On the Prevention and Treatment of Diphtheria.

With illustrative cases.— (having special reference to the removal of the tonsils.)

by

William Watson MB & CM. (Univ. Glasgow 1891.)
Late of Glasgow Fever Hospital
Belvidere, Glasgow.

(Submitted as a Thesis. 20th March 1894)

2

Of late years the larger cities of Great Britain have suffered more from diphtheria than formerly and during the last year the outbreak in London and Glasgow has been exceptionally great.

Since March of last year it has been my privilege to have under my care the cases of this disease sent into Belvidere Hospital and now it is my desire to record in this paper the experience I have gained in the treatment of such cases.

So much has been written on this subject, of great importance, that, to avoid repetition, I will only speak of what has appealed to me most strongly, and to simplify matters I will first deal with the prevention, and afterwards with the treatment of diphtheria.

In working with diphtheria three things strike one very forcibly

1. The fact that at least 80% of the children suffering from that disease have teeth badly neglected and gums in a most unsatisfactory state.
2. The frequency with which parents or guardians tell you that the patients tonsils have been previously

— Enlarged

3. The frequency with which you get histories of former attacks of "croup."

With regard to the first, mothers are often extremely careless about their children's teeth. They decay or become loose, but are not drawn until the new set are pushing the old ones from their places.

In this way the gums get into an unhealthy state, and slight local suppurations are always going on. As a result of this the gland structures connected with the mouth suffer. In the neck there is an enlargement of the glands, which then forms suitable soil for the development of tubercle.

But as a result of this constant irritation we have an enlargement and hypertrophy of the tonsils. Then we have a series of evils resulting.

1. Constant liability to sore-throat.
2. Development of nasal voice.
3. A permanent open state of the mouth, often accompanied by slight protrusion of lower jaw, and causing the individual to have an expressionless cast of feature.
4. Greater tendency to inflammation

of the mucous membranes of the respiratory tract ~~including~~ such as laryngitis & bronchitis due in the lower part of the tract to the direct passage of cold air over these surfaces without first having gone through the nasal heating apparatus.

5 Pulmonary troubles arising from the impeded growth of the chest— There being an impediment to the free entrance of air there is not the same pulmonary growth and consequently not the same proportionate bony development. This being so there is ~~there~~ an increased chance for tubercular developments.

6 The greater tendency to diseases like Scarlatina and diphtheria It is a well known fact that both these diseases occur more frequently and are more often fatal in patients under six years of age. This period in life represents the time when there is the greatest dental change, and when we are most apt to have suppurations in the gums with their attendant glandular changes.

If tonsils have become chronically enlarged either as a result of

oval irritation long kept up, life in damp insanitary dwellings, scarlet fever or diphtheria. They rarely ^ become normal and the atrophy which naturally occurs with advancing years does not take place.

This was lately shown by Dr Dowson Bristol in a paper which he read before the Pathological Society London where he gave the result of a long series of observations on the tonsils of out-patients at the dispensary.

This induced abnormality must lessen the resisting power of these organs to the invasion of disease and consequently render patients more liable to attacks of scarlet fever & diphtheria.

But, as has been shown, enlarged tonsils render persons more liable to laryngitis & bronchitis.

Now these attacks, if frequent, must cause the inflammation of the mucous membranes to become more or less chronic.

There will be a hypertrophy of the lymphoid tissue in these structures, and, as we well know, diphtheria is a disease, the local lesion of which, is as a rule, in such tissue.

When an attack does occur there will, in consequence, be a greater danger of laryngeal and tracheal involvement - there being less resisting power and at the same time a deeper soil for the cultivation of the diphtheria bacillus.

Taking these things into consideration it will be seen how essential it is, not only for the better physical development of a child, but also for the prevention of a disease like diphtheria and the much better chances of recovery should such occur, to have the upper parts of alimentary and respiratory tract in a satisfactory state.

It is the duty of the Medical Officer of Health to have such causes of enlarged tonsils as damp & insanitary dwellings removed but the physician should have the teeth at once attended to and the gums brought back to a healthy state. The operation for the removal of the tonsils, being so simple and so rarely attended with danger, should be performed:- stenosis of nostrils (a frequent accompaniment) should be attended to, and any post

nasal adenoids should be removed.

Dr Lennox Browne thinks he has noticed a special immunity from diphtheria after excess of mucous membrane has been removed from tonsils, and it is reasonable to expect that the natural function of these organs being established we should take gone a long way in the prevention of a most fatal preventable disease.

But then are other things to consider in the prevention of diphtheria.

According to the present knowledge of the etiology of the disease, so far I have only been speaking of conditions favouring the occurrence of diphtheria Löffler has proved the presence of a distinct bacillus & Roux and Yersin have shown that its products cause the constitutional symptoms of diphtheria with paralysis. Granted that all this is correct, so long then as the specific germ is kept away the thickenings of lymphoid tissue we will continue to cause local and perhaps constitutional disturbances

but what is known as diphtheria would not exist.

This disease seems to have been noted by Hippocrates and under different names it was described all through the succeeding centuries until it was fully studied & given its present name by Bretonneau Then Home by using the word croup to indicate an affection of the larynx accompanied by the formation of membrane would seem to have made such an impression on literature as to cause to this day a chance for the greater spread of diphtheria.

Though no longer do Continental physicians draw a distinction between croup & diphtheria yet in Britain such a distinction is still made, and herein comes the danger. As we have modified cases of small pox, scarlet fever &c so we have modified cases of diphtheria

There may have been a lesion in the throat which has escaped observation and the croupyness only has attracted attention.

The disease has not been regarded as infectious, and the patient, not suffering much, has been allowed to go about breathing diphtheria on the susceptible around him.

The following is copied from a report drawn up by a committee of the Royal Medico-Chirurgical Society (Dr West President) appointed to consider the subject of membranous croup and diphtheria

"The committee suggest that the term Croup be henceforth used wholly as a clinical definition implying laryngeal obstruction occurring with febrile symptoms in children. Thus croup may be membranous or not membranous due to diphtheria or not so."

"The committee propose that the name membranous laryngitis should be employed in order to the avoidance of confusion wherever the knowledge of the case is such as to allow of its application"

Having thus the authority of such an august body as the Royal Med. Chir. Society for the employment of the word Croup, it is still used, but its use would seem to be a source both of confusion and danger.

The question naturally arises, is there ever a case of membranous laryngitis which is not due to diphtheritic origin?

It must be due to an irritant of some kind. Were it a chemical

13

agent, a history of such an injury would likely be easily got. It is generally attributed to cold. There would not seem to be much difference between the mucous membrane lining the nose and that lining the larynx and trachea, and cold causes an inflammation in the former, which is followed by an excessive secretion of mucus and not by a fibrous deposit. Since Prof Baginsky Berlin (see Lancet Vol I. 1892 page 590) proved the presence of the diphtheria bacillus in membranous rhinitis there is no disease in the mucous membrane of the nose corresponding to a non specific, non infectious membranous formation in the mucous membranes of the larynx. Because membrane has not been seen it cannot be held as proof that it did not exist.

The throat may have been examined after the patient has been Lawking or drinking. The membrane in this way may have been removed and although patient is croupy no membrane is seen on throat.

I have never, in about two hundred cases, seen one where the patient could be said to be suffering from membranous laryngitis without there being some enlargement

and congestion of the tonsils or congestion of the surrounding structures. The veil of the palate is often responsible for obscuring the real state of the throat affection.

Nor have I ever performed a post mortem examination on a patient and found membrane in the larynx and trachea without finding membrane in the nose or naso-pharynx.

Sanné mentions a case where no membrane could be seen during life but at the autopsy the post. surfaces of the tonsils were covered with membrane.

But next to the faucial tonsils the most common seat of diphtheria is the naso-pharyngeal tonsil and as it is hidden behind the soft palate its involvement is often overlooked and the case certified as croup - non-specific and non-infectious. This error may be prevented by noting the bulging forward of the soft palate with the tilting forward of the uvula and the rather acrid discharge which comes from the nose.

Some or all of these conditions have been present in the cases I have seen certified membranous croup or membranous laryngitis.

As before mentioned the application of an irritant such as cold

would cause a greater flow of mucus from membranes of respiratory tract and in the later stages when this was thick, it is possible there might be considerable difficulty of breathing from its lodging in the narrow opening between the vocal cords and in this way give rise to the idea that membrane was present.

The cases certified membranous croup or membranous laryngitis are in this hospital admitted to the diphtheria ward, but none of these cases have ever contracted diphtheria. If these diseases be of separate origin, one infectious and the other not so, this is the more remarkable as the throats of all were congested and in a fit state to receive the diphtheria infection

The conclusions from the above observations are

1. That the use of the word croup is a source of great danger in as much as it often conceals the infectious nature of the case.
2. That if there are evidences of membrane in the larynx, there will in all probability be an affection of the lymphoid tissue in the pharynx, naso-pharynx or nose.
3. That membranous laryngitis is almost always due to the action

of the diphtheria bacillus and unless a history of the application of a suffiecently strong irritant be got it should be looked upon as such and patient isolated.

4. That instead of using the word Croup to denote the "non-membranous laryngeal obstruction occurring in children, with febrile symptoms. the word Laryngitis only should be used. This term would be non-committal. It would mean only an inflammation of the mucous membrane of the larynx and might be due to cold, as we would have a rhinitis or might be due to measles, scarlatina small pox, enteric fever &c.

We have now seen abnormal conditions in the patient favouring the development of diphtheria - all that appertains to housing drainage subsoil water milk food or water supply must be left to the Medical Officers of Health. We have seen how, by errors of diagnosis, we may cause a greater spread of the disease and it now remains to be seen how this can be prevented.

Such great work has been done in stamping out typhus fever and small-pox by a minute study of these diseases combined

with strict isolation, that it makes one hope that the same desirable results may be attained in diphtheria. It has often been shown how prevalent sorethroats, which at first are looked upon as simple, are when there is an outbreak of diphtheria, and at the same time how difficult it often is to trace a case of diphtheria to an undoubted case of the same disease.

One often meets with cases of scarlet fever where most of the usual symptoms are absent. There is a complaint of sorethroat but nothing else. No rash is seen or it is so ephemeral that it has not been noticed. There are no constitutional symptoms and there is usually no desquammation.

Were it not for the fact of association with undoubted cases, the diagnosis would be a matter of great difficulty or perhaps impossibility in our present state of knowledge.

Some of the cases lately described by Dr Marsh in Dr Chalmers' paper on the Kelvinside outbreak of Scarlatina, recently published in the Glasgow Medical Journal were of this nature.

Since then two such cases have

come under my notice. Both were mothers nursing children with scarlet fever and both had well marked scarlatinal throats with an entire absence of anything like constitutional symptoms. There can be little doubt as to the infectious character of these throats and consequently the patients with such should be isolated like ordinary cases of scarlet fever until their throats become normal. In the same way there are throats passed as simple which are really of diphtheritic origin. Within the last few weeks I have seen two very painful examples of this. A gentleman in Hillhead brought his daughter here suffering from well marked diphtheria from which she died. Another child at home was lying dangerously ill of the same disease. On further questioning as to previous health of family it was ascertained that two or three weeks previously often two children of the same family suffered from slight sore throat but were not ill enough to be away from school. Before they were quite well they

went on a visit to the country where the two, certified as having diphtheria, were staying for some time previous to onset of sorethroat in the two new arrivals. They had only been a few days together when the first child took well marked diphtheria and a week later the second was admitted [illegible].

The other case was that of a student admitted with malignant diphtheria. His brother who came with him informed me that they lived together and that he himself had suffered from slight sorethroat a week previously but that it had not interfered with his duties. But what had been to him only a slight inconvenience proved to be a fatal attack of diphtheria in the case of his brother.

Dr Thorne Thorne in his treatise on the Natural History &c of Diphtheria shows clearly how much school attendance plays in the spread of the disease.

And when we considered the vitiated atmosphere, the frequent & sudden changes from heat to cold & the neglected state of some of the children we cannot wonder that a very fruitful soil

is prepared for the reception of a poison, which is all the more easily communicated on account of the close contact of the scholars.

Doubtless there are some present in all schools complaining of a little hoarseness called croup, or sorethroat so slight as never to raise the suspicion of Scarlatina or diphtheria, but scarlatina or diphtheria, perhaps in a most fatal form, they are capable of giving to those around them.

It is difficult to understand why sanitation should have so effectually checked all the other infectious diseases and why at the same time diphtheria should be increasing at such an enormous rate!

Bad feeding, unhealthy mouths and crowded schools may, to some extent, explain why with improved sanitary surroundings the death rate from diphtheria is rising so rapidly.

Since the beginning of the improved sanitation era, all the other conditions may be said to be superimposed. There is more now of women going out from their homes to work than

with consequent neglect of children.
there was, instead of the former
healthy oatmeal diet, tea
bread & jam seem to be the
staple articles of diet among
the lower classes. All this tends
to premature decay of teeth in
children with the attendant evil
before mentioned. And since
school attendance has become
compulsory there is now a
much greater chance of one
diseased child carrying infection
to many.
The first of these causes is
difficult to remove the second
impossible. But to counteract
their dangers the appointment
of a medical officer to a
school to examine frequently
the mouths and throats of all
the children present, to have
teeth put right, chronic
enlargements of tonsils attended to.
children prevented from attending
whose throats are at all
inflamed, enquiries made
as to association with diphtheria
or scarlet in all such cases,
and cultivations made in
supposed cases of diphtheria,
would no doubt go a long way
in lessening these diseases.
As the personal examination
of all the frequenters of model

lodging houses, and the house to house visitation in suspected districts did so much last year in quickly stamping out an alarming outbreak of small pox, so this might be the means of stamping out or at least greatly lessening the ravages of a disease like scarlet or the most fatal of all the infectious diseases -diphtheria

Knowing that every year confers a greater immunity from either of these diseases or a very much better chance of recovery if they do occur, then careful watching over the welfare of children at this dangerous age might do much to prevent suffering and save human life.

Another point in the prevention of diphtheria is the after treatment of cases of that disease.

Dr Gresswell has brought this very strongly under the notice of the profession on account of several observations he has made He holds that a person who has suffered from diphtheria may for a long time afterwards have tonsils very liable to inflame on exposure to cold &c and that while in this state such persons are capable of communicating

diphtheria to others. The cases he quotes seem well authenticated, and when we consider the great vitality of the diphtheria bacillus this is not to be wondered at. As lymph (vaccine) might be applied to the sore after a successful vaccination without causing the reformation of the typical vesicle, so the diphtheria bacillus might lodge in the crypts of the tonsils, incapable of causing a local or constitutional disturbance after the immunity conferred by the primary inoculation. But when the supply of mucus became more than normal it is reasonable to expect that the bacillus might be carried to the throats of others and be the means of setting up diphtheria. —

Tonsils in this condition being a source of danger or at least annoyance to those having them and a decided source of danger to other people should be removed.

This opens a large field in the after-treatment of scarlet fever & diphtheria.

Cases of the former disease are dismissed from Belvidere after a stay of not less than 8 weeks

and after the last trace of desquammation has gone. They are taken before leaving to the dismissal baths where in one apartment on entering all their clothes are left behind. They are then thoroughly washed in the baths and afterwards conducted to the dressing room where they put on fresh clothes brought directly from the outside through another door. From this they pass straight to the outside without again coming into contact with anything infected

Their home during their stay has been disinfected the clothes washed & disinfected and until their return no other case has occurred in the house. But after they have been at home for a few days another child of the same family sickens and is admitted with scarlet-fever

Of course there are cases occurring when a child sickens before the other is dismissed or sometimes after the other should have been dismissed but has been detained for some reason but there are cases where the introduction of infection is strongly suspected Considering the deep ulceration

of the mucous membranes of the throat & more often present in scarlatina and the granular condition which may exist for a long time afterwards in a hidden situation, forming a splendid soil for keeping alive the infective organism, combined with the fact that before dismissal the patient has been breathing the atmosphere of a highly infected ward it is not to be wondered at if they should afterwards on breathing disseminate the infective elements of the disease from which they have suffered.

This would seem to lend support to the views of Dr Grisswell and raise the question if it be right to dismiss a patient directly from an acute infectious diseases hospital. By the establishment of a convalescent hospital in connection with an acute one this source of danger might be prevented and the otherwise resulting good would be most marked. Perhaps more in Scarlatina than in Diphtheria, it would be felt After such acute inflammation and often necrosis of the mucous

membrane as we have in Scarlet fever children sent home to poor homes and bad attendance are very liable to have chronic mischief in this tissue established It may be in lungs or kidneys but very frequently the tonsils continue enlarged the mucous membrane of nose thickened and Ear mischief with its attendant grave conditions follows later on in life. Thus by insufficient care after the acute stage of the disease is over the life of the patient may be seriously affected, indeed made shorter, by what may have been at first only a slight attack of diphtheria or scarlatina

Protection of Attendants. Experiencing so often the showers of secretion a child may suddenly cough in one's face while its throat is being examined, and alive to the danger of such an accident, I have made it a custom here for a long time to have in the lobby of the ward an ordinary respirator into which a piece of fresh flannel is put before entering the ward. This apparatus protects the mouth & nose while the eyes are protected with glasses, and allows of an examin-

- ation

being done with more care and confidence. In performing tracheotomy, the feeling of safety conveyed by its use renders the doing of the operation much easier & more pleasant.

The point that now arises for consideration is the treatment of diphtheria This varies very much with the kind of diphtheria treated, as there are cases which do perfectly well without anything.
In such there is little or no enlargement of tonsils and only slight congestion of throat structures On the tonsils or post. wall of pharynx there is a slight formation of membrane but it is limited in extent and depth.
The membrane necroses, the slight inflammation in the mucous membrane resolves and, perhaps without any rise of tempt. or albumen in the urine the patient is again quite well in a few days.
E. H. aet 6 admitted 15 Sept 1893 was an example of this kind Membrane was confined to the post. wall of pharynx. Urine clear. Tempt. 100.6. His two brothers were admitted at the same time One. with malignant diphtheria, died; the other had a very sharp illness

but recovered, ~~xxxx~~ This patient (E.H.) was dismissed in a healthy state with a normal throat nineteen days later, nothing having been done for him.

But unfortunately the treatment of diphtheria is not always such a simple matter although in almost every number of a medical journal some one is writing about a new discovery by which "they have never lost a case"

Cases vary however and at present we cannot look to anything as being a specific against diphtheria

Opinions differ regarding the development of diphtheria. The old idea going back to the time of Aretaeus — that diphtheria was primarily a local disease becoming general by the absorption of septic products, is the one that is still held on the continent tho' the accepted British opinion seems to be that it is primarily a constitutional disease with a secondary local manifestation in the throat. That it is first local, if not proved, at least gets strong support from the following observations.

nné p. 417.

1 That the first complaint the patient makes is usually that of sorethroat

2 That until membrane has appeared on the throat or the inflammation stage has been established for some time there are no symptoms of depression.

3. That none of the cases admitted here on the 1st day of illness had albumen in the urine.

4 Where the tonsils had been removed on 1st day of illness, microscopical examination showed deep congestion of the submucous tissue abrasion of the mucous membrane with considerable exudation of round cells evidently the first indication of commencing membrane.

5. That when the apparent growth of the bacilli was checked in the way to be discussed later, albumen did not appear in the urine and the commencing constitutional symptoms such as rise in pulse rate disappeared

6. Both in scarlet fever & in diphtheria we have all grades of constitutional involvement. In some it is very slight - in others it is entirely wanting. This may be due to insusceptibility conferred by a previous attack or it may be a natural insusceptibility. But even though this exists it does not prevent a local lesion, in the shape of a sorethroat, occurring

in those who are in attendance on patients suffering from these diseases. In these cases the infective elements of the diseases in question are capable of producing their local manifestations while the organism protected by nature or a previous attack does not suffer.
In connection with this it is interesting to note that some observers say that in secondary vaccinations the manifestations are purely local.
What is held as a strong proof of the primary constitutional affection is the appearance of membrane on only local sore that may exist on the skin - the poison in such cases being carried by the blood.
But this would seem to be, instead, a strong argument in favour of the primary local affection because —

1. No bacilli are found in the blood
2. In vaccination we could inoculate different parts of the body and all would take. In the same way by inoculating an abraded mucous membrane covering the tonsil and an abraded epidermis covering the hand, at the same time, with the poison of-

Hydrochloric acid

diphtheria, we would have local concurrent manifestations in these situations. Hence instead of epidemic diphtheria being the result of constitutional involvement, it is more likely that the local wound, being exposed in the same way and at the same time to the poison becomes inoculated & shows corresponding changes.

But whether first local or first constitutional the throat condition must bulk largely in treatment.

The old French treatment of Bretonneau, Trousseau & Guersant that of applying strong Hcl to the membrane now seems to have fallen out of use. — No doubt it would burn the membrane and perhaps check the disease but in doing so it would kill the living tissue cells at the same time

Trousseau claimed that its action went no deeper than that of other caustics, but in the mouth of a child its use requires the greatest care and (especially in children) the danger of touching the epiglottis and causing ploughing is very great. The only two cases of necrosis of

soft tissues in diphtheria that I have seen have both been in cases where Hbl had been used Such a complication is not uncommon in scarlet fever but each of these cases had brothers or sisters in at the same time and all suffered from well marked diphtheria.

Attributing these unfortunate occurrences to the use of Hbl its use as well as that of all other caustics was discontinued.

Others again, holding the disease to be purely constitutional and the local affection to be due to the attempt nature is making to throw off the poison by means of the gland structures in throat, say that the local sore must not be touched but that all treatment must be constitutional

No doubt, were the strength well supported, in time there would be putrefactive changes in the throat which would cause the separation of the membrane. But granting for the time being the primary constitutional theory it is this very putrefactive change which we have got to fear. In scarlet fever it is not rare to see cases where on account of sloughing of throat structures a

distinct septicaemic rash is produced
It appears chiefly on the extensor surfaces
of the knees and elbows, but may be
all over the body and is composed
of varying sized patches slightly
raised and of a bright stained-
looking red colour. At the same
time there is profuse diarrhoea-
difficult to control - from the swallowing
of these discharges.
In diphtheria similar phenomena
appear. We have the septicaemic look
of the patient the diarrhoea and the
rash. This differs however from
the septicaemic rash of scarlatina
and resembles very much if it
is not identical with the septicaemic
rash in puerperal cases due to the
retention of the placenta.
It appears on the palms of the
hands as a marking or mottling-
is not at all raised and is of
a bright red colour with a bluish
tinge. This was very well shown
in the case of M. D. admitted with
a very severe attack of diphtheria
There was a thick coating of
yellow membrane on throat and
on the palms was present the rash
above described. Tracheotomy had
to be performed but 15 days later
She died from sloughing of trachea
below the seat of incision. The
diarrhoea in this case was, from the

first, a very grave feature.
L. S. aet 5 was admitted on the 18th Feby. Throat showed tonsils much enlarged and congested with membrane on their surfaces. On the palms was a well marked septicaemic rash. She made a good recovery and a report of her case will be seen on p 71 part II

From the above we see that there is absorption of putrefactive as well as of diphtheritic products, and hence the necessity of local as well as constitutional treatment.

Another favourite method of procedure is the employment of agents to dissolve the membrane But surely this method cannot be founded on a scientific basis. Their chief action must be directed against pharyngeal membrane and the time that elapses between their application and the separation of the membrane is probably not shorter that the time it would take the membrane to separate naturally while during all this time the absorption of diphtheria poison & putrefactive products would be going on uninterruptedly. Given in steam sprays the alkalies are no doubt useful but the employment of stronger agents raises the question

(2)

whether they may not irritate the mucous membrane of the bronchi and alveoli.

