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Short Communication

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## Outbreak of Egyptian ophthalmia at the Royal Military Asylum, Chelsea, in 1804

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### Abstract

This article traces the source, and follows the course, of the outbreak of trachoma that struck the Royal Military Asylum, Chelsea, in April 1804. The scourge lasted until June 1810 when Staff Surgeon Patrick MacGregor persuaded the Institution's Board of Commissioners to accept his recommendation as a possible cure for this disease. As a result, the epidemic came to an abrupt end and was not again experienced in the life of the Institution. During the six years it raged unabated the Surgeon registered over 1,500 cases of 'Egyptian ophthalmia.'

In April 1804, less than a year after the doors of the Royal Military Asylum, Chelsea, opened to care for military orphans and children of destitute families of British soldiers, two brothers, John and Thomas Wells, contracted severe eye infections. Staff Surgeon Patrick MacGregor prescribed a treatment of eye washing to cleanse away the pus. He decided not to admit them into the hospital. Having made a note of their ailments, not then diagnosed, he treated them as out-patients.

The RMA, established by royal warrant at the Court of St. James in June 1801, was the creation of Frederick Duke of York, appointed Commander-in-Chief of the British Army in 1795. Built on the property of Lord Cadogan, next door to the Royal Hospital (Chelsea Pensioners) in the

Borough of Chelsea, the Asylum was originally planned to take in 500 children, boys and girls [1]. The RMA could not claim to be the first co-educational haven for military children. This distinction went to the Hibernian Society's school for soldiers' children, initially at Arbor Hill, Dublin, and from 1770 in Phoenix Park. Even so, the RMA was one of York's innovative ideas come to fruition to encourage men to enlist in the war with revolutionary France; for this reason York's RMA project while benevolent was not entirely altruistic. Nevertheless, the enterprise was a prestigious undertaking requiring the senior posts of Commandant, Adjutant and Staff Surgeon to be chosen with care. Staff Surgeon, Patrick MacGregor (NK - 1828) [2], began his medical career as a 'hospital mate' before being commissioned Assistant Surgeon in the Coldstream Guards. He served in the Egyptian Campaign under Sir Ralph Abercrombie and, in February 1804, was appointed to Staff Surgeon of the RMA [3].

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Table 1: Data extracted from NA WO143-17 &amp; 18 admission registers

Name	Age on Admission	Admitted	Regiment	Discharged	To
Mary Dawson Orphan	7 years	30 08 1803	35th Foot	07 11 1809	Rt Hon Hester Lucy Stanhope, London
James Wells	9 years	13 04 1804	35th Foot	18 02 1809	18th Light Dragoons
Thomas Wells	5 years	13 04 1804	35th Foot	31 05 1813	14th Light Dragoons
Benjamin Ager Orphan	5 years 6 months	11 05 1804	35th Foot	21 08 1812	5th Dragoon Guards
James Dawson Orphan	7 years	27 06 1804	35th Foot	05 01 1810	Wm. Dyer, London
John Rivenell	8 years & 4 months	06 10 1804	35th Foot	14 02 1810	Jas Brown, London
William Rivenell	6 years & 6 months	06 10 1804	35th Foot	14 09 1806	Died

Having seen service in Egypt where he and other military surgeons first encountered the disease, MacGregor later recognized the eye infections of the Wells brothers and others as 'Egyptian ophthalmia' [4]. Trachoma is a purulent disease for which there was no known cure in the early 19th century. It first affected soldiers stationed in Egypt. Trachoma is a chronic inflammation of the conjunctiva and cornea. Depending on its severity, the disease can lead to loss of vision and, in extreme cases, total blindness. The standard medical treatment for Egyptian ophthalmia in the early 1800s was to bathe the eyes and apply leeches about the infected area.

In his report [5] of the epidemic that began with the two Wells brothers, MacGregor states that '*They were made out patients, and by using the common remedies, got well in eight or ten days*' [6]. What he did not realize at the time, or even later, was how the children were infected in the first place. The fact it is known from the admission records that the two boys were of a recent intake [7] of children from the Mediterranean military garrison of Malta [8] where trachoma was as prevalent a disease as it was in Egypt. The children from

Malta were all of the 35th Regiment of Foot, the Suffolk Regiment, which was stationed on the Island from 1802 to 1805.[9] As MacGregor states, the boys – James 9 and Thomas 5 years of age - '*got well in eight or ten days*' and mingled freely with the general population [10].

