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# How Gonorrhea Caused the Medicalization of American Blindness

ASHLEY SCHEPIS

In 1903, one-fourth of students in the Perkins School for the Blind, located in Watertown Massachusetts, were blind as a result of ophthalmia neonatorum, or conjunctivitis in a newborn. In the early twentieth century, many states passed laws that required all babies to be treated with silver nitrate drops at birth;<sup>1</sup> as a result of these laws, in 1913 only one student entered the Perkins School for the Blind with blindness caused by ophthalmia neonatorum. In the late nineteenth and early twentieth centuries, American blindness became medicalized because common causes of blindness became curable. When physicians took hold of blindness and claimed they could cure it; blindness became a medical condition. There are five main factors that prove the important role doctors had in preventing newborn babies from going blind: treating the child's eyes with silver nitrate drops, cleanliness, douching, treating the expecting mothers' gonorrhea, and giving and receiving an education on ophthalmia neonatorum.

Ophthalmia neonatorum is an infection that is a result of the eye coming into contact with the mother's infected birth canal. During the late nineteenth century, the term 'ophthalmia neonatorum' was used only for cases caused by *Neisseria gonorrhoea*;<sup>2</sup> whereas in the twenty-first century, the term encompasses all cases of conjunctivitis in a newborn. Ophthalmia Neonatorum

could cause blindness and in severe cases even death. Some children were born with the disease "well developed, and children have been born with eyes partially destroyed, demonstrating prenatal infection;" in a severe prenatal case a child can be "born with the corneae destroyed and irides prolapsed,"<sup>3</sup> according to a Johns Hopkins nurse. The effects of ophthalmia neonatorum were devastating, if the child survived the disease they would have to deal with health and physical deformities for the rest of their life. There was a stigma that having both a physical deformity and a disability meant that the affected were worthless and unable to care for themselves.

Silver nitrate drops were considered the Credé method because Dr. Carl Credé first used them in 1880.<sup>4</sup> Twenty-first-century medical professionals have acknowledged that the drops were a "significant preventative medicine triumph at the time when there was no effective treatment available for gonorrhea."<sup>5</sup> Credé was the Director of the Maternity Hospital connected to Leipsic University and, in 1881 "he announced that the instillation of silver nitrate solution into the eyes of all newborn infants would prevent ophthalmia neonatorum."<sup>6</sup> Physicians were to apply "a single drop of two per cent. solution of silver nitrate to the eyes of children as soon as possible after birth."<sup>7</sup> However, some physicians found "that 2 per cent silver nitrate is too irritating for to the

eyes of the newborn,” so they “reduced the strength of the silver nitrate to 1 per cent.”<sup>8</sup> Physicians learned about the use of silver nitrate drops and Credé’s recommendations for application, however, with no widespread education or specific mandates requiring physicians to apply the drops as Credé instructed, many applied the drops at the percentage and means they deemed best. The application of silver nitrate drops varied from physician to physician which may have had an effect on the drops’ success.

In the late 1880s protargol (“a chemical combination of silver with a protein substance”<sup>9</sup>) was tested as a substitute for silver nitrate by Dr. Frederick Cheney. Cheney claimed that it produced “almost no irritation” and that it possessed “all the advantages of the nitrate of silver and none of its disadvantages.”<sup>10</sup> However, he admitted that in some respects “the two remedies rank about equal.”<sup>11</sup> The protargol method was not as successful as silver nitrate but its research did aid the advancement of the silver nitrate drops and new discoveries during the initial process of curing ophthalmia neonatorum.

