

Typhus Fever

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Typhus fever

By L. McWhannell, M.D. C.M.

Typhus fever may be described as a highly contagious fever, lasting from 2 to 3 weeks and characterized by a nearly eruption coming out from the 4 to the 7 day

The eternal cause is a specific poison whose origin is unknown but communicable from one person to another, probably through the excretions of the skin and lungs floating in the air, or by clothing which becomes a carrier of the poison which clings to it, it is not known to be communicated by water or by food - Its spread and mortality are intimately connected with overcrowding in poorly well-ventilated dwellings associated with debility of body from insufficient food - It is a disease of temperate and cold climates and appears from time to time as an epidemic in our towns and larger villages, purely rural parts of the country seem to be in a great measure exempt from it. When a serious epidemic of typhus occurs in a town it usually lasts for a considerable period, often for the better part of 3 years; not however of the same severity throughout, but increasing or diminishing as the temperature rises or falls. Thus the greater number of cases occur during winter the smallest number during summer. The larger number of cases is usually made up of females & young children -

Hygiene

(Quelques Historie medicale du Cloaca de Metz 18
Chauvard Academie de medecine)

^{x.}
Parkes Hygiene

^{x.} I don't see what is meant to be the
reference here. It should have been given
in detail.

Whether Typhus can be produced by over crowding alone is yet uncertain, During the French war of 1870 altho there was much over crowding wretchedness and misery in Paris and more particularly in Luets, there was but little Typhus, it was nothing like the amount in the 1st Napoleons time.

The Etterual Causes may be described as follows:-

A special condition of the body is necessary and one attack protects in a great measure from a second. General feebleness, poor diet overwork, & exhaustion, and especially the scorbutic taint greatly increase the intensity of the disease and may aid its spread, but the strongest and best health is no guarantee against an attack of Typhus.

In all probability initial cases of Typhus in an outbreak are not recognised promptly as such, and before they are isolated the disease is communicated to others.

It may be interesting to inquire into the cause of this, according to Dr Vacher Late M.O.H. for Birkenhead:-

1st Typhus at first is a very difficult disease to diagnose, it may be preceded by vague pains about the limbs, and back, some nausea and foul taste in the mouth, or a little pulmonary catarrh, these prodromal symptoms precede the rise in temperature, however they are very often absent, and the attack begins with a rigor, the fever rises rapidly, skin feels hot, the eyes somewhat suffused.

Perhaps so; but as a matter of fact
the diseases are rarely coincident, and
rarely fail to be distinguished in hospitals
when both are prevailing.

and headache, which, may be most distressing. This is a very constant symptom. Even after the increase in temperature, the diagnosis may be doubtful, until the rash appears, 5-6 or 7 days later, this eruption may be very slight and masked to a great extent by a dirty skin or pleurites.

2. The diseases for which typhus is mistaken may be concurrent in the same patient and often coexist in the same house and Court. The districts in which typhoid fever is epidemic, are just the districts in which outbreaks of typhus occur, and it is beyond doubt, that both diseases may exist simultaneously in the same patients. As to Relapsing fever and typhus they may both be called febrile fevers. These diseases have many points in common. And an epidemic which begins as Relapsing fever may end as typhus and vice versa - Pneumonia is a common sequela of typhus, a common concomitant of it. And the headache and delirium in typhus may lead to its being mistaken for inflammation of the brain or meningitis.

3. Typhus may appear insidiously in a district as a mild disease. - The skin mottling of typhus, especially if some of the patients have catarrh, would appear to justify its being called measles; or it may be called Influenza or Blood Poisoning.

The malady is not fatal so long as it is
 confined to children, and it may be no
 one suspects typhus until an adult
 catches the disease and dies
many practitioners go through their
medical course without seeing a single
case of typhus.

I will now proceed to relate a few
 facts with regard to an Epidemic of typhus
 fever which occurred in Birkenhead
 during 1890. 1891 and observed personally
 by myself -

Incubation - In several instances the incubation
 period lasted 3 weeks & in one instance
 which came under my notice a case
 occurred in a male (T. W. aged 38 - 104 ^{Livingston St})
 first seen on Sept. 10th 1890. This being about
 the 4th day of his illness, this patient lived
 with his wife and 5 children, in one
 room of a three storied house, occupied
 by 3 other families. This man was at
 once removed to the fever hospital, the
 bed clothes etc were taken to the disinfecting
 house & thoroughly treated by heat. &
 the whole building fumigated. The next
 case which occurred in this house, was
 a child, daughter of the above, aged 8,
 this case was seen on Oct 15, on the 5th
 day of the disease. The child had been
 at school after her father had been
 removed to hospital, and the mother

assured me, under a very searching examination that her child had been to no house where they had had the fever. This convinced me with the very long incubation period of 30 days, and so sceptical was I on this point; that I made enquiries at various suspected houses, where the child might have been, (as some of her cousins had already had typhus) but always received a negative reply.

The girl was removed to Fever Hospital & the whole house & articles of clothing again disinfected on Sunday Oct 15th.

The mother (E.W. aged 30) of the above was seen on Nov. 8. on the 6th day of the disease making an incubation period of 18 days. In her case, also, there was no other source of infection to be found. She was removed on same day & the house disinfected, no other case occurred although four children remained living in the room.

In another case, that of a woman who had assisted in the nursing of 15 cases of typhus, during a period of 6 weeks, the incubation period could be very definitely fixed at 21 days. The last case of typhus was removed from the house in which this patient had been living on Oct 8. 14 days afterwards the above E.R. aged 24 removed to another part of the town then feeling quite well. On Oct 29 she complained of feeling ill, but was not seen until Nov. 3rd, when there

was evidence of a rash and other symptoms of typhus. She was at once removed to hospital & the house disinfected -

E. E. aged 7 who had left the infected house at the same time as the last patient. But who had gone to a different part of the town, was seen on November 14th. It was found to be covered with a typhus eruption. She had been ill 6 days. making the incubation period 17 days.