The favourite and most scientific method of treatment is undoubtedly the employment of antiseptic or germicidal solutions to the throat.

Dr Watson-Cheyne advocates the free removal of the membrane and the application of strong bichloride of Mercury (1-500) to the throat. This method has been much tried here and been found very successful. But considering the pathology of the disease the question arises is this sufficient?

The diphtheria bacillus chooses for the seat of its growth organs containing lymphoid tissue and in propotion to the depth of that tissue the membrane formed and the constitutional involvement will be the greater.

The largest collection of such tissue is in the faucial tonsils. The naso-pharyngeal tonsil is also a favourite seat and next in frequency to be affected are the laryngeal tonsils (of Hill) In post-mortem examinations it is interesting to see how often in the latter situation there is membrane present when it can be detected

in no other part below the epiglottis or how as in the case mentioned on page 31 part ii it hangs like a column from this region.
Microscopical examination of a tonsil covered with membrane reveals a very great involvement of the tissue and the membrane would seem to penetrate into the crypts of the tonsil even into the tonsil substance itself.
Hence it will be seen how little good could be accomplished by the application of antiseptics to the surface of a tonsil when deep underneath the propagation of bacilli and the absorption of their products were going on unmolested.
To counteract this, for a considerable time the practice here has been to remove this excess of lymphoid tissue - to excise the tonsils even in the acute stage of diphtheria and it is to Dr [illegible] Glasgow that I am for ever indebted for the suggestion.
In France Bouchut was the first to remove the tonsils in such cases, but this treatment does not seem to have been accepted.
To quote the words of Sanné

"This practice should be classed with cauterization. Its object is the same. It undertakes to destroy the mischief on the spot and to prevent infection of the economy."
"The false membranes were said not to be reproduced upon the wound on the tonsils. Notwithstanding certain fortunate cases reported by several physicians this therapeutic method has had no other result than to give a denial to the theory it should have sustained."
In Britain Dr Lennox Browne first advocated this measure 10 years ago and Lefferts (in the Archives of Laryng. Vol II page 82 New York 1882) gives results of this method of treatment
The reasons Dr Browne gives for treating cases in this way are the following
"1. Removing an impediment to respiration
"2. Tending to prevent the downward progress of the exudation.
"3. As an early substitute or means of averting the necessity for the more dangerous measure of opening the windpipe"
As will be seen, the idea has been chiefly with the object of assisting breathing. But

there are other and stronger reasons for acting thus.

1. If the disease be limited to the tonsil you can cut the infected part away as you would, in bacteriology, cut the inoculated part of a potatoe away, to prevent the whole substance becoming infected.
2. The disease spreads deeply into the crypts & substance of tonsil and though the membrane be removed dissolved or burned, the progress of the disease which is deeper, is unchecked.
3. After the infected part is cut away strong antiseptic or germicidal solutions can be directly applied to the cut surface (beyond the infected area) which will prevent the further propagation of any facilli
4. The first indication of membrane is usually upon the tonsils. If diphtheria begins locally, as it seems to do, then the infected part can be cut away before absorption begins.
5. The local depletion seems to do a great deal of good by causing a subsidence in the swelling of the parts around.
6. Dr Browne mentions the relief to breathing, and the prevention of the spread of the membrane downwards, due apparently to

the greater straining for breath, causing the drawing in of loose pieces of membrane or secretion which inoculates the mucous membrane in the larynx and trachea But if membrane is already in the larynx causing dyspnoea then the removal of the enlarged tonsils will take away some of the difficulty & help to conserve patients strength.

7 The fact mentioned by Dr Gresswell that enlarged tonsils after diphtheria, when they become inflamed. are capable of giving diphtheria to others.

8 The relief the patients usually feel after the removal of Enlarged tonsils or œdematous uvulae - the feeling as if a foreign body had been removed from throat.

At first sight several objections to this method of treatment may be raised.

1. That there will be a large fresh surface left forming suitable soil for the growth of bacilli.
2. That the raw surface, with its open lymphatics, will allow of much greater absorption taking place

Neither of these objections seem to be sustained by the records here annexed of 33 cases so operated upon.

As regards the first, the actual experience gained by observing these cases, shows that in many cases membrane did not reform and that if it did it was never in any case equal to what it had been before. Another thing we have got to take into consideration is the natural outpouring of fibrin which might in such cases be mistaken for membrane.

Regarding the second objection if increased absorption did take place certain results would follow.

1. There would in all probability be a rise of temp^t. certainly so if there was an absorption of putrid material.
2. Apart from the quickened pulse rate due to pyrexia, there would be greater frequency, greater weakness perhaps irregularity of pulse due to the specific action of diphtheria poison on heart.
3. There would be the appearance of albumen in the urine if it were previously clear, or an increase in the quantity if it were present before.
4. There would be a greater chance of nervous sequelae following.

From examining the charts annexed it will be seen that in no uncomplicated case was

there a rise of tempt. and in many a decided fall. This was most marked in the case of M. McC. p 3 part ij and that of J. S. p 84 part ij In the case of C. McL. p 95 pt ij there was at first a distinct fall but a subsequent rise due apparently to the onset of a slight bronchitis. In the case of J. A p 17 part ij there was also a rise of tempt., but this was concurrent with the commencement of the disease in the other tonsil.

Unfortunately the pulse rate was not preserved in the first few cases but the striking feature in all of them was the marked improvement which generally took place both in rate and character. It will be seen from the cases where these have been marked that the same thing holds good as regards the rate and this in most of the cases was accompanied by increased strength The appearance or the increase of albumen in the urine is perhaps the most valuable guide of all. In this connection there are some very valuable cases.

On the 27th Jany 1894 Jas C. was admitted suffering from malignant diphtheria and on the 29th he died On the 30th his two sisters B & M

See pages 49 & 55 part 1st

were admitted on their first day of illness. Their tonsils were enlarged & congested. These were at once excised and equal parts of carbolic acid & glycerine were applied to the cut surfaces. Their urine which was free of albumen before operation remained so throughout. The pulse of the former, which on admission was 152, was next day 116 and her sisters, which before operation was 134, was next day 100. Microscopical examination of the tonsils revealed abrasion of the mucous membrane with general congestion of the tonsil substance and exudation of round cells along the epithelial edge but particularly at the abraded parts

See page 84. part II

Another interesting case was that of John Sanderson whose sister had a very typical attack of diphtheria recorded on page 71 part II. He also was admitted on the first day of illness - tempt. 101.8 pulse 128. Next morning tempt 104 & pulse 140. Urine contained no albumen. At this stage tonsils were thoroughly scraped with a sharp spoon & strong carbolic acid with glycerine applied. Tempt. in the evening had fallen to 101.4 & pulse rated was 112. Next morning, tempt. below 100 remaining afterwards normal with

pulse rate corresponding. No albumen appeared in the urine.

In the case of G.M.L. (p. 95 part ij) admitted on the 4th day of illness, the urine was distinctly albuminous on the day of operation but next day only a trace was present.

Lo. Gr. act 10 (p 111. part ij) was admitted on the 3rd March on the 2nd day of illness. A specimen of urine, got just before operation, showed distinct albuminuria. Next day only a trace was present. On the 6th only a faint trace was noted and on the 7th the urine was quite clear.

The case of W.M. (p 91. part ij) admitted 20th Feby on the 6th day of illness, was the only one where albumen appeared in the urine after operation. On the 3rd morning after operation (6th day of illness) urine was found to be slightly albuminous but the quantity was never beyond a trace & soon disappeared

The remaining objection that might be lodged is fear of paralytic symptoms supervening, but not one of the 33 cases so treated ever showed the least sign of neuritis.

Hence, however great the theoretical objections may be to this method of treatment, it will be seen that such are not sustained in actual practice

But why should there be grounds for objection?
The diphtheria bacillus seems to select for the seat of its propagation, lymphoid tissue.
If this be in the tonsil the excess is cut away, the soil made shallower and a germicide applied.
If on the pharyngeal wall or palate, its favourite tissue being only mucous membrane deep, can be exposed by scraping off the epithelium and again a germicidal action can be had directly at the seat of activity of the virus.
By the application of strong carbolic acid or strong liq ferri perchlor. a layer of coagulated material is formed over the cut surfaces which protects it until granulation begins and the natural resistance of the parts to the invasion of disease becomes much greater.
Then as regards absorption why should it occur?
The application of strong carbolic acid appears speedily to stop bleeding by its power of coagulating albumen. If its action is enough to seal up the cut ends of blood vessels it is surely enough to seal up the open mouths of lymphatics, the film which is formed protecting

against such absorption taking place. This method, being thoroughly antiseptic in its aims, gets rid of the chances of absorption of both the diphtheria products and the putrefactive materials.

Now as regards results. Thirty three patients were treated in this way and of these 6 died. giving a death percentage of 18.1. The death rate in the hospital for a considerable number of years has been a little over 40%.

It is a generally admitted fact that whenever there is great enlargement of the tonsils in diphtheria the prognosis is the less favourable. To again quote Dr Lennox Browne "All who have any experience of the disease (diphtheria) must be aware, not only how prone are the subjects of enlarged tonsils to succumb to diphtheritic influences, but also to what a serious extent the existence of such a condition complicates matters and imperils the chances of recovery."

The cases, here recorded, comprise all that could be treated in this way and the above note classes these as being of a specially bad character.

Although the number of cases is too small to draw great conclusions

from yet the death rate of 18.1% would seem to compare very favourably with the usual death rate from diphtheria

By referring to the fatal cases in the appended list it will be seen how intensely grave all of these cases were on admission W.A. (p29 part ii) was admitted with marked pharyngo-laryngeal diphtheria After the removal of the tonsils the breathing was vastly improved, but the amount of membrane in the larynx at length called for tracheotomy. with the unfortunate result here stated. The autopsy show clean healthy cut surfaces on the tonsils with great involvement of the larynx & trachea.

The condition of J.F. (p35 part ii) was much the same as that of W.A, only the laryngeal involvement was so great as to call at once for tracheotomy Even after the tonsils had been removed. Post mortem examination revealed that the membrane had extended to the smaller bronchi.

A. R. (p45 part ii) also had, on admission, distinct pharyngo-laryngeal diphtheria of a type approaching the true malignant kind, and died of syncope at the completion of tracheotomy.

When admitted J.M.J. was suffering from very marked malignant diphtheria. He had an earthy livid colour with an acrid discharge from nose, a very foul throat, extreme difficulty of breathing and a very much swollen neck. Tracheotomy, with almost no hope of ultimate recovery, but only to relieve the great distress of breathing, was at once performed and a large quantity of membrane was expelled through the wound. Next day tonsils were removed and although he died a day later the only appreciable change after the tonsils were removed was the less swollen & much cleaner look of the throat.

In the case of M.S. (p 83 part ii) there was also marked laryngeal involvement with membrane covering the pillars of fauces, tonsils, soft palate & uvula. From the ready extravasation of blood into the tissues on the slightest pressure, this case seemed to approach the haemorrhagic type and admitted of almost no hope from the time of admission.

P. McC (p. 101. part ii) was admitted on the 27 Feby suffering from well marked malignant diphtheria. There was distinct naso-pharyngeal

involvement - the uvula & soft palate being pushed quite forward
The tonsils and pillars of the fauces were greatly enlarged & deeply congested.
Their surfaces almost touched, and, lying in the chink between them, was the very oedematous uvula. Over all was a covering of thick necrosing membrane - the smell issuing from the throat being almost of an unbearable character.
There was no great difficulty of breathing, though he could only speak in whispers, but from the huge casts of membrane got up and must have been great laryngeal & tracheal involvement.
The neck was much thickened the glandular & connective tissues being much infiltrated. The pulse was very poor. After part of the right tonsil and enlarged uvula were cut away he expressed himself as having got great relief. Next day he was considerably better but the improvement was short-lived and 2½ days after admission he died.
Hence, it will be seen, that in none of these cases was the result other than what was to be expected from the

first. In none of them could the operation be said to have done harm, while in all it conferred, at least, a temporary benifit.

Appended will be found a history of each of the cases so treated. The general treatment will be found in detail opposite each case. Internally this consisted chiefly of a mixture of Liq Hydrarg. perchlor. Tinct Digitalis & Infusion of Senega Stimulants were given freely and Sprays in all cases where there was any laryngeal mischief.

But the object of this paper was to show the satisfactory results gained in treating diphtheria by excision of the tonsils In no case has there ever been the slightest cause for regret and looking over the year's work in diphtheria I have no hesitation in saying that it has been the most satisfactory treatment which I have had the privilege of watching here.

W^m Watson

March 1894

Illustrative Cases
Copied
from the Ward Journals
of the Hospital.

Diphtheria

Maggie Stevens.
aet 8 yrs.

DATE.	Sept 6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DAY OF ILLNESS.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18.

On admission Throat painted

c̄ Boro Glycerine.

a good deal of nasal discharge

Cough not troublesome

Urine = clear.

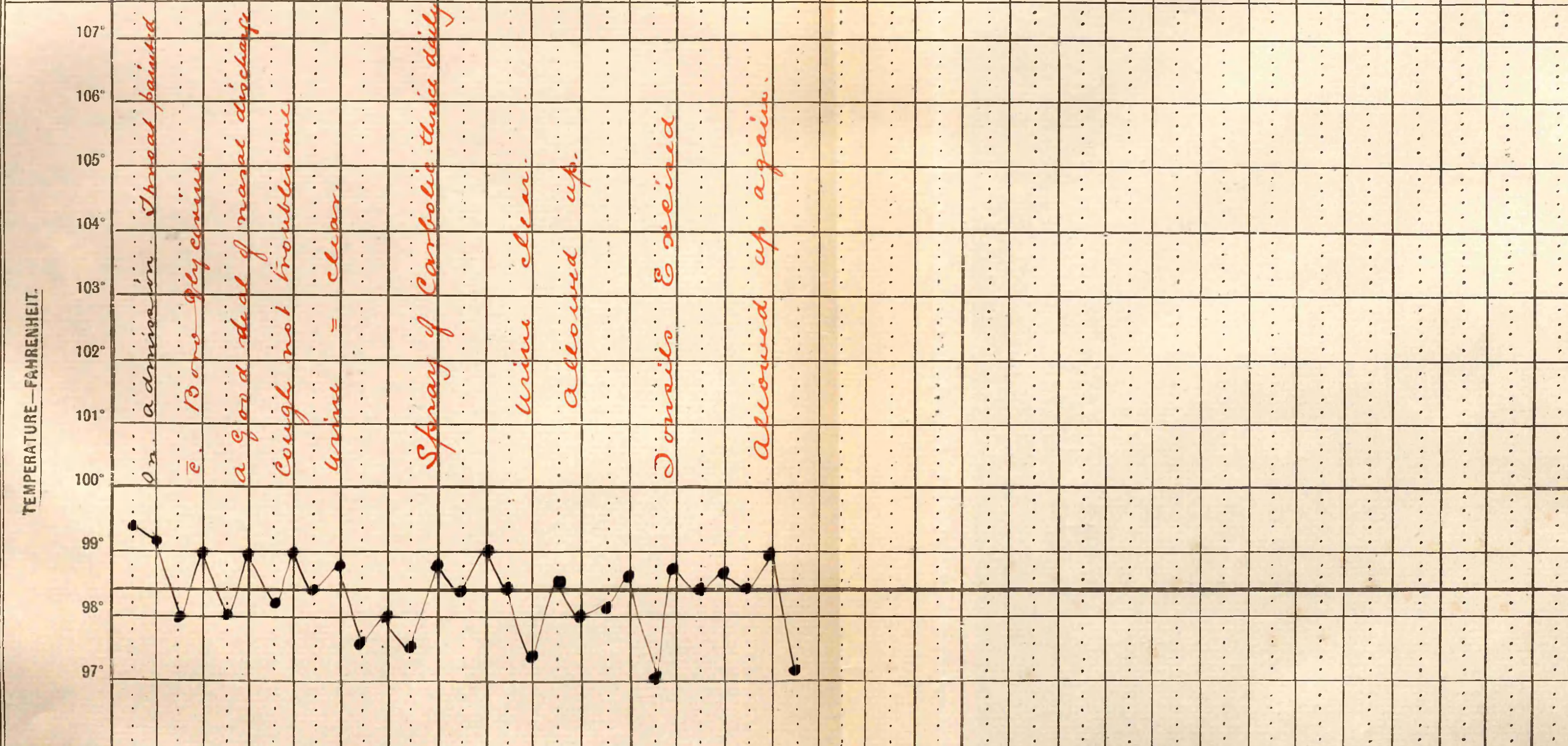
Spray of Carbolic thrice daily

Urine clear.

Allowed up.

Tonsils Excised

Allowed up again.



Pulse.

Resp.,

Bowels,

Urine. Oz., Alb.,

6 Sept. Maggie Stevenson
Dr Sloan. 4 Scotia St.

Became ill 3 days ago with -
sickness, vomiting, headache & sore throat,
glands enlarged.
No rash seen.
Has had Scarlet, Measles & Wh. Cough.
Tempt. 99.4. F.
Tongue coated & fur.
Both tonsils much enlarged and meeting
in mid-line, Patches of exudation.
Heart and lungs normal.
No cough.
Urine - clear. later albuminous.
Progressed favourably & local treatment
under Dr Gray.

Sept.

When seen today tonsils were found to be
much enlarged. not much congested,
They were excised and then Strong
Liq. Ferri. Perchlor applied.
Allowed up in two days.
Healing perfect. little or no exudation
Convalescence uninterrupted

Dismissed well.

" Had had enlarged tonsils before admission"

History got after admission –

Illness began ten days ago with severe cold and coughing
Had sickness. Vomiting & headache
Croupyness came on yesterday
Brother died fourteen days ago
c Diphtheria
Has had Measles & Whooping Cough
Cough has been very croupy.

Treatment

Excision of tonsil

Internally.

℞, Liq. Hydr perchlor
Tinct. Digitalis
Inf. Senega.

Brandy & Egg flip

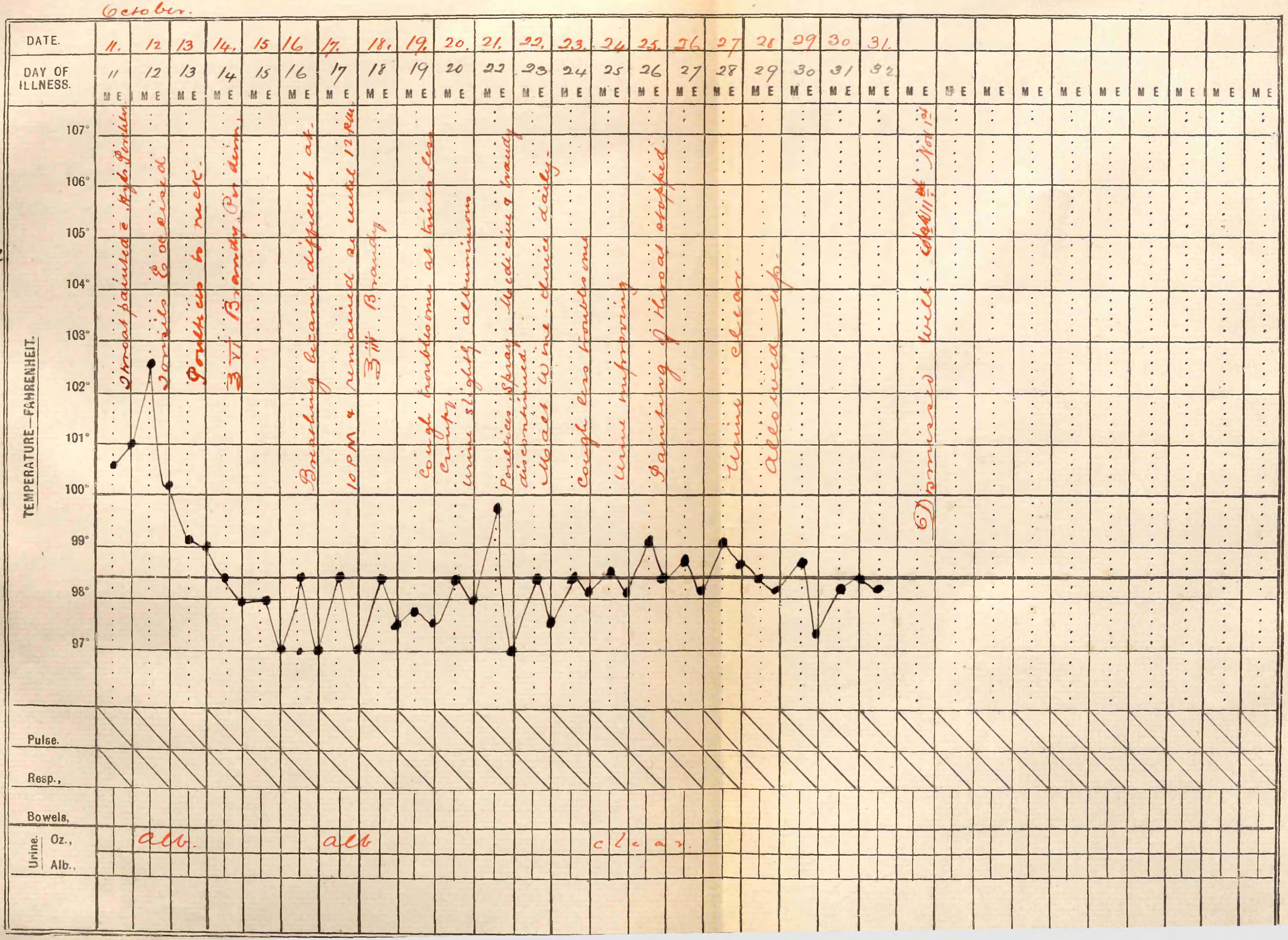
Locally.

Poultices to throat

Spray c Hy & Salt
c Soda.

Diphtheria

Maggie McCall
Aet 5 yrs.



11. Oct.

Maggie McCall. aet 5.
2. Shaftesbury Lane

Dr. Moffat.

This girl looks very ill and her condition is one of great gravity
Glands in neck much enlarged
Tongue. brown furred but moist
Throat. Shows tonsils much enlarged and covered with exudation, which extends back to the post wall of the pharynx
The breathing is rather difficult and she has the earthy. pallid look of —
A & G. Burnside. Robt. Houston, & M Hardie all fatal cases

12. Left tonsil most enlarged to day. it has been excised and strong. Liq. Ferri. Perchlor. applied.
Pulse is very poor and she seems no better

13. Improvement here to-day is very marked
Colour is much better
Breathing no longer difficult or noisy
Throat looks clean. There is a little exudation on raw surface, but throat looks ever so much better & cleaner.

15. Still looks very well. tho' breathing last night gave cause for some anxiety.
Throat looks clean and well.

17. Throat free ~~from~~ exudation.
Patient gaining strength.

Dismissed Well. ½

Throat clean. Urine clear
20 days in Hospital

1 Nov. 1893.

Treatment.

Locally.

Excision of tonsil
Spray.
Throat swabbed ē Hg. + Co
Neck. poultices.

Internally

℞.

Liq. hydr. Perchlor.
Inf Senega.
Tr. Digitalis

Egg flip
Malt wine
(later) Champagne.

