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**Arterial and venous oxygen in pneumonia and influenza.**By **WILLIAM C. STADIE** (by invitation).

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A technique for the puncture of the radial artery was devised which is simple and does no injury to the artery. The blood thus obtained was studied with respect to its oxygen content and the oxygen capacity by the Van Slyke gasometric method. In addition, venous blood was obtained by the technique of Lunds-gaard and studied in the same way. Fifty observations were made upon twenty-five patients. Most of these cases had broncho-pneumonia, usually post-influenza. A few had lobar pneumonia and some had uncomplicated influenza.

In normal controls the arterial blood varied from 85 to 98 per cent. saturated with oxygen. In patients with the type of respiratory diseases outlined above, the arterial blood is rarely more than 90 per cent. saturated. Some patients had as little as 85 per cent. of saturation without cyanosis, but, as a rule, when the arterial saturation falls below 85 per cent., it is associated with cyanosis. With an arterial saturation below 80 per cent. the cyanosis becomes marked, and in no case when the arterial saturation was below 80 per cent. did the patient recover.

In the influenzal type of bronchopneumonia the patient maintains his arterial saturation somewhere between 85 and 90 per cent. until twelve or twenty-four hours before death, when it falls rapidly. In one or two cases the arterial saturation was as little as 32 per cent., but this was six to twelve hours antemortem. These cases were all intensely cyanotic. In no case was there any striking diminution of oxygen capacity, even in the cases of marked septicaemia. In several cases where the low arterial oxygen saturation was associated with cyanosis, the disappearance or diminution of the cyanosis during recovery of the patient was accompanied by an increase of the arterial oxygen.

In general, the venous oxygen closely parallels the arterial in its per cent. of oxygen saturation, except in cases of failing cir-culation, where the venous oxygen is disproportionately low.