

## **The treatment of recent trachoma / Thomas A. Woodruff.**

### **Contributors**

Woodruff, Thomas Adams, 1865-  
Royal College of Surgeons of England

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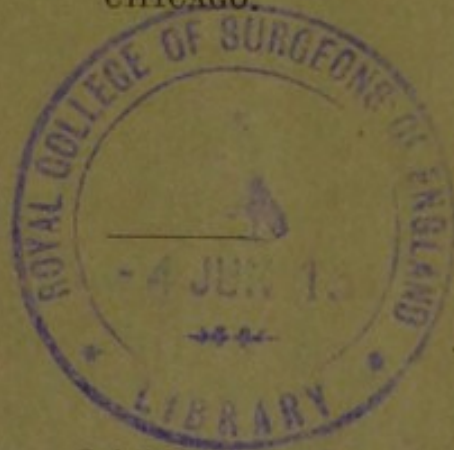


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183 Euston Road  
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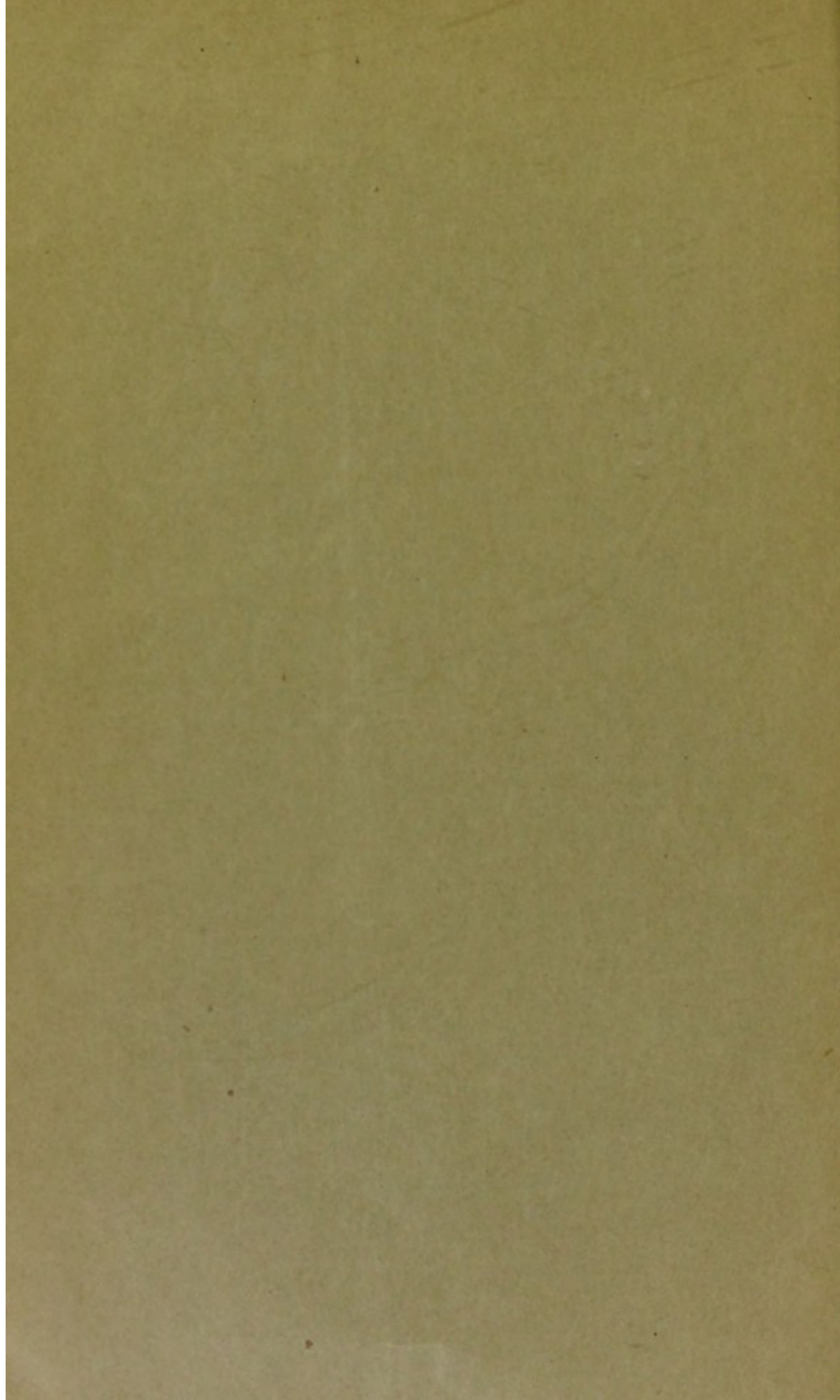
# The Treatment of Recent Trachoma.