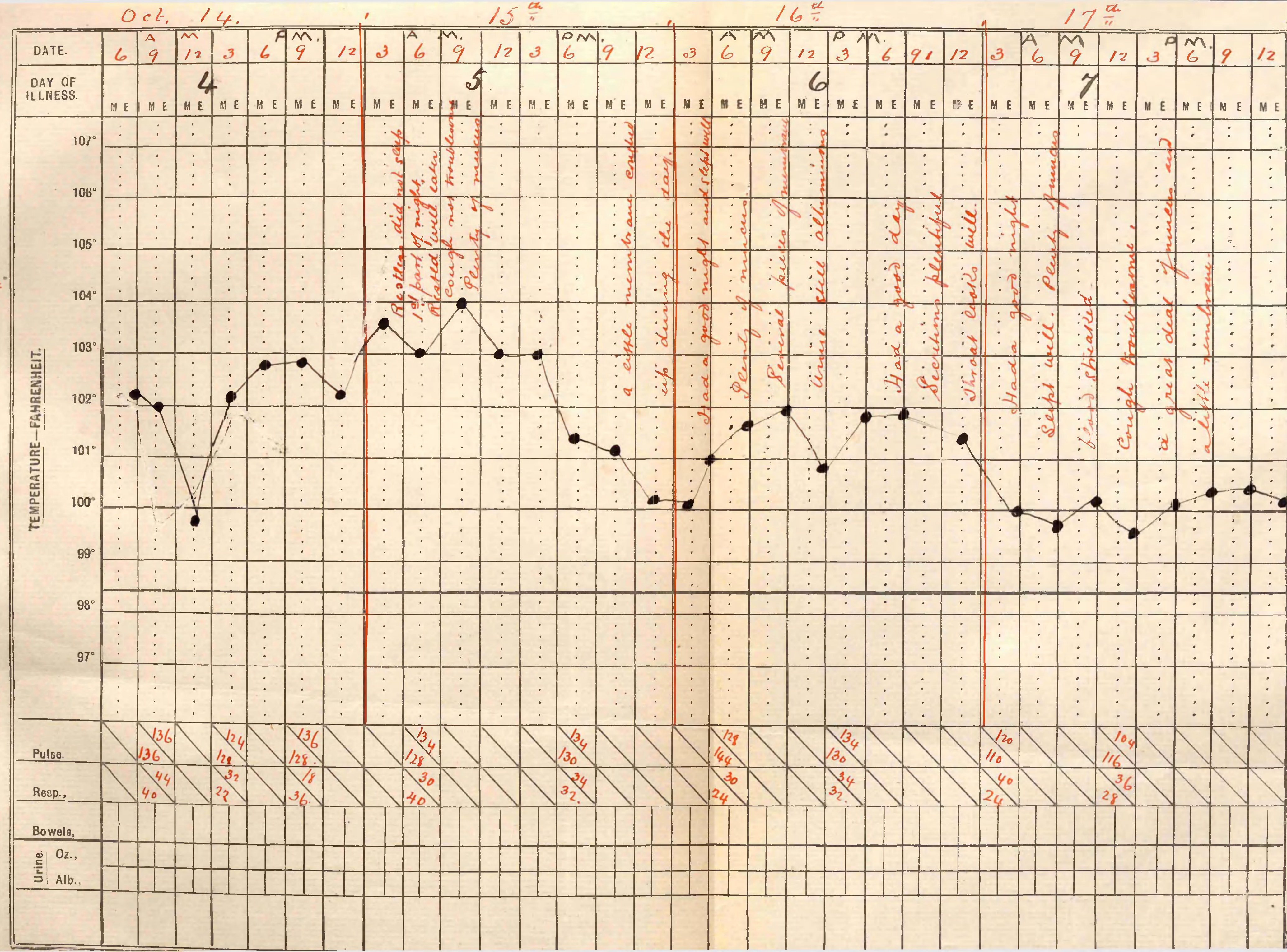
Tracheotomy.

Diphtheria

Wm Orr

Aet 3 yrs.

Temperatures recorded 3 hourly.



Tempt. came down to normal on the 9th day.
Tube removed on the 20th 7 days after operation

14. Oct.

Dr. Craig.

John Dunn alias Wm Orr. æt. 3
9. Gateside St.

Illness began 3 days ago c. sore throat and croupy cough. Became worse to-day. Has had Measles
Tempt. on ad = 100·4° F.

When admitted patient seemed very ill, Breathing was noisy, truly laryngeal + whistling
There was considerable lateral indrawing of ribs.
Throat showed tonsils much enlarged and covered with membrane.
Voice was typical
Pulse and colour fairly good,
Right tonsil excised and strong Liq Ferri. Perchlor applied
Poultices put on and Spray given
No relief to obstruction in larynx.
Breathing became very much more difficult and at times he got quite black. Spasms of considerable severity coming on. Not improving any.
Tracheotomy was performed about 2 A.M. & considerable quantity of membrane brushed up.
Breathing was relieved, pulse strengthened and he fell asleep.

15. Slept well during the night. Seems favourable this morning.
Tempt 104° F. Breathing quiet. Pulse good.

Note. This case is specially interesting when contrasted & that of James Creek. admitted 3 Oct.

Cases were similar in almost every respect.
His tonsils were enlarged and larynx so much involved that he had practically ceased to breathe when tracheotomy was hurriedly performed. After artifical respir. had been kept up for a little his colour got better and he revived But tonsils were not excised, After he got well and tube was removed, in fact after the wound in neck had closed. his tonsils began to slough. This spread to soft tissues around and it caused a great deal of anxiety
Eventually this got all right but not before it had called forth the note on the 27th Oct" The tonsils remain enlarged and hacked and it is ever a matter of regret that they were not at first excised

J. Creek. There was a marked tubercular history in this boys family. One month after throat had healed, he developed tubercular meningitis and died. No doubt the long illness & secondary trouble in throat caused the development of the latent mischief

Post mortem. Showed throat quite healed. *
Most distinct Meningitis

Wm Orr.

Little Emphysema on left side of neck.
Throat looking well. slight fibrinous
Exudation.

Oct. 16 Improvement continues.
Considerable quantity of membrane being
expelled.
Plenty of mucus, Colour & pulse good.

Oct. 17. Still looks very hopeful, Emphysema
gone, wound looks well.

Oct. 18. Tempt keeps down. Every reason to be
satisfied with condition
Drinks & sleeps well. Cough not
troublesome,
No membrane now. but still plenty of
mucus.
Throat still shows a little Exudation
but it is cleaner than it was,

Oct 19. Tempt. pulse. & respir. normal.
No membrane. Sleeps and drinks well.

Oct. 20. This is the 6th morning since operation
Tube removed to-day
Looks well and throat quite clean.

Oct. 22. No disturbance since removal of tube.

Oct. 27 Seems to be making most satisfactory
progress.

Dismissed well.
15. November.

1 month in Hospital

Treatment.

Locally.

Tonsils excised
Poultices to neck.
Spray.
Throat swabbed ☉ Ag + Cocain

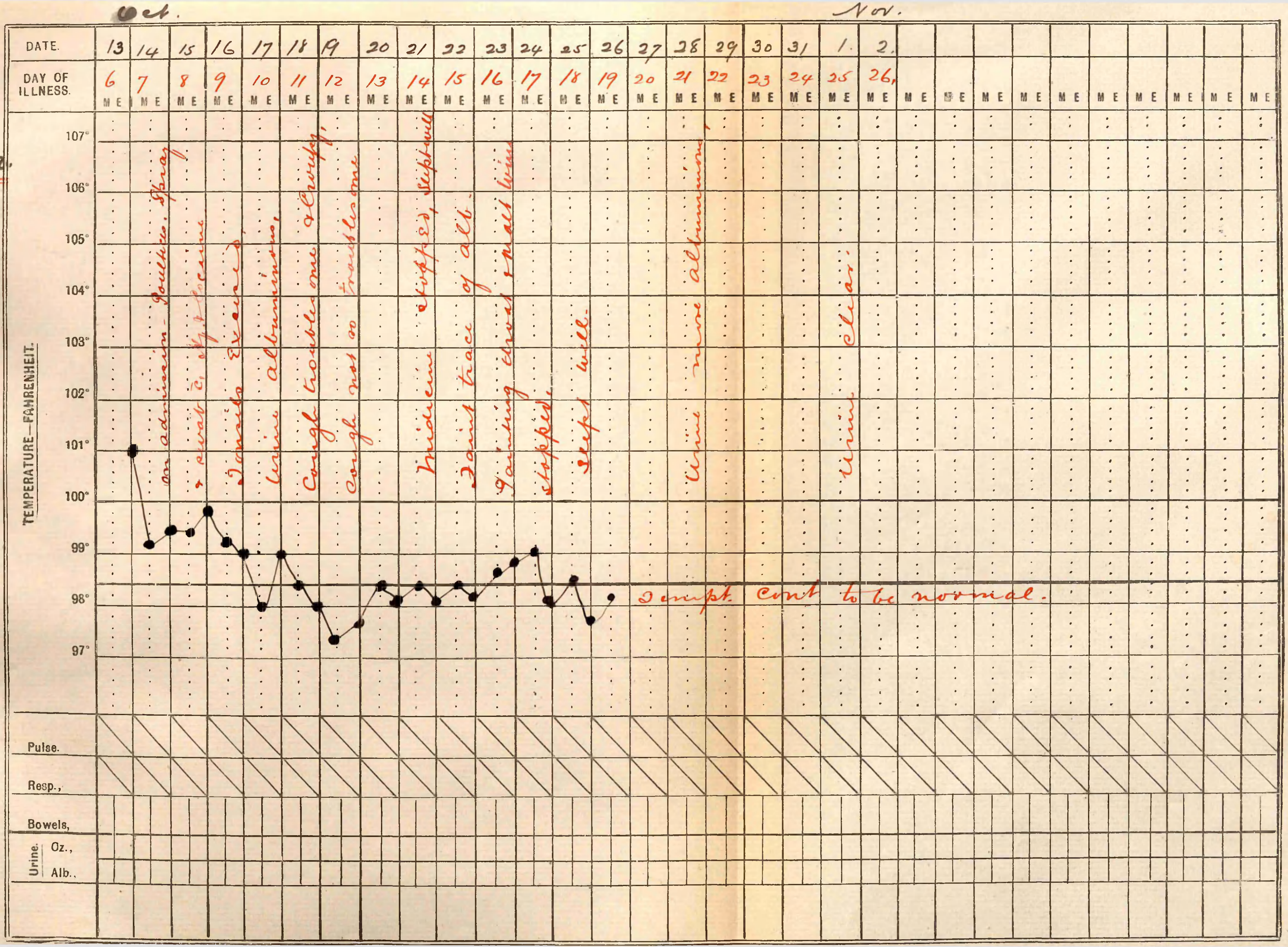
Internally.

℞.
Liq Hydr perchlor
M. Digitalis
Inf. Senega

Egg flip ☉ Sherry.
Malt Wine

Diphtheria

Annie Graham
aet 6 yrs



13 Oct.

Annie Graham aet 6
179. Wolseley St.

Dr. A. 2 up 3 ?

Illness began 5 days ago with headache, sore throat and vomiting
Glands in neck enlarged.
No rash seen.
Has had Measles.
Tempt. 101° F

Patient looks ill - pale in colour,
Typical noisy breathing tho it is not very laboured.
Cough very croupy.
No rash detected.
Lungs and heart normal.
Glands (cervical) much enlarged.
Tongue free of fur. Stained with Iron which has been applied
Tonsils are enlarged, congested and show white patches of membrane on their inner surface.
Tonsils excised and strong Liq Ferri Perchlor applied.
Improvement in throat most marked and most pleasant. Only a little fibrinous exudation present. Looks quite different now and is evidently getting on well.
There is every reason to be pleased with the cutting of the tonsils. Whole throat today looks cleaner and well. She is making rapid progress towards recovery.

Annie Graham.

19 Oct. Progress most favourable. Throat cleaner
Laryngeal symptoms almost gone.
Cough a little croupy,
27 Oct. Throat perfectly clean and well.
Urine slightly albuminous
6 Nov. Up and running about. Urine clear

Dismissed well
8. 11. 93.

25 days in Hospital.

Treatment.

Local.

Neck poulticed
Throat swabbed
ē Ag & Cocaine
Tonsils cut.

Oct. Nov.

DATE.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6.										
DAY OF ILLNESS.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22										
	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME

TEMPERATURE—FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°

Pulse.

Resp.,

Bowels,

Urine. Oz., Alb.,

Diphtheria

Jeanie Waddell.
Aet. 10 Yrs.

On admission

Sore throat cut away

Swabbed & Mist Creasi.

Urine very albuminous

Urine slightly albuminous

Slight well

Throat clearing

Painting of throat stopped

Urine clear.

Discharged up

Continues normal

Dismissed well.
Nov. 8th 1893.

17 Oct.

Jeanie Waddell aet. 10 9/12
20 Grafton St. 2 up/b

Dr Wilson.

Illness began yesterday with headache sickness, vomiting and sore-throat.
No rash is seen.
Has had Whooping Cough.

This girl does not look very ill.
No rash is seen on body.
Glands in neck much enlarged.
Tongue furred
Throat, palate, pillars of fauces and pharynx of a very deep red colour.
Tonsils much enlarged and highly congested, and stand freely out from the pillars, while on their inner surfaces are 2 large Yellow patches, These are in some parts dark in colour, where necrosis has begun.
The whole appearance looks like a highly coloured picture of a diphtheritic cultivation.
Heart is normal.
Lungs. show signs of catarrh.
Pulse fairly good. No laryngeal symptoms as yet.
Top of Tonsils cut away and strong Liq. Ferri. Perchlor applied.
Throat looks much better to day, altho it is still swollen and there is still a lot of membranous covering.
Was swabbed thoroughly and then strong Nit. applied.

Jeanie Waddell.

No rash is seen.

Oct. 19. Throat is still covered with exudation and much congested. After being cleaned it was touched ē weak H. Cº.

Oct. 22. Throat is much cleaner today. Pain gone and she looks well.

Oct 23 There is almost no exudation on throat

Oct. 27. Throat is looking quite clean and well today.

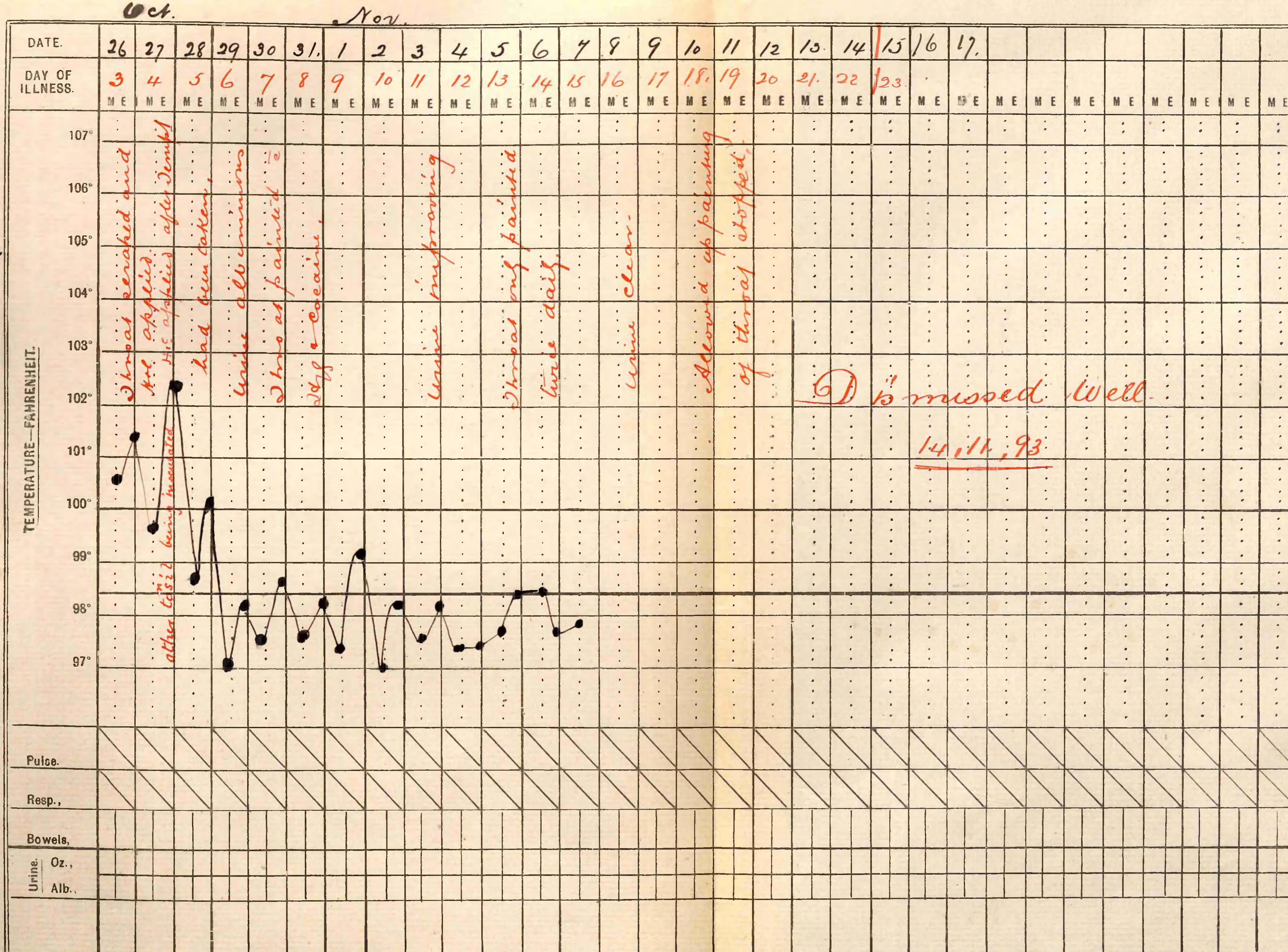
Oct. 30. Throat still quite clean.

Dismissed well.
8. 11. 93.

22 days in Hospital.

Diphtheria

Thos. Anderson
Aet. 25 yrs.



26 Oct.

Thos. Anderson Ad 25

Dr M. 24. E John St. Gr. R.

Illness began 4 days ago ~ Shivering, sickness and sore throat.
No other infectious disease.
Temp^t 100.6°F

There was a case (M.B.) admitted on the 23rd from E. John St. and her people kept a dairy.

This man does not look very ill
Glands in neck slightly enlarged.
Tongue furred.
Throat very much congested
Right tonsil slightly enlarged but free from exudation.
Left tonsil a little more enlarged but it does not stand out from its pillars - being rather enlarged equally with them.
In it there is a thick deposit of membrane but on no other part of the throat.
It was thoroughly scraped until a raw bleeding surface was apparent which was then touched with HCl.
No rash seen.
Debris (Stained fibrin) on throat where it was touched with H.C.l.
Still a large amount of congestion.
Other tonsil showing small white points which might also develop into membranous patches.

Thos anderson.

He cut his finger a few days ago with a clean edged tool, Round this on admission was a red and swollen patch. supporting a white bleb looking skin which today has a yellow colour, There does not appear to be pus present.

Oct. 28 This mans throat has changed a little in appearance today, tho there is still the deep congestion all round, Still a little exudation present.

Oct 29. Throat much cleaner and better looking today

Nov. 7. Throat almost entirely clean and appearance of tonsils normal.

Nov 13. Been up for some days and apparently doing well.

Dismissed well.
Nov. 14th 1893

19 days in Hospital.

Treatment.

Throat swabbed
$\frac{1}{c}$ Hg + Cocain very 3 hours.

Diphtheria

Andrew Leitch
aet 7 Yrs.

Oct. Nov

DATE.	26	27	28	29	30	31.	1	2	3	4	5	6	7	8	9.	10	11	12	13	14	15.	16	17	18.
DAY OF ILLNESS.	?							?																
	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E
TEMPERATURE—FAHRENHEIT. 107°	On admission rigid bowels										Urine almost clear. o/g					Pain Lt in Urine								
106°		Removed	Throat awaited three days									Slightly Albuminous					Urine clear.	Throat painful, difficult swallowing						
105°				½ dg. Cocaine.									Throat painted thrice daily.											
104°					Sept well.																			
103°						Urine Albuminous																		
102°																								
101°																				Dismissed well.				
100°																				18. 11. 93				
99°																								
98°																								
97°																								
Pulse.																								
Resp.,																								
Bowels.																								
Urine. Oz.,																								
Urine. Alb.,																								

26 Oct.

Andrew. Leitch. aet 7.
D: -
196. Rottenrow. 3 to 6

No. history. got

The difficulty of breathing in this case seems to be pharyngeal
Tongue furred.
Right tonsil much enlarged & covered with patches of membrane
Excised and Strong. Liq. Ferri. Perchlor. applied.
Throat looks well today and boy looks much better.
The cut surface today is covered with fibrin stained with Iron. but there appears to be no membrane on it.
There would appear to be no reformation of membrane on the cut surface. tho there is still present a little Exudation.
Other tonsil seems as if it were being inoculated.
Throat looks very well to.day
It would seem as if there was a little membrane present to.day.
There is still every reason to be pleased with progress in this case - The cut surface is looking very well. and there is no spread of membrane. The other side which looked as if it were going to be infected is cleaner also.

Nov. 3.

Yesterday (after above note was made) there was seen a distinct but slight reformation of membrane on cut surface.

Andrew Leitch

Nov 3. Today this has gone. Throat looks clean and well and most satisfactory

Nov 7. Throat is now better and perfectly free from any suspicion of membrane.

Nov. 13. Throat is now normal.

Dismissed. Well.

Nov. 18th 1893.

23 days in Hospital.

Oct. Nov.

Diphtheria

J. McFarlane.

Aet. 5 yrs.

DATE.	31.	1	2	3	4	5	6	7	8	9	10	11.	12	13	14	15	16	17	18	19	20										
DAY OF ILLNESS.	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25.										
	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E

TEMPERATURE—FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°

On admission throat swabbed

Both tonsils affected

Swabbed & Ag & Locain.

Urine albuminous

septic wds.

Urine clear

Throat ½ painted thrice daily.

Urine slightly albuminous

Swelling of throat stopped.

Pulse.

Resp.,

Bowels,

Urine. Oz.,

Alb.,

Oct. 31.

Dr. P.

John McFarlane aet 5.
67, Seamour St, Gr. Ho.

About 14 days ago patient became troubled with a croupy cough, which seemed to get better again. On Thursday last (27th) however he began to be troubled in the old way again.
No other symptoms and has had no other infectious disease.
Tempt 100.4° F.
No rash is seen on this boy but he looks rather ill
There is considerable difficulty of breathing which is of a croupy nature
Cough is very croupy.
On exam. glands in neck are found to be little, if at all enlarged.
Tonsils covered with points of Exudation
Pulse fairly good.
Tonsils both Excised; beautiful membrane formation, extending deeply into crypts in both.
Strong Liq Ferri Perchlor applied.
1. No reformation of membrane to-day and surfaces looking well.
2. There is a little reformation of membrane today on the post. part of the cut surfaces. Pieces however are small and throat is looking extremely well.
Croupy Cough & breathing to a great extent gone.

Nov. 7

This boy's throat looks very well today
There has been no tendency to sloughing

John McFarlane.

There is now no croupiness and on the whole improvement has been most marked & satisfactory
Throat will only be swabbed three times daily now
Urine still albuminous

Nov 18. Still in hospital. Throat perfectly normal
Urine not yet clear.

Discussed Well.

1 Dec 1893.

No chart.

Boy died after being
24 hours in Hospital.
There was no distinct rise of Temp^{t}
after operation.

Involvement of Larynx going on. } ad = 98·4
Constitutional Symptoms getting } Ev. = 99·2
more developed. } M. = 100·2

Nov. 5th

Dr. J.

William Aitken. aet 8.
43 Aitkenhead Rd,
1 up Lo.

Been out of sorts for about 14 days. Complained of slight sore-throat, Seemed to recover again and was at School until 5 dys ago.
Has had a croupy cough for 4 days. There was slight vomiting. No rash seen
Has had Measles + wh. cough.
Tempt. 98.4.