Other incubation periods which it has been possible to fit have been much shorter - Catherine D. aged 29, 18 Frederick St was seen on Dec. 1st, the rash then being well out (about 6th day). She said the only time she had been exposed to infection, as far as she knew, was on Nov. 18th when she had carried the body of a child from an infected house into the street, in order that the coroners jury might view it. This would place the incubation period at 7 days at shortest, but as there had been 2 cases of typhus in the house of her sister in law, there was some doubt in my mind, altho the woman assured me she had never been in the house & except on the above occasion -

B. 40 - aged 22. 7. 12 Turpin Buildings. Received here as a lodger ill at the time, removed to hospital on Oct 7th and the house disinfected. The two next cases were seen in this house on Oct 30th

4.5 act. 14 Male who had been ill 5 days
M.S. act. 12 Female " " " " 7 "

These incubation periods were therefore
16 and 18 days at shortest.

Premontory Symptoms -

In most cases there are well marked
lasting for 3 or 4 days, there may be a slight
rise in temperature to about 99° to 100°, with
signs of Catarrh, e.g. slight running at
the eyes and nose, general malaise, with
ocular pain. Many patients imagined
they were suffering from a slight cold -

In some cases these symptoms passed away
before the eruption & patients declared
themselves perfectly well again - Premontory
Symptoms may be entirely absent, especially in
Children -

Invasion and Course.

In almost every case which came under my
notice the actual invasion was ushered in
by a rigor which was often slight. This
was followed by a rise in temperature, in
adults, usually to 102° F. in children, to 104°
or higher, with a corresponding increase
of respiration & pulse rate. In about
10% of my cases, there was bleeding from
the nose. They also complained of pains
in the muscles of the arms, thighs, legs,
and back, & intense headache, frontal
as a rule, conjunctivae congested,

* Wakefulness at night is a very prominent

Symptom in adults. There is often intense delirium - maniacal - or it may be muttering & more typhoid in character, from the beginning. Delirium is often absent during the first week of the illness, the patient may be waking about during the whole of this time. There may be slight confusion of ideas and inability to concentrate the attention for more than a short time, but it is not uncommon to find patients who give a clear history of their illness.

The Temperature rises steadily to about 103° or 104° & remains about that point with only slight diurnal variations, as a rule, until the 10th day when it begins gradually to come down, the fever terminating by crisis usually on the 14 day in favourable cases, but often rising rapidly to 106° or higher in fatal ones.

Rash. About the end of the 1st week the characteristic rash makes its appearance, it may be pinkish or more dusky in colour, and is best seen on the chest, abdomen, back, dorsal surface of the hand and forearm and on the front of the legs and feet. The rash may consist simply of a slight mottling of the skin or of raised spots showing out clearly from the surrounding skin giving a rough feeling when the finger is passed over them. On pressure they do not totally disappear but leave a certain amount of staining - and reappear as soon as the pressure is removed. The spots come out in crops. The surrounding skin may be normal in appearance, but more often is of a dusky colour -

There may be considerable diarrhoea but as a rule this is explained by the fact that "a good dose of salts" has been administered by the friends. As the disease proceeds, the patient gradually sinks into a torpid condition. There is intense muscular ~~exhaustion~~ prostration, the skin assumes a more dusky hue. The tongue becomes hard, dry and black. The urine is high coloured, and loaded with lithates & often accumulates in the bladder without attracting the attention of the patient. But even at this time, he can often be roused & if directed to empty the distended bladder, can do so, without difficulty. Delirium is often incessant, as a rule of the busy muttering character. Gradually the torpor deepens into coma, the evacuations are passed involuntarily, the pulse drops, pulse becomes more rapid & softer & the respirations are shallow & chiefly abdominal. There is some delirium but it is intermittent very fragmentary in character. The voice is reduced to a hoarse whisper. Swallowing is effected with difficulty. This period lasts for some days, usually 3 or 4 & then the temperature, which, has been gradually descending since the 10 day, of the illness, in favourable cases, rapidly comes down to normal or subnormal; often accompanied by profuse perspiration. In other cases the Crisis may occur on the 10 day. or it may occur on the 18th day (see Chart) This case was tolerable severe, but never gave cause for much anxiety.

I will now endeavour to describe, more in detail some of the circumstances which came directly under my notice during the Birkhead Epidemic of 1890 & 1891:—

Typhus fever broke out in Birkhead on August 26th 1890 (during the time I was House Surgeon at the Borough Hospital) when two cases Father & Daughter were sent into Hospital, having been notified, to the sanitary authorities, as suffering from typhoid fever. By the Doctor in attendance - on admission I found the principal symptoms to be high fever 103° in the male 103.8° in the female. Dusky skin - Eyes suffused - Low muttering delirium and a weasy eruption on chest, abdomen, back of the hands wrists and elbows. The female patient suffered moreover ~~from~~, shortly after admission, from profuse epistaxis, which was with difficulty controlled. These cases were diagnosed immediately as typhus fever and removed to the fever hospital. I may here mention the fever hospital was only separated from the General hospital by a small field about 100 yards long, that it was managed at this time by an old man and his wife neither of whom could read or write - that these people did all the nursing - no qualified person living on the premises - All this I am glad to say is now altered - a qualified matron & staff of nurses residing in the hospital - moreover a new fever hospital containing 100 beds is in course of construction

Below will be found a tabular statement of the cases of typhus occurring during 1890 arranged according to the street in which each case originated:—

