of the second day I saw him again and there were still signs of hemorrhage. The same course of treatment was pursued and on the third day I found the bandage clean. Of course he was told that vision was irrevocably gone from the onset of the hemorrhage. In nearly all cases of this class the cornea sloughs, but this termination I fortunately escaped. Hemorrhage after cataract extraction is rare. Dr. Knapp reports in a recent number of the Archives of Ophthalmology his only case. In my own case I can account for the hemorrhage only by the condition of the blood-vessels throughout his body. No doubt the vessels of the retina were tortuous and their walls atheromatous, and when the lens was removed and intra-ocular tension thereby lowered, the blood-vessel walls could not withstand the pressure from the increased volume of blood pouring into them, so they ruptured. The whole condition of the patient pointed to a diseased state of the circulatory apparatus. It is impossible to guard against such a termination, though I should regard it as a contra-indication for operation upon the other eye, for no matter how smooth the operation might be, the chances are that hemorrhage would follow the delivery of the lens.

In case No. 7, an old gentleman of 75 years, I allowed the patient, as is my custom, to get up out of bed the day after the operation. That afternoon I went to see him and found him fast asleep in a chair by an open window with only the shutters closed. A storm was coming up and it had been blowing violently for nearly an hour, and on entering the room I observed that the wind was blowing directly on his bald head, as the curtains were fluttering about his shoulders. He awoke as I entered and commenced to sneeze. I predicted trouble then and there, and sure enough iritis set in a few hours later. He was treated vigorously with sodium salicylate and instillations of atropia, and the inflammation subsided in three weeks, leaving him with almost a closed pupil and with very poor vision. Discission a year later gave him $\frac{2}{20}$ vision; in other words, the ultimate result was satisfactory.

This case was of special interest to me, inasmuch as it pre-

sented the rather unusual effect of large doses of salicylate of soda. About midnight, after taking during the day nearly 180 grains of the drug, he became delirious and imagined that some one was pursuing him. He tore up the sheets on his bed and took the bandage off his eye, and was found by the gentleman of the house sitting on the bare floor, raving in the wildest manner, and it was with the utmost difficulty that he could be induced to return to bed. I gave him a hypodermatic injection of morphia and discontinued the use of the salicylate of soda, and the mental trouble disappeared. I have since given even larger doses in the same length of time and have not seen this effect.

With regard to the method of operating. The instruments were allowed to remain twenty minutes in absolute alcohol, and I have found that this agent answered my purposes on the whole more satisfactorily than either carbolic acid, corrosive sublimate or hot water. I am, of course, aware that alcohol is inferior to either of the three above-named agents as a germicide, but, from the point of view of convenience, among the greater number of these fifty cases it has been found capable of a wider application. I should prefer boiling water as a sterilizing agent for routine hospital work, but frequently when it was asked for among several of my patients I would be brought boiling water, it is true, and no doubt free from micro-organisms, but full of sediment of all kinds and deposit from the sides of a dirty kettle. It is hard to prevent a drop or more of a carbolic acid solution from coming in contact with the eyeball when using this agent as a disinfectant for the instruments, and such a result is always followed by a decided hyperæmia, a condition always to be avoided. I have a tin box ten inches long and three inches wide and one inch deep, and within this a rack for all instruments needful for the occasion. The instruments are placed in the box and the latter is filled with alcohol. The instruments are taken out a couple of minutes before they are used, to allow any excess of the solution to evaporate from their sides, keeping the conjunctiva free from contact with an agent which in any way might irritate, and this is manifestly not possible to the same degree with any aqueous solution. I use a solution of $\frac{1}{1000}$ corrosive sublimate to wash the lids, but unless there be some good reason for it, as in troubles of the lachrymal sac, I never irrigate the conjunctiva with anti-

septic agents of any kind whatever. Irrigations of corrosive sublimate, according to Knapp, have been known to stain the cornea indelibly, and I find that such irrigations, indeed irrigations of all kinds, produce more or less hyperæmia of the conjunctiva and so increase the liability of hemorrhage into the section. Beyond a two per cent solution of cocaine, to every ounce of which I have added ten grains of boric acid, I introduce nothing foreign between the eyelids. As regards the dressing, I still think the bandage the safer mode of procedure, and while it is far more uncomfortable than the plaster strip, it seems wiser to sacrifice comfort, indeed anything within reason, to increased security.

