



*Influenza + some of its complications  
with illustrative cases -*

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*Proedynw  
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The many demands upon the time and energies of an assistant surgeon in a large colliery practice render it rather difficult for him to follow up any line of original research in medicine and the allied sciences. Note taking and accurate clinical observation are only conducted under unfavourable circumstances.

In casting about for a subject for this Thesis it occurred to me that perhaps it would be better to place on record my experience of the disease which has been so prevalent of late in all parts of the Kingdom and which has furnished no inconsiderable part of the work of general practitioners for the past two months. I refer to the disease of Epidemic Influenza.

I approach this subject with some degree of confidence because I have seen so many cases not only in this but in two former epidemics.

Influenza has been defined as "epidemic catarrh" but this definition scarcely meets all the facts of the case and catarrh is only one of the

incidents and that not the most important in the sequence of events to which the name Influenza has been applied.

I should propose to define Influenza as :-  
A specific fever, of comparatively short duration, affecting chiefly the nervous, digestive, and pulmonary systems, associated with great prostration, and followed by many complications.

The symptoms of an average attack of Influenza are as follows:

The disease generally manifests itself suddenly. A man may be conscious of nothing ailing him and may be following his usual occupation when he is suddenly attacked.

The attack has been variously described to me perhaps the following is the most usual way in which the disease asserts itself. There is a sudden pain in the head with great giddiness. The man feels chilly, has a sensation of "cold water down the back". He feels cold even when sitting close to a large fire and gets almost at once

utterly prostrate. If seized while working he feels he must get home at once. He has great difficulty in walking home and on his way staggers like a drunken man. The pain in the head continues and becomes gradually worse. There are severe neuralgic pains all over the body as one man told me when I asked him where he felt ill "I feel it from the tips of my fingers to the crown of my head" (In Wales the workmen call the toes fingers). These pains however tend to localise themselves in two chief sites. These are the head and low down in the back. In addition pain may sometimes be localised as existing in certain nerves as over the sciatic or intercostal nerves.

With all these pains the patient feels quite prostrate and miserable wishes for nothing better than to go home and lie quiet in bed. He "cannot hold up his head".

The chilly feeling may at times give way to sensations of flushes of heat over the

Better without the h though sometimes  
so spelt — lacrima or lacryma  
(Lat), akin to Gr. δάκρυον

whole body but the moment the patient throws off his bed clothes he is at once seized with the chill again.

The appearance of the patient is rather a characteristic one. The face is flushed and frequently perspiration may be seen standing out in beads upon the forehead and round the mouth. This is especially the case when the first chills wear off. The eyes look heavy and are painful when moved. There is not however as a rule either so much injection of the conjunctivae or discharge as in the ordinary form of catarrh from a "cold in the head". There is generally some slight increase in the lachrymal secretion.

The nose generally runs a little clear serous fluid and on inspecting the anterior nares there is seen a red weeping surface not unlike the appearance of the skin under a weeping eczema.

The ~~red~~ congestion passes back along the nares till it reaches the posterior nares.

and pharynx. There is almost always some elongation of the uvula and I believe that in the first stages of the disease, at all events, this is a frequent cause of the dry tickling cough which so many patients complain of.

The patient may or may not complain of sore throat and sometimes there is marked tonsillar enlargement. In most cases the pharynx & soft palate & pillars of the fauces are seen to be more injected than usual and in many cases this congestion can be resolved into minute spots set thickly together.

The pulse on the first day of Influenza is as a rule much accelerated. Perhaps 90 to 100 beats per minute would be an average for the general run of cases. But in many cases it is even more hurried than this for I have repeatedly found it 130 or 140 beats per minute and this when there was no after trouble at all.



The temperature generally rises at once after the invasion of the disease. It is usually at first fairly high. In about fifty cases where I have noted the temperatures on the day of attack I find that the highest was  $103^{\circ}$  while the lowest was  $97^{\circ}$  but this low temperature was the only one below normal. Perhaps the average may be stated as from  $101^{\circ}$  to  $102^{\circ}$  F.

This temperature does not seem to be dependent in any way upon the amount of pain present in any given case nor does it seem to influence the course of the disease appreciably.

The tongue is in almost every case coated at the outset and the sense of taste in abeyance. Frequently there is vomiting present. The vomit consisting of bile and serum. Strabismus is only rarely present. As a rule constipation is present for the first few days of the disease. The breath has a very heavy odour and is unpleasant. The coat on the tongue frequently has a dirty glazed appearance.