THOMAS A. WOODRUFF, M.D., C.M.  
CHICAGO.



Read in the Section on Ophthalmology of the American Medical Association at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

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## THE TREATMENT OF RECENT TRACHOMA.\*

THOMAS A. WOODRUFF, M.D., C.M.

CHICAGO.

In order to avoid any misunderstanding as to what is meant by the term "recent trachoma," it is necessary to state that it relates to that period of early infection of the conjunctiva by a disease which is more or less infectious in its nature and chronic in character from its onset. It in no way relates to those acute exacerbations frequently seen during the course of the same disease. Probably a better term would be the incipient or primary stage of trachoma. For the matter of convenience, and without giving a too minute description, I have divided trachoma into four stages, each stage being merely a condition reached in the process of the development of the disease, and not a separate variety.

Clinically, the first stage closely resembles, and is with difficulty diagnosed from, ordinary follicular conjunctivitis. It is the period of the primary infection, whatever that may be. It is characterized by the presence of enlarged follicles, more or less irregularly distributed over the palpebral conjunctiva, and especially present in the retrotarsal folds, and more rarely in the ocular conjunctiva. Accompanying this is more or less congestion of the conjunctiva.

As the disease advances we reach the second stage, in which the conjunctiva covering the tarsus becomes hypertrophied and thickened and thrown into folds, taking on a velvety appearance from the decided enlargement of the papillæ. Although there is usually no intense inflammation, there is moderate redness and the lids are gummed together in the morning. This is the stage in which the disease is most commonly first recognized.

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In the third stage the conjunctiva becomes greatly hypertrophied and the granulations are with difficulty or not at all recognized, on account of the swelling which gives the conjunctival surface a smooth, succulent and thickened appearance. In this stage the corneal complications, pannus, ulcers, etc., are frequently present.

In the fourth stage the swelling subsides and the swollen and inflamed conjunctiva is replaced by cicatricial tissue which shows itself by the presence of white lines on the tarsal surface of the lid. This is accompanied by contraction of the lids and the presence of unfortunate sequelæ which show themselves as the result of the cicatrices present in the palpebral conjunctiva and the advancement of the disease to the adjacent parts.

I have not attempted to give an exhaustive description of the various changes that take place in the structures attacked by trachoma, but have roughly outlined the course of the disease from its incipiency by dividing it into stages that appear to me convenient for the purpose of this paper. Although no hard and fast line can separate the various stages from one another it would seem feasible that such a division should be made if we are to consider the disease under its various headings. The term "recent trachoma" would be included in the first two stages, the period when it is usually first recognized. If treatment is of any avail, more opportunity of arresting the progress of the disease is to be expected during these stages than later when permanent alterations have taken place in those parts attacked by the pathologic processes.

As a rule, the early stages of trachoma are not accompanied by any marked degree of inflammation, the patient suffering very little from those unpleasant symptoms that are found in the more advanced stages of the disease.

The early recognition of trachoma is important, as much can be done in the way of effecting a cure if treatment is begun early and is carried out intelligently and persistently. Diagnosis during the first stage is surrounded by many difficulties, and, in fact, few cases are seen at this period except in those communities in which trachoma is prevalent and therefore recognized as such. The patient rarely complains of any marked or unpleasant symptoms, although well-defined changes in the conjunctival surface of the lid are recognizable, and

it is with difficulty that the patient can be induced persistently to undergo and to carry on a treatment that is troublesome, especially when the disease causes him so little inconvenience.

Although diligent search has been made for it, so far no specific germ has been isolated which can be held as a direct causative factor in the production of trachoma. We are, unfortunately, still in the dark regarding the real nature of the infection. Nevertheless, we are justified in assuming, from its well-known infectious character, that it depends for its origin and propagation on the presence of some organism.