On admission this boy seemed very ill and once or twice looked as if he would die if tracheotomy were not performed. With poultices + Spray he revived somewhat.
About 2 o'clock both tonsils which were much enlarged and covered ē membrane were excised
After this the relief to the breathing was marvellous.
He lay ~~sleeping~~ asleep breathing quietly and easily.

Nov. 6. Twenty hours afterwards breathing became very bad again
Throat looked clean and well - there being so far no reformation of membrane.
He began to complain of pain in his back.
Breathing was relieved after vomiting but this was only temporary
About 1-30 P.M. breathing being esteemed difficult Tracheotomy was performed.

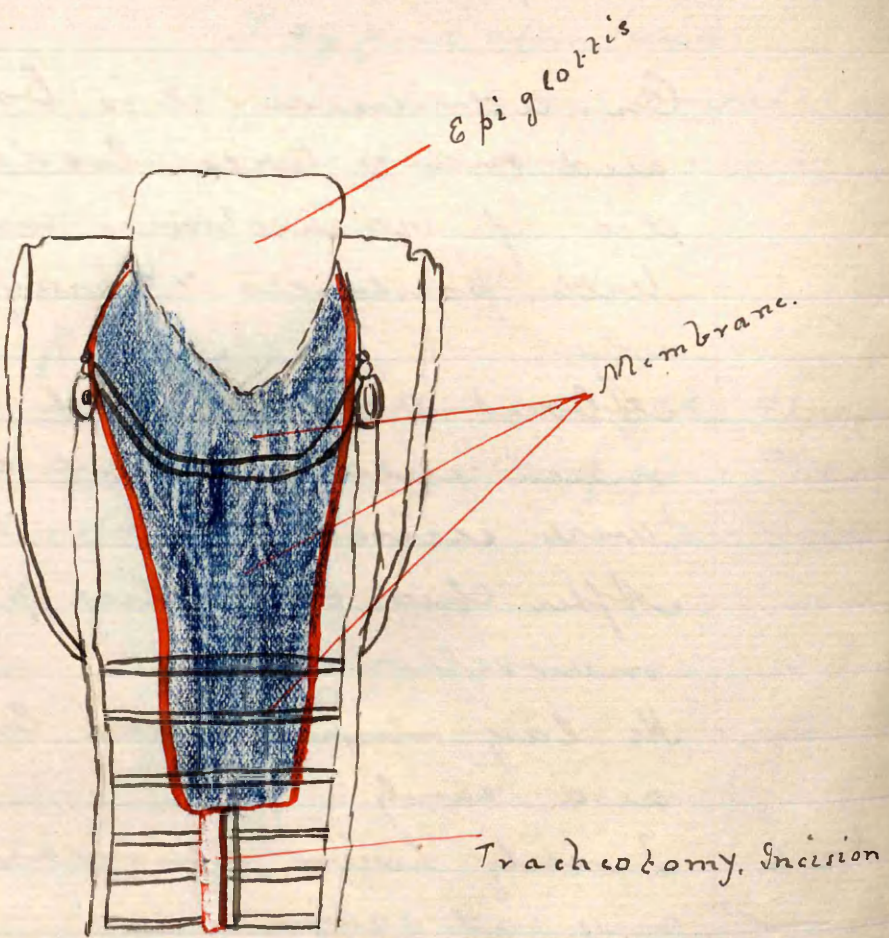


Fig View of trachea and larynx from behind showing column of membrane. enclosed in red line.

William Aitken

A considerable qty of membrane was coughed up. and then patient's colour got very good and his condition seemed favourable.
Emphysema in neck.
About 5.30. p.m. when sitting up to have the Spray. he suddenly got very livid, Tube was at once removed and trachea again brushed out, Some large pieces of membrane were got away and artificial Resp.n was kept up fr. a considerable time but without avail and he died.

8th Nov. 1893

Post. Mortem.

Beyond the Left lung being engorged with blood, there was nothing special to note in its ~~structure~~ appearance
The Right lung was pale in ~~substance~~ colour and collapsed to a certain extent, having an almost hepatic feel.
Nothing could be discovered in the bronchi on either side and there was apparently no membrane
Bowels - normal.
Spleen - not enlarged & normal in appearance
Liver & Kidneys = Engorged & dark blood.
Heart substance = Apparently normal.
Trachea = from tracheotomy wound was entirely free of membrane but stopping short there was a column of membrane suspended from the larynx.
The Throat presented a fairly healthy appearance the cut surfaces of tonsils presented no fresh membrane. and there was none erosio.
There was the usual deep livid congestion down to the angles of the arytenoid cartilages but there

Wm Aitken was little or no involvement of naso-pharynx.
Parts have been preserved.

Tonsils showed deep penetration of membrane
into crypts.

Trachotomy being performed here the usual rise of tempt took place rendering the value of tempt in regard to excision of the tonsils of no avail.

7 Nov.

Joseph Foster. act. 4.
49. Westmuir St. Maryhill

Dr. J.

Illness began 5 days ago with slight cough, which became croupy 2 dys ago.
No other symptoms. No rash seen.
Has had Measles & Whooping Cough.
Temp. 99.6.

On admission this boy looked very ill
During the night breathing became so bad that it looked as if he was dying.
Towards morning a very large membranous cast of membrane was expelled and breathing was for some time relieved.
Tonsils especially right enlarged and covered w membrane.
Right excised and found to present deep penetration of membrane into crypts.
Breathing again became bad.
Evident that membrane had reformed.
Tracheotomy performed to relieve the very urgent dyspnoea, and a considerable qty of membrane was got away.
A 24. Parkers tube put in.
After operation, was restless and coughed a good deal. Next day breathing was very bad and colour earthy livid
Pulse extremely weak & rapid.
Very distinct pulsation in neck.
A considerable qty of membrane got up but relieved the breathing in no way.
Died at. 6.30 P.M.
9. 11. 93

Joseph Foster.

Post Mortem.

Showed larynx, trachea, large & small bronchi full of membrane
The throat looked very clean and well. There was no appearance of sloughing round the wound in tonsil and no membrane had reformed.
As far as throat was concerned patient might be said to be free of diphtheria.

No rise of tempest accompanied

31. Oct.

Agnes Strachan aet. 22
125 Onslow Drive

Dr. Mc.

5th day of illness
Began ē sore throat & slight cold.
No other symptoms.
No rash seen
Has had Measles
Tempt on ad = 99·6 F.

This girl's throat was much congested.
the pillar of fauces and tonsils had
almost met.

The uvula was in consequence very oedematous
and over its lower part was a white adherent
membranous patch, having all the appearance
of having being caused by diphtheria
The tonsils, fauces, and post wall of pharynx
had a fibrinous coating over their much con-
gested surfaces.
The tip of the uvula with its patch was cut
off. Ag + Cocain were applied to the surfaces
and poultices put on neck.
Swelling gradually went down and there
was no complaint of pain from cut uvula
and no reformation of membrane on it.
Nov. 16. Throat perfectly normal in appearance now
but for slight enlargement of tonsils

Dismissed Well.
1 Dec 1893.

Treatment.

Locally.

(1) Excision of Tonsils
(2) Glycerine & Carbolic to throat
(3) Poultices to throat
(4) Spray. 2 hourly (of Mercury)

Internally.

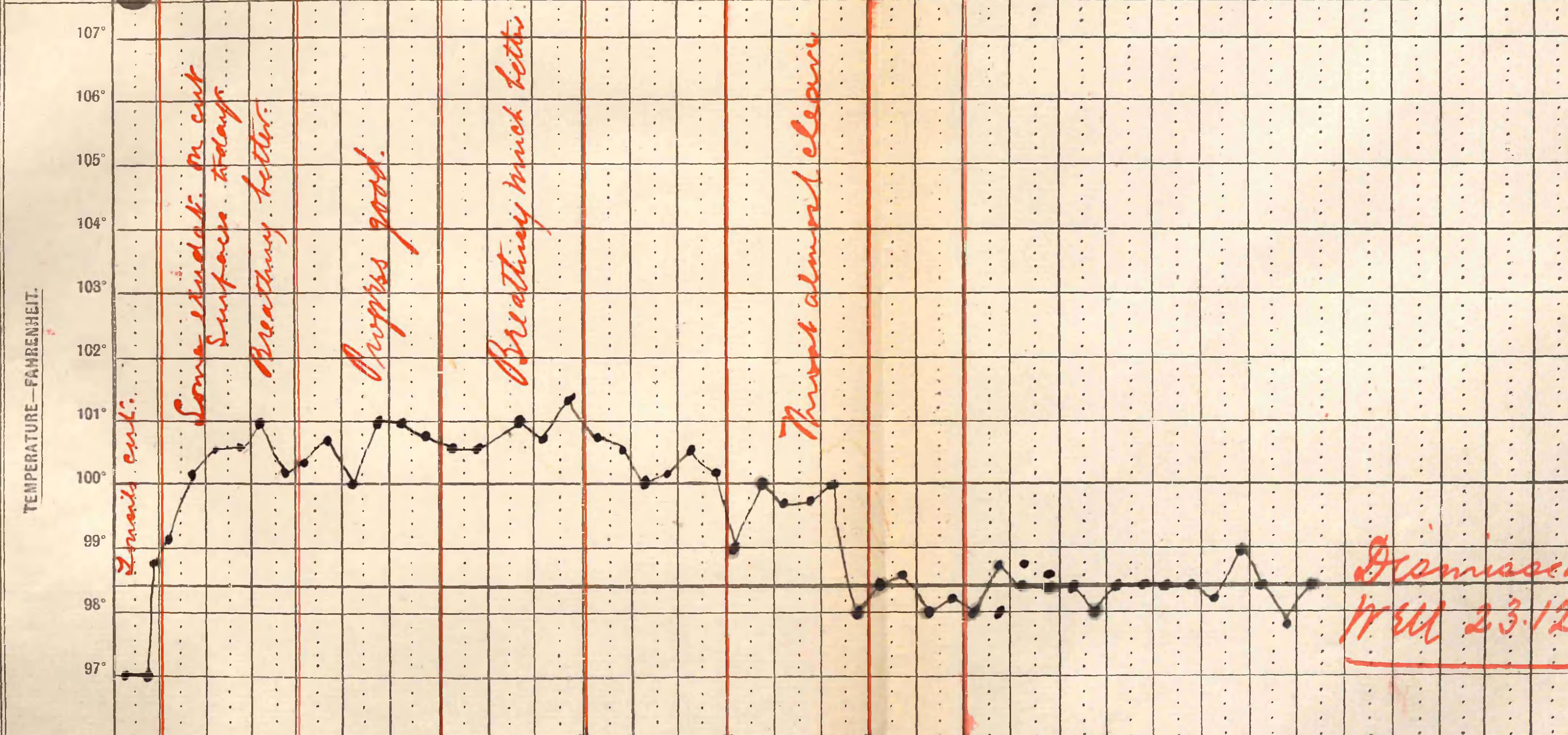
(1) Digitalis & Senega
(2) Sherry & Eggs.

Mary McKechnie
aet.
admitted
30 Nov. 1893

Nov. Dec.

DATE.	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DAY OF ILLNESS.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

AM 2 6 10 PM 2 6 10 (hours, each day 1–5 Dec.); M E



Pulse.	168 / 172	172 / 164	158 / 158	156 / 154	150 / 160	170 / 144	168 / 172	176 / 172	160	156 / 152	156 / 152	144 / 148	144 / 152	146 / 144	138 / 142	116 / 144	132 / 120	134
Resp.,	30	36 / 26	36 / 30	36 / 36	28 / 34	30 / 32	26 / 28	30 / 28	20	24 / 26	24 / 20	22 / 24	24 / 24	20 / 26	20 / 20	24 / 22	24 / 24	20

Bowels,

Urine. Oz.,

Alb.. Albuminous

30 Nov. — Aet. 4½

Mary McKichnie
11 Garfield St

Dr Chisholm.

8th day of illness. Began with sore throat and vomiting after coughing.
Been croupy for 2 days.
Has had H.Cog (Whooping cough)
Tempt 97.

This child is very ill. her breathing is difficult and noisy.
No rash is seen on body.
Colour is pale - but lips are fairly red.
Pulse is 172, but so weak as to make counting difficult
Tongue is fairly clean.
Throat shows tonsils considerably enlarged and covered with membrane.
There is considerable laryngeal involvement.
Cough is very croupy and pressure on the trachea at once sets up coughing.
Left tonsil excised, Top of right scraped. Glycerine and Carbolic applied.

This little girl seems no worse today
Throat is covered with a white coagulated substance but the swelling is less.
The coagulated exudation hides any membrane which may be present.
Breathing comes and goes slightly but on the whole it is better than it was on admission

Mary McKechnie

Pulse this morning is 152 and stronger than it was last night,
Restless occasionally but slept fairly well and drank well. Resp, Tempt

At. 10 oclock last night Pulse was 168. 30. 98·8
" 2. A M " " 164. 26. 99·2
" 6 A M " " 172. 36. 100·2
" 10 A M " " 158. 30 100·6

Urine is albuminous

Dec. 11. Throat almost clean
Breathing quite relieved
Evidently doing well.

Dec. 18. This girl is now quite well.
Throat. clean. Urine = Normal
will be allowed up today,

Dec. 23. Patient is now quite well and will be allowed to go home to day,

Dismissed well.
23. 12. 93

Arthur Rae.
P 45.
Adm. 12 Dec.
Died 13 Dec.

Dec

DATE.	12	13																																		
DAY OF ILLNESS.	7	8.																																		
	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
107°																																				
106°																																				
105°																																				
104°																																				
103°																																				
102°																																				
101°																																				
100°																																				
99°																																				
98°																																				
97°																																				
Pulse.	176 / 180	168 / 148																																		
Resp.,	36 / 52	48 / 44																																		
Bowels,	Normal.																																			
Urine. Oz.,																																				
Urine. Alb.,	Trs.	"	"																																	

TEMPERATURE—FAHRENHEIT.

Vomits cut.

Tracheotomy performed. Syncope. Artificial respiration.

12. Dec. 1893.

Arthur, Rae aet 5 4/12
90. Thistle St.
Garnethill

Dr. Caster.

1 up D.

Illness began about 7 days ago with a cold. Croupyness noticed Yesterday. Symptoms of last night he had a severe spasm, Said to be subject to Croup, Has had Measles. Tempt. on admission 101.8.

This boy looks very seriously ill. His face is pale. anxious and rather sunken ~~looking~~ expression.
Colour. = pale
Colour of lips fairly good,
Breathing = Rapid, difficult & crowing, The indrawing of Sternum however is not well marked.
Glands in neck slightly enlarged.
Tongue moist and very slightly furred.
Tonsils much enlarged and share in the deep congestion of the fauces & pharynx. On their surfaces but on no where else are white patches of membrane.
These are still distinct from each other but are typical of diphtheria
Respirations are 52 per min. and the pulse is 180, soft, feeble & compressible
Tempt. is 101.8.

Arthur Rae,

He is a little loquacious but not quite in the same way as the malignant cases such as Wm Lyles

Dec, 13.

This morning patient does not seem any better indeed his condition is much graver
Difficulty of breathing has increased tho' Resp. are not more rapid than they were before removal of tonsils
Pulse rate and Temp. have not been so high since then.
He is restless and tosses about.
There is considerable epigastric and intercostal indrawing
The condition seems grave and it is to be feared that the membrane has reached the lung.

Later.

This boy became so ill that tracheotomy had to be performed.
The heart which had been markedly failing for a day or two gave way just at the completion of the operation
Nothing restored him and he

Died at.

12- noon.

13. 12. 93.

It would seem that Chlorof. given in such cases is extremely dangerous and that now all cases will be done without it.

Treatment.

(1) Tonsils Excised

(2) Painted ~~c~~

Strong Carbolic & Gly

Jany. Febr

Bella braig
aet 8.
Admitted 30 Jany

DATE.	30	31	1	2	3	4	5	6	7	8	9
DAY OF ILLNESS.	1 ME	2 ME	3 ME	4 ME	5 ME	6 ME	7 ME	8 ME	9 ME	10 ME	11 ME

TEMPERATURE—FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°

Tonsils cut.

Throat remained clear

No exudations.

Pulse.	152	116 (120)	120	afterwards normal.							
Resp.,											
Bowels,	Regular										
Urine. Oz.,											
Urine. Alb.,	none.										

30 January.

Bella Craig
4. Park Ter. Lane

Dr Black,

Became ill this morning with head-ache, slight sickness, & sore throat. Has had Scarlet, Measles, & Hooping Cough. Temp[t] on adm: 98·4°F

This girl does not as yet look very ill. Glands in neck at angles of jaw are enlarged.
Tongue is coated on dorsum with a dirty yellow fur, of no great thickness
The papillae are somewhat enlarged and look thro' the fur where it is present on dorsum.
Tonsils are much enlarged and congested: there is no appearance of exudation on them
Uvula is very deeply congested and so is the edge of the soft palate.
Deep congestion is limited to this region while the mucous membrane on hard palate is slightly congested.
There is no laryngeal involvement
Over the trunk is a rash - this at first sight looks like scarlet but it wants the definition. It is more like a pale red mottling than a distinct punctate rash. The limbs seem to be free of it
Pulse is 152, rather weak but regular.

Bella Craig

Feb 1. This girl's throat looks quite well. There is little or no exudation and the deep congestion is gone.
Temp. is always up. this otherwise she seems quite well.
The rash is still present and is most perplexing. It is now much paler in colour and is perfectly smooth. (not raised) It still seems to be more of a "mottling" than a Scarlet rash

Feb 2. This girl today seems quite well and she is quite lively.
Temp. is normal and she looks as if nothing was the matter with her.
There is still a very little exudation over cut surface.
Tongue is quite clean and has quite lost the Strawberry look.
There has never been any albumen in urine.

Feb 4 Rash is quite gone now. Throat looks quite clean unless for a few pellicles of exudation which are seen on the cut surfaces.

Feb 7 Swabbing has now been stopped Throat quite clean and normal looking.

Feb 12. On this girl's toes there has been slight clipping of skin, but this is due to the breaking of small blisters There is not the slightest sign of desquamation on any other part of the body and this on the toes does not appear to be.

Bella craig

Specific. As her throat is now clean and well. she has been allowed up today.

Feby 16.

Nothing evil has resulted from her being allowed up.

Dismissed Well

28. Feby 1894.

Jany Febry

Nellie braig
aet 5 9/12.

Admitted. 30 Jany

Dismissed

DATE.	30	31	1	2	3	4	5	6	7	8	9	10	11	12
DAY OF ILLNESS.	1 ME	2 ME	3 ME	4 ME	5 ME	6 ME	7 ME	8 ME	9 ME	10 ME	11 ME	12 ME	13 ME	14 ME

TEMPERATURE—FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°

Throat remained clear
No exudation

Throat cleared

Pulse.	134	100 100	100	afterwards normal.										
Resp.,	1'													
Bowels,	Regular.													
Urine. Oz.,														
Urine. Alb.,	No albumen													

Jan. 30th

Nellie Craig aet. 5 9/12.
4. Park Ter. Lane.

Dr Black.

Illness began this morning ÷ Slight headache.
Has had Scarlet Fever. Measles + Wh. Cough.

This little girl does not seem very ill.
Glands in neck are not enlarged
Tongue has a thin coating of brownish fur but this is insignificant.
Tonsils are much enlarged
They are congested but not deeply so and there is no exudation.
There is no congestion on hard palate and little on the soft.
Pulse is 134. Of fair strength and regular.

This girl's brother died from an undoubted attack of diphtheria in the last 2 days ago.
His father states that he had been subject to enlarged tonsils.
The sister of this girl has a peculiar rash - but there can be little doubt that they are both suffering from diphtheria
There is a little Yellow exudation over cut surfaces to-day.
There is little or no congestion.
Whole structure looking almost normal.

Nellie Craig.

Incpt has never risen above normal and child looks and seems quite well.

Feby 2. Throat looks almost quite clean and there is nothing at all in child's condition to call for comment as being abnormal.

Feb. 4. This girl's throat looks very well. Congestion - gone. and there is no swelling or Exudation.

Feby 7 Throat is perfectly clean and normal looking.

Feby 12. Throat being quite clean, no trace of any desquam. being present. this girl has been allowed up today.

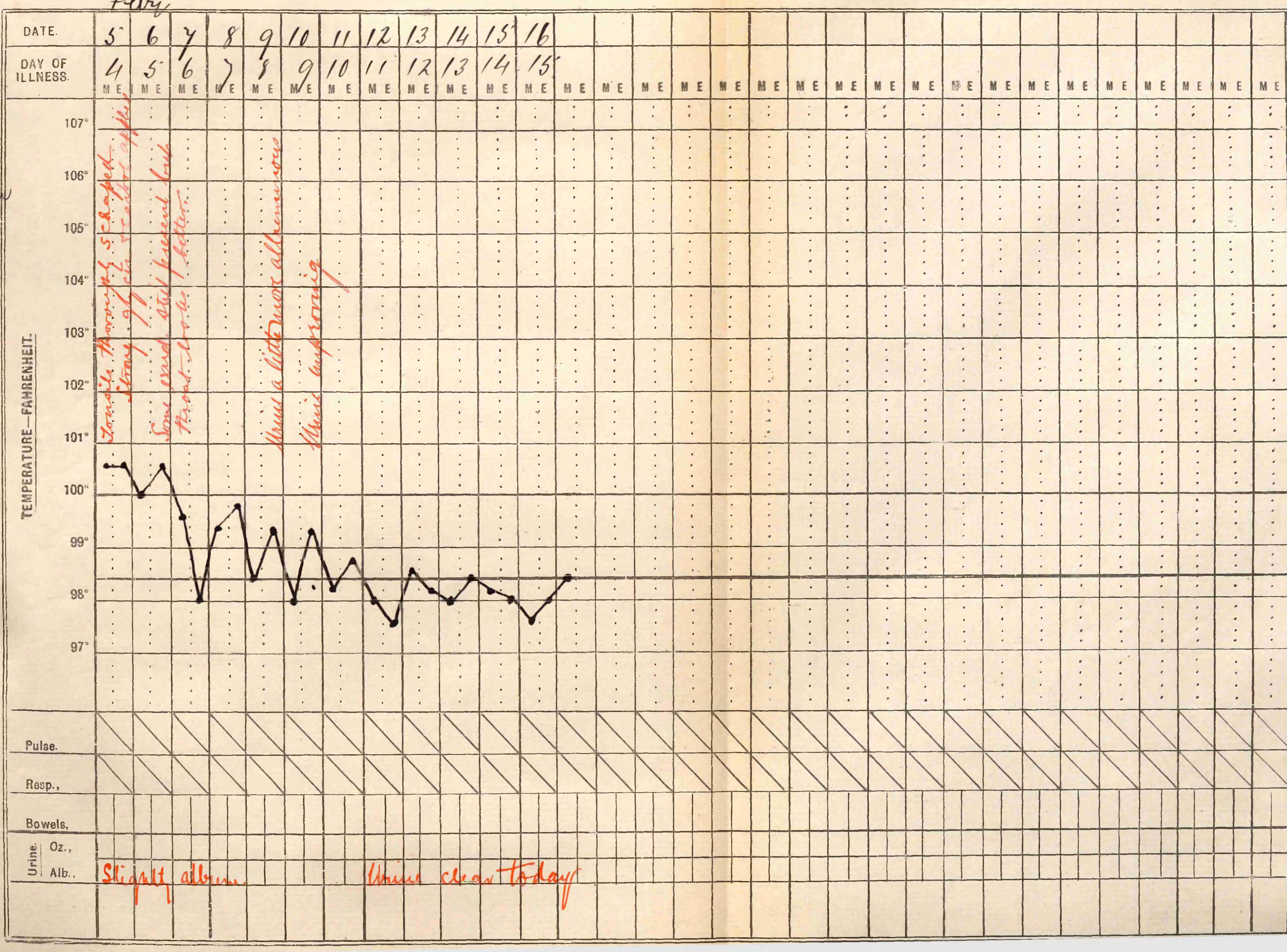
Feby 16. No evil has resulted from these children being allowed up.