<u>Date</u>	<u>Street</u>	<u>Age</u>	<u>Sex</u>	<u>Result</u>
Augt. 25	22 St. Ann St.	17	F	Recovery
" "	" " "	43	M	Death Augt 30
Sept. 10.	108 " " "	40	M	Recovery
" 2	51 " " "	11	F	do
" 5	18 " " "	40	F	Death
" 8	18 " " "	25	M	Recovery
" 25	" " "	37	F	do
" 25	" " "	10	F	do
" 25	" " "	15	F	do
" 25	" " "	51	F	Death Oct. 1
" 25	26 " " "	12	F	Recovery
" 26	18 " " "	16	M	do
" 26	" " "	25	F	do
" 29	4 " " "	32	M	do
Oct. 10.	24 " " "	34	M	Death Oct 7
" 2	" " "	34	M	Recovery
" 2	18 " " "	50	M	Death Oct 6
" 6	18 " " "	18	M	Recovery
" 6	51 " " "	45	M	do
" 8	18 " " "	29	M	do
Nov. 10.	26 " " "	3	M	do
" 3	22 " " "	6	M	do
" 3	" " "	18	F	do
" 15	26 " " "	14	M	do
" 15	" " "	10	M	do
Sept. 10	104 Longstone St.	38	M	do
Oct. 15	" " "	8	F	do
Nov 8	" " "	33	F	do

outside the town

These two first reported cases of typhus came from a very poor part of the town, the room in which the whole family lived being small, dark, and ill-ventilated and situated in a tenement house. The patients were in a pitiable state, the skin covered with flea bites (this may to some extent account for the doctor's error in diagnosis). All the earlier cases of typhus coming from a small area, in which most of the houses are very poor - many being sublet in rooms, and as there had already been cases of typhoid fever reported in this area; enquiry was made with a view to ascertain if the cases removed to the fever hospital on Augt 26 were really the first cases of typhus.

The evidence gathered leaves little room for doubt - that typhus had been in the district for months. Case after case being unrecognized and reported as typhoid. In particular cases of typhoid had been reported from 22, 24 & 51 St. Ann St. These cases and others apparently had their descent from a patient who had a febrile attack on April 14th, this patient, a woman, was not certified as suffering from any infectious disease, but children, in the same family were reported, as suffering from typhoid.

There is therefore good ground for believing that in a large town, where notification of infectious disease is compulsory, typhus fever, broke out and spread

Date	Street	Age	Sex	Result.
Sept. 11 th	119 Price St	10	M	Recovery
" 12	119 " "	12	F	do
" 13	119 " "	14	F	do
O.-ct. 13	97. Back " "	16	M	do
16	333 " "	26	F.	do
Nov 11	119 " "	42	M	Death Nov 18
Sept. 20	104 Watson St (joining Price St)	18	F	Recovery
23	104 " "	50	M	Death Sept 2
23	" " "	55	F.	do Sept 2
23	" " "	16	16F	Recovery
O.-ct. 7	12 Curpeth Buildings (107 1/2 Watson St)	22	F	do
30	12 " "	14	M	do
30	" " "	7	F	do
Nov 5	" " "	18	F	do
" 6	" " "	52	F	do
8	" " "	7	F	do
O.-ct. 17	194 Market St. (near Curpeth Buildings)	28	M	Death Oct 20
25	7 Macleod St.	40	F	Recovery
25	" " "	11	F	do
O.-ct. 28	10 Frederick St.	38	M	Death Nov. 2
Nov 19	" " "	10	M	Recovery
Dec 10 th	18 " "	29	F	Death Dec. 7
Dec 8	12 Arthur St. (107 1/2 Frederick St)	19	F	Recovery
Oct. 6	420 Beekwith St.	17	M	do
Nov 1 st .	2 Ross Terrace	7	F	do
O.-ct. 10	131 Brook St	34	M	Death Oct 20
Nov 10	35 Oak St	37	F	Recovery
Oct 14	8 Elizabeth St	24	F	do
Nov 3	24 Fox St	24	F	do
" 22	205 Almeri St	22	F	do
O.-ct. 30	Leura Hospital	30.	F	Death Nov 6

from patient to patient for months before the sanitary authority, had any intimation of the matter and it was only when two typhus patients were sent into a general hospital as typhoid that the error was found out - This bears out what the late Dr. Spear local government board, once told me in course of conversation, that he had several times investigated alarming outbreaks of typhoid fever, which turned out to be genuine typhus and more particularly one at Whitehaven where several hundred cases had been reported as typhoid - on arrival there he found the whole epidemic to have been typhus, yet not one of the medical men in the town had noticed it as such. Dr. Spear saw the medical officer of health who was himself laid up with typhus & eventually died, even when all the time under the impression he was suffering from typhoid & was being treated for such.

In Birkenhead it was the experience of the authority during this outbreak, that when typhus fever was recognised & reported the notification came too late. In one case the patient was in a dying state when certified in other cases when the patients were removed & the premises disinfected, the disease had been communicated to others -

A glance at the tabular statement (extracted from Dr. Vacher) will show how this dreaded disease spread from one

Date	Street	Sex	Age	Result.
Oct. 30	Fever Hospital	F	37	Recovery
Nov 22	" "	F	28	do
Dec 10-	" "	F	31	do
Oct. 10	4 Park Rd East	M	} Doctor's attendance } at Fever Hospital }	do
Nov 6	35 Park Rd South	M		

- 1891 -

Jan 1st	18 Frederick St	M	12	Recovery
" 15	12 Arthur St	F	53	Death Jan. 15
" 15	12 " "	F	16	Recovery
" 15	12 " "	F	4	do
" 17	12 " "	M	6	do
" 23	39 Hope St	M	21	do
" 24	12 Arthur St	M	41	Death Jan. 24
Feb. 4	56 Egerton St	F	30	Recovery
" 10	36 Vene St	F	28	do
" 10	36 " "	M	26	Death Feb 20
" 14	43 Clamank St	F	47	do Feb 20
" 17	36 Vene St	F	15	do March 1
" 18	19 Taylor St	F	31	do Feb 20
" 21	35 Hope St	F	29	Recovery
March 20	Borough Hospital	F	28	do
" 20	ditto	F	19	do
" 20	ditto	F	8	do
" 29	ditto	F	52	do
June 2	47 Clamank St	F	33	Death June 6
" 5	29 Bedford Rd	F	30	Recovery
" 8	60 Clamank St	M	43	Death June 11
" 8	60 " "	M	13	Death June 11
" 9	Borough Hospital	F	22	Recovery
" 15	60 Clamank St	M	7	do

house to another in the same street. In St. Ann St alone where it originated it spread from No 22 to 18. 24. 26. 4. 108. 51 in all in this street there were 25 cases with 5 deaths