Although the drops would become mandated in most states, not all professionals in the field were convinced of their success. Carolyn Conant Van Blarcom, a graduate of Johns Hopkins Medical School and a part of the Executive Secretary Committee on Prevention of Blindness of New York Association for the Blind, sarcastically wrote in a 1910 article for *The American Journal of Nursing* that it was “incredible” that the discovery was made “nearly thirty years ago,” yet “44 per cent. of the children admitted to one school” in 1909 “were victims of ophthalmia neonatorum.”<sup>12</sup> She was not alone in her concerns but, Dr. Lucien Howe attempted to correct some of these concerns. Howe admitted that

the Credé method was “far from perfect, and not always reliable” but stood by the fact that “it is the best”<sup>13</sup> they had.

Some doctors, including a Philadelphia ophthalmologist Louis Lehrfeld, M.D., believed that silver nitrate was not much more than an irritant and that treatment of the mother’s gonorrhoea led to a decrease in babies with ophthalmia neonatorum. Lehrfeld argued in a 1935 report that “in no phase of public health is the child knowingly exposed to an infection and then an attempt made to prevent that infection by a single drop of germicide.”<sup>14</sup> Whether or not silver nitrate was a tool to cure blindness or to cause it, “in hospitals where a careful attempt was made to treat gonorrhoea in the expectant mother, the incidence rate of ophthalmia neonatorum was one-fifth that of hospitals where no attempt was made to treat the gonorrhoea.”<sup>15</sup> Treatment of the expecting mother’s gonorrhoea is efficient in preventing ophthalmia neonatorum before the child is born.

The Massachusetts Commission for the Blind [MCB] echoed this idea in its 1910 report *Ophthalmia Neonatorum: A Social Service Study of 116 Cases of Ophthalmia Neonatorum Cared for in the Wards for the Treatment of Infections Ophthalmia of the Massachusetts Charitable Eye and Ear Infirmary, October 1908-October 1909*. It found that of the 116 babies with ophthalmia neonatorum, very few of them were “from the various lying-in hospitals, where the cause of the infection must frequently exist in patients,” and they concluded that was likely “accounted for by the practically general use of prophylactics”<sup>16</sup> in these hospitals.<sup>17</sup> Since ophthalmia neonatorum can result in death, the death rate for children infected was “more than twice the percentage of infant mortality in the state;” which furthered the “argument for

the use of prophylaxis.”<sup>18</sup> Curing gonorrhea would not only protect the mother from infertility and the uncomfortable medical symptoms of a sexually transmitted disease, but it would also save the child from the risk of ophthalmia neonatorum.

Yet at the time, as Lehrfeld pointed out, there were no federal laws requiring “the treatment of gonorrhea in the expectant mother in the prevention of ophthalmia neonatorum.”<sup>19</sup> Helen Keller, an American deaf-blind author and disability rights activist of the 20th century, among others worked not only to call “for public support of the campaign against ophthalmia neonatorum,”<sup>20</sup> but also to make sure that the mother was not to blame for the disease – even though the transmission was between mother and child. In an article for *Ladies Home Journal* in 1901, Keller explained what ophthalmia neonatorum is, its consequences, and its cure. Keller was careful to point out the mother’s innocence because she received the gonorrheal infection from her husband and his “licentious relationships.”<sup>21</sup> Keller called for the treatment of the mother’s gonorrhea because she thought that “every child should be protected before his birth,” and that “every child has a right to be well born.”<sup>22</sup> Preventing infection was an important start to making sure no child suffered, and no mother suffered a lifetime of guilt. Blindness was not inherently bad but the stigma it carried, and the life created for the blind during the ninetieth and twentieth centuries led to struggle.