Dismissed Well.
28 Feby 1894.

Annie Robertson

aet 24.

Admitted 5 Feby.



Feby 5 $\frac{d}{11}$

Annie. Robertson
24. Westfield St.
Crossmyloof.

Dr Brown.

Illness began 3 days ago with slight sore throat & shivering; no other symptoms.
Has had Measles & Wh. Cough.
Temp on ad 100.6, 2.

This woman does not look very ill
There is no difficulty of breathing and no rash is evident.
Glands in neck. hardly if at all enlarged.
Tongue slightly coated with fur. no tendency to enlargement of papillae
Exam. of throat shows slight enlargement of tonsils with marked congestion of these structures and all the parts around.
There is membrane in the Yellow stage covering the surface of each and extending down the pharynx on the right side.
These patches scraped off & strong Glycerine & Carbolic applied. To day there is white exudation and uvula is enlarged - but on the whole throat looks better.
Urine is slightly albuminous.
There is considerable change in the appearance of this throat today
Centrally there is still the disease in the tonsils which however does not seem to be so deep seated.
The soft parts around are very much congested and on their surface is Yellow exudation but it is impossible to say.

Annie Roberston

whether this is true membrane or not. Some of it looks more like fibrinous exudation

The throat is now much ~~easier~~ better, the pain being almost entirely gone.

2 Feby 4 Yesterday a piece of membrane of considerable size was expectorated by this patient.

Throat looks well now. There is no pain, no congestion, and no swelling There is still on the soft tissue adherent fibrin, but nothing is seen that can be called true ~~fibrin~~ membrane

2 Feby 6. Throat to-day is almost clean. There are little white patches (very thin) on soft palate, uvula and sides of pharynx. This seems to be a little superficial ulceration with some Exudation on its surfaces.

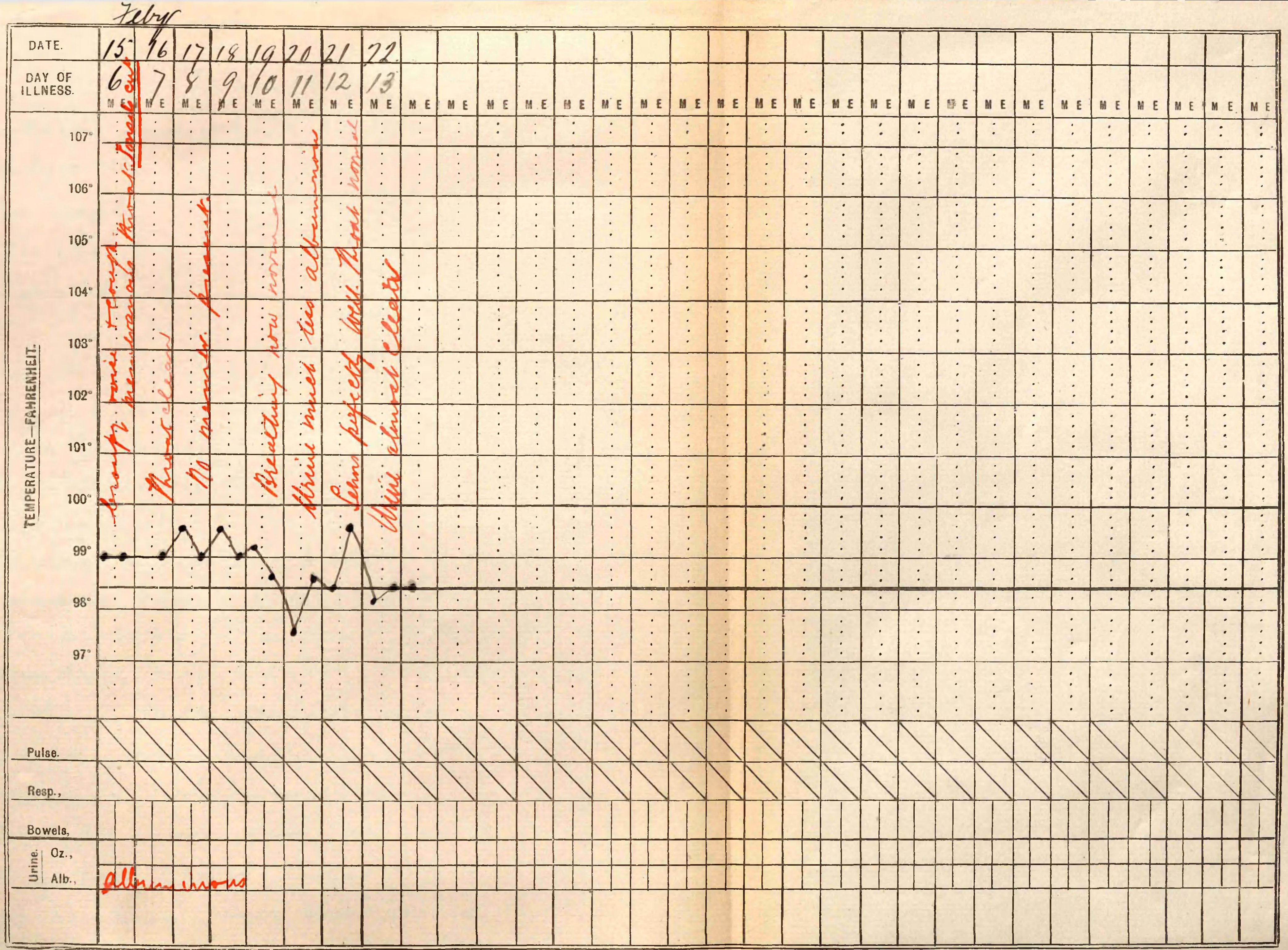
Dismissed Well
24 Feby 1894.

Treatment.

Local.

(1). Tonsils cut.
(2) Swabbed ẏc Strong ~~&~~ Carbolic
(3) Nose Washed ẏc Soda & Condy.

James Hay
aet. 2.
Admitted 15 Feby.



15. Feby.

James. Hay, act. 2.
4 Carlisle Ter.
Kelvinside

Dr Russell.

Illness began 5 days ago with a cold and slight cough. Croupy since Yesterday.
No rash.
No other infectous disease.
Tempt. 99°

This is a strong healthy well nourished boy. No rash is seen. Pulse is fairly good voice is croupy. Cough also croupy.
Mother states that breathing was difficult last night.
Glands in neck little if at all enlarged
Tongue clean and moist.
Throat congested, Two little tonsils standing out slightly from congested pillars with white membranous caps on their heads. are seen on further examination urine is Albuminous.

16. Tonsils were cut, at least what could be of them, last night. Today Congestion has all gone, and there is no membrane. The tissues looked bleached from the action of Strong Carbolic. otherwise they are all right. Had been croupy and noisy in breathing last night and poultices applied.

17. Seems to be making good progress.
There is today no membrane on throat

James Hay,

the fauces are still enlarged and congested
strength seems keeping well up
urine is still Albuminous

Feby 18. Today this boy looks very well
Breathing is now quite easy and the croupyness is not nearly so great.
Throat looks almost quite clean to day
and local treatment has been
stopped

Feby 19. Throat looks clean and well today
Urine is still albuminous but
the amount of albumen is less
than it was. Seems to be doing
very well. Cough gone. Very slightly
croupy,

Feby 20. Throat quite clean to-day
Qty of albumen less than it was
Seems quite well.

Feby 21. Throat perfectly clean.
looks well.
Urine still albuminous.

Feby 26. Throat perfectly normal.
Urine clear.

Dismissed Well
10 March 1894.

Treatment.

Local.

(1) Tonsils cut.

(2) Throat swabbed c Gly & carb. (equal pts)

(3) Hot water to mouth.

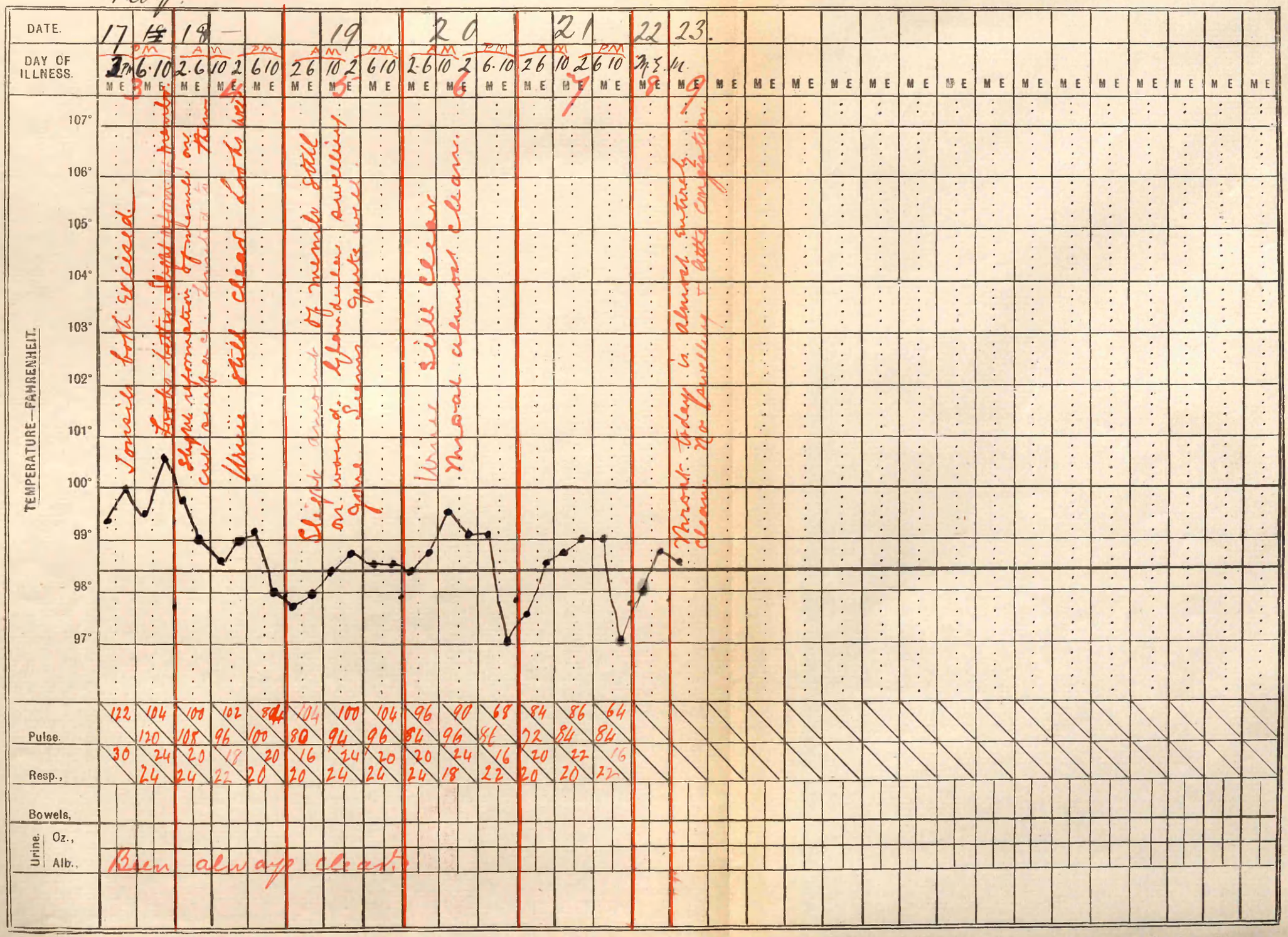
(4) Nose Syringed

(5) Hg. Spray.

Feby.

Stanley Freebairn
aet. 9

Admitted 17 Feby.



17. Feby.

aet. 9.

Stanley Freebairn

49, Roslyn Ter.

Dr. Mc Laren.

Park Road.

Illness began 2 days ago with sore throat, sickness, & vomiting.
Tempt 99.4.

On admission this boy seemed sharply ill.
There was no difficulty of breathing but the disease seemed to tend towards a malignant ~~diseases~~ type.
Face was suffused and dull – the whole being ~~was~~ swollen-looking.
The neck thick and on further exam. the glands were found to be swollen.
Voice altered from pharyngeal not laryngeal difficulty.
No rash was apparent on body.
Tongue was almost clean and moist.
There was found to be deep limited congestion of soft palate and tonsils.
No involvement of hard palate.
Tonsils much enlarged and both covered thickly with membrane.
Pulse was fairly good = 108.
Urine = clear.
Tonsils were at once excised more of right than left tonsil being taken away.

18 Feby

Today this boy looks no worse.
He is playing with books & quite bright. Tempt 99. Pulse 100. Resp 20.

Stanley Treebarn

Glands in neck are smaller in size.
Tongue is still clean and moist.
Throat shows less swelling & congestion
but there is a reformation of membrane
on cut surfaces. limited to these
surfaces.

July 19. Marked improvement here. Glands now
quite normal. Boy seems well
and strong, Temp't 98. Pulse 104.
Resp. 16. Throat shows a little
membrane over wounds but no
other where.
Urine still free of albumen.

July 20 Throat looks much better. absolutely
no swelling of Glands.
No Albumen in urine.
Progress most satisfactory

July 21. Seems much better now. Throat
still shows a little adherent
exudation but it is gradually
thinning and becoming less.

July 24 Throat perfectly clean and boy
perfectly well.

July 26. Allowed up today.

Dismissed Well.

Treatment.

Local.

(1) Excision of Tonsils
(2) Throat poultices
(3) Spray
(4) Nose Syringed

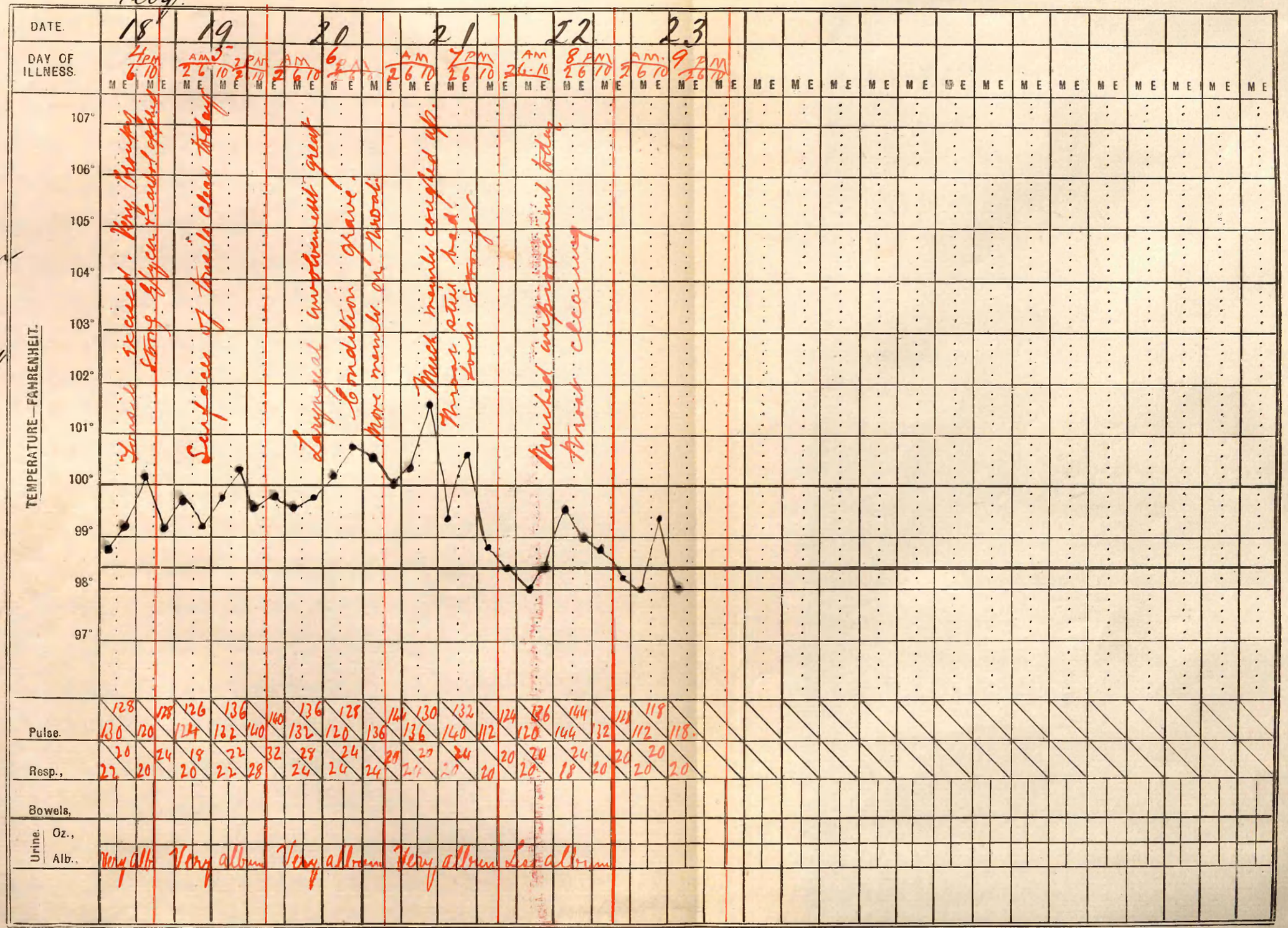
Internally.

(1)
Hg. misture
(2) Eggs & Sherry.

As in the case of Mary Docherty there is a distinct palmar rash present in this case M.

Feby.

Bessy Sanderson
aet 5
Admitted 18 Feby



18. Feby.

Dr. Turner.

Crissy Sanderson aet 3
174. New City Road.

About 3 weeks ago. child was confined to bed with an ulcerated throat.
Seemed to recover and was up for 2 or 3 days. but on Friday last (16th) she had sickness and vomiting and since last night croupy cough.
No rash was seen
Has had Measles & Wh. Cough.
Temp. 98.8. Pulse 130. Resp. 20
Urine: highly albuminous

On admission this girl seemed very ill. Face was rather pale and anxious, Breathing was somewhat difficult and had a little croupy cough.
Glands in neck not enlarged
Tongue. almost clean and moist.
Throat showed tonsils much enlarged almost meeting with most ragged and uneven surfaces.
Small patches of membrane seen on surfaces.
Top part of both tonsils cut away and 1/2 & 1/2 of Sly and Carb. applied.
Temp. 99.8. Pulse 124. Resp. 20.
Urine: still albuminous.

Crissy Sanderson.

19. Today tonsils are much smaller, in size but still slightly enlarged. Their surfaces today are perfectly clear.
There was removed another cutting off the left tonsil today and again Strong Carb and Gly. applied to the throat.

July 20. This girls condition today is most grave. Croupyness is very marked the laryngeal involvement being still great. There is a great deal of membrane in the throat today.

July 21. A very marked improvement in this girls condition today. Croupyness has now almost gone. Some huge pieces of membrane have been coughed up.
Strength seems to be keeping well up.
Throat is still bad. There is much membrane adhering to all the soft structures, Urine still albuminous

July 22. Improvement continues. Throat looks much cleaner. Slept very well last night. Now breathing quietly Temp[t] normal. Amount of Alb in urine much less. Pulse rate also much less.

July 24. Throat is cleaning very rapidly
? Only the mucous membrane ulcerated & white exudation. No membrane.

Crissy Sanderson.

Feby 26. Throat to-day almost clean.
Quantity of albumen much less
in urine being now almost gone

Feby 28. Throat clean to day.
Trace of albumen.
Treatment [redacted] stopped.

Dismissed Well.
10 March 1894.

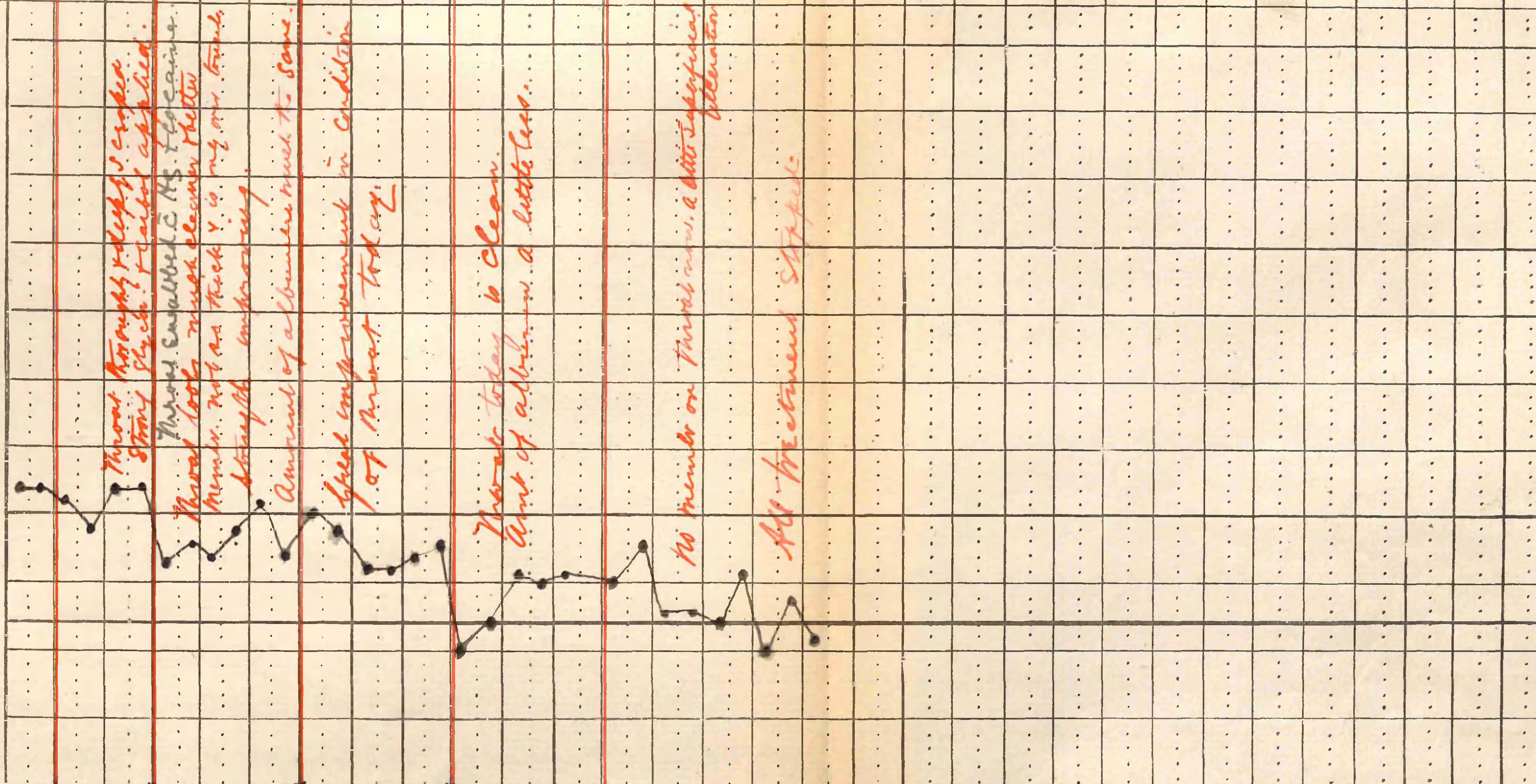
Fanny Murray
aet. 22.
Admitted 19 Feby.