After removing the 2 cases of typhus to the Fever Hospital we had no further cases in the General Hospital during 1890. Every precaution was taken. The beds, bedding, and wards, which, these two patients occupied were thoroughly disinfected

On March 8th 1891 on the recommendation of the Medical Officer of Health after consultation with the Staff of the 1300's Hospital. There was admitted to a private ward in the general hospital, a woman, Ellen Morgan, aet. 22 (from the fever hospital) suffering from dry gangrene of the leg and thigh, a sequela of a very severe attack of typhus from which, she had been convalescent at least 3 weeks. This case was removed direct from the fever hospital in nothing but a properly disinfected blanket. Many say I was thoroughly averse to this proceeding from the first, considering it most dangerous. Yet at a meeting of my hospital staff, my views were discussed and it was decided to admit the patient - On admission all the patients wearing apparel were removed & returned to the fever hospital. The patient herself had a carbolic bath.

On March 18th a housemaid residing in the 1300's Hospital - A nurse who

Date	Street	Sex	Age	Result
June 24	60 Clamank St	F	11	Recovery
" 28	60 " "	F	28	do
July 22	485 New Chester Rd	M	23	do
" 25	4 Blucher St	M	41	Death July 25
" 26	11 Munsluck St	M	20	Recovery
" 30	385 Wook St	M	43	Death July 31
" 31	15 Munsluck St	F	52	do Aug 31
Augt 1st	Childrens Hospital	F	12	Recovery
" 2	13 Grosvenor St	M	28	do
" 3	Boro' Hospital	M	29	do
" 21	4 Blucher St	F	42	Death Aug 27
Sept 1	4 "	F	51	do Sept 7
" 12	212 Chester St	F	30	Recovery
Oct 17	14 George St	F	45	Death Oct 26

During the first day had attended upon Ellen Morgan. but after this had gone into a female ward and a child (female) aet 9. Suffering from Burns. Who had been in hospital since Dec. 29. 1890 became ill. Complaining of headache. malaise. no rise of Temperature except in the Childs case. On following day these cases were all diagnosed as typhus, and sent into the fever hospital.

The only way in which I can account for the housemaid's case is thro' injection from Ellen Morgan - I afterwards found out this housemaid had been speaking to the patient against orders. Whether the injection was conveyed in this way it is impossible to say. or whether it was taken outside the hospital. The girl lived in Birkenhead with her parents. but I could find no history of typhus in the street in which she lived. Moreover the nurse who attended Ellen Morgan during the first day only, took typhus and communicated it to a little girl in the ward in which she was nursing.

An personal Enquiry of Dr Vacher M.O.H. a man of large experience in fevers to whom I related the above particulars, he rather inclined to the opinion that the injection, was in no way connected with Ellen Morgan but was probably imported from outside. I might mention that since the outbreak of typhus in the town no visitors or patients

friends were allowed into the hospital -

After these three cases the ward (plaster walls etc) patients clothes - beds & bedding were thoroughly disinfected - and the ward left empty, 48 hours. Still on March the 29th a woman aged 53 who had been in hospital 2 months suffering from a compound fracture of the leg developed typhus & was removed to the Fever Hospital

On May 20th I admitted on the recommendation of a doctor in private practice a girl aged 7 suffering from left Pneumonia there was no rash and as far as I could make out at the time no history of typhus. The following day on interviewing an older sister I found that several people in the same house had suffered from sickness & that one had died, from what the doctor in attendance, called Influenza - Considering the history doubtful the child was removed to an isolation ward, where she rapidly became convalescent

On June 6th the nurse who had charge of this case developed typhus & was removed to the Fever Hospital - making it, I consider, clear that the child was suffering from typhus but being convalescent no special symptoms were observed; the usual disinfecting process was gone through. No further case occurred in the fever ward.

On August 6th during my temporary absence from the hospital - The

General House Surgeon admitted a case, male aged 24 sent in by a doctor in a large general practice, with a note certifying the patient to be suffering from typhoid fever. Next day the case was diagnosed as typhus and removed to the Fever Hospital. The doctor who sent this case in, knew well there was typhus in the locality from which the patient was removed - had attended the man for at least two days yet sent him into a general hospital as suffering from typhoid. Fortunately, as a result of this case, no further typhus broke out in the hospital.

Altogether there were removed from the Borough Hospital the following cases of Typhus fever:—

<u>Date</u>	<u>Name.</u>	<u>Age</u>	<u>Result</u>
Augt 26 1890	James Welsh	43	Death Aug 30 '90
" 26 "	Margaret Welsh	16	Recovery
March 20, 1891	Maude Geddes (Housemaid)	19	do
" 20 "	A. Lloyd (Nurse)	23	do
" 20 "	Jane Smith (Burns)	9	do
" 29 "	Ann Wright (Wr. Leg)	52	do
June 9th "	A. Pendleton (Nurse)	22	do
Augt 6 "	Joseph. Farren.	24	do

So that of 8 patients removed from a general hospital one only died—

Through the kindness of Mr Vacher late M.O.H. for Worknhead I am enabled to give some statistics of this very fatal outbreak during 1890 and 1891!—

During 1890. a total of 64 cases of Typhus fever was reported to the sanitary authority. These were notified month by month as follows:-