The respiration is usually slightly faster than normal and there may be a dry cough.

While the foregoing description may be taken as applicable to most cases of Influenza frequently the symptoms are grouped more or less definitely into what have been described as the three forms of Influenza. viz:-

1. The nervous form

2. The gastric form.

3. The Catarrhal form.

While it is true that some cases show symptoms more affecting one system than another yet we have identically the same process at work, and it is impossible to say that any individual case belongs to one of these categories alone for I hold that the various kinds of attacks shade off so much the one into the other that it is very hard to say what category a particular case belongs to.

However as Sir Thomas Granger Stewart in his address on Influenza before the British Medical Association at Bristol recognised these different phases of the disease perhaps it will be more convenient to describe the variations under these several headings.

a. The nervous form In this form the head ache is very severe and is associated with severe pain in the back and neuralgic pains all over the body. In cases where there is high fever also there may be delirium coma, & death a case of which I hope to quote later on when dealing with the complications & sequelae of Influenza. To this category would also be assigned those cases which after recovery from the acute stage suffer from the many nervous complications of Influenza.

b. The gastric form In this form there is very great disturbance of the alimentary,

system which may be affected from the mouth to the anus. The tongue is very coated. There is complete anorexia and the sight of food may set up vomiting.

There is frequently a complaint of pain all along the sternum and in the left hypochondrium over the stomach. There may be severe vomiting such as is seen in the gastric crises of Locomotor Ataxia. There is great straining and mucous blood serous fluid and bile from the vomited matter. There may also be severe abdominal pain and colic with diarrhoea. This form of the ailment is not so common as the nervous and catarrhal form for as a rule the vomiting has ceased during the present epidemic, so far as my own personal experience goes on the first day of the disease.

(1) The Catarrhal form In this form of the disease which is ~~perhaps~~ <sup>probably</sup> the most

common and important both on account of its frequency and the danger of the complications which supervene upon it, the parts affected are mainly the respiratory system from the anterior nares right down to the ultimate alveoli and cells of the lungs.

Thus along with the fever which has been partially described we may have as complications Rheinitis, Pharyngitis, Laryngitis, bronchitis and pneumonia & broncho-pneumonia.

Before however going into these varying complications in detail I will endeavor to complete the history of an attack of Influenza in the uncomplicated form.

As a rule the fever falls within the first 24 hours and comes down either to subnormal or approaching normal limits. As the result of an analysis of temperatures taken on the second day of the disease I may state

that the average was from  $99^{\circ}$  to  $100^{\circ}$ .

If the case is going well on the second day the patient is much more free of pain but probably still complains of pain in the back and head. The pain in the head as a rule is not so acute but rather takes the form of a dull dazed feeling with giddiness. The appetite as a rule is still completely wanting, and there is great debility.

In some cases the temperature may remain high for several days without any serious complications occurring.

There is generally in a favourable case a slow tendency to recovery after the second day and if the patient get over what I believe to be the critical days of the disease (for it is upon them that most complications shew themselves) the 4<sup>th</sup> and 5<sup>th</sup>, without any relapse recovery is generally assured. As a rule my uncomplicated cases

were able to resume their work, chiefly  
collected, in ten days.

Amongst other things worth mentioning  
before going on to describe the sequels  
and complications of Influenza with  
which I have met, I must not omit  
the general prognosis of the disease.  
Out of the three epidemics of Influenza  
I have seen I suppose I have been in  
attendance upon some thousands of  
cases and so far I have had only  
two deaths. One of these was in a man  
aged 72 who was struck down into  
a state of collapse from the first &  
who died, in two days. This death I  
put down to the fact that he had been  
a very heavy drinker - In fact had  
been dismissed the police force on  
this account.

The other fatal case was one which  
I shall give in full as illustrating  
the complication of meningitis.

As a rule children take the disease very lightly and present very few complications. The vigor of their constitutions seems to be able to overcome the morbid poison of Influenza without the severe struggle manifested in the case of the adult.

One peculiar thing I have noticed with regard to two children who were not under treatment for Influenza but who were living in a house where Influenza was prevalent was a rash which appeared over their bodies. They complained of slight headache but were not ill enough to require medical attendance. This rash was in the form of minute red papules scattered over the body but most apparent upon the chest and back. It only remained two days & then disappeared with slight desquamation. It looked very like Scarlet Fever but there



were no cases in the district at the time  
and there was no sore throat present.

