

# A history of trachoma

Trachoma is one of the world's oldest recorded diseases: evidence suggests it has been around for more than 10,000 years. Its footprint can be found throughout history, from Ice Age skeletons and ancient manuscripts to Hollywood films.

But it wasn't until the 20th century that the cause of the disease was discovered, enabling it to be treated.

## Earliest origins

Trachoma is thought to have originated in the Mongol and Finn tribes of Central Asia, according to two separate studies carried out in 1904. The studies looked at several factors, including the prevalence of trachoma among different ethnic groups.<sup>1</sup>

### 8000BC

Evidence of trachoma can be found as far back as the Ice Ages. For example, archaeologists in Australia found lesions in the skulls of Pleistocene human remains, which indicated frequent chronic eye infections that were likely to have been trachoma.<sup>2</sup>

### 1500BC

From ancient Nubian and Egyptian times, there are records of medical prescriptions about trachoma in The Ebers Papyrus, a collection of Egyptian medical prescriptions from the 1500 BC.<sup>3</sup> These suggested an interesting list of remedies for trachoma, including a mixture of myrrh, lizards' blood and bats' blood.<sup>4</sup>

### 500BC

Echoes of trachoma can be found in ancient Greece and Rome. The Hippocratic Corpus, a collection of medical records from the 5<sup>th</sup> century BC, contains sections on trachoma, as do plays from Aristophanes, such as his ancient Greek comedy 'Plutus'. The first suggestions that trachoma was infectious are thought to have been made by Plato.<sup>5</sup>



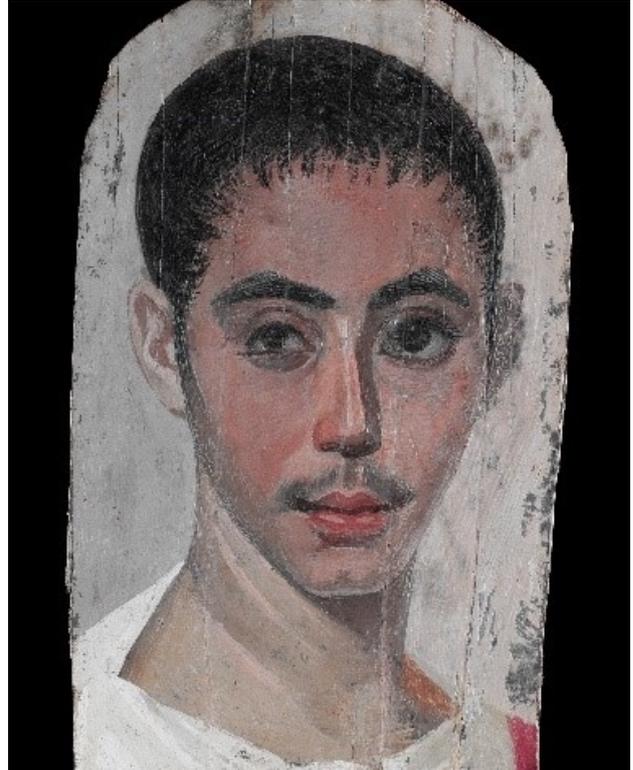
The Ebers Papyrus from 1500BC contains references to trachoma, plus unusual remedies. Source: public domain

## AD 100s

Claudius Galenus (Galen), a doctor from Pergamun in what is now Turkey, built on the works of Hippocrates and wrote a summary of Greek medical knowledge. He was the first to use the word 'trichiasis' to describe advanced trachoma, and also to describe the four stages of trachoma.<sup>6</sup>



A lithograph portrait of doctor Claudius Galenus, who was the first to use the term 'trichiasis'. Source: Pierre Roche Vigneron, National Library of Medicine



This portrait, found on a tomb from Roman Egypt (AD 190-210), shows a man with a cut in his eyelid. Experts think this depicts trachoma plus early surgery. [Source](#)

## 800s

Between AD 800 and AD 1300, it's estimated that 60 textbooks were written in Arabic about eyes. Authors often used the term 'jarab', meaning scabies, to describe trachoma.