Fortunately, in this country trachoma has not obtained to the same extent that exists in Europe, and owing to the quarantine regulations at our ports of entry, it stands little chance of making great headway. Still it does exist in certain sections, and those affected are a standing menace to all with whom they come in contact. As trachoma is a disease which has its origin and depends for its propagation on filth and uncleanness, as well as on insanitary surroundings and defective hygienic conditions, it is essential, if we wish to eradicate it from the communities in which it has obtained a foothold, that attention should be given to the education of the people, not only as to the infectious nature of the disease, but as to the improvement of the conditions in which they live. They must be taught that not only is it necessary to observe the ordinary laws of personal cleanliness, but that trachoma can be communicated from one person to another through the discharges carried on towels, handkerchiefs, etc., which are daily used by those affected. It is no uncommon sight, especially in the country districts where numerous cases of trachoma are found, to see the tin wash basin, which is used in common, not only by members of the family, but by any stranger or farm hand who comes along, the same towel being used promiscuously as well. No thought is given to the dangers that accompany such acts. Absolute measures of isolation should be enforced in every case and absolute cleanliness and strict attention to personal hygiene and the improvement of sanitary surroundings insisted on. Similar precautions should be taken to those used in the prevention or blotting out of other contagious diseases. Measures of this sort, especially if they are instituted early, will have a marked influence on the spread and malignancy of the disease.

In considering the large number of remedies and the variety of measures, mechanical and surgical, recommended for the cure of trachoma, we are confronted with the fact that we have to deal with no ordinary inflammatory infection, but with a chronic disease whose resistant power is so great that we have at our disposal no remedy with which we may assert that its employment will effect a speedy cure, if one at all.

In its early stage much undoubtedly can be done by way of arresting the progress of the disease or even of curing it, if it were easy of recognition at the time of first infection; but, unfortunately, it is not until the disease has so far advanced as to cause inconvenience to a patient that a chance is given to resort to measures that in any way give fair promise of proving successful in eradicating it. So many remedies, as well as manner and methods of treatment, have been recommended that the literature is full of so-called cures of trachoma, each observer claiming beneficial results at his hands from the use of those measures advocated. To my mind, this shows the obstinacy of the disease, and that so far we have been unable to obtain anything that can be considered as a specific; it also teaches us that we must apply those measures that seem beneficial in each individual case.

The use of the *x-ray*<sup>1</sup> has been highly recommended by a number of observers, while others have not been enthusiastic in the results obtained, and claim that the benefits derived from its use were inferior to the ordinary therapeutic agents or operative procedures. In those cases in which success is reported, much benefit resulted from the application of the *x-ray* in the earlier stages, before the granulations were abundant and before the deeper layers of the conjunctiva were involved. The earlier it is applied the more satisfactory is the result, and a more rapid absorption of the granulation takes place.

Radium<sup>2</sup> has been successfully used by some, while

1. Stargardt: *Ztschr. f. Augenheilk.*, September-October, 1905. Vassilontinisky, (A. G.): *New York Med. Jour.*, March 4, 1905. Mayou: *Lancet*, Feb. 28, 1903. Stephenson and Walsh: *Med. Press and Circular*, Feb. 18, 1903. Goldzieher, (W.): *Wien med. Wochschr.*, *Hv. de Schweinitz*, (G. E.): *Ophthalmic Year-Book*, 1905, p. 54. Harmon, (N. B.): *Brit. Med. Jour.*, Aug. 26, 1905.

2. Beck: *Ann. of Ophth.*, July, 1905. Falto: *Wien. med. Wochschr.*, July, 29, 1905. Cohn, (H.): *Berlin klin. Monatsb.*, Nos. 1-2. Birch-Hirschfeld: *Klin. Monatsb. für Augenheilk.*, December, 1905.

others have obtained no satisfactory results from it in the treatment of this disease.