I think they must have been examples  
of the Influenza rash.

### Sequelae & Complications of Influenza.

This is by far the most important branch  
of my subject for Influenza seems to be  
able to give rise to disease in almost  
every organ and tissue in the body.

In treating of the complications of Influenza  
I shall only mention those which have  
occurred in my own individual experience  
and shall not attempt to deal with the  
observations of others. I shall take them  
in the order I have preserved before in  
relation to the types of Influenza. viz:

#### d. Complications of Influenza connected with the nervous system

The most common nervous sequela of  
Influenza is a form of nervous debility  
which is manifested by melancholia  
head ache, loss of energy and general

listlessness. This generally comes on about a week after the fever has subsided. The patient feels so miserable that he is inclined to commit suicide. Indeed from the reports of cases in the daily press it would appear that in several cases the sufferer has given way to suicidal or homicidal impulses. Perhaps oftener than any actual disease of the nervous system do we meet with people who tell you they are "a wreck of themselves", "they never have felt the same since an attack of influenza".

Another common and distressing sequel of Influenza is a severe nervous headache something after the same type as migraine which comes on at a certain time every day and which renders the sufferer miserable and apprehensive of further mischief. In some cases this comes on in the morning in others in the evening but

in each case it seems to return about the same time in the day.

One case of melancholia which I was at the time afraid would ultimately result in loss of reason was the following:-

The patient was a butcher who had recently come into a sum of money by the death of a relative. He invested this money in renting and stocking a shop. After he had started business about a fortnight he took Influenza. He complained from the very first of severe head ache. This persisted for some weeks after he seemed in all other respects quite well. When he had recovered a little from the acute stage of the disease he went out and began to do a little work in his shop. He was only able however to keep his employment for two or three days when the pain in the head about the vertex became unbearable. He began to be a little strange in his manner especially at

night. Complained of great restlessness.

Then the delusion took him that he was being ruined by the shop altho' at that time the business was in a most flourishing condition. He began to talk of putting an end to his miserable existence. One night he came into the street in his night dress as he said on his way to the canal. When anyone apart from his own family and familiars spoke to him he seemed quite rational except that he was very emotional. The family were averse to having him placed under restraint but I persuaded them to let him go away with a brother to the sea side hoping that the change would improve his condition. He went away for three weeks and then came back quite cured of all his fancies. For the rest of the summer however he suffered from severe head aches which gradually however left

him and ultimately about four months after his illness he regained his usually robust health.

Many cases, falling however far short of this one in their intensity, have presented themselves to me but ~~in~~ they have all ended in recovery after a few weeks.

### 3. Complications of Influenza affecting the digestive system.

As in the nervous system so in the digestive patients complain of great weakness. The powers of assimilation seem to be very profoundly affected. There is great anorexia and pain after food. The form of digestive trouble which is most frequently seen is atonic dyspepsia. This is manifested by constipation, flatulence and a feeling of weight after food. The patient feels as if the food stuck like a lump of lead in the same place in the stomach. Apart from increasing the debility already present these attacks

entail little or no risk to life and generally end in a more or less complete recovery after some weeks and under a tonic treatment. I have never seen any cases of gastritis or enteritis following Influenza although I am aware such have been described.

V. Complications affecting the Respiratory system in the Catarrhal form

By far the most frequent and serious complications of Influenza are those referable to the respiratory tract, bronchial catarrh, bronchitis, & pneumonia.

These various Inflammatory processes of the mucous membrane of the respiratory tract are noticed in quite 50% of all cases.

The commonest of these is bronchial catarrh, a very large proportion of all cases suffered from cough & expectoration. On examining the chest in these cases only a few

Physical signs of disease could be found, perhaps a few wheezing or ~~sonorous~~ ~~rales~~ ~~apt~~ the catarrh was very severe and persistent and did not yield nearly so readily to treatment as the catarrh with which we are all familiar as the result of a chill.

With care however the majority of these cases recovered without any dangerous symptoms in ten days or a fortnight.