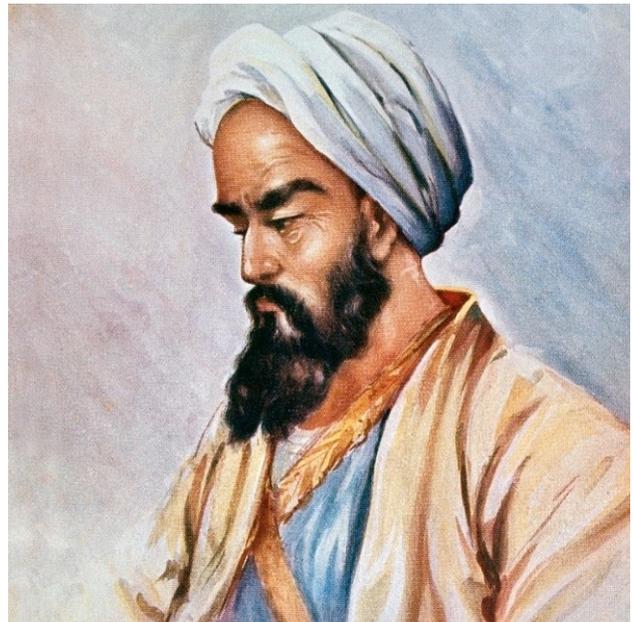
Surgical methods to reverse the effects of trachoma began to emerge around AD 850. Arab doctor and alchemist Al Razi stated in his work: "In eye inflammation, remember to invert the lids and you will find trachoma."<sup>7</sup>

## 1000s

Iraqi doctor Isa ibn Ali, from Baghdad, wrote an Arab textbook of ophthalmology in which each chapter was arranged systematically depending on which diseases were more frequent and important. This highlighted the fact that trachoma had started to receive more attention.<sup>8</sup>



The eye according to Hunain ibn Ishaq, an influential Arab Nestorian Christian translator, from the Cheshm Manuscript circa AD 1200. Source: public domain



In AD 850, Iraqi physician and alchemist Al Razi discussed trachoma in his writing, describing ways to check the eyelids for signs of the disease. [Source](#)

## 1200s

The story of Italian friar Francis of Assisi (1182-1226) is a good example of how trachoma has shaped history through myths and legends. The catholic missionary visited Egypt and the Middle East and returned with severe trachoma and trichiasis, as well as malaria.

St Francis was blind when he died in 1226, and his condition became a part of the many stories that surrounded his colourful life: legend has it that he lost his sight because of the tears he'd shed for the sins of the world, and that doctors cut his face from the jaw to the temple to stop the discharge from his eyes.<sup>9</sup>



Many myths and legends surrounded St Francis of Assisi's blindness, which was caused by trachoma. [Source](#)

## 1800s

Trachoma became a serious public health problem in the UK and Europe in the 1800s. Soldiers fighting in the Napoleonic wars in Egypt became infected with what was then known as 'military or Egyptian ophthalmia'. When they returned, the infection spread further because of poor sanitation, particularly in the large cities. This led to the opening of Moorfields Eye Hospital in London in 1805, which has become one of the most famous eye hospitals in the world.<sup>10</sup>

English poet William Wordsworth is said to have had recurring bouts of trachoma during the later part of his life. He wrote about his fear of losing his sight in the long poem 'The Excursion', published in 1814.<sup>11</sup>



Moorfields Eye Hospital in London was one of the first hospitals in the world dedicated to eye conditions. [Source](#)

## 1820s

Trachoma was a particular problem in poorer schools and areas with overcrowding and low cleanliness levels. But in the early 1800s, experts found that improved sanitation and hygiene could control the disease, and keeping patients isolated could stop it spreading. As a result, schools such as Hanwell Ophthalmic School in London were founded so infected children could be isolated and treated to prevent the disease from spreading.

One outbreak of trachoma at Yorkshire boarding school Bowes Academy in the 1820s led to a notorious trial: the headmaster, William Shaw, was sued for gross negligence by the families of boys who went blind. They blamed mistreatment and poor diet for the boys' vision loss, when in fact it was probably trachoma brought back from the Napoleonic wars. The incident is thought to have inspired Charles Dickens' novel *Nicholas Nickleby* in 1842, with the character of cruel headmaster Wackford Squeers supposedly based on Shaw.<sup>12</sup>



An illustration from 'The Life and Adventures of Nicholas Nickleby', which was thought to have been inspired by real-life cases of trachoma. [Source](#)



In the 1900s, immigrants to the US were examined for signs of trachoma when they arrived at Ellis Island. Source: Ellis Island National Museum of Immigration

## 1900s

Throughout the 19<sup>th</sup> century, the spread of trachoma was often caused by soldiers travelling to fight in the war. In the 20<sup>th</sup> century, it started to spread through mass movements of a different kind: migration.