At the end of April 1804 six boys were infected. Three severe cases were admitted to hospital and the other three, mildly infected, were treated as out-patients. In the following month, as shown on Table 2 following, forty boys and five girls were infected. The worst cases were admitted, the surgeon relates, but there was no room for all '*and even some of those, that were admitted, were necessarily mixed with other sick*' [11]. On the fourth day two boys in the infirmary in the same ward with other complaints had a severe inflammation of the eyes. Within a few weeks the School authorities had a full-blown epidemic on their hands.

Table 2 indicates that by the end of December 1804 the number children infected with trachoma totaled 386. Of these six remained in hospital at the turn of the 1805 year. As time passed and the war with

Table 2: showing the weekly progress of the Ophthalmia, in the Royal Military Asylum, from its first appearance in April, 1804, to December 30th of the same year.<sup>14</sup>

Time of Admission 1804		Number Admitted.	Boys.	Girls.	Number Discharged	Remaining in The House 30th Dec. 1804
April	8	2	2	-	2	
	16	-	-	-	-	
	23	1	1	-	1	
	30	5	5	-	5	
May	8	14	14	-	7	
	16	8	8	-	6	
	13	20	18	2	13	
	31	7	4	3	20	
June	8	18	15	3	14	
	16	15	10	5	14	
	23	18	8	10	17	
	30	39	25	14	15	
July	8	27	15	12	36	
	16	15	10	5	14	
	18	6	3	3	5	
	24	28	23	5	8	
	31	18	14	4	14	
August	7	30	27	3	12	
	14	23	18	5	10	
	21	26	17	9	12	
	28	11	7	4	14	
Sept.	5	7	6	1	8	
	12	4	2	2	13	
	19	7	6	1	11	
	26	2	2	-	7	
Oct.	3	7	4	3	9	
	10	6	5	1	11	
	17	7	7	-	10	
	24	3	-	3	8	
Nov.	1	4	-	4	12	
	8	7	2	5	17	
	15	2	1	1	8	
	22	2	2	-	7	
Dec	30	2	3	-	4	
		392	287	105	386	6

France in the Iberian Peninsula got underway casualties mounted. The Royal Military Asylum became so overcrowded it was necessary to sleep children two to a bed. Infants of five, six and seven years of age slept three to a bed, which known today, would make the trachoma contagion spread like fire in the treetops [12]. Even so, Commandant Lieut. Colonel Williamson and Surgeon McGregor had to cope with the

excess numbers as best they could. To make room for extra beds, the spacing between beds was reduced to 8 inches instead of the 11 inches specified in the Institution's regulations [13].

In common with the then prevailing practice of the British Army, [15] RMA children shared one towel between each two. This ensured continuing severity of the epidemic.

Interestingly, however, the infection was confined to the Asylum and did not spread to the population at large in the surrounding Borough of Chelsea. In the bustle and confusion of morning awakening (children were roused by beat of drum), doing their ablutions and dressing, the chance of a child putting on another's socks, underclothes or outer clothing was inevitable.

In his 1806 report, [16] MacGregor used the word 'ophthalmia' to describe trachoma, a condition with which he was familiar but beyond his ability to cure. It left him and other physicians baffled. Coughs, colds, skin infections and scrofula were rife in a crowded building and a constant source of worry; it took only one child to get an infection for it to spread like the plague.

In the years following, a number of nurses were infected by the contagion [17]. Along with children, some nurses suffered impaired sight and some went blind for which they received a pension [18]. In only one case, the husband of one nurse caught the disease, but without loss of, or diminished, sight. His and a visiting child were the only cases to occur to persons outside the Asylum during the entire period of the epidemic [19]. The incidence of infection varied according to the seasons and rare were the periods when it appeared to have run its course. By September 1809, however, trachoma became so widespread the Board of Commissioners enlisted the help of London's medical community and experts were invited to attend.

Three physicians, Surgeon General James Ware [20] (1756-1815), John Vetch [21] (1783-1835) and Physician Geera whose antecedents have not so far been found. A fourth doctor, Jonathan Phipps, MD (1769-1853), was invited to join the team, but declined. He preferred to submit his own, separate findings. All four consultants were invited to collaborate with Staff Surgeon MacGregor, which of course they did. In November 1809, two separate reports were

submitted to the Board, [22] one by Phipps, the other signed by the physicians, Ware, Vetch, Geera and MacGregor. The reports, four weeks in the making, were presented in November 1809.