In simple extraction it seems to me that one would be more apt to get a round pupil by employing the bandage. My section is made in the clear cornea, with possibly a slight tendency to the conjunctiva. In the five simple extractions reported I have made the apex of the section well out into the clear cornea. Such a section, I think, lessens the probability of prolapse of the iris. In opening the capsule I split the latter horizontally and above, near the border of the lens. In the operations with iridectomy it has been my custom to instil a solution of atropia (4 grs. to $\bar{3}$ i) into the eye on the evening of the second day. In simple extraction a couple of drops of eserine (2 grs. to $\bar{3}$ i) are instilled immediately after the operation, and no further drops are used during the treatment unless specially demanded. The unoperated eye is always kept closed by a strip of adhesive plaster, which is removed on the evening of the second day. This is done simply to keep the eyeballs still as far as possible until the corneal wound has united. The patients are required to remain quiet in bed (or at least lying down) for twelve hours after the operation. It is my object to keep the patients guarded against direct rays of light, so the room is simply shaded with that view, but is never so dark that one would be unable to see to read. As regards diet there is absolutely no restriction. The bandage is removed on the sixth day, and after this atropia is instilled regularly (in the iridectomy cases) twice daily till the fourteenth day.

If we arrange the visual results in three categories, good, moderate, and failure, we have—perfect, 41 cases; moderate, 1 case; failure, 2 cases; vision not tested, 8 cases. In other words, out of these fifty cases only two failed to obtain sight.

The main essential in this operation is absolute smoothness and exactness in the steps of the operation. Freedom from any hitch whatever is after all the best guarantee for sight restored. This, I think, is especially true in the simple extraction.

I think it is apparent that had simple extraction been generally adopted in this series of cases there would have been numerous prolapses of the iris; and while I am not disposed to lay as much stress on the gravity of a prolapsed iris as many seem to do, it is too early in the day to pass judgment, for an incarcerated portion of the iris, even if it does not give rise to immediate trouble, may do so many years later. And the very imperfect after-treatment which was the lot of the majority, while it shows that it is possible to get good vision with virtually no treatment after the operation, it ought not to prove that our hospital methods are attended with needless restrictions and that more freedom to the patient is quite as safe.

When a patient tears off the bandage and releases himself from all restraint on the third day after the operation, it is a very rare exception that any sight is restored, though there are few of us who have not had one or two just such cases and where most excellent vision was gotten. But such occurrences prove nothing, and they should not induce us to relax our care in the after-treatment of cataract patients, nor lead us to think that we can afford to allow our patients all sorts of liberties as soon as the operation is done.

I append herewith a tabular statement of each operation :

No.	Sex. Age. Health.	Cataract.	Operation. Healing Process. Duration of Treatment.	Primary Vision.	Secondary Operation after Ex- traction. Duration of Treatment.	Ultimate Vision.	Remarks.
1	{ Male. 65. Good.	Hard. Ripe. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$			With iridectomy.
2	{ Male. 77. Good.	Hard. Ripe. Left Eye.	Patient jumped and dis- located lens into anterior chamber. Removed with difficulty. Mild iritis fol- lowed. Recovery in four weeks.	$\frac{20}{100}$	Discission one year later. Three days.	$\frac{20}{40}$	With iridectomy.
3	{ Female. 66. Rheumatic.	Hard. Ripe. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	.....	..	With iridectomy.
4	{ Female. 60. Good. (Colored.)	Hard. Ripe. Right Eye.	Smooth. Slight hernia of iris, which was clipped off on third day. Recovery in sixteen days.	$\frac{20}{30}$	.....	..	Simple extraction.
5	{ Female. 66. Good.	Hard. Ripe. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{40}$	.....	..	Simple extraction.
6	{ Female. 68. Diabetic.	Hard. Ripe. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	Discission one year later. Three days.	$\frac{20}{20}$	With iridectomy.
7	{ Male. 75. Good.	Hard. Ripe. Right Eye.	Exposure brought on iritis on third day, and almost closed pupil was result. Three weeks.	$\frac{15}{200}$	Two years later, a trian- gular piece of iris removed over site of old iridectomy and iridotomy performed. Two weeks.	$\frac{20}{70}$	With iridectomy.
8	{ Male. 87. Asthmatic. (Colored.)	Hard. Ripe. Right Eye.	Some loss vitreous. Un- complicated. Two weeks.	$\frac{20}{30}$ One month later.	.....	..	With iridectomy.
9	{ Female. 55. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	Discission six months later. Three days.	$\frac{20}{40}$	With iridectomy.
10	{ Male. 64. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	Simple extraction.
11	{ Male. 57. Rheumatic.	Hard. Left Eye.	Smooth. Slight prolapse of iris. Clipped off fourth day.	$\frac{20}{100}$	Discission four months later. Four days.	$\frac{20}{30}$	Simple extraction.
12	{ Female. 58. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	.....	..	With iridectomy.
13	{ Female. 75. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	.....	..	With iridectomy.
14	{ Female. 60. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
15	{ Female. 68. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
16	{ Female. 71. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	Discission eight months later. Three days.	$\frac{20}{30}$	With iridectomy.
17	{ Female. 71. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	Discission three months later. Three days.	$\frac{20}{40}$	With iridectomy.
18	{ Female. 54. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{50}$	.....	..	Patient had atrophy of optic nerve.
19	{ Male. 70. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	Discission two months later. Three days.	$\frac{20}{20}$	With iridectomy.
20	{ Female. 77. Rheumatic.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	.....	..	With iridectomy.
21	{ Female. 78. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{40}$ Four weeks later.	.....	..	With iridectomy.
22	{ Female. 78. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$ Four weeks later.	.....	..	With iridectomy.
23	{ Female. 67. Asthmatic.	Hard. Right Eye.	Attack of asthma, and escape of vitreous. Five weeks.	$\frac{20}{100}$	.....	..	With iridectomy.
24	{ Male. 78. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	.....	..	With iridectomy.

