

**A new and easy method of applying a tube for the cure of the fistula lachrymalis.**

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A NEW AND EASY METHOD  
OF APPLYING A TUBE  
FOR THE CURE OF THE  
FISTULA LACHRYMALIS.

By JONATHAN WATHEN,  
SURGEON: F. A. S.

L O N D O N:

Printed for T. CADELL, in the STRAND.

M.DCC.LXXXI.

[ Price One Shilling. ]

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## A D V E R T I S E M E N T.

**T**HE Author of the following Pages, having carefully compared what is advanced in them with what M. HEISTER had before said, on the Treatment of the Fistula Lachrymalis, thinks, he may, with Propriety, call the Practice now recommended, a new Mode of Cure for this Disorder. For, though HEISTER had long before introduced the Use of the Metal Tube; yet the Manner of placing it by him was so very different from that now proposed, and led to so very different a Process, that hardly any two Operations in Surgery can be more distinct from one another. It is presumed, a considerable Advantage must lie on the Side of that, which precludes the Necessity of Perforation. This the Direction of the Tube through the Lachrymal Duct, instead of the Os Unguis, most effectually does. But Experience will best determine, how far this Method of Cure is preferable to others, in that, or any other Respect. One Thing will not be denied of it—It is simple and easy.



## A New and Easy Method, &amp;c.

**I**N an ingenious paper\*, lately read before the Royal Society, a new method was proposed for the cure of the Fistula Lachrymalis in its first stage. This was by pouring quicksilver through the Puncta into the Sac; the specific gravity of which, it was observed, would give it a much greater chance of removing the obstruction in the Canal, than by injecting a watery fluid through it, as was advised by Monsieur Anell.

This method, however, the author allows, can only succeed in cases where the obstruction is slight and recent. In all those, where the disorder has been of long continuance, and the obstruction is considerable, the faculty are now universally agreed, that an opening must be made into the Sac; in order to admit a tent of lead, or some other solid substance, into the Duct. The tent, whatever it be, must be continued through

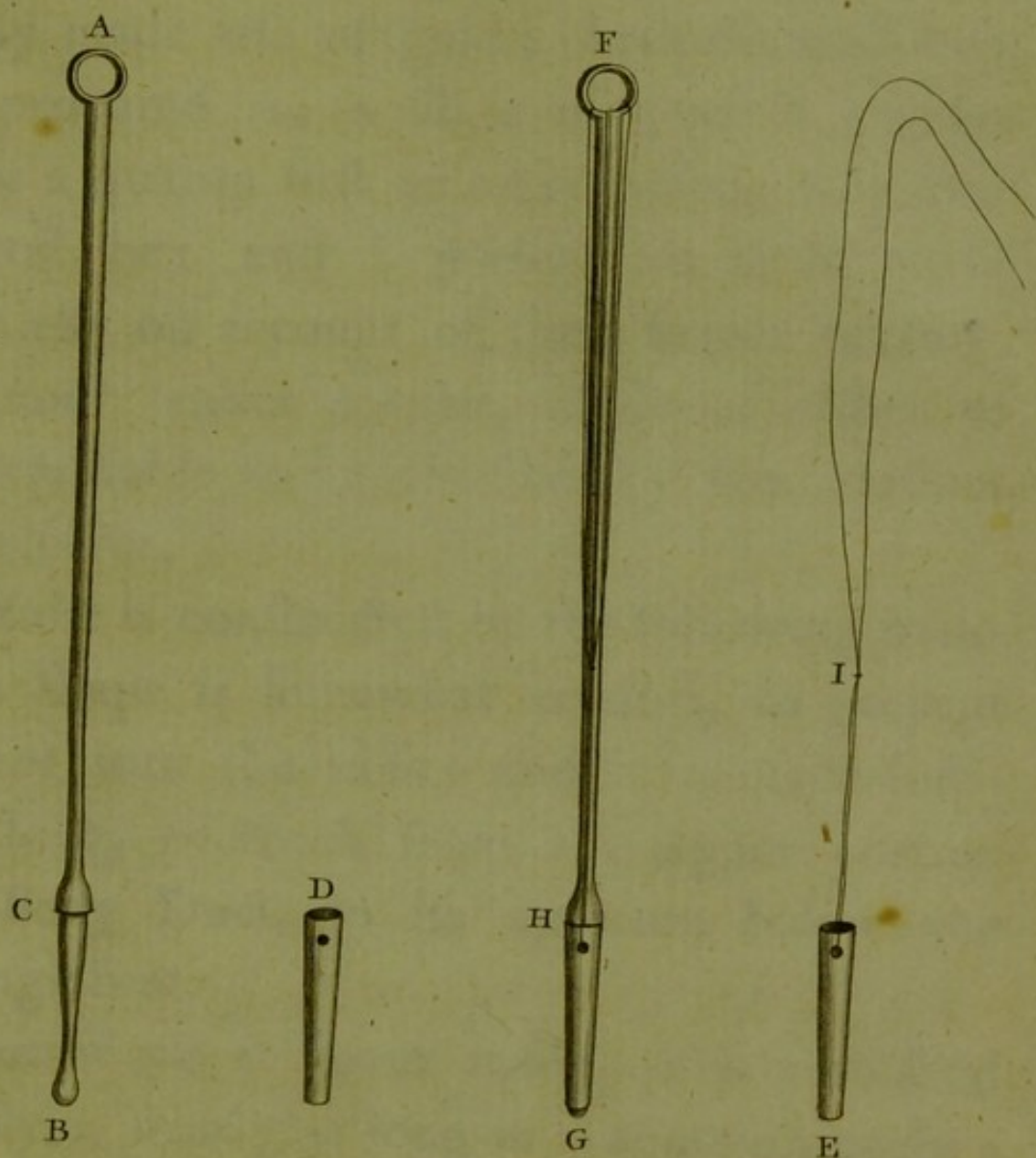
\* A New Method of treating the Fistula Lachrymalis. By William Blizard, Surgeon, and F. S. A. Read at the Royal Society, Feb. 24, 1780.