The consultants were not able to agree on a '*on the particular treatment of the ophthalmia,*' so a meeting was set for the next month, December. Meanwhile, John Vetch was asked to consult with Surgeon MacGregor and agree on a course of treatment for further cases of the disease. No medication, lotion, potion or unguent seemed to work. MacGregor recommended scouring and fumigating the building, the sheets and blankets too. He also recommended providing the children with separate towels. At the November meeting, the Board authorised some measures, but excluded the use of separate towels. In consultation with the medical consultants present, [23] the Board passed six resolutions [24]:

1. Children to wash themselves thoroughly (with the exception after mentioned respecting towels. [sic])[25]
2. The frequent scouring and washing of bedding and clothing.
3. The strict examination of convalescents, before they are allowed to mix with the healthy.
4. Considering the ages and number of the children, it would be in vain to supply one towel for each child. The disuse of towels altogether is approved.
5. Bolsters to be covered with linen cases and changed frequently.
6. The Commandant to restrict visitors, parents and friends as deemed necessary to avoid transmission of the disease to healthy children [26].

On the recommendation of Surgeon MacGregor, the Board passed a resolution at its 2 June meeting in 1810 to order 3,000 towels at 8d each for a total expenditure of £100. The minute stated:

*On recommendation of the Surgeon, ordered that sufficient towels be provided to supply each child separately; and the means of changing frequently; for which purpose the Commandant states that three thousand will be required at eight pence per towel [27].*

This entry establishes MacGregor as the author of an important change in the practice of towel sharing. At the December meeting of the Board [28] a report was submitted to the Horse Guards [29] citing the experience of the RMA. John Vetch is generally credited as being the founder of the science of ophthalmology and for advocating the issue of towels for separate use throughout the British Army. The record, however, indicates otherwise. Vetch is also credited with identifying keratoconjunctivitis, 'Egyptian ophthalmia' (trachoma) as contagious and whose suggestions for its treatment are milestones in the history of ophthalmia. This might well be so, but the evidence on record is that Patrick MacGregor was instrumental in persuading the Board to buy and issue separate towels, not Vetch.

To the contrary, as evidenced in the Board minutes, the consulting physicians at the November 1809 Board meeting specifically advised against providing children with separate towels. Having expressly declined to offer a solution to the problem, the best the specialists could offer was a specified discipline to follow to cope with the problem.

Most physicians of the day did not consider trachoma to be infectious. The general opinion was that the disease was caused by undefined conditions of climate. In his 1807 publication on the subject, John Vetch emphasized that it was spread by

transmission of pus from a diseased eye to the healthy eye. His assertion that ophthalmia was contagious and his recommendations for its treatment and prevention were considered to be milestones in the history of Ophthalmology [30].

It is noted that MacGregor's 1812 report is in two parts. The second section is a supplementary addition to the first, which as the author states '*Several years have now elapsed, since I took the liberty of laying before this Society some observations on an ophthalmia...*' [31] 'Several' may be taken to mean 'four years or more'. The Surgeon dated his supplementary notes '*as read 5 February 1811*', so a minimum of four years would give 1807 the year of publication of the first report. This coincides with the year of John Vetch's report, 1807.

The fact remains there is no evidence in the records of the RMA that the physicians called in to investigate the outbreak of a purulent eye disease made any specific connection with Egyptian ophthalmia, but only assumed there was a connection. This, of course, includes Surgeon MacGregor.

Within two weeks of purchasing and distributing separate towels no further cases of trachoma appeared. This was an astonishing and remarkably unregistered occurrence. Even more surprising is that the significance of providing separate towels went unremarked and did not further register although there is good reason to suppose that the RMA report submitted to the Horse Guards resulted in the issue of separate towels for the British Army at large. MacGregor noted that about 1,500 children of the Asylum had contracted and suffered from the disease since it first appeared in April 1804. That a relationship between separate towels and the cessation of the epidemic is evident to anyone reading the public record comes as a surprise for not registering in the public notice until now.

## About the author

### Art W. Cockerill

Educated at the Duke of York's Royal Military School, Art was commissioned in the Corps of Royal Engineers and served in the Middle East. He immigrated to Canada in 1957 and has since combined an international career in engineering, with journalism and freelance writing. Travelling and working in the Middle East, Africa and Central America, he has done head-of-state interviews and written extensively on political-economic themes for international journals. He has written 15 books on applied science subjects for clients in the public and private sector, and published six books for the general reader.