When granulations are abundant their early removal is indicated. This is best accomplished by means of expression with one of the several forceps made for the purpose. Great care should be exercised in performing this operation not to use too forcible pressure, so as to avoid laceration of the tissues. This procedure often gives excellent results, and is especially indicated in the early stages of the disease in which the granulations are large and exuberant, and fill the upper and lower culs-de-sac. Although of less value, it is not contraindicated in the later stages of the disease or when corneal complications are present. The reaction produced by this procedure is usually not very severe, and is readily overcome by the application of cold fomentations to the lids. This should be followed by applications of sulphate of copper either in the form of the solid stick or in solution.

In the early stages I think the best results are obtained from the copper in solution, the solid stick being more applicable to the later stages of trachoma, when the trachomatous bodies have invaded the deeper tissues and the more escharotic effect is desired. The solution should be as strong as can be comfortably borne by the patient and without setting up too severe a reaction. It should be brought in contact with all portions of the diseased area and applied well into the culs-de-sac by means of cotton twisted around a toothpick after complete exposure and thorough drying of the conjunctival surfaces, with a pledget of cotton or sterilized gauze. This procedure may be repeated as often as is considered desirable, care being taken to dry the conjunctiva before each application. I use a saturated solution of sulphate of copper in glycerin (90 grains to the ounce), and from this make a fresh solution with water each day by the addition of fifteen drops of distilled water to one drop of the glycerid of copper. The strength of this is gradually increased until the point of toleration is reached. If this treatment is carried out daily or every other day, much can be accomplished in the absorption of the granulations and in cutting short the disease. Alternating with the copper solution, massage with an ointment made up of nitrate of mercury and cod-liver



oil,<sup>3</sup> a small quantity of which is placed on the upper part of the globe beneath the upper lid and then distributed over the anterior surface of the eyeball by having the patient rotate the globe in various directions. The upper lid is then gently massaged with the finger from one to three minutes, the patient meanwhile turning the eyeball well downward. The lower lid should be treated in a similar manner while the globe is rotated upward. If the granulations persist, direct massage of the exposed conjunctiva may be practiced; powdered boric acid is dusted over the surface of the everted lid and well rubbed over the granulations, even to the point of bleeding, with the ball of the finger. This can be done with very little pain or discomfort to the patient, and acts very effectually in the absorption of the granulations. If the disease becomes acute and discharge is present, nitrate of silver should be used in a solution of from 1 to 2 per cent., thoroughly painted on the palpebral conjunctiva and well into the culs-de-sac, in a manner similar to the method of applying the copper solution. This should be followed by irrigation of the conjunctival sac with a physiologic salt solution for the purpose of washing away any excess of silver.

The patient should be removed from all unhealthy surroundings and placed where he will receive an abundance of fresh, pure air. His sleeping apartment should be well ventilated and the general health improved when it is defective, and all near-work should be prohibited. Any existing errors of refraction should be corrected. The eyes should be protected from all irritating influences, such as bright light, wind, dust and smoke, by the wearing of protective glasses. These may be tinted or not, depending on the photophobia present, and the rim should fit closely to the neighboring parts, so as to preclude the admittance of irritating material into the eyes.

As routine treatment, the application of cold fomentations to the closed lids, every two or three hours, and the frequent cleansing by irrigation of the conjunctival sac with non-irritating antiseptic solutions, such as boric acid or bichlorid of mercury 1-10,000, should be carried out by the patient at home; one of the best of these is a 1-5,000 solution of formalin. Every particle of secretion

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3. Ung. hydrarg. nitratis is made with: Cod-liver oil (brown), 60 parts; cod-liver oil (white), 40 parts.

should be removed by gently washing it away. When discharge is present the use of a solution of argyrol, from 10 to 20 per cent., instilled into the eye two or three times a day will prove beneficial. A 10 per cent. ointment of citrate of copper has been highly recommended for use by the patient at home. It is well to remember that trachoma is a chronic disease from its onset, and displays a stubborn resistance to the many remedies and procedures used for its relief. It is only by persistently keeping up treatment and varying it from time to time as the case demands that we can hope to arrest the progress of the disease and prevent those disastrous sequelæ which, invading the eyeball and deeper structures of the lid, result in lifelong suffering. I especially desire in this paper to emphasize the fact that it is impossible to lay down any routine treatment applicable to all cases, as the clinical picture in trachoma is a constantly changing one, requiring frequent observation and variation in the treatment.

72 Madison Street.