the Duct, and left there, for the space of two months or more; to prevent, if possible, a return of the like obstruction.

But superior as this method is to any of the modes of cure before used, there are objections of some weight which lie against it. It is attended with great uncertainty: and no one can have practised it, without finding, in some cases, a return of the disorder; owing, either to a fresh swelling of the membrane which lines the Duct, or to a sponginess of the bones themselves by which the Duct is formed.

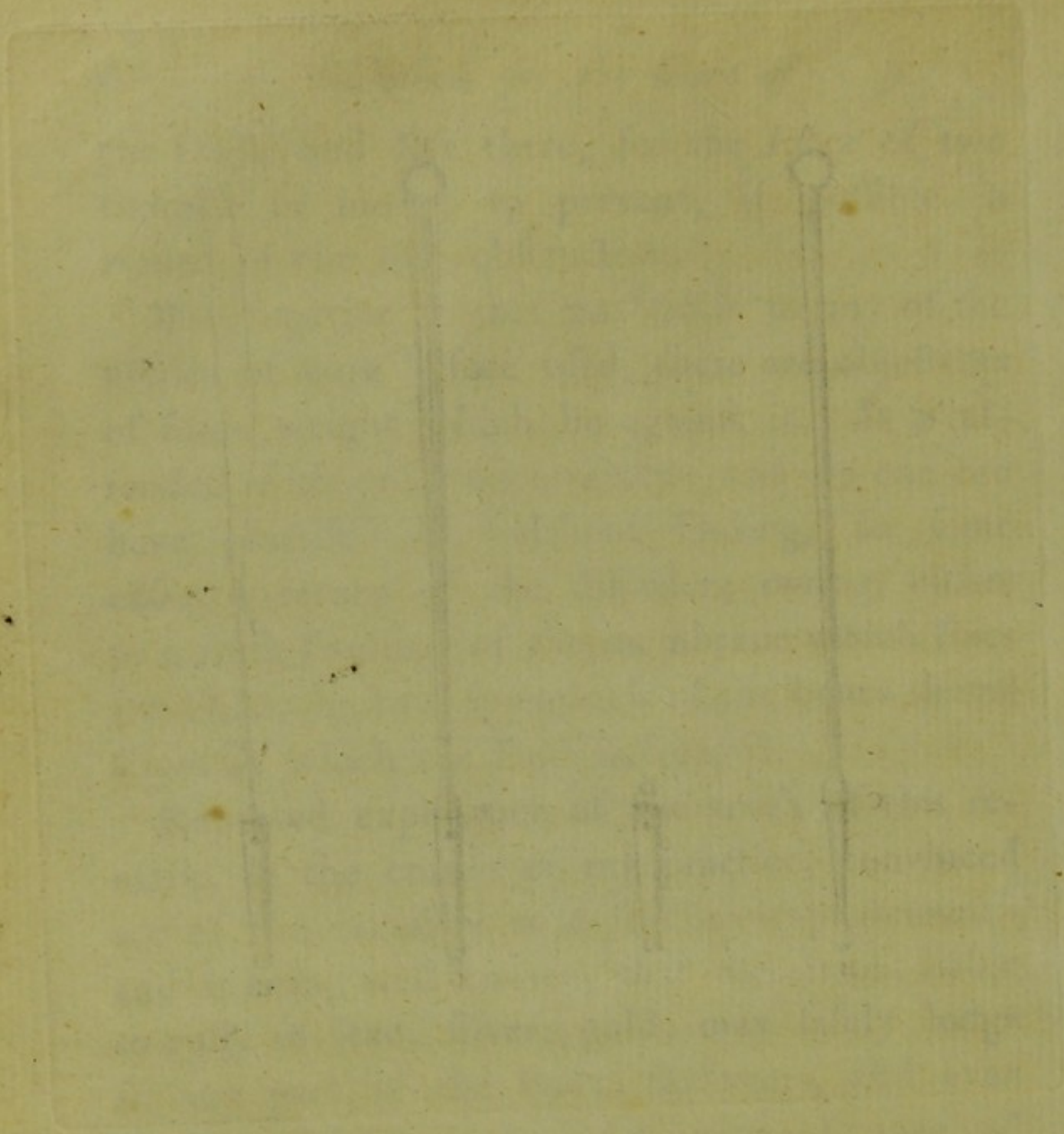
Repeated experience of the truth of this remark, in the course of my practice, convinced me of the necessity of a further improvement: and it being well known, that metals not liable to rust, as lead, silver, gold, may safely lodge in any part of the body, for years, and even for life, without the least detriment; I conceived it highly probable, that a hollow tube, made of some of those metals, and inserted into the Lachrymal Duct, might well supply the defect.

I accordingly made the experiment, with very good effect, and have since had several repeated proofs of its singular utility. I have  
generally



- A The Ring at the Top of the Style.
- B The inferior Extremity of the Style rounded, so as to fill exactly the smaller End of the Tube.
- C The Shoulder; by Means of which the Style is prevented from passing further in the Tube than it is designed it should.