<u>1890.</u>	<u>No of Cases Reported,</u>	<u>No of deaths</u>
August	2	1
September	20	4
October	22	6
November	17	1
December	3	1
Total	<u>64</u>	<u>13</u>

These 64 cases were divided as follows-

	<u>No of cases</u>	<u>Mortality</u>	<u>Percentage</u>
Children (under 14)	17	0	0
Males	21	8	38.09
Females	26	5	19.23
Total	<u>64</u>	<u>13</u>	<u>20.31</u>

<u>During 1891.</u>	<u>No of Cases</u>	<u>No of deaths</u>
January	7	2
February	7	4
March	4	0
June	8	3
July	5	3
August	4	1
September	2	1
October	1	1
Total	<u>38</u>	<u>15</u>

Divided as follows-

	<u>No of deaths</u>	<u>Percentage</u>
Children	1	12.5
Males	5	50.0
Females	9	45.0
Total	<u>15</u>	<u>39.47</u>

Taking both years together

	<u>No of Cases</u>	<u>Deaths</u>	<u>Percentage</u>
Children	25	1	4% +
Males	31	14	45.1
Females	46	13	28.2
Total	<u>102</u>	<u>28</u>	<u>27.4</u>

According to age.

<u>Ages.</u>	<u>No. of Cases.</u>	<u>Deaths</u>
50 & over	9	7
40 & 50	12	10
30 & 40	20	6
20 & 30	26	3
10 & 20	25	2
0 & 10	10	0
Total	<u>102</u>	<u>28</u>

During 1891 it may be asked is there any way of accounting for the extraordinary high mortality of typhus in the borough. 15 dying out of a total of 38 cases. It is possible that the type of the disease may have been exceptionally severe. Still it is difficult to believe the mortality was as high as it appears while 15 represents the total number of deaths. 38 does not represent the whole number of those attacked with the disease but only the number notified. It is at least probable that many of the slightest cases were not seen by medical men & some few not recognised by them—

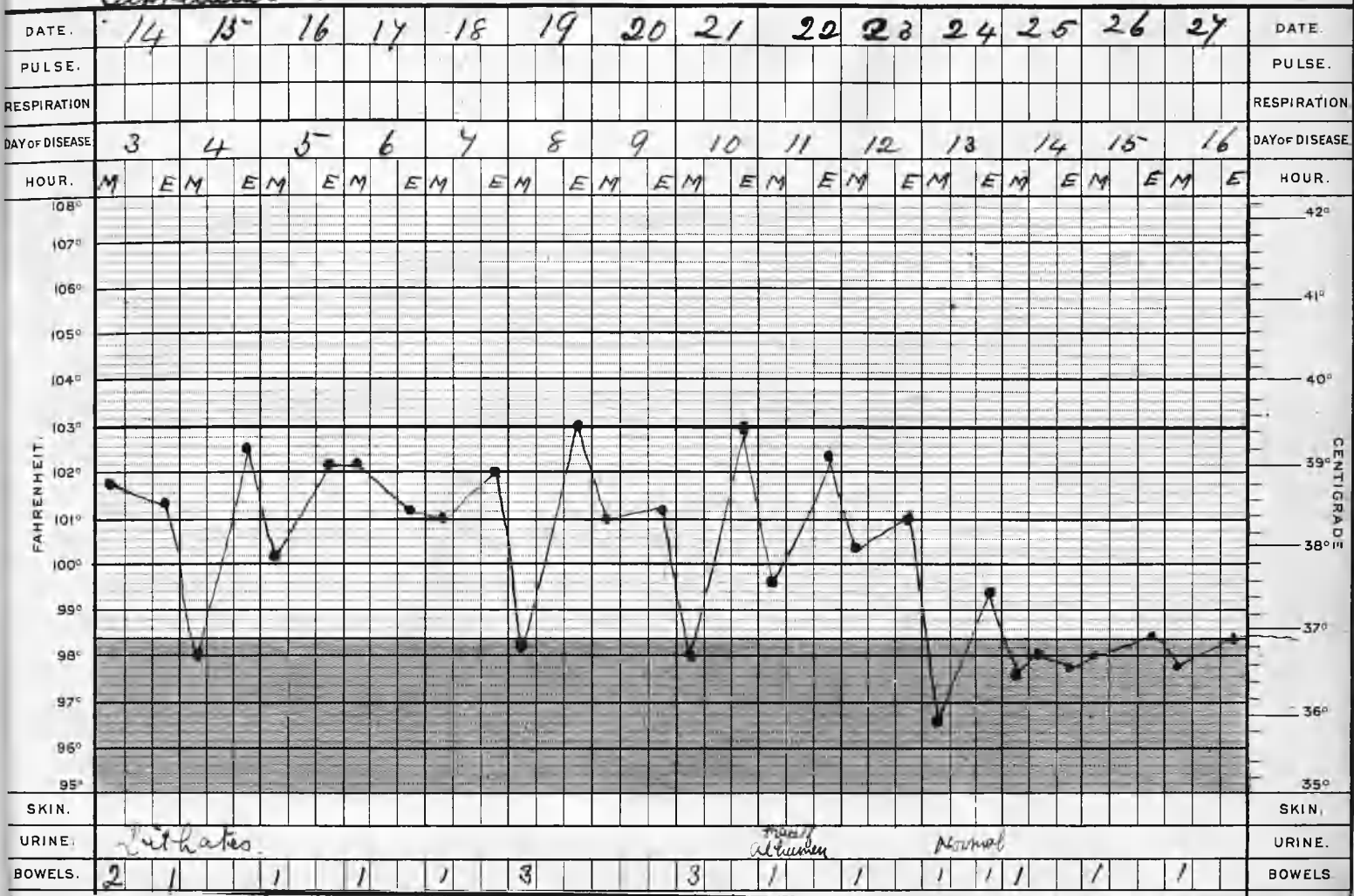
Gangrene of the leg as a Sequela of Typhus