Feby

DATE.	18	19		20			21			22			23	24	25	26	27
DAY OF ILLNESS.	3	4 (2)	PM 6 10	AM 2 6 10	5 PM 2	6 10	AM 2 6	10 6 2	PM 6 10	AM 2 6	10 7 PM 2	6 10	8	9	10	11	12
	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E

TEMPERATURE—FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°



Pulse.	74	84 / 82	92 / 88	92 / 80	92 / 88	84 / 84	82 / 80	80 / 82	76 / 80	76 / 80
Resp.,	18	28 / 22	24 / 24	24 / 20	16 / 24	20 / 16	20 / 20	24 / 20	16 / 16	20 / 18

Bowels,

Urine. Oz.,

Alb., Albuminuria

18. Feby.

Dr Beatson

Fanny Murray aet 22
Hendrys
19. University Gardens

Illness began with shivering
Sorthroat, headache
No rash.
Has had Measles
Temp^t 100.4°F.
Urine - Albuminous

This girl looks sharply ill.
No rash is seen.
Glands in neck are not enlarged.
Tongue has been furred but it is now almost clean and it is quite moist.
Throat shows great large thick pieces of necrosing membr. laying over both tonsils & spreading down to wall of pharynx and on to the pillars of fauces.
There is no difficulty of breathing.
Pulse is fairly good.

19. Today condition remains unaltered. After being swabbed with Hyd. Cocain all membrane was carefully scraped off with an iron instrument until there was considerable bleeding. Tonsils were not at all enlarged but were rather sunk between the pillars of fauces.
Strong Sly. and Carbolic applied.

Feby 20 — Fanny Murray.

Today this girl seems much better. There is not nearly the same amount of membrane on throat. There is still some over the tonsils but it is not nearly so thick.
General strength is better.
Amount of Albumen much the same.

Feby 21 Throat looks much better today. There is much less escudation. The tonsils mouths both seem eaten away, there being quite a cavity between the pillars of fauces

Feby 22. Throat today presents a much cleaner appearance. Hardly any escudation now and patient feels much stronger and better.
Tempt. and pulse rate now normal.

Feby. 24. Throat today is almost quite clean. the only thing now is the slight m m with the thin white coating but there is now no membrane.
Urine is still very albuminous.

Feby 26. Throat today is quite clean and normal looking, applications are stopped.
Albumen is less but still present in urine.

Mar. 10 Urine now free of albumen. Throat normal. Will be dismissed soon.

Treatment.

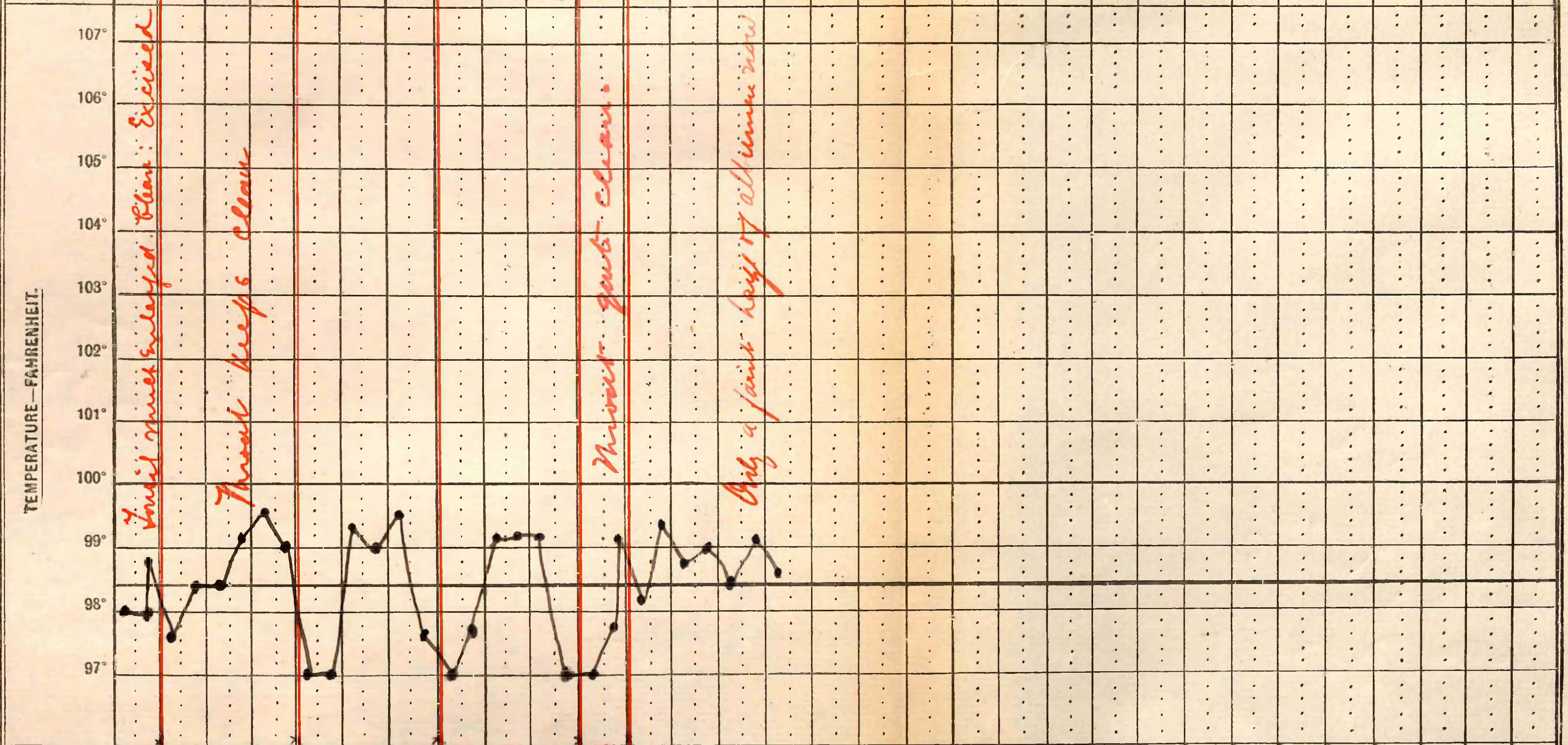
Local.

Tonics ext.

John Stewart
aet 7.
Admitted 19th Feby

Feby 19th

DATE.	19	20			21			22			23	24	25	26	27
DAY OF ILLNESS 22.	22 PM 10	23 AM 2 6	10 2	PM 6 10	24 AM 2 6	10 2	PM 6 10	25 AM 2 6	10 2	PM 6 10	26 2 6	27	28	29	30
Pulse.	68 / 80	76 / 68	72 / 88	88 / 72	56 / 64	80 / 76	72 / 60	60 / 60	116 / 86	88 / 56	72 / 60				
Resp.,	18 / 24	28 / 16	20 / 22	22 / 16	16 / 20	22 / 24	24 / 24	16 / 16	18 / 22	24 / 20	20 / 20				
Bowels,															
Urine. Oz.,															
Urine. Alb.,	Albuminous														



19 Feby.

John Stewart aet 7
214. Albert. Rd.
Portobello

Dr Reid.

3 weeks ago complained of sore throat. No symptoms and no rash. Was confined to the house but not to bed.
No other infectious disease.
Tempt 98. Pulse 68.

This boy looks all right but tends to breath through his mouth.
Nothing abnormal discovered a much enlarged state of the tonsils with slight congestion. which evidently had lately undergone an inflammatory change.
Surface taken off the left, and the right entirely excised
Urine contains Albumen

22. Throat looks quite well, nothing special in condition of throat.
Urine still contains albumen.
There is no rise of Tempt and pulse rate has fallen.

24. Throat is now quite clean. Tempt normal
26 Today urine contains but a faint haze of albumen
Throat is clean.

March 5 Urine clear. Throat normal.

Dismissed Well
10 March 1894.

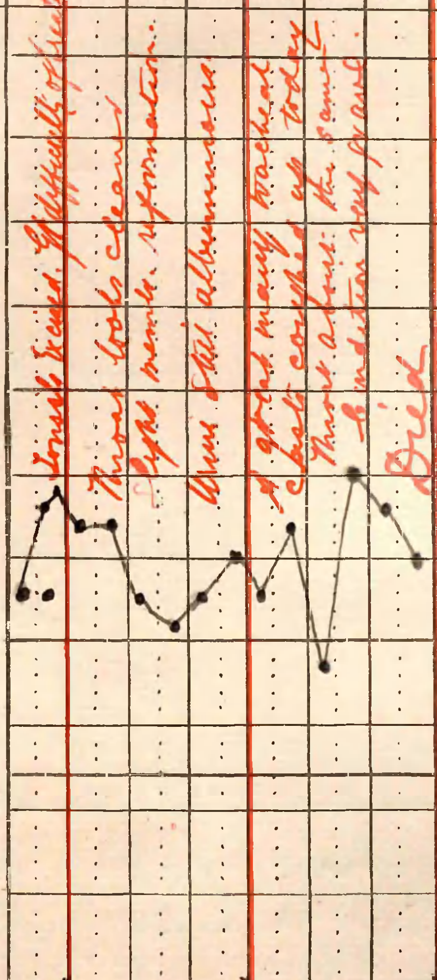
"In this case there seemed to be (as in the case of Robina Hackston) a marked tendency for the slightest pressure to cause extravasation and blue marking."

Mary Stewart
aet. 4
Admitted 19 Feby.

Feby.

DATE.	19		20			21	
DAY OF ILLNESS.	8 PM 10	AM 2 6	9 10 2	PM 6 10	AM 2 6	10 10 2	PM 6 10
	M E	M E	M E	M E	M E	M E	M E

TEMPERATURE—FAHRENHEIT. 107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°



Pulse.	140 / 120	140 / 148	136 / 136	140 / 136	132 / 132	144 / 138	140 / 136
Resp.,	28 / 24	28 / 28	18 / 22	20 / 20	24 / 20	26 / 22	32 / 17
Bowels,							
Urine. Oz.,							
Urine. Alb.,	Albuminous						

19 Feby.

Mary Stewart aet 4
214 Albert. Rd.
Pollo R shields

Dr. Kelley.

Illness began 1 week ago with sore throat, headache, and slight cough difficulty in swallowing at times. to pass.
Has had Measles.
Tempt 100.6°F. Pulse = 120. Resp = 24.

This child looks very ill. there is considerable difficulty in breathing and at times it is very noisy.
She is pale in complexion with a marked tendency to ecchymosis where there is pressure.
Pulse is very poor.
Nose has an acrid discharge.
Glands not enlarged.
Tongue thickly coated.
Tonsils much enlarged and covered with membrane.
Fauces, soft palate, pillars of fauces also carry membrane.
Urine: Albuminous
Tonsils excised not fully but the upper layer sliced away.
Today there is still membrane in the throat but the portal is now much wider. and on the whole the throat looks cleaner.
Tempt & pulse about the same.
Urine: still albuminous

Mary Stewart.

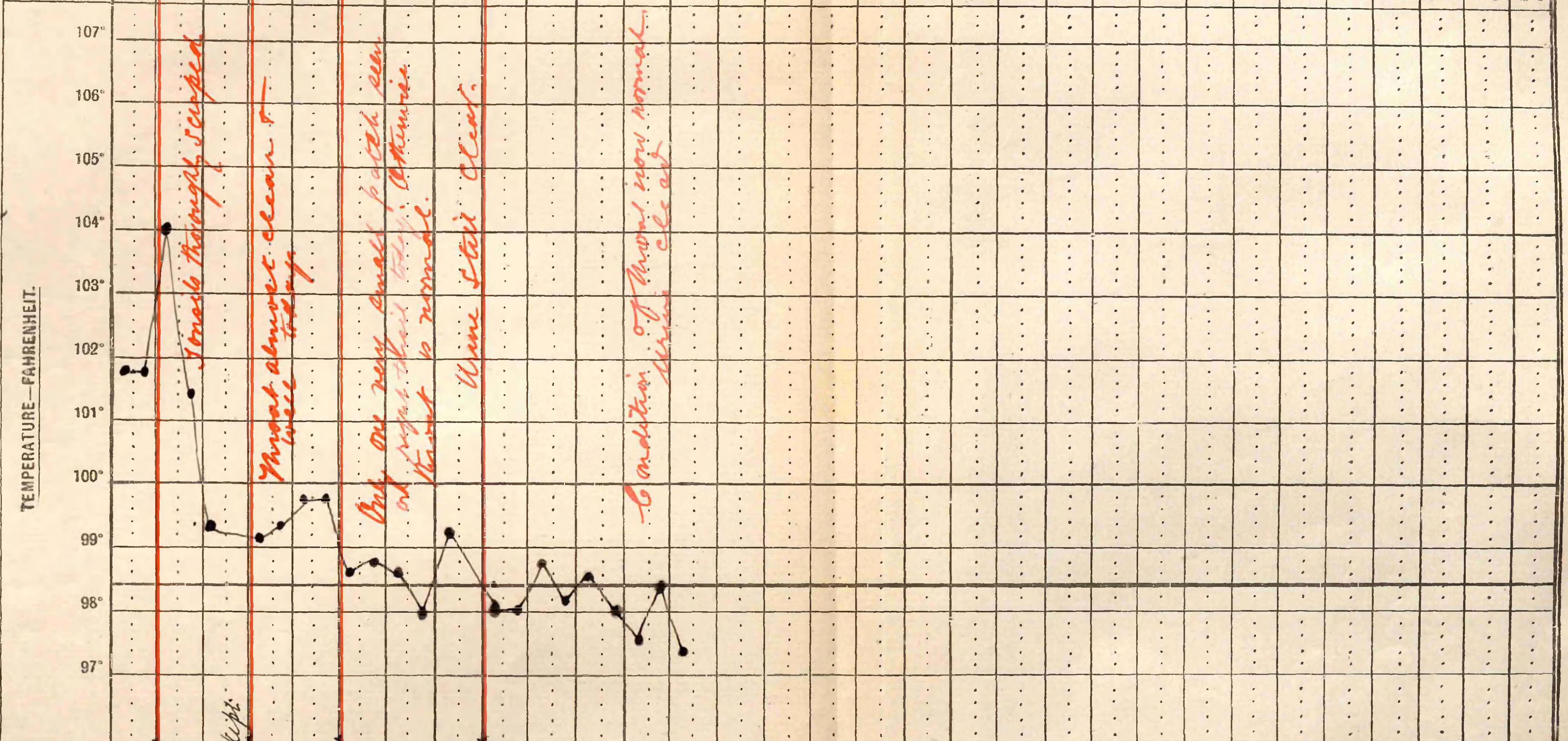
Feb 21 A great many tracheal casts have been coughed up. Looks much about the same to day.
Condition seems very grave.

Feb 22 Last night ~~Spasms~~ attacks of bad breathing came on and at times child got quite livid. Pulse was evidently failing too.
This morning at 7.55 she seemed very ill and like dying.
Lips were quite black - white face was anxious and [illegible]
Breathing was very difficult
to Anaesthetic was needed while Tracheotomy was hurriedly performed.
Breathing was almost suspended while the operation was being done, and by the time the tube was put in it had ceased altogether.
Artificial resp: was kept up for some time but without avail

Died at 8. A.M.
22. 2. 94.

John Sanderson
aet. 8
Admitted 19 Feby

DATE.	Feby 19	20		21		22			23	24	25	26	27
DAY OF ILLNESS.	1	AM 2 6	PM 6	AM 6 2	PM 6 10	AM 2 6	3	PM 6 10	4	5	6	7	8



	19	20 AM	20 PM	21 AM	21 PM	22 AM	22 PM
Pulse.	128 / 128	112 / 140	No record kept.	98	100 / 100	84 / 80	84 / 80
Resp.,	28 / 28	24 / 32		24	32 / 24	28 / 28	24 / 24
Bowels,							
Urine. Oz.,							
Urine. Alb.,	No albumen						

19. July 1894.

John. Sanderson aet. 8.
174 New. City Road.

D! Turner.

1st day of illness. began with sore-throat. no other symptoms.
Has had no convulsions.
Tempt = 101·8°F Pulse 128. Resp: 28.

This boy does not look very ill.
No rash is seen.
Glands not enlarged.
Tongue. almost clean and moist.
Throat. Shows a thick layer of membr over right tonsil which is not enlarged.
Urine = clear.

20 The membrane was scraped away carefully with a scoop, but was found to extend into a cavity in substance of tonsil.
Strong Sly. and Carb. was applied.

21. Tempt. this morning is 99·2°F.
Throat today is almost clean and well. Almost no membrane is found on right tonsil.

22 Throat today looks cleaner and is normal - except for one small patch on upper part of right tonsil, In this case two tonsil seem sunk beyond pillars of fauces.
Tempt. Pulse & Resp: = normal
Urine = clear.

18

John Sanderson

Feb. 24. Seems now almost quite well.
Slight amount of secretion on tonsil this morning.
Feb. 26. Throat today is clear.
Feb. 28. Patient is now quite well.

— — —

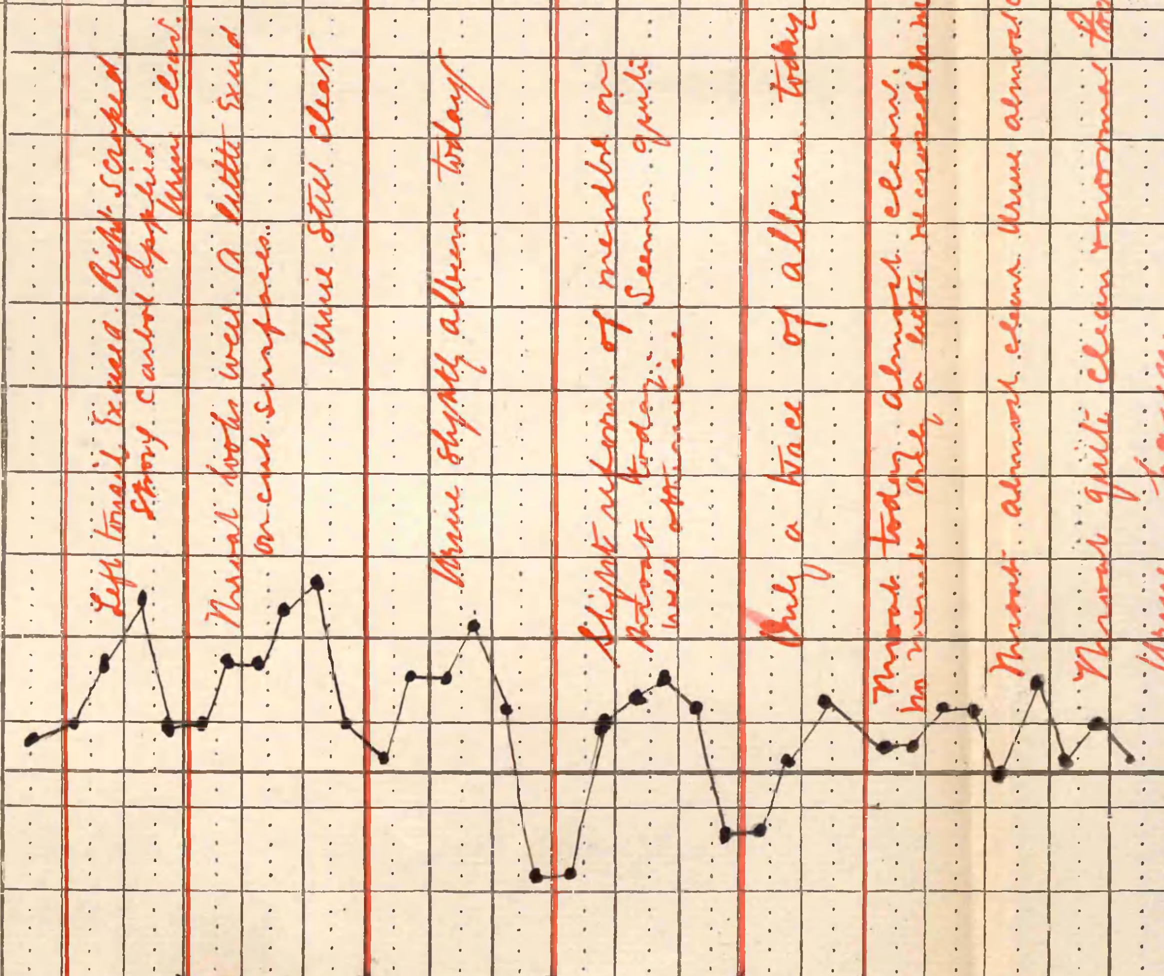
Dismissed Well
17 March 1894.

Wm Murray
aet: 6
Adm. 20 Feby.

Feby — Mar

DATE.	20	21		22			23			24			25		26	27	28	1	2
DAY OF ILLNESS.	6 adm	7 6 2	PM 6 10	8 AM 2 6	10	PM 2 6 10	9 AM 2 6	10	PM 2 6 10	10 AM 2 6	10	PM 2 6 10	11 AM 2 6	PM 6	12	13	14	15	16

TEMPERATURE—FAHRENHEIT. 107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°



Left tonsil excised. Right scraped. Spray carbol. applied. Urine clear.

Throat looks well. A little exud on cut surfaces.

Urine still clear

Urine slightly album today

Slight return of membr on throat today. Seems quite well otherwise.

Only a trace of album. today

Throat today almost clean. No membr. over a little near the m...

Throat almost clean. Urine almost clean

Throat quite clean & normal today. Urine healthy.

	20	21			22			23			24			25
Pulse.	116	120	96	108	124 / 116	116 / 120	120 / 84	84 / 100	104 / 88	80 / 76	72 / 80	80 / 92	86 / 76	68 / 76
Resp.,	24	20	20	16	16 / 16	16 / 20	18 / 16	16 / 20	18 / 20	16 / 16	16 / 18	16 / 16	16 / 18	16 / 16

Bowels,

Urine. Oz., Alb., None. Slight qty.

20th Feby.

William Murray.
228. Dumbarton Rd.

Mr Murray.

3rd day of illness. began c sore throat.
No other symptoms.
Has had Measles & Wh. Cough.
Temp[t] 98·8° Pulse 116. Resp[n] 24.

This boy does not look very bad as far as breathing is concerned
Glands are not enlarged.
Tongue. irregularly [illegible]
Throat. Shows enlargement of left tonsil with patches of membr. upon it. While the right is not enlarged but is more covered with membrane.
Urine - clear.
Right tonsil scraped and strong Carbolic applied.
Left tonsil escaped.

22. This throat looks very well today There is some exudation on cut surface and the uvula is long and pendulous but otherwise throat looks very well.
Tongue - clean Urine - still clear.