Another method that was successful in curing ophthalmia neonatorum was douching, when douching the babies’ eyes Holt and his team would spray or shower the eyes with water. E. E. Holt, M.D. wrote an article for the *Journal of the American Medical Association* in 1901

about how he treated a patient suffering from a severe case of ophthalmia neonatorum. Holt did not decide to douche the baby’s eyes because he thought that silver nitrate drops did not work, he douched the baby’s eyes because “it seemed to [him] that continuing the ordinary methods of treating eyes in such cases would preserve much sight for the child.”<sup>23</sup> He thought that “if the eyes could be thoroughly douched and all the secretions from the conjunctiva kept constantly washed away there would be some chance of saving the sight.”<sup>24</sup> After five days of frequent and consistent douching Holt reported that “the baby was opening its eyes and looking about the room,”<sup>25</sup> this was a remarkable breakthrough for Holt, his team, and the medical community. Holt reported that “the same method of douching [was] carried out on other cases in about the same critical condition with the same happy result,”<sup>26</sup> but he did not think that douching was the solution for ophthalmia neonatorum. Holt believed that silver nitrate drops should be used first as prevention, but douching should be used on babies in critical condition.

Unfortunately, physicians were not always aware of what ophthalmia neonatorum looked like in infants, resulting in the child going without treatment and a preventable loss of vision. The urgency and knowledge of both nurses and doctors played an important role in not only the survival of a child’s eyesight but also their lives. The MCB not only said that in almost every case the cause of disablement was a result of “failure on the part of the physician to recognize and give warning of the serious nature of the disease” but also that in the case of secondary infections, the physician should be held “responsible if the cause of infection was present and he [had] not properly warned the mother and attendants of the danger to the child’s eyes.”<sup>27</sup> As a result, there was a

Massachusetts law that stated that any nurse that failed “to report in writing to Board of Health within 6 hours any discharge, swelling, inflammation or redness in eyes of”<sup>28</sup> the child would be fined. The law applied to physicians as well, stating that physicians would be fined “for refusal or neglect to report case under his care of inflamed, red, swollen or discharging eye in” a newborn child.<sup>29</sup>

The cleanliness of the doctors and nurses who cared for the infected children was also important. Van Blarcom stereotypes midwives as “hopelessly ignorant, dirty, and careless”<sup>30</sup> yet, she admitted that better educating these women was “an important factor in the suppression of a disease occurring at birth.”<sup>31</sup> Unfortunately, not all midwives, especially Black midwives could read.<sup>32</sup> Being unable to read affected their ability to learn about health concerns and conditions through printed text and how doctors viewed midwives and their ability to learn. Van Blarcom went as far as to say, “Seven thousand persons handicapped, blighted, deprived of the keen joy which comes through visual perceptions—blind as a result of ignorance and neglect.”<sup>33</sup>

Blindness was seen as an embarrassment in the late nineteenth and early twentieth centuries, Van Blarcom explained how far parents would go to hide their embarrassing children in the article “Ophthalmia Neonatorum as a Cause of Blindness.” When a family had a blind child, they may not be sent to school or even registered in the census. Parents often assumed that blindness meant the child “must also be deficient in other ways, and neither mental nor physical activity is encouraged.”<sup>34</sup> Therefore, no “one hear[d] of children, live human beings, actually living in the bottom bureau drawers, in boxes under beds, etc.”<sup>35</sup> These children were sentenced to a life of “living less than a vegetable,”

because “vegetables do have air and sunlight.”<sup>36</sup> So, these “helpless, defenseless” babies “were cheated out of a birthright more precious than the spark of life remaining for them.”<sup>37</sup> The treatment of blind people and blind babies during the nineteenth and twentieth centuries was devastating and society lacked the means to allow the children to live meaningful lives if they survived. Nor did it allow those children to acquire the knowledge and skills they needed to thrive in adulthood.

For the blind who did survive into childhood and adulthood, the Massachusetts Commission for the Blind suggested that they were “perhaps less fortunate” than the babies who died because they would have to “grope their way through life.”<sup>38</sup> Even if they were not completely blinded by the disease it sentenced a “helpless baby”<sup>39</sup> to a life of hardship. Those made blind in one eye were “handicapped in sight and appearance” and because of that their “chance of going through life successfully is hardly more than half that of the person with normal vision.”<sup>40</sup> Others were “disfigured by scars on the eyes, and disabled by defective vision.”<sup>41</sup> Public schools considered blind children “defective,”<sup>42</sup> and not all families had access to a school for the blind. Even if the child was not left completely blind, they would likely face discrimination for the rest of their lives because of a visual impairment or a facial abnormality.