Bronchitis The Bronchitis of Influenza generally comes on about the third or fourth day of the disease when the temperature has become nearly normal. It is first manifested by a further fresh rise of temperature, cough, and difficulty of breathing. It is most frequently seen in cases where the patient has progressed favourably up to a certain point but then has imposed himself to a draught or gone out. It also frequently

occurs in old people or people who are  
subject to bronchitis. The usual  
physical signs of bronchitis are  
found and there is almost always  
a complaint made of burning pain  
along underneath the sternum. The  
cough is very severe and frequently  
augments the head as present.

Patients complain that their head  
seems to be splitting open when they  
cough. There must be a considerable  
degree of congestion of the bronchial  
tubes present for it is quite a common  
occurrence to find the sputa stained  
with blood. These cases are much  
more prolonged than an ordinary  
attack of bronchitis and there is,  
in proportion to the physical signs,  
much more difficulty of breathing  
than in ordinary bronchitis.

There seems to be a spasm of the  
bronchial tubes set up.



The respirations are very frequent and laboured. The patient may be breathing very well at one time in the day and at another time in the same day may be propped up in bed and apparently in a state bordering upon suffocation. I have seen in the same case respiration at the rate of 20 in the minute and only moderate sibilant and whistling râles while later on in the day and generally after taking food the respiration has been at the rate of 30 - 40 per minute, with every appearance of approaching suffocation and very loud râles that can be heard all over the room. After the application of a hot fomentice in about two hours the respiration was again 24 per minute.

This points the fact that combined with the inflamed state of the bronchial mucous membrane

There must be a great impression produced by the Influenza poison upon the respiratory centre or the nerves to the bronchial tubes. In the case I have quoted the patient was not subject to asthma and had never had bronchitis before. He made a satisfactory recovery after four weeks' confinement to the house.

Pneumonia occurs in Influenza in two different ways and at two different periods in the disease. The more uncommon form is lobar pneumonia.

This generally comes on early in the disease about the 2<sup>nd</sup> day.

The fever instead of abating as usual after 24 - 36 hours keeps up, the patient becomes very restless and perhaps delirious. He complains of pain in the side aggravated by coughing. On examination

the temperature is about  $102^{\circ}$ - $103^{\circ}$  pulse  
120.-140 and respiration 30-40 per minute.  
On examining the chest all the signs of  
lobar pneumonia are found and generally  
at one or other base of the lungs. These  
signs are dulness on percussion, tubular  
breathing, increased vocal resonance & fremitus  
and fine crepitant rales. This runs  
on for some days and then if the case  
progresses favourably there is a crisis  
and defervescence of the fever and  
gradual recovery. As an example  
of this form of pneumonia complicating  
Influenza I will cite the case of a  
collier aged 16.

2<sup>nd</sup> March Patient in bed suffering from  
Influenza, had apparently been infected  
by his mother who had the disease a  
few days previously. Severe pains in  
limbs, back & head more especially  
the head. Pulse 120 per minute  
temperature  $101.6^{\circ}$ . He had no cough

or difficulty in breathing. Nothing abnormal  
on examining chest.

3<sup>rd</sup> March Patient no better. restless night.  
slightly delirious wished to get out of bed  
and go to work. Had a dry hacking  
cough and gurgled respiration and  
face had anxious expression. On  
examining the chest I found at base  
of right lung at the angle of the scapula  
an area which was dull on percussion  
compared with the other side. There  
was marked tubular breathing and  
fine crepitant râles. Nothing was  
noted in any other part of lungs.  
Pulse 108 temperature 102° Respiration  
30 per minute Slight sputum streaked  
with blood.

4<sup>th</sup> March Patient still very ill, had a  
very bad night. No increase in area of  
dullness & tubular breathing. More cough  
& sputum typically rusty. He was  
rather more delirious and restless in bed.

Urine very high coloured scanty & loaded with wastes. No albumen present. Temperature 103° pulse 112 Resp: 36.

5<sup>th</sup> March Patient same in every respect. Some retching through night. Pulse 108 Resp: 30 per minute temp: 102°.

6<sup>th</sup> March I was equally surprised to find the patient quite conscious and that he had passed a very good night having slept for two or three hours at a time. He had no pain and except for the cough & weakness felt quite well. The sputum was mucopurulent. Temperature was 98° pulse 90 Respirations 25 per minute. The skin was moist & urine more plentiful. It was evident there had been a crisis in the night. Incidentally I may mention that in a case of lobar pneumonia following influenza in a man aged 22 yrs the crisis also occurred on the fifth day.