24. There is a little membrane formation on throat but ~~on the whole~~ this boy looks very well.
Urine is albuminous.

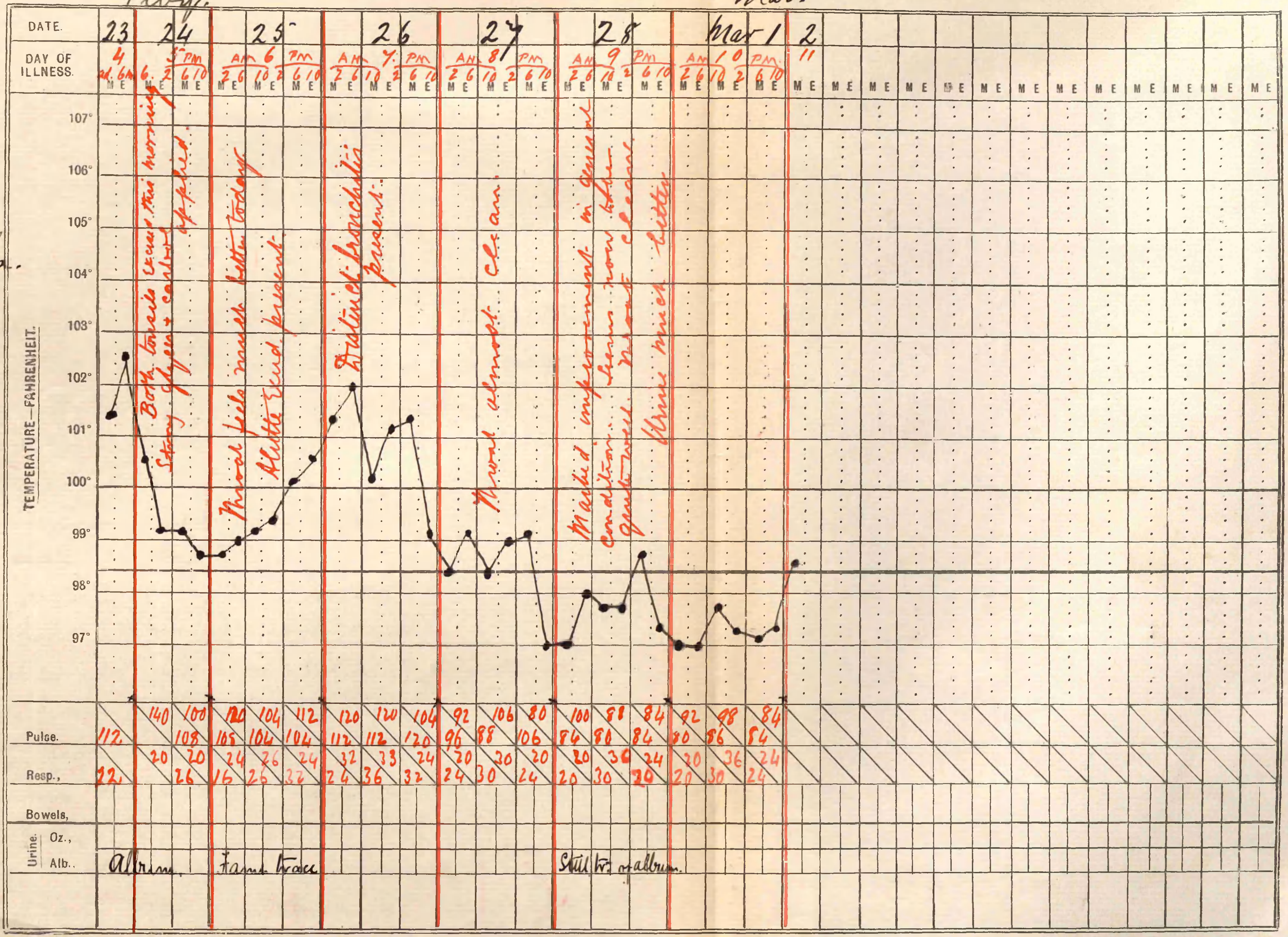
Feby 26. Throat today is almost clean. there being only a very little thin white

William Murray.

adherent exudation.
Urine is improving much - only
a trace of albumen being present.
Feby 27 Throat almost clean.
Urine almost clear.

Dismissed Well
10 March 1894.

Christina McLea.
aet 6
45 3 St Geo Rd
Gr L.
Adm. 23 Feby.



23. Feby.

Christinia Mc Lea. act. 6
453. St Georges Rd Fitz.

Dr Crawford.

Illness began 2 days ago ~ Sore throat and headache.
No rash seen.
Has had measles & wh Cough.
Tempt on adm = 101.4. Pulse 112 R. 22.

There is a slight suspicion of this child having Scarlet but there is nothing on further exam. to justify the suspicion.
A careful exam. reveals nothing in the way of a rash on any part of the body.
Glands in neck especially right side are found to be enlarged at angle of jaw.
Tongue has been furred to some extent but is now almost clean
There is no noticeable enlargement or congestion of papillae
On examination of throat 2 large pieces of yellow exudation cover the tonsils and are seen sticking prominently out. the exudation appears firm and adherent and the congestion appears to be local. the right is much the larger.
p. 24 Both tonsils were excised and strong Fly and Carbolic applied
The tonsil after being taken out had more the appearance of a scarlet than a diphtheria tonsil its substance being soft and broken down. Urine slightly albuminous.

Christina McRea.

Feby 25. There is slight exudation on cut surface today but it is very slight and limited.
She volunteers ~~the~~ statement "that her throat is very much better."

Feby 26. Throat looks much in the same condition today, Her tempt. however is up, but on examination of the chest, distinct bronchitis is made out in both lungs especially in the upper parts.

Feby 28. Throat today is almost entirely clean and such a result goes a long way towards prejudicing one in favour of the removal of the tonsils in such cases
Nothing could serve as a greater contrast between the throat today and what it was on the day of admission
Her general health keeps well up and tempt is now normal.

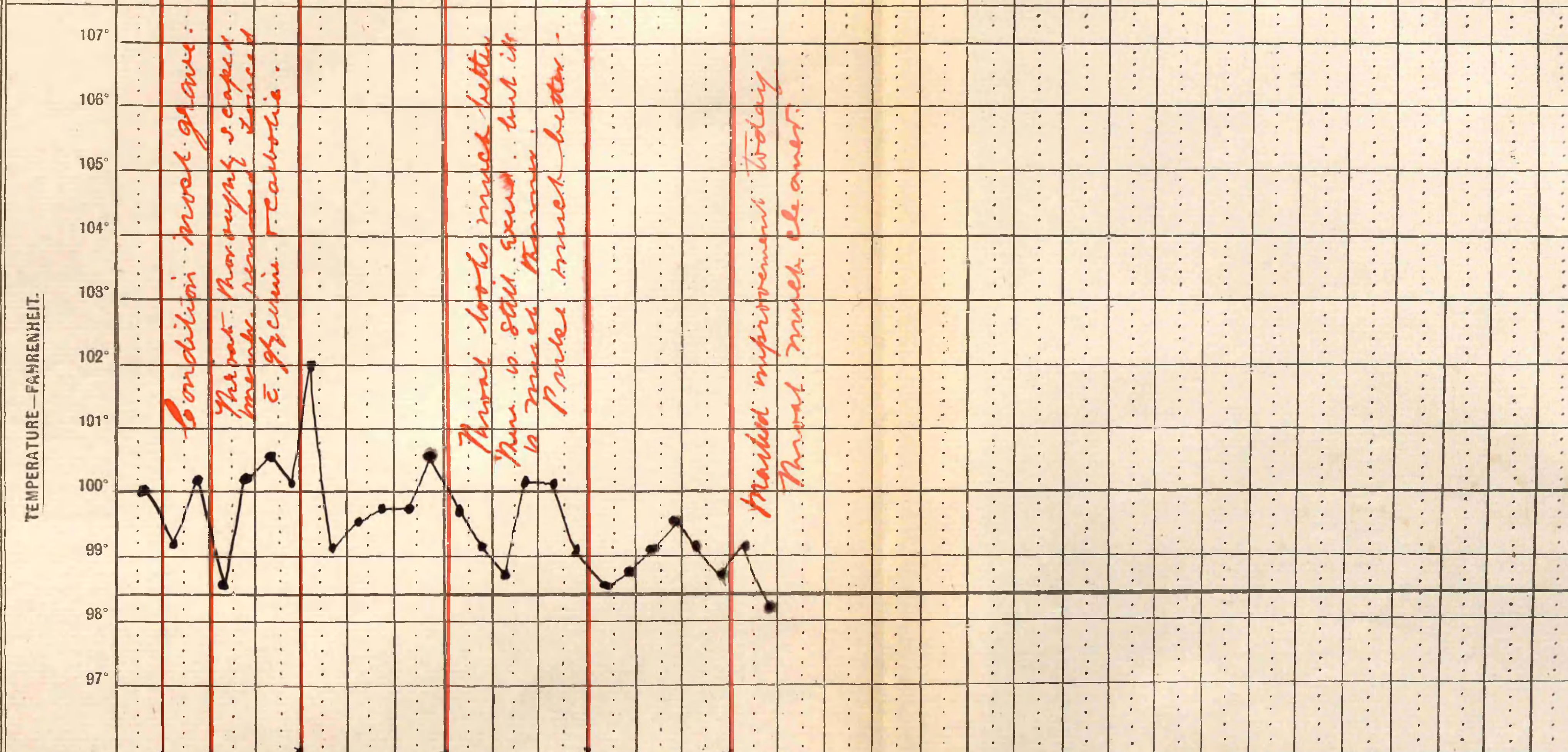
March 18. Urine contains still a faint trace of albumen. Otherwise she is perfectly well though she still remains in hospital.

Treatment.

Hy & Coc. to throat
Hy. mixture
3ss. brandy & honey

Mrs McGattrick
aet 38
adm. 24 Feby.

DATE.	Feby. 24	25	26	27	28	Mar 1	2
DAY OF ILLNESS.	2 ad	3	4 (6, 2, 6, 10 / PM)	5 (AM 2, 6, 10 / PM 2, 6, 10)	6 (AM 2, 6, 10 / PM 2, 6, 10)	7 (AM 2, 6, 10 / PM 2, 6, 10)	8



Condition most grave.

Throat: Mor[illegible] s. capt. membr. removed. Loosened c. glycerine & carbolic.

Throat looks much better. Pus is still seen but it is much thinner. Pulse much better.

Marked improvement today. Throat much cleaner.

Pulse.	84		92 / 92	104 / 100	100 / 64	80 / 74	100 / 96	92 / 80	94 / 92	88 / 88	92 / 80	88 / 84	80 / 92	96	
Resp.,	18		22 / 18	24 / 24	24 / 18	20 / 20	20 / 24	24 / 16	22 / 20	20 / 20	20 / 20	20 / 20	20 / 20	20	

Bowels,

Urine. Oz., Alb.. Albumen. — Slightly albumen.

24. Feby 1894.

Dr McRae.

Elizg. Mc Gatterick
Aet 38 yrs
165 Calder St.
3 up mid: Clarks)

Illness began yesterday morning with sore throat and shivering. No other infectious disease.
Girl of 12 died on Tuesday last from diphth:
Tempt 99.2. Pulse 84, Respr 18.
This woman looks sharply ill
Tongue is coated with yellow white fur.
Throat structures deeply congested and on the surface of tonsils which are most enlarged is a typical partly removed exudation.
She complains of difficulty of swallowing
Urine is albuminous

Feby 26. Today there was a great thick coating of membrane over the left tonsil & uvula. This was thoroughly scraped away with director. Then the deep congestion of all the throat structures was seen. It was then touched with Strong Carbolic
Pulse today is much improved.

Feby 28. Throat is looking better.
There is still some exudation but it is much thinner than it was.

Mar. 1/4 Urine clear. Throat normal. Going about and will be dismissed in a few days.

Treatment.

Local.

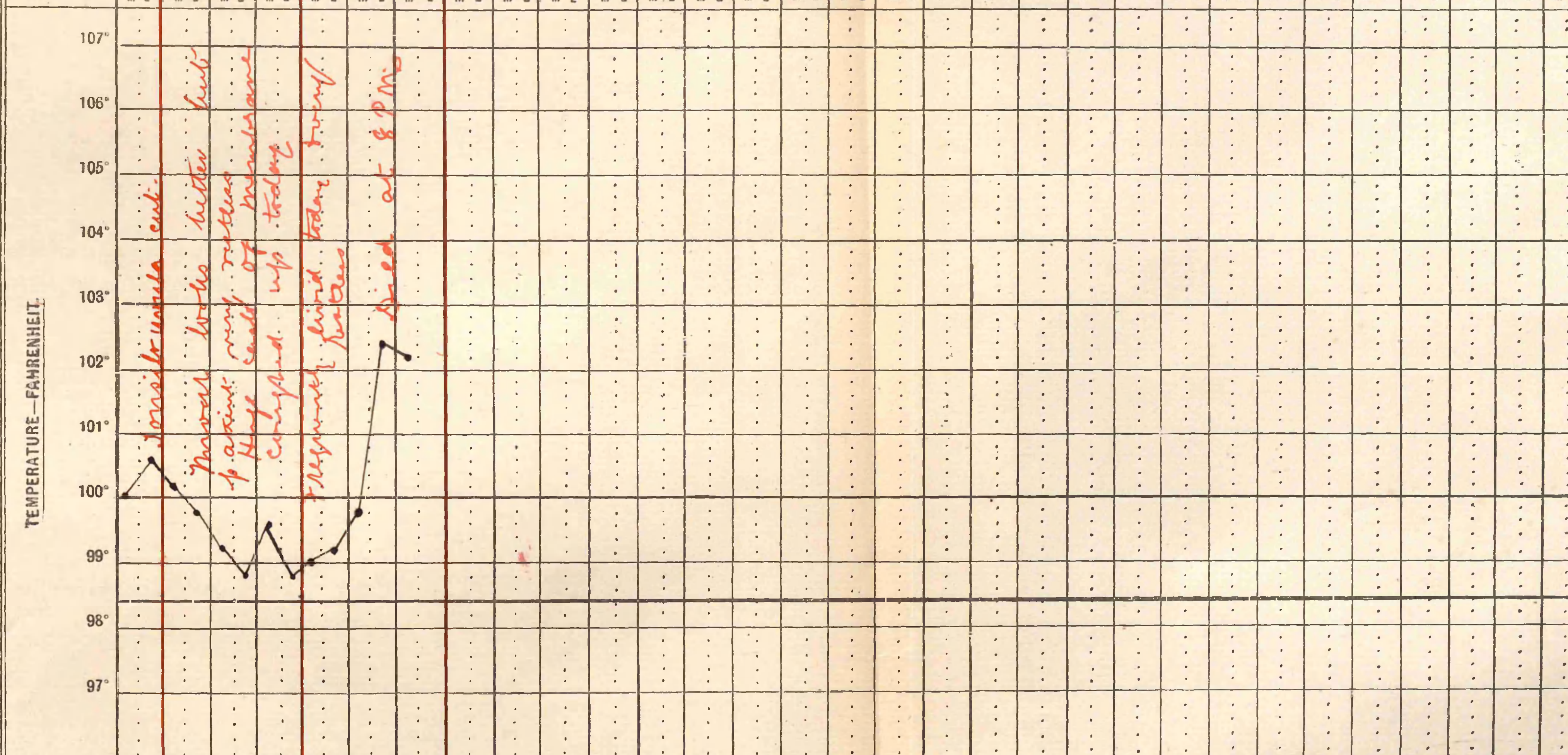
Tonsils Cut.
Uvula (part) excised
Nose washed ē menth & Cocain
Throat swabbed ē Ag + Coc.
Poultices
Hot water.

Internally.

Eggs & Sherry.
Brandy.
Ag. Mixture

…ter McCormick

DATE.	Feb. 27		28		March 1			
DAY OF ILLNESS.	6		7		8			
	M E	M E	M E	M E	M E	M E	M E	M E
Pulse.	74 \ 108	100 \ 92	84 \ 55	90 \ 92	96 \ 96	96 \ 120	144	
Resp.,	15 \ 20	20 \ 20	15 \ 18	20 \ 18	20 \ 20	24 \ 32	44	
Bowels,								
Urine. Oz.,								
Urine. Alb.,		Highly albuminous						



27. Feb.

Peter. McCormick aet 20
3 Jamfield Terrace
Smith St.
Hillhead

Dr. Buchanan.

Illness began 5 days ago with headache and sore-throat. no other symptoms and no other infectious disease.
Tempt 100 4/5. Pulse 74, Resp. 15.

When admitted this young man looked in a very grave state. He was extremely pale and worn out looking and face was anxious. Speaking was almost impossible so much obstruction being in the throat.
Whole neck enormously enlarged. connective tissue as well as glands being infiltrated.
Tongue: coated.
Mouth was full of black foul-smelling debris.
The tonsils pressed on the uvula. The right was much more enlarged than the left.
A way had to be cut thro' the mass to relieve breathing and difficulty of speech.
A large piece of right tonsil was taken off and the uvula which was very much enlarged

Peter McCormick

and covered with membrane was
largely cut away.
Then the membrane which was present
in great quantity and from which
a fearful smell emanated was all
brushed away. All the structures
being then touched ℈ 1/2 + 1/2. Carb. & Gly.
The nose also was washed and
menthol and cocaine put in.
A little later he expressed him-
-self as feeling great relief.
Pulse was very [illegible]
Urine highly Albuminous.

Feby 28. This patient was restless last night
but after 3+ Syr. of chloral. slept
for a little time.
Throat today looks much better There
is still the great thickening of all
the structures of the throat but
there is none of the ill smelling
membrane. and the portal is now
very much wider
He looks better and pulse
which is 92. is very good.

March 1. Last night patient was very
restless and at times got livid.
This morning he looked very ill
and hope seemed gone.
He was put on larger doses
of Stimulant and at times
seemed better. But improvement
was only temporary
His face assumed the dreaded

Peter. McCormick.

Ashen hue
Lips and nails got quite black and
pulse which in the morning was
bounding faded entirely about
6.30. p.m.
At 8. o'clock we were all
saddened by the fatal ending.

Treatment.

Local.

Nose washed ē menth. & Cocain

Throat swabbed ē Hg & Coc.

Internally.

Eggs and Sherry.

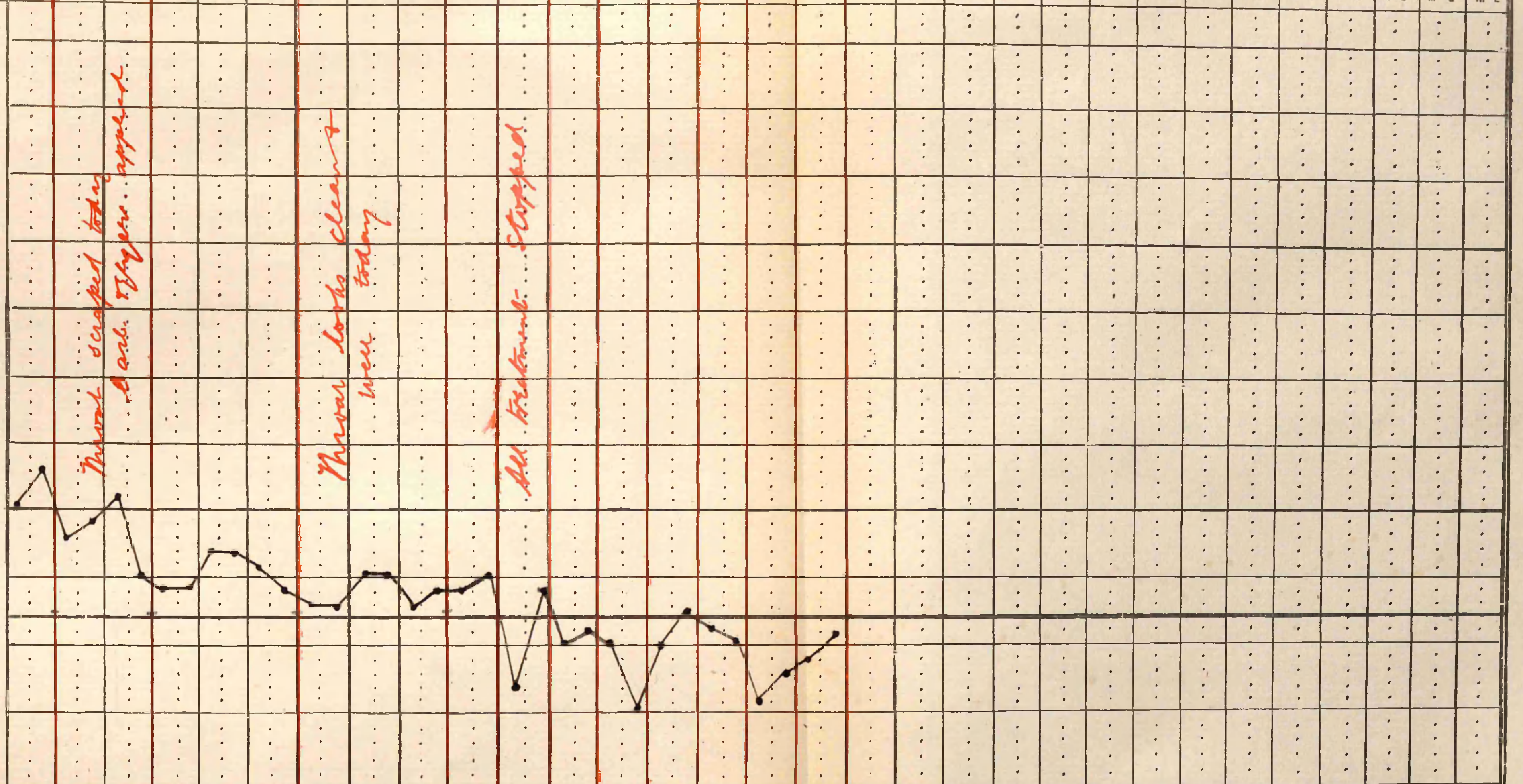
Hg. Mixture

Effie Lawson

DATE.	Feb. 27	28	March 1		2		3	4	5	6	7	8	9	10
DAY OF ILLNESS.	4	5 PM 6 10	AM 6 2 6 10	PM 2 6 10	AM 7 2 6 10	PM 2 6 10	8	9	10	11	12	13	14	15

TEMPERATURE—FAHRENHEIT.

107° 106° 105° 104° 103° 102° 101° 100° 99° 98° 97°



Pulse.	84	68	72 / 76	76 / 80	84 / 84	92 / 80	88 / 68	52 / 64	50 / 50	60
Resp.,	22	20	20 / 20	20 / 20	20 / 20	20 / 22	20 / 16	18 / 18	18 / 18	20

Bowels,

Urine. Oz.,

Alb., Trace of albumin. Slight alb. No more alb. Clear

27. Feby.

Effie Lawson. aet. 15.
193. Hunter St. 2 up. R.