- D The Tube, with a small Perforation near its upper or larger Aperture, for the Admission of a Thread.
- E The Tube, with its Thread in it.
- F G H The Style, Tube and Thread, put together; which points out the Manner in which the Instrument is fitted for Use.
- I The Knot tied in the Thread, at the Distance of an Inch from the Tube.

The Styles and Tubes are made of Gold or Silver.



- A. The Ring at the Top of the Style.  
A. The Ring at the Top of the Style.  
B. The inferior Extremity of the Style rounded, so as to fit exactly the  
C. Another End of the Tube.  
C. The Shoulder, by Means of which the Style is prevented from passing  
D. Further in the Tube, than is shown in the preceding Figure.  
D. The Tube, which is fitted to the inferior End of the Style.  
E. For the Addition of a Tube.  
F. The Tube, with its End, as shown in the preceding Figure.  
F. G. H. The Style, with its End, as shown in the preceding Figure.  
I. The Manner in which the Style is fitted to the Tube.  
I. The Manner in which the Style is fitted to the Tube.

generally made use of gold; because most easy to be procured in a state of perfect purity, which is a quality first to be regarded, whatever the metal be: and I prefer this or silver to lead, chiefly on account of their firmer texture, which must render a tube, made of either of them, less liable to be affected by any pressure it may receive.