Mention has been made of Ellen George
 who was removed direct from the
 Fever Hospital to the Borough Hospital
 suffering from dry gangrene of the leg
 & thigh. About the 20th day of the disease
 after the temperature had become normal
 this patient called the nurses attention
 to the fact that she had suddenly lost
 feeling in her right leg & that it felt
 cold & painful. The leg was well wrapped
 round in cotton wool & bandaged
 with flannel. Patient put on a
 mixture of Anusana ointment. She was
 examined by Mr. Vacher the same day
 he could detect no pulsation in the
 tibials, popliteal or femoral arteries.
 In course of time a line of demarcation
 formed, in front, about 4 in below
 Poupart's Ligament, behind, on a
 lower level. The leg & thigh in the
 meantime had shrivelled & became
 hard, dry, & yellow - but quite odorless
 when the line of demarcation became
 distinct. Amputation was
 performed at the hip. Patient
 made an excellent recovery. The
 femoral artery was found to be
 blocked from beneath Poupart's Ligament
 to below the origin of the deep Profunda. The
 patient had no other symptoms of Embolism.

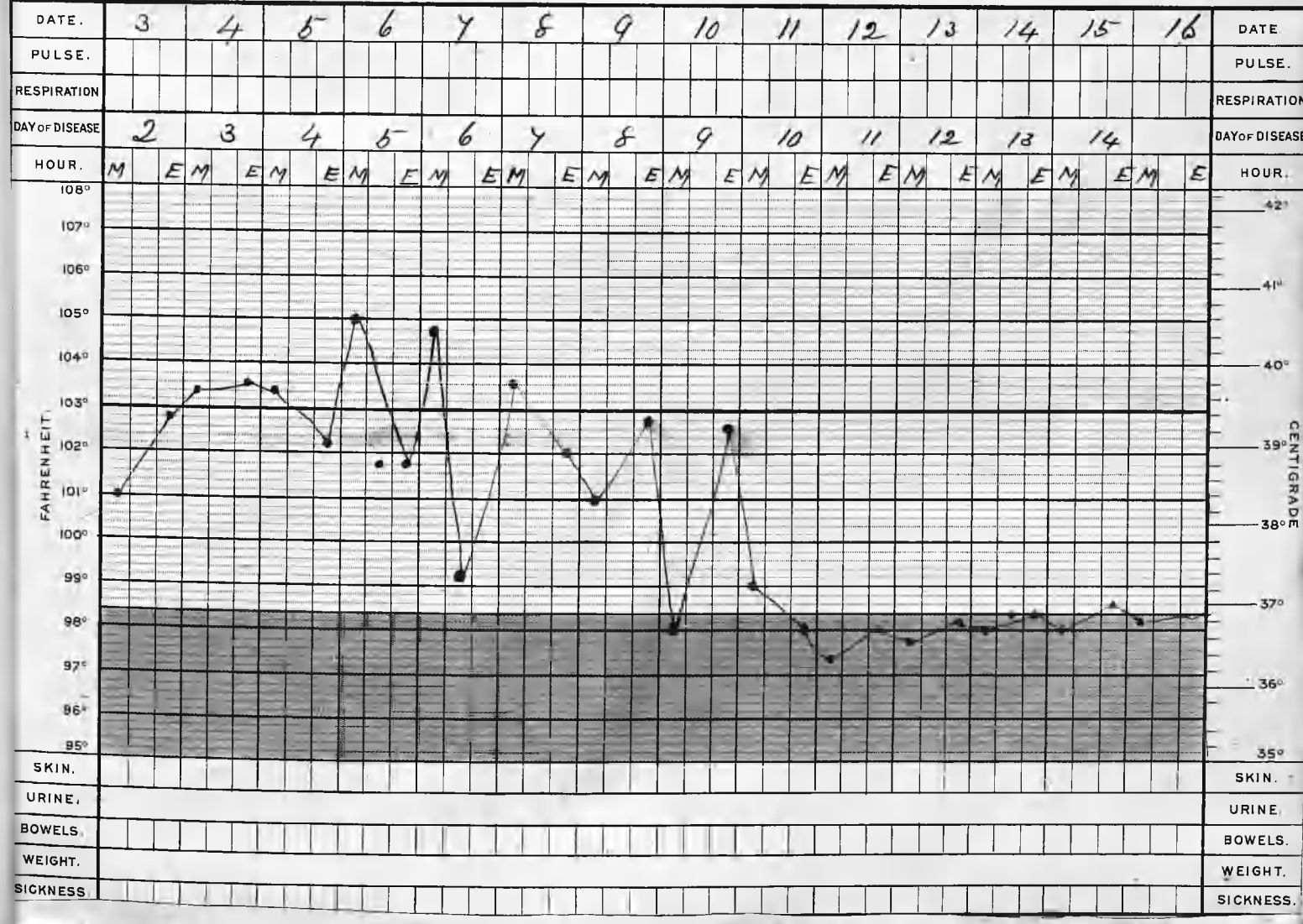
A mild uncomplicated case with no
Complications. Crisis on the 13th day.