Many people assumed that the life of a blind person was full of “irrepressible loneliness and weariness, because, unable to read or write, and uninstructed in any form of useful employment, they are doomed to sit in idleness both of body and mind.”<sup>43</sup> However, Francis H. Rowley, an American Baptist Minister and animal welfare advocate, follows this statement by writing “Almost nothing [...] lies beyond the reach of the patience and

persistence of those deprived of sight.” Rowley was calling for proper aid for the blind: “Help to help themselves—that is what they long for.”<sup>44</sup> Without proper blind education, blind people were almost entirely dependent on their friends and family; yet they were fully capable human beings, they needed acceptance and inclusion.

Schools for the blind did allow blind students to gain a meaningful education they would not have gained otherwise, which set them up to be at least somewhat independent in life and have the possibility of gaining a job. An anonymous writer for the Boston Beacon pointed out that blind people struggled to provide for themselves whether or not they had a proper blind education, “blind mechanics and artisans [...were] unable to make a fair living, or to obtain living prices for their labor” because they had “to compete with prison labor.”<sup>45</sup> Sadly and ironically this seemed to point out that blindness was a prison to those it affected. The blind that managed to break free of some of the restrictions placed on them still struggled to make a living for themselves, yet they had to beg not for charity but “for protection and,” luckily, some believed that “their case [was] very strong.”<sup>46</sup> However, the change did not happen overnight.

Twenty years later (1906), the blind were starting to work in six Massachusetts factories. The stigma that blind people were mentally lacking was still prevalent, which can be seen through the works of an anonymous writer for the New York Press who wrote, “Such great strides have been made in educating the blind to overcome their deficiency that there is at present an astonishing variety of work which they are able to perform.”<sup>47</sup> Also, before the opportunity to work in these factories, “nothing ever opened up such hope to the thousands of poor people afflicted with blindness.”<sup>48</sup> This newspaper article views

the blind as second-class citizens in need of help because being blind is a condition of “misery which found relief only in death.”<sup>49</sup>

Physicians wanted to cure ophthalmia neonatorum partially because of genuine care and because they wanted to save the state money. Blindness in the twenty-first century is not seen the same way as it was in the late nineteenth and early twentieth centuries. In the past, blindness had secured a person an undesirable life; people affected may not have received proper education, or any education which meant they were unable to provide for themselves. Although the state did not provide a very comfortable life for the blind, some people thought what they did provide was too much, and by curing ophthalmia neonatorum and mandating the cure the state could “protect itself against unnecessary taxation.”<sup>50</sup>

Whether or not physicians truly believed that the blind were a burden on the state they certainly argued the idea to push for legislation that required treatment at birth. The “needlessly blind [have] amounted to millions of dollars”<sup>51</sup> the state would have had if they treated the children at birth. Van Blarcom went on to say that the “cost of the needlessly blind” in New York state exceeded “\$100,000 a year,” but the “annual cost of not more than \$5000, would have saved all of those eyes.”<sup>52</sup> Howe also argued this but said not spending money on silver nitrate drops was “to say nothing of the suffering of the victims of such negligence,” and that “it was the right and duty of the state to enforce such treatment.”<sup>53</sup> Physicians of the time were likely arguing that the blind was a burden on the state in order to prevent future children from “a lifetime of darkness.”<sup>54</sup> However, in doing so, they furthered the idea that blindness meant a poor life. Had blindness not carried a stigma of inability and a fate worse than death,

the state would not have had to take as much care of the blind, nor would their lives be seen as pitiable.