The tube is constructed in the following manner: Its shape is somewhat conical, to prevent its descent into the nose; and it is made sufficiently long, to reach from the upper portion of the Bony Duct, to its aperture below the Os Spongiosum.

To introduce it more easily, it is furnished with a style, nearly as long as a common probe; the lower end of which is rounded, so as that, passing through the tube, it may exactly fill the aperture at the small end: and it is prevented from passing further, by a shoulder of the same size with the outside of the tube.

The tube is held upon the style by a doubled thread, which passes through a small hole on one side of its upper or larger aperture; and is continued to a ring at the upper end of the style.

style. By fastening this thread to the ring, the style and tube become one instrument, capable of being introduced and extracted at pleasure; and possessing all the power of a probe.

By means of this, the operator may be enabled to examine the state of the disease, and to judge with the greatest precision of the diameter of the Duct, and consequently of the proper size of the tube. For, as the Duct in persons of different ages, &c. will vary, both in the diameter and length; there must, on this account, be a proportional difference in the tube: and the operator should therefore be furnished with styles and tubes of several different sizes; though I have found that, which is represented in the drawing annexed, exactly to fit the Duct in most cases.

The necessity of paying a close attention to the size of the tube is apparent. For, if it be too large, it cannot be introduced; and, if too small, it will be liable to slip, if not pass through the lower aperture of the Duct into the nose. If, again, it rises too high; it may press against the sides of the Sac, and thus close the orifice, through which the tears should pass. If, on the other hand, it comes down too low; it will  
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project beyond the inferior extremity of the Duct, and may produce a very troublesome titillation. When the tube is found exactly to fit; the thread, which was passed through the ring at the upper end of the style, being tied in a knot, at about the distance of an inch from the top of the tube, the longer portion of it, above the knot, is to be cut off. By this, the style will be disengaged, so that it may be extracted with ease, leaving the tube behind, with the thread hanging out of the wound.

When the tube is fixed, I usually pass, by syringe, some simple liquor through it into the nose, as a proof of its being so placed that it will answer the intended purpose. The opening made in the Sac might be entirely closed within the space of a few days, did I not think it right to leave the thread in. When it has continued there about a week, if the tears, absorbed by the Puncta, are conveyed by the tube to the nose; the thread, which is double, may then be extracted, by cutting one side of it with the scissors, and drawing the other out. The little orifice, through which the threads passed, will be closed in the space of a day. And thus a

disorder, which had continued for months, and perhaps years, may be perfectly cured, within the short space of a week.

I first performed this operation on two patients, the elder of which did not exceed eleven years. In both of them the disorder was of considerable standing; and, in the elder, had risen to such a height, as to occasion very distressing apprehensions. On application to me, I first began with making an opening through the integuments; and cleared the obstructions in the Ducts, by passing a common probe through them. Had I proceeded according to the common method, I should then have applied a bougie, or tent, which, as I have said, was usual in such cases: but recollecting how often this practice had failed, I determined on following my own judgment in the use of such a tube as is above described. In one of these cases, the tube passed with but little difficulty; in the other, the Duct being more obstructed, the introduction, as was naturally to be expected, was more troublesome and painful to the patient. In the latter, however, the uneasiness soon went off, after the operation was finished. From the time of fixing the  
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the tube, the tears, instead of falling down the cheek, as they were used to do, had passed through that channel into the nose; in consequence of which, both my patients, as I found, could the very next morning open their eyes with a degree of freedom, which they had not known till now, ever since the first attack of the disorder. The eye-lids, also, which every morning had been stuck together by an adhesive matter lodging on their edges, now admitted separation without difficulty, and became perfectly clean. When I removed the dressings, I found very little remains of the wounds, which had been made in the Sac; and those no more than what were kept open by the strings, and which could not close till they were removed. When a week had passed, as both the patients continued perfectly well, I drew out the strings; leaving the tubes in the Ducts. The orifice, thro' which the strings passed, was healed in a day: and a cure was compleatly effected in both cases.