Immigrants entering the United States via Ellis Island were checked by doctors for various medical ailments, and the final examination, which was feared the most, was checking the eyelids for trachoma. Doctors examined people's eyelids using a 'buttonhook' (a tool used to fasten tight buttons) to look under their eyelids for signs of the infection – immigrants often warned each other to 'beware the buttonhook men'. Anyone found to have the disease was either sent home or treated in the island's hospital, one of the first in the US to treat trachoma patients.<sup>13</sup>

The screening process is shown in Francis Ford Coppola's film *The Godfather Part II*: the character of Vito Corleone is shown at Ellis Island as a young boy during his immigration to the US. During one scene, he is seen having his eyes checked for trachoma.

## 1920s

Former US President Jimmy Carter also spoke of his experience with trachoma as a child growing up on a farm in Georgia in the 1920s. He said: "I was always afflicted with houseflies around my eyes. I had sore eyes, [which could have developed] into an infection that turns your upper eyelid inward."<sup>14</sup>



Dr Tang Feifan (right), who discovered the bacteria that cause trachoma, with Joseph Needham in 1944. [Source](#)

## 1930s

Chinese medical researcher Dr Tang Feifan identified the bacteria that cause trachoma, enabling it to be treated with antibiotics. He continued his research during the 1950s: after experimenting on chicken eggs, it's claimed he then infected himself, braving the pain for 40 days to collect valuable data. <sup>15</sup>

By now, trachoma had also started to become a noticeable problem in Ireland. Medical publication *The Aetiology of Trachoma* noted cases of the disease in schools and orphanages in Ireland as late as the 1930s. <sup>16</sup>

## 1940s

Because trachoma was spread across such a wide area, international organisations began to form to tackle it. *La Ligue Contre Le Trachome* and the International Organization against Trachoma were all founded just before World War II.

When the World Health Organization (WHO) was formed in 1948, it immediately classified trachoma as a dangerous disease and gathered data about worldwide trachoma rates.

## 1987

The US government classified trachoma as a “dangerous contagious disease”.



Zithromax® was first tested in 1993 to treat trachoma, and is now the most common treatment. © Sightsavers

## 1993

Scientists published an article discussing an antibiotic called azithromycin (known by the trade name Zithromax®), following the first randomised single-dose trials of the treatment in The Gambia. Zithromax® is now the most common way to treat trachoma.<sup>17</sup>

In the same year, the World Health Organization (WHO) endorsed a public health strategy to eliminate trachoma as a public health problem in countries where it was prevalent. The SAFE strategy established four methods to control the spread of trachoma: the acronym stands for surgery (to correct the position of inturned eyelashes), antibiotics (to reduce the spread of infection), facial cleanliness (to prevent transmission and reduce infection), and environmental improvements (to increase access to safe water sources and sanitation).

## 1996

Three years later, WHO launched GET2020, or 'The WHO Alliance for the Global Elimination of Trachoma by the year 2020'. The partnership helps countries to set up and carry out the SAFE strategy and develop their skills and resources through assessment, monitoring and surveillance, and by evaluating projects and mobilising resources.

## 1998

The World Health Assembly (WHA) passed resolution 51.11, which represented a global political commitment to fight trachoma. It called on WHO member states to map trachoma, implement the SAFE strategy, collaborate in the WHO Alliance for GET2020, and to

consider all possible approaches to community development, particularly those providing access to clean water and sanitation for areas affected by trachoma.

Later that year, the International Trachoma Initiative (ITI) was founded by Pfizer and the Edna McConnell Clark Foundation to manage Pfizer's donations of Zithromax® to treat trachoma in countries that needed it. The medication was originally only distributed to five countries, but was soon expanded across Africa and Asia.

## 2004

The International Coalition for Trachoma Control (ICTC) was founded, comprising non-governmental development organisations, academic institutions, donors, the private sector and foundations. Its aim is to ensure everyone is committed to working together to eliminate trachoma.

## 2011

ICTC published 'The End in Sight: 2020 INSight', highlighting the lack of data about trachoma in many countries. The report provided the first complete cost estimate about what would be needed to achieve the GET2020 target. It also pointed out that eliminating trachoma from Africa could boost the continent's gross domestic product by up to 30%.

