

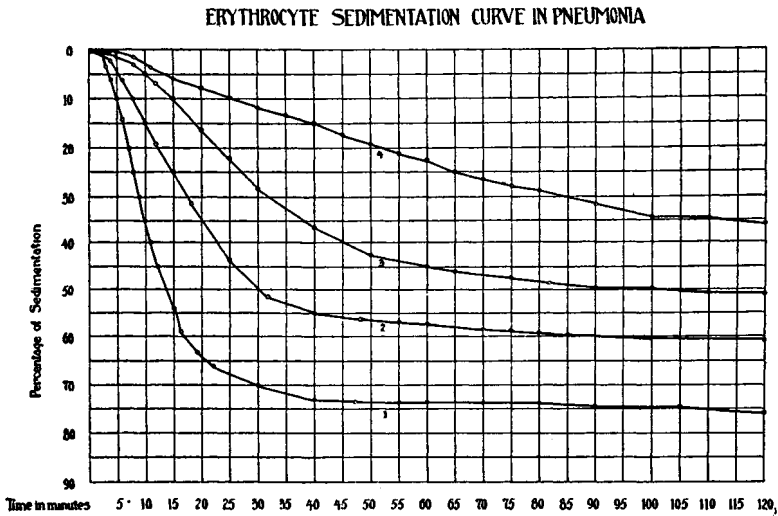
Blood Sedimentation Curves in Pneumonias.

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A new micro-pipette and a new method for measuring the sedimentation rate of red blood corpuscles has been described.¹ Using this new pipette and method, the present study was made on the blood sedimentation rate in severe cases of pneumonia, both of the broncho and lobar types.

Measurements of the sedimentation rates were made at frequent intervals throughout the course of the disease and for several weeks after what is ordinarily regarded as complete recovery.



The main results are summarized in Fig. 1. In this figure, Curve 1 shows a very rapid sedimentation rate with the corpuscles reaching a low level when they cease settling. This kind of curve is typical for the early stages of severe pneumonias where the patient is critically ill with high fever, and consolidation either beginning or well under way. The outlook in this stage is critical.

Curve 2 is typical of a later stage when the patient has markedly improved, showing little or no fever, and with other clinical signs also much improved. Resolution may be well under way or

¹ Brooks, Clyde, *J. Lab. and Clin. Med.*, in press.

nearly completed when the sedimentation curve is like that of number 2. The prognosis here is good.

Curve 3 is typical of cases which are in the later stages of resolution. The patient is convalescent. During the rapid absorption of material from the lungs in resolution the sedimentation rate remains quite rapid. Not until the lungs are almost clear does the sedimentation rate improve to the extent shown in Curve 3. Most patients leave the hospital before the sedimentation curve shows as much improvement as that in Curve 3.

Curve 4 shows a typical normal curve which is not seen in cases of severe pneumonia until several weeks after the patient has been discharged and pronounced sound and well as judged by the physical findings and the X-ray. This indicates that the sedimentation test is more sensitive to lung pathology than the X-ray or the physical signs.

In cases of severe pneumonia where the patient does not improve but proceeds to grow worse, the sedimentation curve is more rapid and falls to a lower level than that of Curve 1. So, in curves which are more rapid and fall lower than Curve 1, the outlook is bad.

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Effects of Thorium, Zirconium, Titanium and Cerium on Enzyme Action.

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Roussy, Oberling and Guerin¹ have reported that thorium dioxide is carcinogenic when administered intraperitoneally to rats. Doerr² and Hara³ report that thorium and some of the associated periodic members agglutinate bacteria, red blood cells, spores, and precipitate proteins. The effects produced upon enzymes by carcinogenic substances, especially arsenites and hydrocarbons, have been rather extensively investigated. Recently Sure *et al.*⁴ found

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¹ Roussy, G., Oberling, C., and Guerin, M., *Bull. Acad. Med.*, 1934, **112**, 809.

² Doerr, R., *Kolloid Z.*, 1920, **27**, 277.

³ Hara, S., *Arch. Exp. Path. Pharm.*, 1923, **100**, 217.

⁴ Sure, B., Kik, M. C., Buchanan, K. S., Thatcher, H. S., and DeGroat, A. F., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **32**, 658.