Since that time, both myself and my partner, Mr. Ware, have repeated the operation on several persons of different ages, and have uniformly succeeded in all.

It is proper that I should here take notice of two objections which may be made to this process. One is, that the tube, becoming loose, may move upwards, and pressing against, irritate the membrane which lines the Sac: the other, that the tube passing downwards into the nose, may be either discharged, or insensibly swallowed. In both these instances, the operation may be supposed to fail. In reply, it may be observed, that the tube can neither ascend nor descend; if it be of a right size, and properly fixed in the bony channel. But should it rise, so as to irritate the Sac, it may be easily put down again by the finger. This will always be found a present remedy, and may be repeated as often as there shall be occasion; till the tube has been so long in the Duct, as to secure the continuance of the natural passage: after which, it may be taken out by incision, or pushed downward into the nose by the probe.

As to the other accident, to which the patient is supposed to be liable; I must first remark, that I have only met with one case in which the tube has been discharged by the nose; whereas I have known several, in which a lead plummet,

met, or leathern bougie, has passed that way : and not one instance has ever occurred to me, in which either plummet, tent, or tube, has been swallowed. But should the latter happen ; as the metals, of which these tubes are composed, are not in the least hurtful, the quantity used in them is so small, and they are so well polished, it is really impossible that any harm should ensue.

It is also to be carefully noticed, that the tube, though it should fail of its original design, as an artificial Duct, appears still to be much more certain in its effect, and, upon every account, greatly preferable to the leaden tent or bougie ; as it may remain longer, with less inconvenience, than either of those substances, within the lachrymal Duct.

As the case, in which the tube passed through the Duct into the nose, was somewhat singular, and may afford a useful caution to those who practice this operation ; I shall conclude with a particular relation of it.

The patient was a young man, about twenty-two years of age ; who had been afflicted with this disorder ever since he was three months old,

old, and had nearly lost the sight of one eye, in consequence of repeated inflammations, which the fistula occasioned. The common mode of treating the disorder, by the introduction of a bougie, had been fully tried, without effect. I passed the tube into the duct with great ease, and without meeting any resistance; which circumstance, though very pleasing to the patient, made me fearful, that the operation would not succeed. When the style was taken away, I tried to move the tube, by means of the string; when, finding it did not easily slip, or give way, I determined to leave it. The tears immediately resumed their proper course: in a few days, I drew out the string, and the patient became perfectly well. He continued so about a fortnight; when the tube rose in the Duct, and pressed against the side of the Sac, in such a manner, as to prevent the tears from passing through it. This was soon remedied, for the present, by pressing the tube down with my finger: but it was not long, before the tears were again obstructed, though the instrument did not rise at all. I applied the Thebaic tincture to the eye,

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for the purpose of exciting a greater secretion of tears ; and in hopes that filling the Sac with this fluid might be the means of removing any slight obstruction which was formed in it. This did not succeed according to my wishes. But, recollecting, that the tube passed into the Duct with great ease, and that, instead of rising, it might now possibly have sunk too low ; I made a second opening through the integuments into the Sac, in order to find out and remove the tube : and accordingly, on examination, I found it was far advanced in the duct towards the nose : I applied the probe to carry it quite through, and the patient immediately discharged it into his handkerchief. A second tube was afterwards introduced, and a particular attention given, that it might fit the Duct more exactly : and that it did so, I knew by the resistance it met with in passing, and the firmness with which it appeared to be fixed in its proper place.

The tears immediately resumed their proper course, and continued to pass freely through the tube for a considerable time ; when, to my great surprize, this second tube came out, on blowing  
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the nose. This is no otherwise to be accounted for, but by the enlargement of the natural passage, on its being perfectly healed. It is, however, a proof, in point, of the truth of what was before observed, on the benefit arising from the temporary continuance of the tube in the Duct: for, to that we must ascribe the restoration of the latter to its sound and natural state; in consequence of which, the tube was discharged. And how perfect the cure is, we have the best and fullest evidence in the continued free passage of the tears ever since.

*F I N I S.*