I do not know whether this is usual in this form of pneumonia. In both cases I did not expect the crisis till the 9<sup>th</sup> or 11<sup>th</sup> day.

7<sup>th</sup> March Improvement maintained  
Crepitus reduced at right base, still, some amount of dulness. Resp<sup>n</sup> 20 per minute  
Pulse 60 & temperature 97°.

From this time on a steady improvement has been manifested & the patient is now almost convalescent.

The other form of Pneumonia met with as a complication of Influenza is Catarrhal or broncho-pneumonia. It is more frequent and more fatal than the lobar form. It is most often met with about four or five days after the commencement of the disease and is very insidious in its onset. Yet when it is fully developed it is the most dangerous of the many complications of the disease.

It seems to be due to a spreading downwards of the mischief in the bronchial tubes to the ultimate lobules of the lung. The physical signs are not so easily made out with certainty as in the lobar form. It is only when several lobules near adjoining each other are simultaneously affected that one gets tubular breathing & dulness on percussion. Again there is almost always a good deal of bronchitis also present and the sonorous & sibilant rales more or less cover the other physical signs that might otherwise be made out. Another peculiarity is that the process does not go on simultaneously in all parts of the lung. While one inflammatory patch may be approaching resolution at another part of the same lung another patch may be taking on inflammatory

action. Under these circumstances perhaps the sputum and temperature are the best guides as to the amount of Inflammatory mischief present in a given case. There may be made out patches of dulness to percussion but more frequently there is found in some part of the lung a point where tubular breathing with moist râles may be heard. The sputum is different from that seen in lobar pneumonia in respect that it is much more sanguinolent. It may appear like a bright jelly or as blood stained serum. It is most frequently seen in old people or people whose lungs have been already weakened by previous disease. In this state of affairs there is generally a rise of temperature but this is not always sudden



and perhaps more frequently spread over ~~to~~ one or two days. The temperature is generally over 102°. It may show a good deal of variation, but only rarely does it fall below 102°. There is usually pain in the chest referred to one or other side, great restlessness and frequent perspirations which however seem to produce no relief to the symptoms.

As a rule the prognosis in these cases is very grave. Even the strongest may succumb. If these cases terminate favourably it is only after a long tiresome convalescence.

### Continued fever as a Complication of Influenza.

I give the case quoted below as an example of long continued fever following influenza but not proceeding from any discoverable morbid condition other than the blood or brain (heat centre affected by toxine

of Influenza.

On Feb 22<sup>nd</sup> 1898 I was called to a collier aged 36 years a strong healthy man up to the present illness. I found him suffering from a typical attack of Influenza. He had a temperature of  $102^{\circ}$  the first day of the seizure. On Feb 23<sup>rd</sup> the temperature still remained high  $102^{\circ}$ . On careful physical examination of the body nothing could be found to account for the temperature. From this time till 12<sup>th</sup> March, 18 days the temperature still kept up varying from  $103^{\circ}$  to  $101^{\circ}$  rather irregularly but never overstepping these limits.

During the whole of this time the patient lay in a semi comatose state. Would put out his tongue when requested to do so but when asked how he felt almost always replied "About the same doctor." He did not seem to be in any pain.

There was never at any part of the disease cough or expectoration. The tongue was coated and dry. I was very doubtful if it was a case of typhoid fever but although I and my principal went very thoroughly into the case we could not detect any reason to suspect it. The bowels were confined during the whole time and only operated when purgatives were administered. From March 12<sup>th</sup> the patient became more sensible. His tongue cleared and the temperature went down to subnormal and never again went over 100°. Improvement went on uninterrupted but very slowly from 12<sup>th</sup> March. He went out first on April 25<sup>th</sup>. Since that time he has been in good health.

Fatal case of Meningitis after Influenza  
David Williams aged 24 a collier was seized with Influenza on May 10<sup>th</sup> 1893

Nephritis following Influenza

On Feb 7 8<sup>th</sup> 1892 saw W. Deakin  
farm labourer. Complaining of  
pain in back and retention of  
urine. Had been under treatment  
a week previously for Influenza  
Found the urine nearly black &  
containing blood and albumen  
as shown by guaiac & nitric acid  
tests. Urine sp. gravity 1012.  
He made a good recovery after about  
ten days' treatment.