## Acknowledgement

### Peter J. Goble

Born in a military hospital and educated at the Duke of York's Royal Military School, Peter served in the Duke of Wellington's Regiment before transferring to the Royal Army Medical Corps. He retired with the rank of warrant officer to work in for the Yorkshire Health Authority. He has transcribed the records and ledgers of the Royal Hibernian Military School (1765-1924) and Royal Military Asylum (1801-1892). He collaborates with Art Cockerill analyzing the recorded data of 23,000 sons and daughters in military institutions of the British Army.

## Conflict of Interest

The author declares that there are no conflicts of interest to declare.

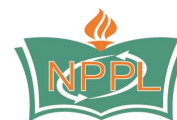
## References

1. NA WO 143-06 Minutes of meetings of the RMA Board of Commissioners. The plan submitted to Parliament in 1801 was for 1,000 soldiers' children. The Commissioners subsequently decided to fix the establishment at 750 boys and 250 girls. The 1803 Orders and Regulations issued by the Commissioners under powers granted in the 1801 warrant referred only to an establishment of 1,000 children. (NA WO 143/1)
2. A late 18th century graduate of the Edinburgh Medical School, Patrick Macgregor graduated under the name of Peter Macgregor and changed his forename to Patrick.
3. Johnston's Roll of Medical Services on the Egyptian Campaign 1798-1807, MacGregor later became Sergeant Surgeon to King George III and personal surgeon to Frederick, Duke of York and Albany. For his services to the King and York he was made a Baronet.
4. This disease was described both by Macgregor and Surgeon John Vetch, who had served with the 67th Regiment of Foot in the Egyptian Campaign. This disease is caused by the microorganism *Chlamydia trachomatis*. It is here after referred to under its pathological name trachoma.
5. *An account of an ophthalmia which prevailed at the Royal Military Asylum in 1804 by Patrick Macgregor, Esq.* Transactions of a Society for the Improvement of Medical & Chirurgical Knowledge (1812).
6. Macgregor does not offer more detailed description of treatment than 'common remedies'.
7. See Table 1
8. NA WO143-17 Male admissions 1803-1826; NA WO143-24 Female admissions 1803-1843.
9. Kitzmiller, J.M. *IN SEARCH OF THE "FORLORN HOPE"* 1988, Manuscript Publishing Foundation, Salt Lake City. Utah.
10. Extracted from National Archives document WO143-17 & 18 admission registers.
11. Macgregor, *ibid*.
12. At the peak of occupation in 1814, the RMA housed some 1500 children. Infants under five and as young as six months of age were taken to General George Hewett's infant orphanage on the Isle of Wight. Children from the IOW orphanage formed the first intake when the RMA opened its doors on 29 August 1803.
13. NA WO 143-06 Minutes of the 1 November 1808 meeting of the Board.
14. Macgregor, *ibid*

15. For their ablutions, two soldiers shared a single towel.
16. The year of publication of this report is discussed later.
17. Nurses slept with the younger children as well as working in the kitchens, laundry and hospital.
18. NA WO143-06 Minutes of meeting of Board of Commissioners December 1909 '*Later, the Commissioners allowed nurses who suffered loss of sight from attending the children a pension for life equivalent to their annual salary i.e. a pension of £12 per year.*'
19. Macgregor, *ibid.*
20. Trained at St. Thomas's Hospital, London, in 1809 he was Surgeon General to the Army.
21. Vetch, John, graduated from the Edinburgh Medical School and had served a Assistant Surgeon in the 67th Foot in the Egyptian campaign.
22. NA WO143-06 November 1809, Minutes of meetings of the Board of Commissioners.
23. *Ibid.* Surgeon General Ware was absent on a family crisis.
24. NA WO143-06 Minutes of meeting of the Board, November 1809. The resolutions passed have been edited for brevity.
25. This note is taken to refer to a rejection of Macgregor's recommendation regarding a towel for each child.
26. Many children admitted to the RMA had one parent living. This was especially the case of families of the Guards regiments in and about London who won the lion's share of places in the Asylum, which were at a premium.
27. NA WO143-06 Minutes of meeting of the Board 2 June 1810.
28. *Ibid.*
29. Later, responsibility of administration of the British Army passed to the War Office, now the Department of Defence.
30. Vetch, John, *An account of the ophthalmia which has appeared in England since the return of the British army from Egypt, 1807* London pub, Longman, Hurst, Rees and Orme.
31. Macgregor, *ibid.*



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