The consequences of the medicalization of blindness, particularly the discovery of the use of silver nitrate drops were both positive and negative. The discovery and success of silver nitrate drops led to the ability to cure ophthalmia neonatorum and in turn the discovery of other methods to cure the disease as well. However, skeptics were not wrong in questioning the silver nitrate drop method as the drops did cause chemical ophthalmia<sup>55</sup>, nor did the method always work. Despite not being a perfect solution, silver nitrate drops were successful, and they also brought attention to the ophthalmia neonatorum epidemic and societal views of blindness.

The medicalization of blindness called many issues into question including, what it meant to be blind; how blind people should be treated; proper treatment for sexually transmitted diseases, particularly gonorrhea, in expecting mothers; and the transmission of those diseases. In the late nineteenth and early twentieth centuries, American blindness became medicalized because a leading cause of blindness, ophthalmia neonatorum, became curable. When physicians found a cure for ophthalmia neonatorum, blindness became a medical condition. Carl Credé's cure was a groundbreaking discovery that bettered the lives of thousands of children for decades.

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<sup>1</sup> Minutes of House of Delegates: Atlantic City Session, "Progress of Ophthalmia Neonatorum Campaign in States and Territories, May 1909," in *Journal of the American*

*Medical Association*, 52, no. 25 (June 1909): 2050-2051.

<sup>2</sup> Dorothy L. Moore, Noni E. MacDonald and the Canadian Pediatric Society, Infectious Disease and Immunization Committee, "Preventing ophthalmia neonatorum," in *Canadian Journal of Infectious Diseases and Medical Microbiology*, 53, no. 3 (May/June 2015): 122-125.

<sup>3</sup> A prolapsed iris is observed when the iris tissue is observed outside of a corneal wound.

Carolyn Conant Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," in *The American Journal of Nursing*, 10, no. 10 (July 1910): 724-734.

<sup>4</sup> Moore, MacDonald and the Canadian Pediatric Society, Infectious Disease and Immunization Committee, "Preventing ophthalmia neonatorum," 122.

<sup>5</sup> Moore, et al., "Preventing ophthalmia neonatorum," 122.

<sup>6</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 726.

<sup>7</sup> Howe, "Credé's method for the Prevention of Purulent Ophthalmia of Infancy in Public Institutions," 52.

<sup>8</sup> Louis Lehrfeld, "Limitations of the use of Silver Nitrate in Prevention of Ophthalmia Neonatorum: Report of a Survey of Nearly 28,000 Hospital Birth Records and 2,000 Cases of Ophthalmia Neonatorum," in *Journal of the American Medical Association*, (April 1935): 1468-1469.

<sup>9</sup> Frederick E. Cheney, "Protargol as a Substitute for Nitrate of Silver in Ophthalmia Neonatorum and Other

Conjunctival Diseases.," in *Boston Medical and Surgical Journal* 139, no. 8, (August 25, 1898): 194-195.

<sup>10</sup> Cheney, "Protargol as a Substitute for Nitrate of Silver in Ophthalmia Neonatorum and Other Conjunctival Diseases," 194.

<sup>11</sup> Cheney, "Protargol as a Substitute for Nitrate of Silver in Ophthalmia Neonatorum and Other Conjunctival Diseases," 194.

<sup>12</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 726.

<sup>13</sup> Lucien Howe, "Credé's method for the Prevention of Purulent Ophthalmia of Infancy in Public Institutions," in *Transactions of the American Ophthalmological Society*, (1897): 52-63.

<sup>14</sup> Lehrfeld, "Limitations of the use of Silver Nitrate in Prevention of Ophthalmia Neonatorum," 1468.

<sup>15</sup> Lehrfeld, "Limitations of the use of Silver Nitrate in Prevention of Ophthalmia Neonatorum," 1468.

<sup>16</sup> A medicine or course of action used to prevent disease.

<sup>17</sup> Massachusetts Commission for the Blind [MCB], *Ophthalmia Neonatorum: A Social Service Study of 116 Cases of Ophthalmia Neonatorum Cared for in the Wards for the Treatment of Infections Ophthalmia of the Massachusetts Charitable Eye and Ear Infirmary, October 1908-October 1909*, (Boston: Massachusetts Commission for the Blind, 2010).