In the same year, the US Agency for International Development (USAID) funded the eight-year ENVISION project to help national NTD programmes control and eliminate seven targeted NTDs, including trachoma.

## 2012

On 30 January, pharmaceutical companies, donors, endemic countries and non-government organisations came together to sign the London Declaration on Neglected Tropical Diseases. Together, they committed to control, eliminate or eradicate 10 diseases, including trachoma, by 2020 to improve the lives of more than a billion people.

In the same year, it was announced that Oman was the first country to eliminate trachoma as a public health problem, as validated by the World Health Organization. Morocco followed suit in 2016, followed by Mexico, Cambodia and Laos in 2017. In 2018, Nepal, Ghana and Iran were validated as having eliminated trachoma.

December 2012 marked the launch of the Global Trachoma Mapping Project (GTMP), the largest infectious disease survey ever undertaken. Its aim was to work with ministries of health and partners to accurately pinpoint the world's trachoma-endemic areas. By the time the project was completed in January 2016, data had been collected from 2.6 million people in 29 countries using Android smartphones. It surveyed more districts in just over three years than had been completed in the previous 12 years, and enabled health ministries to focus their efforts on tackling trachoma using robust, globally comparable data. It has also helped partners to map and reach areas in conflict, such as Yemen.



The three-year Global Trachoma Mapping Project tracked the spread of the disease in 29 countries. © Sightsavers

## 2014

The Queen Elizabeth Diamond Jubilee Trust was founded, with the mission to leave a lasting legacy, owned by the whole Commonwealth, in honour of the Queen. Since it started work, The Trust's Trachoma Initiative, led by Sightsavers, has been a significant force in helping to eliminate trachoma in seven African countries.

In the same year, the UK government's Department for International Development (DFID) invested £40 million to support trachoma elimination in Ethiopia, Nigeria, Zambia, Chad and Tanzania.

The DFID SAFE programme, managed by Sightsavers, helps to implement the SAFE strategy (surgery, antibiotics, facial cleanliness and environmental improvements), which has proven successful in eliminating the disease.

## 2016

A collaborative project known as Tropical Data was launched, inspired by GTMP. Tropical Data uses the same approach and technology as GTMP, and is working in some of the most remote and difficult environments to collect high-quality data to show where progress is being made, and identify if more treatment programmes are needed. This area of work is particularly important as the greater the progress towards ending trachoma, the more data analysis and high-quality surveys are required.

Since Tropical Data began, the service has examined more than 3.6 million people for trachoma across four continents. Tropical Data is run by a consortium of partners including the International Trachoma Initiative, the London School of Hygiene and Tropical Medicine, RTI International and Sightsavers.

## 2018

Figures released in 2018 showed that the number of people at risk of blinding trachoma had halved since 2011, thanks to the work of endemic countries and the support of individuals, families and organisations such as [DFID and UK aid](#), [USAID](#), [The END Fund](#), [Conrad N Hilton Foundation](#) and [The Queen Elizabeth Diamond Jubilee Trust](#).

At the end of 2018, many trusted names in modern philanthropy, including the [Bill & Melinda Gates Foundation](#), the [Children's Investment Fund Foundation](#), [The ELMA Foundation](#), [UK aid](#) and [Virgin Unite](#), pledged to help speed up elimination through a \$105 million fund to support the new Accelerate Trachoma Elimination Programme.

## 2019

Sightsavers and partners started working with ministries of health to deliver the Accelerate programme. In the next five years, Accelerate aims to eliminate trachoma in at least 10 African countries and speed up progress in Ethiopia and Nigeria, which have the world's highest rate of the disease. Accelerate will also continue groundbreaking research into how the antibiotic used to prevent and treat trachoma may also save children's lives.

## The future

Momentum is gathering to eliminate ancient and blinding trachoma, and it is now within our grasp to make history by ridding the world of this painful disease. But more funding and support is needed to finish the work we've started. Sightsavers has joined pharmaceutical companies, donors, governments and non-government organisations to commit to banishing the disease for good, which will improve the lives of millions of people.

**The End is in Sight** is Sightsavers' campaign to eliminate trachoma by 2025. To learn how you can help us make history, visit [www.sightsavers.org/EndIsInSight](http://www.sightsavers.org/EndIsInSight)



In 2018, trachoma was officially eliminated in Ghana, paving the way for other countries to follow. © Sightsavers

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