Mild case, Crisis on the 10th day

NAME *Thomas Heron .17.* DISEASE *Typhus Fever -*
September



NAME *Goshua Farrell .6.* DISEASE *Typhus Fever*
November

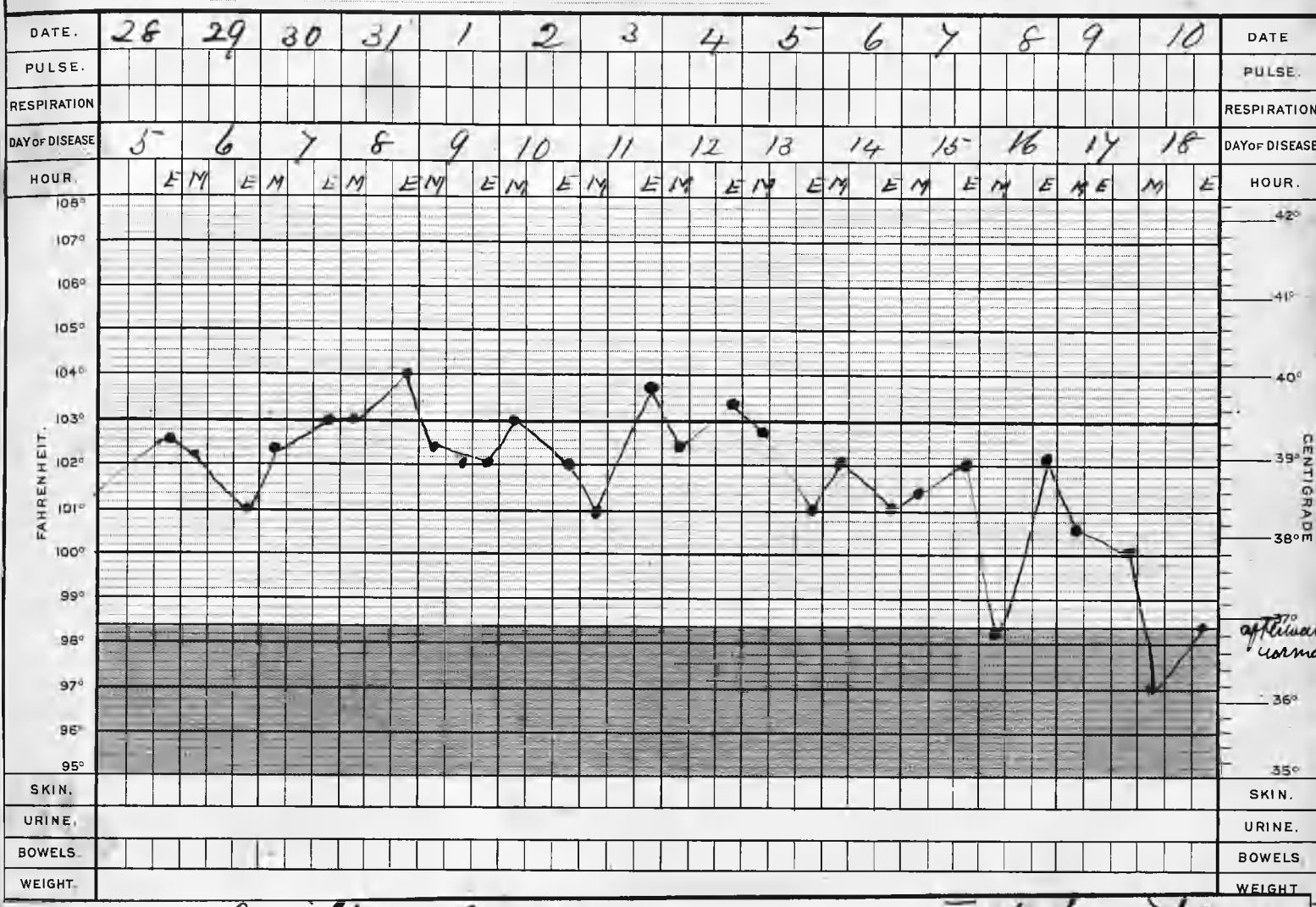


Severe uncomplicated case - crisis on the
18th day.

Mild case - Temperature descending gradually
from the 10th day. Crisis on the 13th.

