

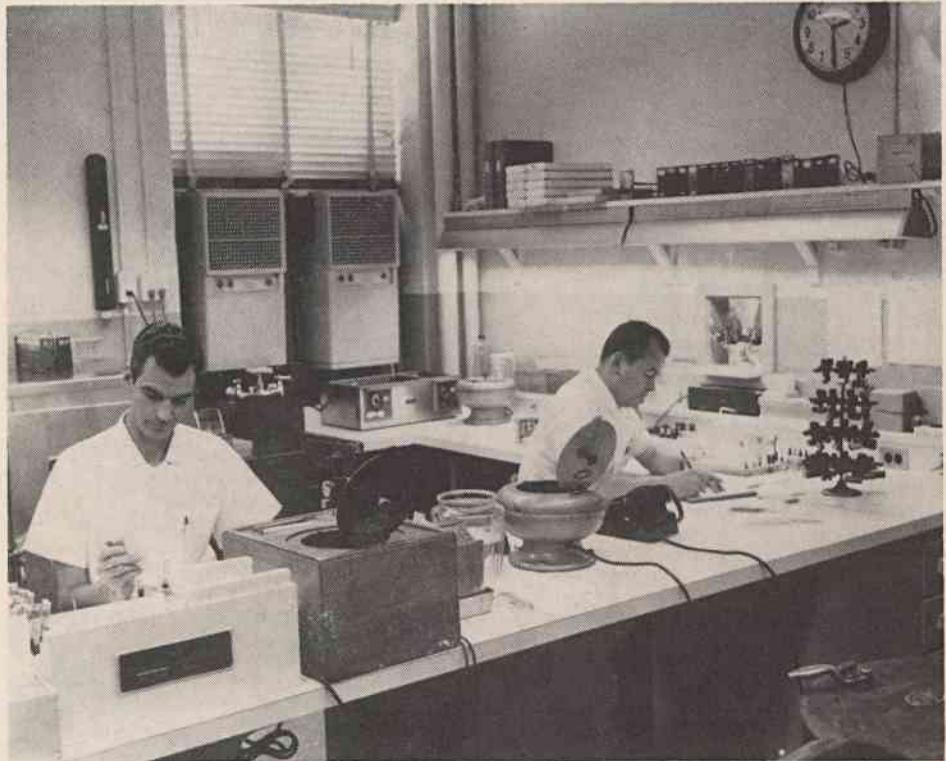
## The Story of Blood Banking

All of us here at Duke Medical Center are well aware of the fantastic strides that are made each year in medicine. Much of this progress is bold and romantic in nature—such as open heart surgery and deep radiation therapy. Less publicized but no less important is the fascinating story of the work done over the past 20 years in the use and preservation of blood.

Today we take blood transfusions as a routine affair. This makes it hard to believe that only 30 years ago when Duke Hospital first opened, blood transfusions were rare and dangerous. Throughout the ensuing years of progress the Blood Bank at Duke Hospital has played a vital role.

Dr. Ivan Brown, professor of surgery and director of the Blood Bank since 1946, enjoys telling about the "old days" in blood transfusion and banking history. Right from the beginning of Duke Hospital's surgical history, blood transfusions were available, but they were used only for major procedures since there was no specialized blood drawing equipment and no method for storing blood. At that time it was believed that blood had to be kept lukewarm. So the procedure was for the donor's blood to be drawn into a large Erlenmeyer flask which sat in a dishpan of warm water. And because the needles used were about the size of a bridge pencil, it was necessary first to incise the skin down to the vein for easier insertion. To create a vacuum to speed the flow of the donor's blood, nurses in those days manned a bicycle pump! A rather primitive scene, to be sure.

Since no preservatives had been developed, this early work was very direct with the blood usually administered within a few hours of donation. Another method used was for



Ray Whitaker, technician, and John Danford, chief technician and supervisor of the Blood Bank since 1946, are enjoying a rare moment of uninterrupted work in the bank. The other members of the staff are technician Grace Pickett and nurses Martha Parrish, Eddy Payne and Jo Billings.

a doctor to draw blood from the donor in a syringe, then pass this syringe to another doctor who administered the blood to the patient. A sort of bucket brigade. At this time only whole blood was used in transfusions since it was believed that the blood serum or plasma was harmful and caused serious reactions. The whole blood could be saved for so few days that no concept of blood banking was then practical.

One of the pioneers in this field was a North Carolinian, John Elliott—not a doctor and not a college graduate, but a medical technician at Rowan County Hospital. His early work in 1934 and 1935 on the separation, long-term storage and trans-

fusion of plasma was done in part in his barn, in part at Rowan Hospital and in part at Duke where he was offered laboratory space by Dr. Davison and the late Dr. Perlzweig in recognition of the possible benefit of his work.

By the time that the second world war was imminent, Mr. Elliott had shown that plasma could be stored; that it could be given intravenously and that it was effective in the treatment of shock. In 1940 he was commissioned in the Medical Sanitary Corps and went to Washington to begin the Civil Defense plasma collection program. Catawba College honored him with a doctor of science

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