were referred to the right knee-joint and, as I have already remarked, he
could not localize the pain beyond saying that it appeared to be in the centre
of the joint. There was no point of tenderness, no effusion, and no muscular
wasting. Flexion of the joint was limited by about 10 degrees. Extension
was full but when the knee reached a point within 10 degrees of full extension
a peculiar jerk was experienced in the joint. An X-ray examination
revealed an apparently loose fragment of bone about the size of a bean,
which appeared to lie free within a shallow depression on the medial condyle
of the right femur at the junction of the vertical and horizontal surfaces
of this condyle. Two X-ray films are reproduced.

I diagnosed a condition of osteochondritis dissecans. From his history
I deduced that the disease had been in progress for two years and that two
months previously the bone fragment had separated from the surrounding bone, that it was now loose or almost completely loose, and that
this mobility accounted for his severe attacks of pain.

At the operation on February 5, 1940, I was surprised to find that the
fragment was not loose. It was clearly demarcated by a shallow groove,
but the articular cartilage was quite intact. I could find no line of cleavage
between the "loose fragment," and the rest of the bone. When pressed
upon, the affected area appeared to yield a little. I closed the joint without
further interference and decided to immobilize the limb in plaster of Paris
for a period of two months.

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CONTUSION OF THE LUNG FOLLOWING AN INJURY.
BY MAJOR P. F. PALMER,
Royal Army Medical Corps.

PRIVATE T., 2nd Suffolk Regiment, aged 25, total service 5½ years,
India 3½ years, was admitted to hospital on July 21, 1938, and gave the
following history:

July 10, 1938: Whilst playing football he was struck on the right chest
with the ball. He was not knocked down but the blow started a cough
which lasted throughout the game. This passed off and he remained quite
fit doing normal duties during the following week. Five days later he reported
sick with pain under the right breast. He stated that pain was present all
the time, was stabbing in character, and not affected by taking a deep breath.
Four days after this, whilst doing guard duty, he started to cough up
yellowish blood-stained sputum, and was admitted to hospital.

Past History.—Double pneumonia, aged 5, fit at school; no rheumatic
diseases, and fit since.

Family History.—Good stock.

General Condition.—He states his appetite is fair; he sleeps well; now
and then suffers with headache; has never had any previous chest trouble,
Clinical and other Notes

is not breathless, appetite and digestion good, bowels regular; cigarettes forty a day, feels fit and keeping his weight.

July 21: Admitted to hospital; temperature 101.2°F, pulse 96. Cough with sputum as stated above. During the night the cough was troublesome and caused fecal incontinence. He was perspiring freely and was said to have vomited dark red blood. The case was seen by the assistant surgeon on duty, who ordered morphia \( \frac{1}{6} \) gr.

July 22: When seen by me his condition was as follows: Patient appeared quite comfortable. There was no distress of any kind. There was marked clubbing of the fingers and toes. Movement of the chest was full and equal. Vocal fremitus was equal on both sides. Percussion revealed a normal note. On auscultation there was a slight increase in vocal resonance in the

![Fig. 1](image1.jpg)  
![Fig. 2](image2.jpg)

fifth space on the right side in the mid-clavicular line, and a few crepitations were heard at the end of inspiration over the same area. Air entry was somewhat diminished at the right base behind. The apex beat appeared to be in the fourth space four inches from the mid-line. Sounds were clear, pulse was good. Sputum was greyish, blood-streaked, and mummular, somewhat like the sputum seen in a previous case of collapse of the lung. Laboratory examination of the sputum revealed the presence of pneumococci, streptococci, and staphylococci. Temperature was 100°F, pulse 88. Respiration were not charted, so were probably normal. The patient's appearance did not suggest pneumonia.

In view of the history of an injury the chest was X-rayed and revealed an irregular opacity involving the base of the upper right lobe, fig. 1.
July 23: Six ounces of greyish, non-offensive, non-viscid sputum have been coughed up since the previous day. There was herpes on the upper lip; temperature 99° F., pulse 80, respirations 18. Patient still looks comfortable. On auscultation a roughish sound was heard at the end of inspiration over affected area, which may have been pleural in origin.

July 24: Swinging temperature 100°-8° to 102°-8° F., pulse 78 to 88 throughout the day. Free purulent expectorations of which a few were rusty.

July 25: Swinging temperature 100° to 103° F. Complains of pain in the right chest. There is a pleuritic rub over the third space in front with diminished air entry over the base of the upper lobe in front. Expectoration continued, but was not rusty.

July 28: Patient still looks comfortable; running irregular fever. There are no sweats; sputum still purulent, about four ounces. Over the base of the upper lobe in front there is slight dullness. Air entry is poor. Case does not suggest a frank pneumonia either from the patient's appearance or from the physical signs.