No.	Sex. Age. Health.	Cataract.	Operation. Healing Process. Duration of Treatment.	Primary Vision.	Secondary Operation after Extraction. Duration of Treatment.	Ultimate Vision.	Remarks.
25	{ Female. 71. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	Discission three months later. Four days.	$\frac{20}{30}$	With iridectomy.
26	{ Female. 75. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
27	{ Female. 72. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{40}$	.....	..	With iridectomy.
28	{ Male. 52. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	Eighteen months later. Three days.	$\frac{20}{40}$	The cataract was secondary to old iritis and the pupillary margin was bound down at one point.
29	{ Male. 53. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	One year later. Three days.	$\frac{20}{40}$	Remains of several old adhesions.
30	{ Female. 69. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
31	{ Male. 76. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	Three months later. Four days.	$\frac{20}{30}$	Preliminary operation (Förster) was here performed.
32	{ Male. 66. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{40}$	.....	..	With iridectomy.
33	{ Male. 79. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{70}$	Six months later. Three days.	$\frac{20}{30}$	With iridectomy.
34	{ Female. 72. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	One year later. Three days.	$\frac{20}{30}$	With iridectomy.
35	{ Female. 73. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{40}$	.....	..	With iridectomy.
36	{ Female. 65. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
37	{ Male. 72. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
38	{ Female. 71. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{30}$	.....	..	With iridectomy.
39	{ Male. 91. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	Not taken.	.....	..	With iridectomy.
40	{ Male. 57. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Ten days.	Vision not taken.	.....	..	Simple extraction.
41	{ Male. 37. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	Vision not taken.	.....	..	With iridectomy.
42	{ Male. 30. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	Not taken.	.....	..	With iridectomy.
43	{ Male. 77. Feeble.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{200}$	.....	..	With iridectomy. Incipient atrophy.
44	{ Male. 12.	Traumatic. Left Eye.	Smooth. Uncomplicated. Two weeks.	Not taken.	.....	..	The cataract was a result of concussion. The lens was extracted without iridectomy.
45	{ 61.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	Not taken.	.....	..	.....
46	{ Male. 21. Good.	Hard. Left Eye.	Smooth. Uncomplicated. Two weeks.	$\frac{20}{100}$	.....	..	Discission.
47	{ Male. 61. Rheumatic, Varicose veins.	Hard. Left Eye.	Smooth. Twenty minutes later. Hemorrhage from within eye.	.....	.....	..	With iridectomy.
48	{ Male. 74. Good.	Hard. Right Eye.	Smooth. Uncomplicated. Two weeks.	Not taken.	.....	..	With iridectomy.
49	{ Female. 78. Good.	Hard. Left Eye.	Smooth. Lachrymal abscess gave rise to suppuration and eye was lost.	.....	.....	..	With iridectomy.
50	{ Male. 91. Good.	Hard. Left Eye.	.....	Not taken.	.....	..	With iridectomy.