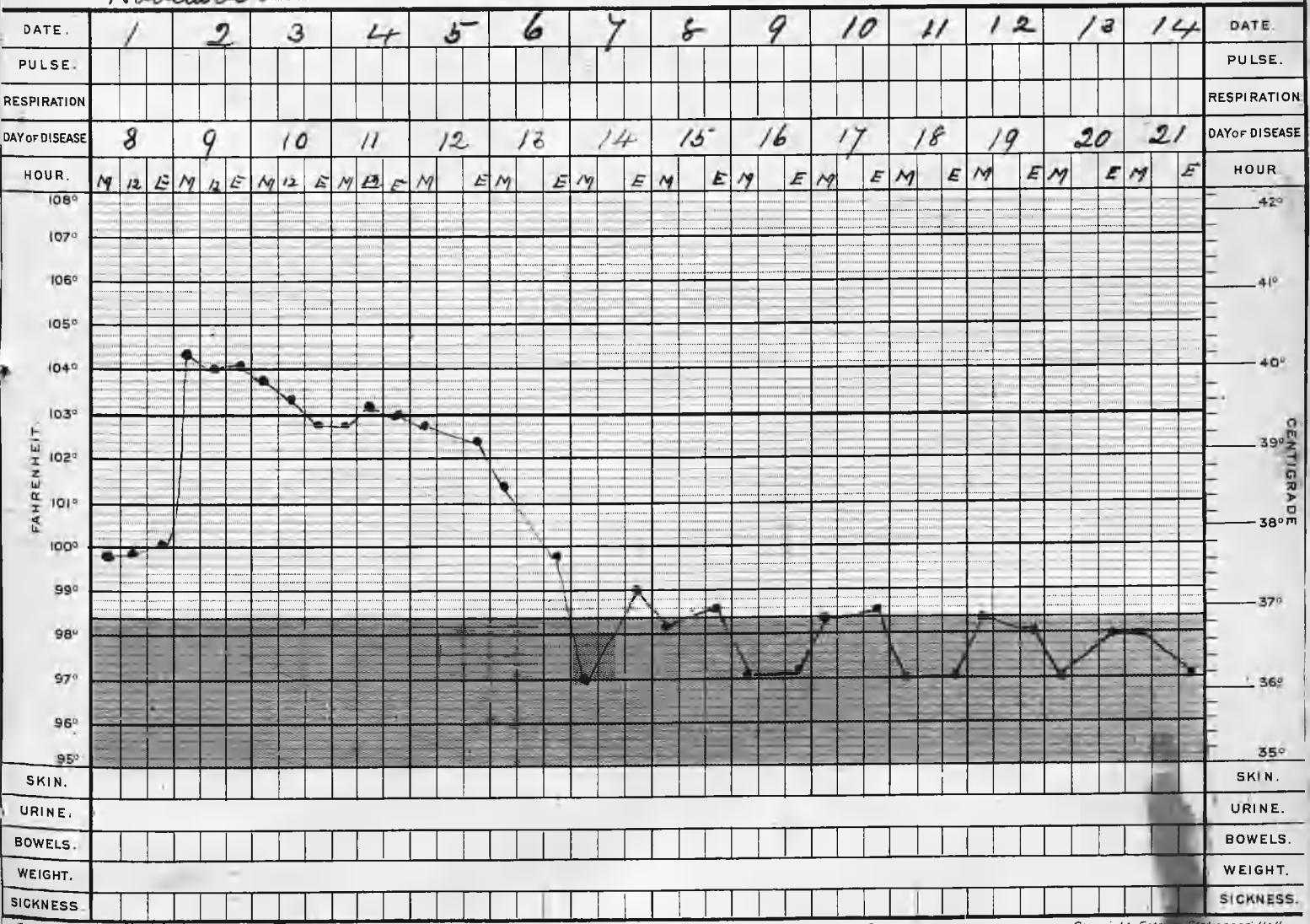
NAME *Wm. Thomson*

DISEASE *typhus fever*



NAME *William Moore*
November -

DISEASE *typhus fever*



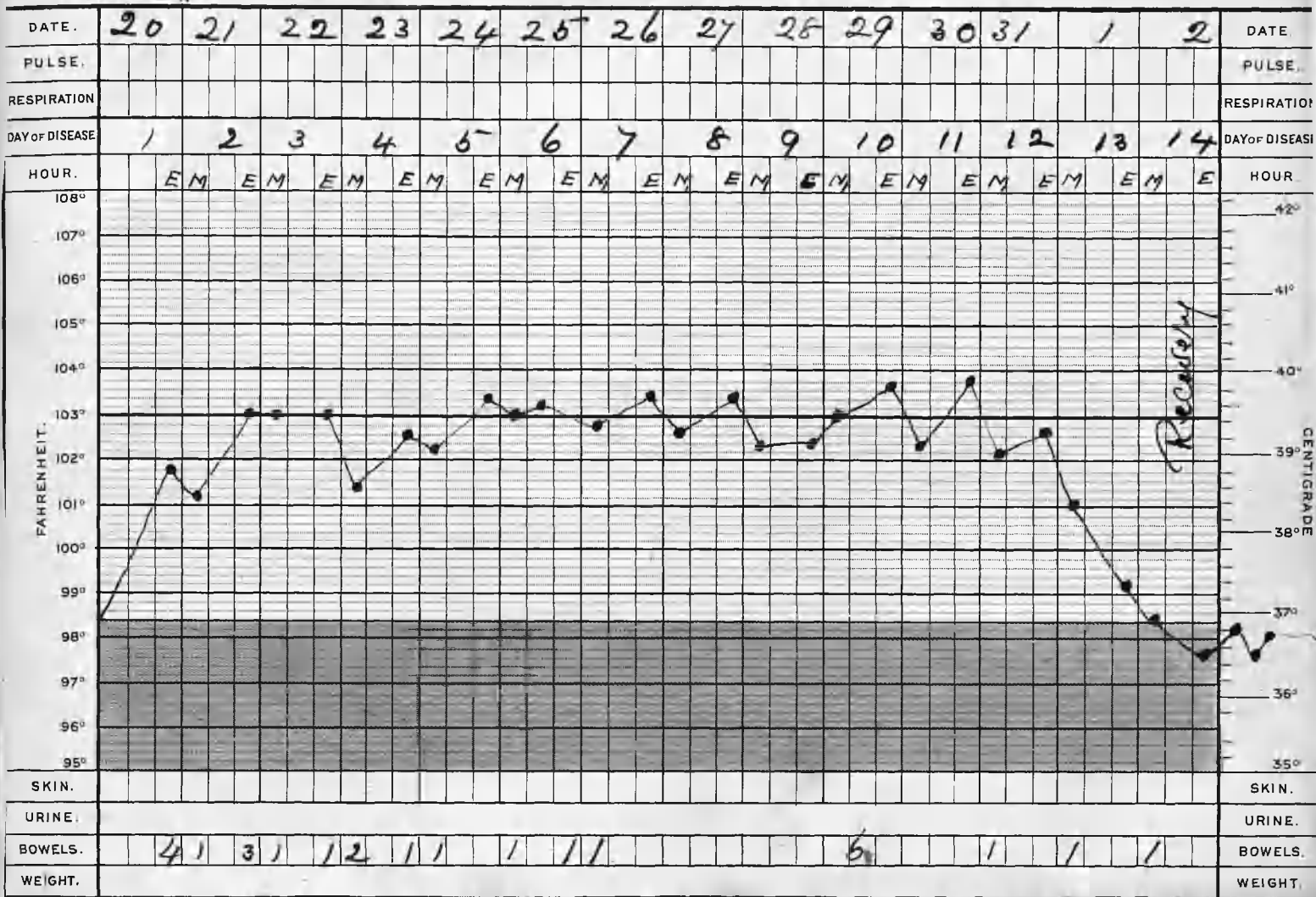
Uncomplicated case. Crisis on the 13th day.

In this case patient was in a bad state of health before the attack. Tendency to Consumption. Temperature came down more by lysis. Developed double pneumonia on the 19th ~~at~~ day of the disease, and died on the 22nd. Temperature just before death 104.8 F.

NAME *Course R.*

DISEASE *typhus fever*

March



NAME *John Walsh 43*

DISEASE *Typhus Fever*

October