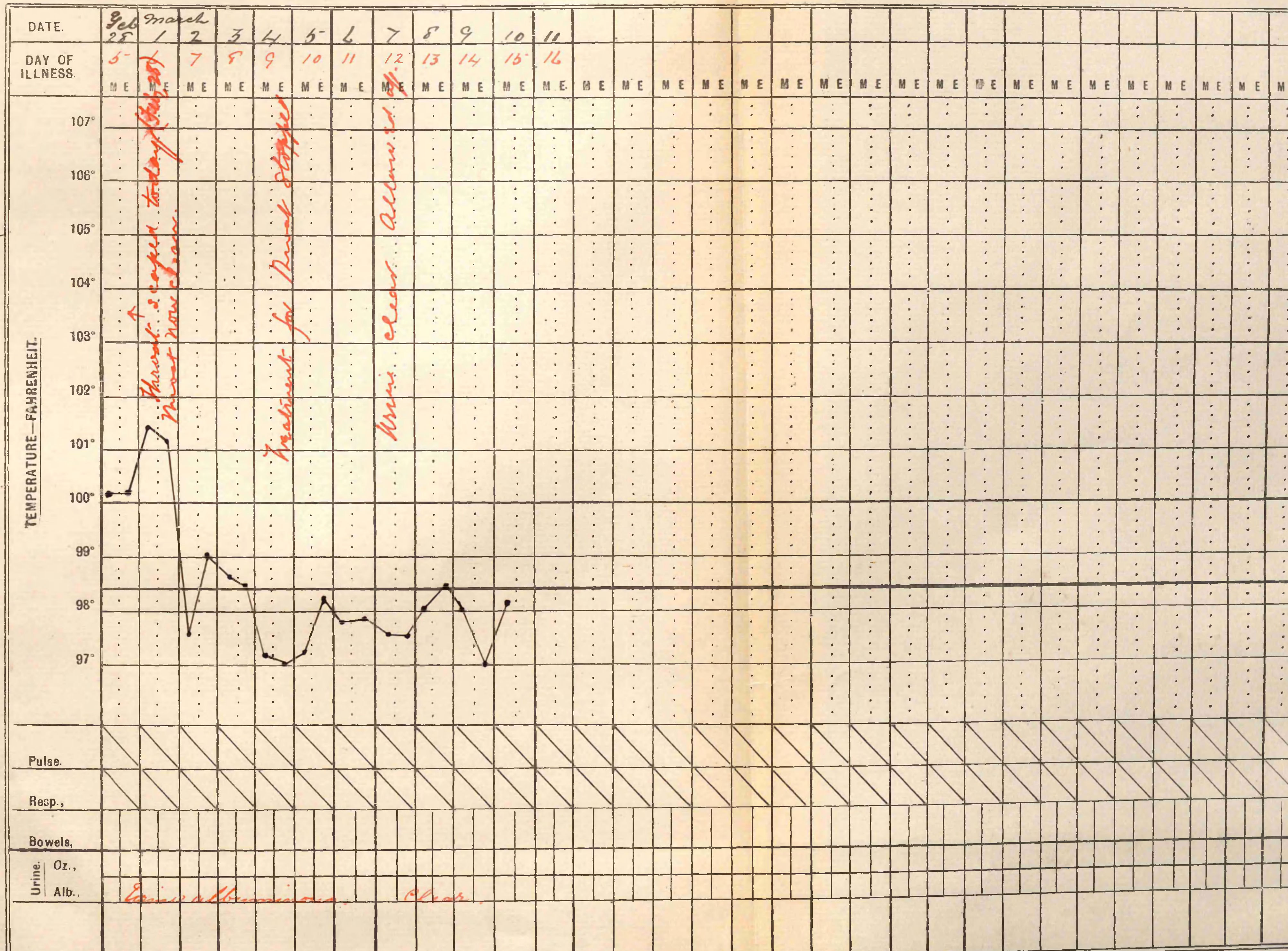
Dr Dewar.

Illness began 3 days ago with sore throat and headache.
It has had Measles
Tempt 100. Pulse 84. Resp 22.

This girl looks pretty sharply ill
breathing is all done thro the mouth
Glands and structures in neck
are considerably enlarged.
Tongue has been furred but
is peeling
Throat shows a limited congestion
around right tonsil
Both tonsils are a little enlarged
and on their surfaces is a fairly
thick coating of membrane.
Over the arms is a brilliant
red blush. There is a slight
hyperaemia on body. but it is
not characteristic of Scarlatina
Urine free of albumen.

28. Throat today deeply scraped and
strong Gly and Carb applied.
Mar 1. Throat looks clean & well today.
strength improving.
4 Throat looks normal today & all
applications stopped.
17 Quite well. Will be dismissed in a
few days.

Matilda Passmore



28. Feby.

Matilda Passmore. 21.
115. Stobeross St.

Dr Coyle.

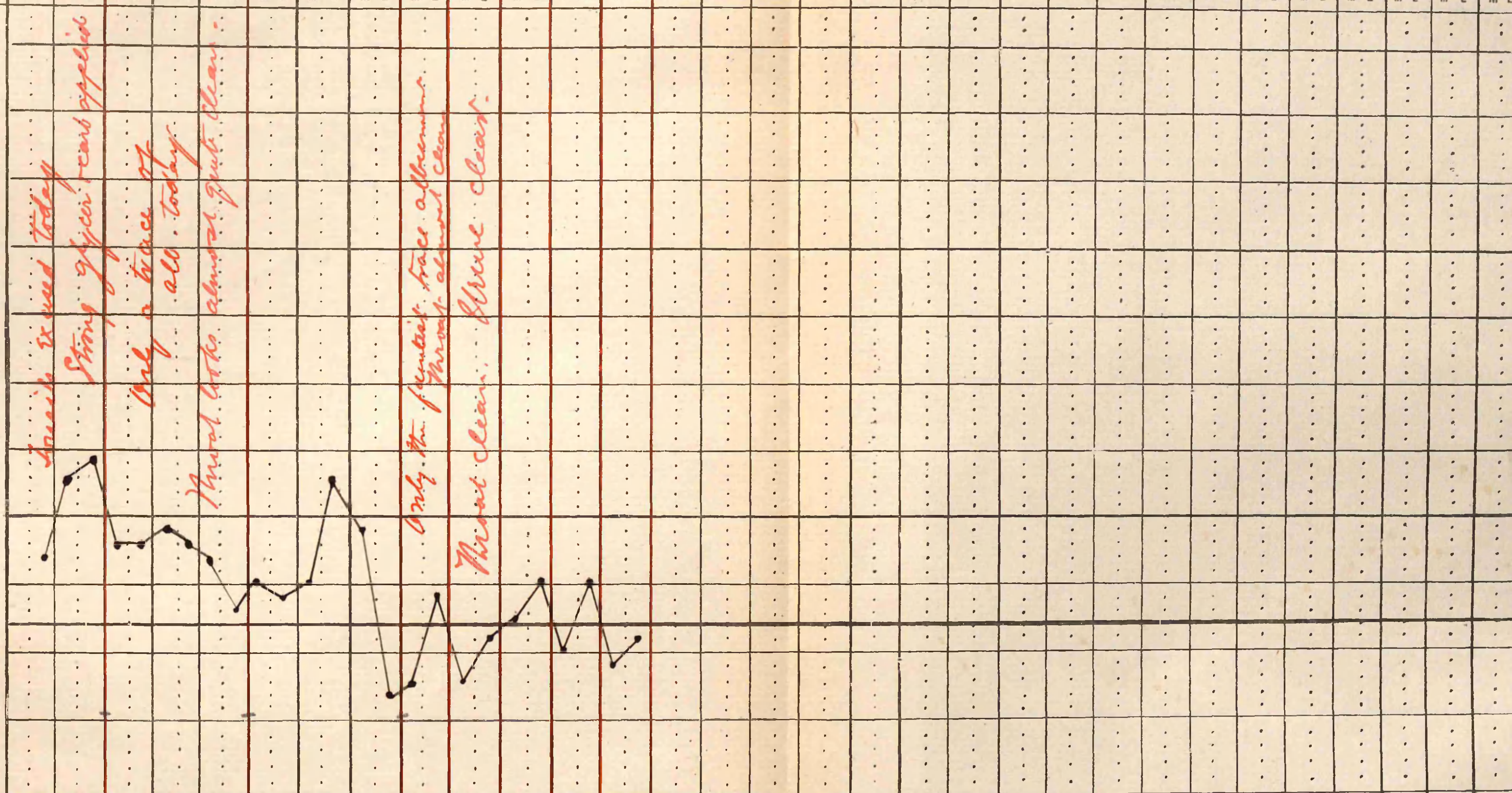
Illness began 4 days ago
with severe sore throat
No other symptoms
No rash seen.
Temp[t] 100.4, Pulse 96. Resp. 22.
Does not seem very ill
Glands in neck much enlarged
Tongue, furred
Tonsils swollen and congested
& small yellow spots in their
substance.
There is no rash and congestion
in throat is limited
Urine is hazy
Subject to Bronchitis
Had tonsils scraped today & strong carbolic
acid applied
Mch. Throat looks clean today & congestion
gone. Urine still contains a trace of
albumen.
4 All local applications to throat stopped
it being now clean & well.
7. Allowed up today Throat normal
and urine clear.

Dismissed Well.
17 Mar. 1894.

Lewis Grant

DATE.	March 3		4			5			6	7	8	9	10
DAY OF ILLNESS.	2	AM 2 6	3 10 2	PM 6 10	AM 2 6	4 10 2	PM 6 10		5	6	7	8	9

TEMPERATURE—FAHRENHEIT.



Pulse.	108 / 104	120 / 100	104 / 88	100 / 100	112 / 96	92 / 100	104 / 104	76 / 88
Resp.,	36 / 28	36 / 24	24 / 22	24 / 28	24 / 24	28 / 24	24 / 22	24 / 20

Bowels,

Urine: Oz., Alb.: Urine albuminous — alm. Clear.

3 March.

Louis Grant. act. 10
122. Cumming Drive,
Mount Victoria

Dr Gary.

Illness began yesterday morning c sore throat
No other symptoms
No rash.
Tempt 99.4. Pulse 108. Resp 24

This boy looked sharply ill. No rash seen
Glands at angles of jaw slightly enlarged
Tongue clean unless on dorsum
Tonsils enlarged and congested
Some white exudation on the tonsils.
The congestion does not spread far on the soft palate.
Urine: albuminous
Tonsils removed and carb & fly. applied

4. Throat looks almost quite clean today. Only a little Yellow exudation on cut surfaces
Quantity of albumen today is only a trace.

5. Throat structures much healthier looking. Only the slightest amount of exudation on throat. Urine contains only the faintest trace of albumen

6. Throat today is clean. Urine clear

7. Dismissed Well
17 Mar '94

Treatment.

Local.

Poultices
Spray.
Throat swabbed ō Glycer.
Nose syringed

Internally.

Egg flip & brandy.
Sherry.
3ii Brandy. 2 hourly.
Dy. Mixture

Henrietta Greg
aet 6

Admitted 13 Feby

Febry

DATE.	13	14	15	16	17	18	19	20	21	22
DAY OF ILLNESS.	2	3	4	5	6	7	8	9	10	11
	M E	M E	M E	M E	M E	M E	M E	M E	M E	M E

TEMPERATURE—FAHRENHEIT.

107°
106°
105°
104°
103°
102°
101°
100°
99°
98°
97°

Very crumbly

Tonsils today cult. strong

Less crumbly today

A large quantity

Breathing almost all right. Membranous

Nurse absent ill

Urine less albuminous. Breathing not crumbly

Nurse clean. Breathing normal. Only a

trace of albumen present.

Pulse.	148
Resp.,	
Bowels,	
Urine. Oz.,	
Urine. Alb.,	Very albuminous improving much now.

13. Feby.

Henrietta Greg. aet. 6.
37. Wallace Grove.
P. 3 up R.

Dr. Kelley.

2nd day of illness
Began c a cold and sore throat
Breathing rather difficult
Has had a cough all winter
No other infectious disease
Temp. 98.6

This does not look a very healthy girl. She is fairly well nourished but on left side of face is a scrofulous sore.
She has distinctly croupy breathing tho it is not laboured.
There is redness over body but it appears not to justify suspicion of scarlet.
Gland at right of neck enlarged
Tongue is only slightly furred and is moist.
There is congestion of hard palate but no punctate appearance
There is deep and limited congestion of tonsils with some yellow cheesy exudation on their post surfaces and on the post wall of pharynx going up behind soft palate.
Pulse is 148 of fair strength & regular.
Urine - albuminous

Feby 16. Today this little girl seems much better than she was on admission. Her general appearance is better &

Hemiretta

She is not nearly so croupy
Today the tonsils appearing a little more
swollen and covered with membran
it was attempted to remove them.
Part of the right was removed with
Gullotine. Throat afterwards swabbed
with Gly and Carbolic (1/2 & 1/2)

Febry March 17. Today this girl looks better. She
rested well last night and is
now less croupy
She seems stronger
Urine - is still albuminous
Throat - still shows presence of a
little membrane

Febry March 18. Looks much better today. Breathing
almost allright.
Throat looks very much better and
local treatment will now be
stopped
A large quantity of membrane has
been coughed up.

Febry March 19. Throat looks splendidly today
One or two small white patches
but congestion and swelling greatly
gone. No croupyness now hardly.
Strength returning. Urine still
pretty highly albuminous.

Febry March 20. The improvement here continues
Throat is almost clean. Croupyness
is now almost gone.

Febry March 21. Throat clean. seems quite well

Febry March 26. Condition normal but for.
Albuminuria

Mar. 7 Urine clear. allowed up. Dismissed Well
10 Mar. '94

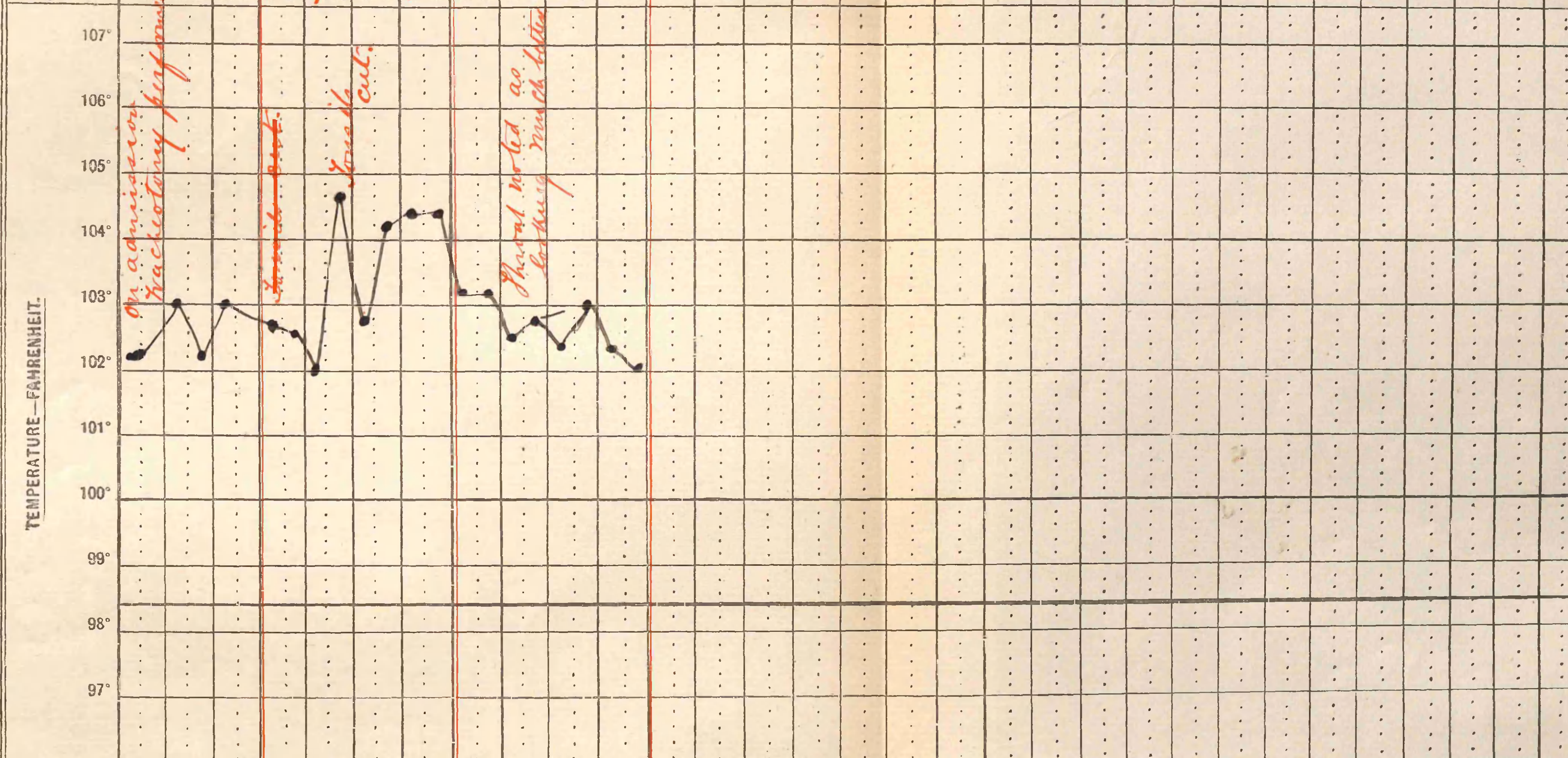
I 6

Thos M^cIntyre
aet. 6.
Admitted 7 Feby.
Died 10 Feby.

Malignant
Case of
Diphtheria

Feby

DATE.	7		8				9			10
DAY OF ILLNESS.	6		7				8			
	M E	M E	3 6	9 12	3 6	9 12	M E	M E	M E	M E



Pulse.		132 / 136	132	136 / 132	136 / 136	136 / 136	140 / 140	132 / 132	132 / 144	140 / 144	142 / +
Resp.,		40 / 36	36	42 / 34	34 / 40	40 / 28	48 / 38	34 / 36	46 / 38	40 / 40	38 / 40
Bowels,		Loose									
Urine. Oz.,											
Urine. Alb.,		Highly albuminous.									

7. Feby.

Thos. Mc Intyre. aet 6
34. Claremount St.
2nd Supp

Dr Chalmers

Illness began 5 dys ago
with headache and sickness
Croupy cough commenced
last night.
Has had Measles & Wh. Cough
Tempt 103.

This boy seems as ill as he can possibly be and nothing but the gravest prognosis can be formed. His face is a marked livid colour his lips quite livid. Eyes dull & [illegible]. He has the greatest difficulty in breathing and there is much retraction Pulse is extremely poor
From the nose runs a yellow and discharge and on Examination of the throat tonsils are found to be enlarged and covered w membrane
Tracheotomy - unavoidable
In doing it 2 great veins were met. joining each other over trachea The one was drawn aside from the other but the pressure with retractor seemed to tear it and great bleeding commenced. It came like a wave Ice was applied - Finally it was tied away with Artery forceps after boy had been put under Chlorof.
Operation gone on with but tissues were

Thos. Mc Intyre.

so blood stained and drawn aside by forceps. that dessection* had to be made at side of trachea & opening rather from this direction.
Great peices of membr were coughed up and relief to breathing was most marked
He fell asleep almost immediately and there was no further trouble & bleeding
Pulse improved much 140!

Feby 8. This boy has passed a fairly good night rested slept and drank well.
A good many large peices of membrane brought away, today.
Throat still looks very bad.
Tonsils are considerably enlarged and all their surfaces is uniformly covered with membrane. This is also adherent to the soft structures around the uvula being imbedded in it
Tonsils were to day excised and Strong Fly and Carbolic applied to throat. Still some and discharge from nose. Glands in neck are much enlarged and the whole case of the malignant type.
Face is still a little mottled and wears the heavy dull expression
Eye is much clearer than it was but is still a little dim.

Feby 9. Last night the tube was taken from this boys neck and the trachea brushed

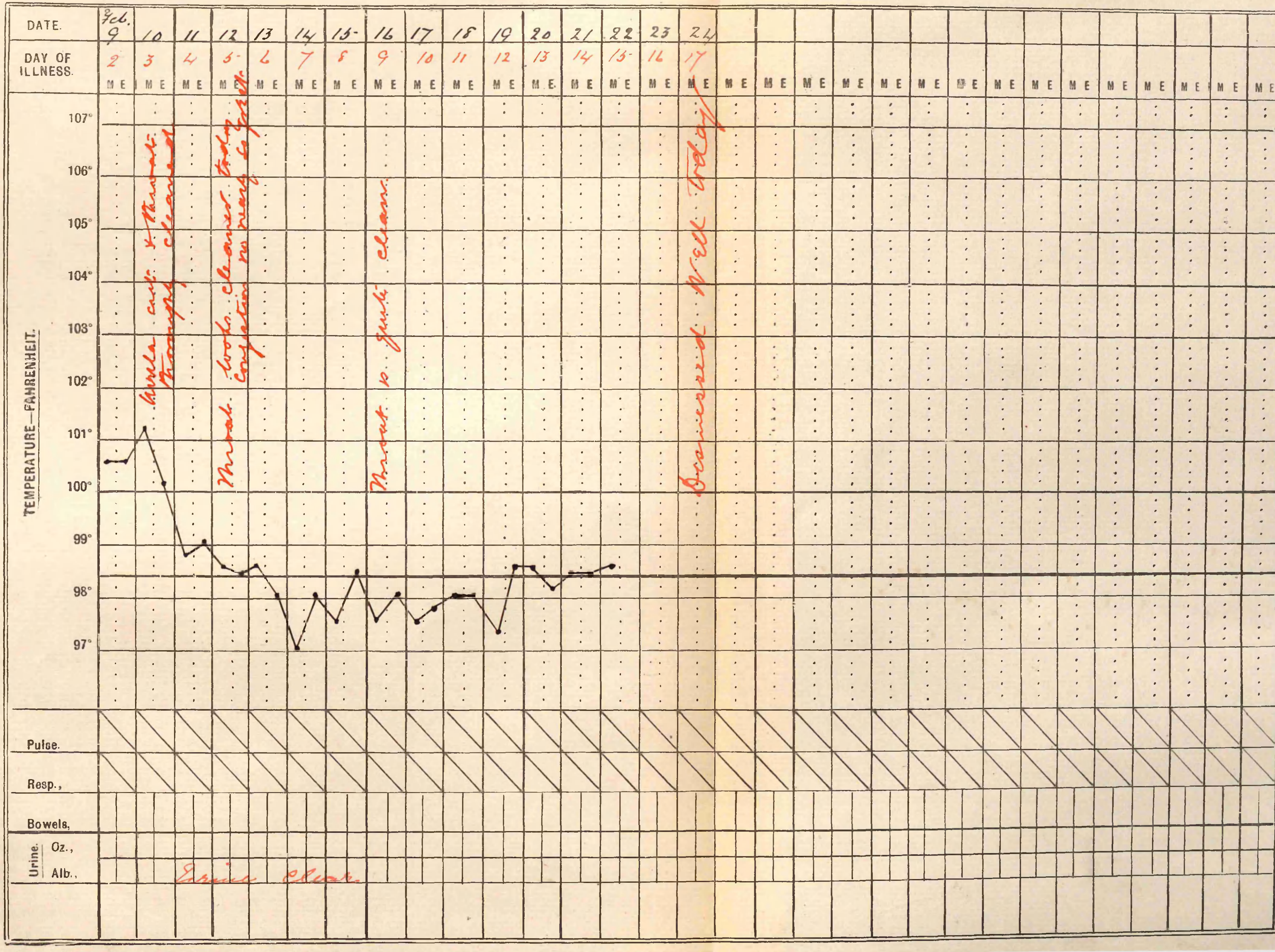
Thos. Mc Intyre.

Fourteen large peices of membrane were got away. there still seemed to be some of them in the larynx causing irritation and coughing which it was impossible to dislodge There was slight bleeding when tube was removed but it soon went away
Tempt is lower and pulse rate is lower than it was. and on the whole he is no worse.
Neck is very much swollen on each side and swelling appears tender. There is a scarcity of mucus and there has been no membrane since last night
Throat looks much better today There is some exudation on the cut surfaces but there is not so much congestion and throat has a cleaner healthier look.

July 10. During Yesterday this boy at times got black. and cld without any apparent difficulty of breathing He gradually got weaker could not swallow and.

Died at 1-20 A.M.
10. 2. 94

No. Wm Robertson



Feby 9.

William Robertson aet 40
24 Wellfield St.
Crossmyloof.

Dr Brown.

2nd day of illness.
Began & chills and sore throat
Wife in the ward & diphtheria
Has had no other infectious disease
Tempt 100.6.

This man does not seem to be very ill.
Glands in neck are not enlarged.
Tongue covered & thin brown coating
Throat deeply congested
Left side with tonsil and pillars of fauces swollen and deeply congested.
Slight yellow adherent exudation on surface of tonsil.
Uvula much enlarged and dis-tended
Urine is clear.

10. Uvula tonight denuded owing to an easy feeling it gave in throat

12. Throat looks much cleaner today and the congestion is not nearly so great as it was. nor is it so much swollen.
Uvula still shows a little Exudation on cut surface
There is a small patch on left.

tonsil. but beyond this throat is clean.

July 16. Throat is quite clean, congestion going.

Dismissed Well
24 Feby 1894

"