Is that so sure?

He seemed to be progressing favourably to recovery till May 13<sup>th</sup> when he suddenly became delirious. The chest was found to be normal. He did not seem to know any one. Shouted out he was being poisoned that his wife was unfaithful, could not get him quiet for one minute. On May 16<sup>th</sup> he became comatose with stertorous breathing and died on May 17<sup>th</sup> after seven days' illness. He had up to the date of his first seizure been quite healthy.

### Mode of spread of Influenza

It seems to be accepted by the profession at large that Pfeiffer bacillus is the true cause of Influenza. If so the disease must spread from one person to another by means of the Sputum. The  $\Phi$  fever would be explained by the toxin produced by the bacilli.

being absorbed from the surfaces attacked and thus acting as a poison to various parts of the system in a manner analogous to the diphtheria toxin. ~~Dr~~ Dr. Atthaus in his book on Influenza has brought together in a few words the generally accepted conclusions with regard to Influenza. This I take the liberty of copying.

"Influenza is a contagious disease, owing in the first instance to the development of Pfeiffer's bacillus outside the human system. Under the influence of certain conditions with the nature of which we are at present unacquainted, this bacillus increases and multiplies to such an extent as to become the efficient agent in causing Influenza. After this has once commenced it easily spreads from one person to another, in the

same way as measles, small pox, and Scarlet fever, either by actual contact or by "fornites" that is infected materials - - - - - With regard to its progress Influenza follows the established lines of human intercourse. It has nothing to do with meteorological conditions, advances, independently of climate, season, wind, and weather; and affects large masses of the population at the same time for the following reasons 1. Because it has a very short period of incubation.

2. Because men are exceedingly susceptible to infection by this particular bacillus.

3. Because the bacillus is propagated not only by persons who are ill in bed, but by many people who have the complaint in a mild form, and therefore continue to move about and follow their usual

Avocations, thus forming focuses of infection for all those who may happen to come in contact with them. Germs or spores of the bacillus may remain undestroyed for a considerable time, and may, under the influence of favourable conditions, lead to fresh multiplication of the bacillus, and therefore to fresh outbreaks of the disease.

J. Althaus on Influenza, ~~1895~~  
p.p. 285 - 286.

### Treatment of Influenza.

In the absence of a specific for Influenza in the form of an antitoxin, which will doubtless sooner or later be discovered, as in the case of the antitoxin of Diphtheria which has recently given such good results; we must treat our cases of Influenza upon the empirical system of treating symptoms as they arise.

One point which experience of this



as of past epidemics has taught is the great importance of rest in bed as a feature in the treatment of every case of Influenza. Frequently it is seen in Influenza as in other infectious diseases such as measles or Scarlet Fever, it is not the very bad attack of the original disease that is apt to give rise to serious consequences so much as the neglect of a slight attack. During the first three days of the illness the patient should be confined to bed even altho' he feel moderately well. He should not get up till his temperature has returned to normal.

He should have light nourishing food so far as his appetite and the state of his stomach allows him to take it. Plenty of demulcent drinks and stimulants if there is great prostration.



severe head ache and reducing  
the temperature.

Ry. Antifebrin gr vii.

Caffein. Cit. gr  $\frac{iii}{\text{tho}}$ .

Sig. Ft. Puls. The powder <sup>to be taken</sup> <sub>at once</sub>.

I have given these powders in many cases  
both for Influenza & neuralgia and  
never yet saw any ill effects after their  
use. The Citrate of Caffein seems to quite  
overcome the transient depression produced  
on the heart by the Antifebrin. Even  
in old and debilitated persons these  
powders are quite safe if a tablespoonful  
of brandy be given ten minutes after  
taking the powder. Though insoluble  
in water the powders can be suspended  
in it and are soon dissolved in  
the stomach.

I have tried with only very indifferent  
success the Salicylate of Soda treatment  
of Influenza.

I think this treatment is much too depressing for Influenza.

Whatever the line of treatment adopted it all comes back to the avoidance of depressants and the endeavour to support the strength of the patient.

In the after stages of Influenza tonics are called for. One of the most satisfactory of these is the Symp. Easton in 3j doses three times a day.

In cases where there is a persistent cough and great weakness Cod Liver Oil or some of the various patent preparations into which this oil enters are indicated.

Digitalis and Ammonia may be indicated when there is any cardiac weakness.

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