<sup>18</sup> An action taken to prevent disease, especially by specified means or against a specific disease.

<sup>18</sup> Massachusetts Commission for the Blind, *Ophthalmia Neonatorum*, 14.

<sup>19</sup> Lehrfeld, "Limitations of the use of Silver Nitrate in Prevention of Ophthalmia Neonatorum," 1469.

<sup>20</sup> Frances Koestler, "The Perfect Symbol," in *The Unseen Minority: A Social History of Blindness in the United States*, (United States: AFB Press, 2004).

<sup>21</sup> Helen Keller, "I Must Speak," in *Ladies Home Journal*, (January 1901).

<sup>22</sup> Keller, "I Must Speak."

<sup>23</sup> E. E. Holt, "The Douche in the Treatment of Ophthalmia Neonatorum," in *Journal of the American Medical Association*, (January 1901): 35.

<sup>24</sup> Holt, "The Douche in the Treatment of Ophthalmia Neonatorum," 35.

<sup>25</sup> Holt, "The Douche in the Treatment of Ophthalmia Neonatorum," 35.

<sup>26</sup> Holt, "The Douche in the Treatment of Ophthalmia Neonatorum," 35.

<sup>27</sup> Massachusetts Commission for the Blind, *Ophthalmia Neonatorum*, 15.



<sup>28</sup> Minutes of House of Delegates, "Progress of Ophthalmia Neonatorum Campaign in States and Territories, May 1909," 2051.

<sup>29</sup> Minutes of House of Delegates, "Progress of Ophthalmia Neonatorum Campaign in States and Territories, May 1909," 2051.

<sup>30</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 731.

<sup>31</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 731.

<sup>32</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 732.

<sup>33</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 725.

<sup>34</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 729.

<sup>35</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 729.

<sup>36</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 729.

<sup>37</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 729.

<sup>38</sup> Massachusetts Commission for the Blind, *Ophthalmia Neonatorum*, 16.

<sup>39</sup> Massachusetts Commission for the Blind, *Ophthalmia Neonatorum*, 16.

<sup>40</sup> Massachusetts Commission for the Blind, *Ophthalmia Neonatorum*, 16.

<sup>41</sup> Massachusetts Commission for the Blind, *Ophthalmia Neonatorum*, 16.

<sup>42</sup> John T. Prince, "Defective Children and the Public Schools," in *Education* 24, no. 6 (February 1904): 340–43.

<sup>43</sup> Francis H. Rowley, "A Call to a Pressing Duty," in *Boston Transcript*, February 25, 1903.

<sup>44</sup> Rowley, "A Call to a Pressing Duty."

<sup>45</sup> Unknown, in *Boston Beacon*, March 20, 1886.

<sup>46</sup> Unknown, in *Boston Beacon*, March 20, 1886.

<sup>47</sup> Unknown, "Employment for the Blind: From the New York Press," in *the Union*, March 21, 1996.

<sup>48</sup> Unknown, "Employment for the Blind: From the New York Press," in *the Union*, March 21, 1996.

<sup>49</sup> Unknown, "Employment for the Blind: From the New York Press," in *the Union*, March 21, 1996.

<sup>50</sup> Howe, "Credé's method for the Prevention of Purulent Ophthalmia of Infancy in Public Institutions," 59.

<sup>51</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 731.

<sup>52</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 731.

<sup>53</sup> Howe, "Credé's method for the Prevention of Purulent Ophthalmia of Infancy in Public Institutions," 52.

<sup>54</sup> Van Blarcom, "Ophthalmia Neonatorum as a Cause of Blindness," 730.

<sup>55</sup> Chemical ophthalmia is conjunctivitis caused by a chemical.

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### **ASHLEY SCHEPIS**

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