July 29: X-ray shows signs of resolution in the opacity, fig. 2.

July 31: Patient complained of a restless night. There are small blood-clots in the sputum; physical signs about the same. Sputum examined as on previous occasions for T.B. but none found.

Blood examination: R.B.C. 5,000,000; Hb. 65 per cent; W.B.C. 11,400; polymorphs 75 per cent.

August 5: Swinging temperature still present, pulse a little bit faster than it was.

General condition: General condition the same; sputum somewhat less, air entry returning over the upper lobe. X-ray repeated and the report suggests an abscess; of this clinically there is no evidence.

August 13: Temperature gradually falling, varying from 100° F. to normal; pulse about 88; sputum somewhat less; air entry much better. Further X-ray: the report states that there appears to be a thick layer of fibrous tissue replacing the interlobar pleura with radiating fibrous bands. Opacity is more homogeneous.

August 15: Temperature almost normal. Exploratory puncture did not reveal fluid. During the next few days temperature rose on two occasions to 103°-6° and 101°-4° F. with further pain in the right chest. This was associated with a great decrease in the amount of sputum and the temperature later fell on free expectoration again ensuing.

In view of the history of past pneumonia and the clubbing of the fingers and toes, bronchiectasis was considered as the source of the sputum, but this appeared unlikely unless it was of the latent type, since the patient strenuously denied chest trouble of any kind.

The question of the cause for this clubbing was now considered, and I requested the patient to be so good as to write to his family doctor and ask...
**Clinical and other Notes**

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**Temperature Chart. Contusion of the Lung.**

Temperature Chart. Contusion of the Lung.
him about clubbed fingers in the rest of the family. His family doctor wrote to me the following note:

"The patient's father has clubbed fingers but has never had any chronic chest or heart complaint. The condition is probably hereditary."

August 23: Temperature has now settled; sputum less than an ounce in twelve hours. Further X-ray shows the shadow to be less, fig. 3.

August 29: Case is continuing afebrile. To-day there was increase of sputum to about two ounces, which contained altered blood. Air entry is good and for the first time there are moist sounds to be heard over the affected area.

September 5: Case continues afebrile; no physical signs in the chest; X-ray shows the shadow to be clearing, fig. 4. The patient was discharged to duty on September 7.

April 8, 1939: There is small residual opacity at the site of the previous lesion.

The case is of interest inasmuch as the actual disease was never clear. Following a blow on the chest a perfectly fit soldier began to complain of pain and copious purulent sputum and for a month ran an irregular fever, at first swinging in type. Throughout, physical signs were very indefinite. The only constant sign was diminished air entry and free expectoration, and not till a few days before his discharge from hospital did moist sounds appear over the affected area, associated with an increase in sputum which contained altered blood. An outstanding feature throughout the disease was the patient's apparent comfort. He neither looked nor felt ill. Physical signs
did not suggest a frank pneumonia, though labial herpes did occur at the onset. Respirations throughout were only slightly increased. The question of bronchiectasis was raised and dismissed. Condition was not due to fluid in the chest since exploratory puncture was negative. Diagnosis of lung abscess did not appear to fit the case either. The probable etiology which is consistent with the findings appears to be as follows:—

The blow on the chest caused a local lung injury and was in the nature of a contusion with some hemorrhage, which accounts for blood coughed up at the beginning of the illness. Surrounding this contusion was an area of collapse, the signs of which were disguised by overlying healthy lung. In this area there was probably a resultant pyogenic infection as shown by the organisms in the sputum. It is reasonable to suppose that the bronchus to this area was blocked and that the compression of the surrounding healthy lung milked this area and sputum was therefore coughed up. This appears to be logical since no moist sounds were heard, and therefore air was not passing into the damaged area. The bronchus cleared from the top and when air once again passed into the lung tissue through the now patent bronchus, moist sounds were heard and the site of the original injury was rapidly cleared of secretion, as shown by the increase in sputum which contained altered blood on the last day of the illness, after which sputum ceased altogether.

Treatment.—The only treatment given was generous diet and ammon. carb. and creosote mixture. The slowly falling temperature and the decrease in sputum indicated that the condition was improving, though there was little change in serial radiographs.

It is regretted that radiographs of August 23 and September 5 are not available as the originals were lost in the post.

Conclusion.—A case of a lung lesion following an injury is described. Serial radiographs are shown.

The lesion in the lung has now completely disappeared.

Stereoscopic radiographs showed the lesion to be deep in the lung.

Lieutenant-Colonel E. P. Allman Smith, Commanding British Military Hospital, Mhow, has given permission for these notes to be sent for publication.