CHARITY HOSPITAL
STATE OF LOUISIANA
NEW ORLEANS

November 12,1932

Mr.O.O.R.Schwidetzky
Manager Research Dept.
Becton, Dickinson & Co.
Rutherford N.J.

Dear sir:

In re of your letter of Nov./9/32 we have forwarded the blood transfusion apparatus under separate cover. It is desirable that the knowledge of the mechanism and principle of this instrument be limited to as few trustworthy individuals as possible for our protection in the disposition of the instrument. However, we prefer that you handle the instrument if satisfactory arrangements can be completed because of the lowered cost, increased availability to the profession, and your general reputation for reliability.

This instrument, designeddby the writers, has proven clinically to be entirely satisfactory and is believed by able clinicians here to be the best and most practical syringe transfusion method at present. First, because the instrument can be manufactured of finest materials at an extremely low cost enabeling a popular selling price. Second, the only breakable and necessarily replacable part, tne syringe, is readily available. Third, because it is operated by a simple push-pull motion of the syringe piston, only. Fourth, complete instrument consists of seven parts readily assembled requiring no mechanical knowledge . Fifth,instrument can be packed in a sterilizing case about 6"x2"x1". Sixth, fragmentation of red blood cells by valve mechanism practically negligible. Seventh, shortest blood course outside of body of any syringe instrument on the market. Eighth, no dead space in instrument or valve mechanism where clotting may initiate. Ninth, simplicity of operation increases rapidity of flow thus diminishing possibility of clot formation.

The Instrument

The instrument consists of a sleeve-valve and a case to contain a 10c.c. syringe. The valve consists of a piston containing one part communicating with the syringe tip at its upper end; and a sleeve containing two parts, the upper for donor

donor and the lower for the recipient. A taper pin through the sleeve and piston limits the up and down motion of the piston and thus insures the accuracy of approximation of the port in the piston with that of the donor in the extreme up position and that of the recipient in the extreme down position.

The syringe case merely serves the purpose of stabilizing and holding rigidly the syringe barrel and also of fixing the syringe tip into the standard Luer opening ground into the top of the piston.

To prevent the possibility of the reversal of flow it is necessary that the valve move before the syringe plunger begins to move in an opposite direction. To insure this two springs are used to increase the friction between the syringe plunger and the syringe barrel over that of the sleeve-valve. In actual clinical trial this has proven unnecessary in pumping a fluid as viscid as blood. But this safety device acts as an additional guard against this possibility.

After assembling the instrument as per directions enclosed in forwarded package, to operate, merely clasp the cylinder of the sleeve valve by the left hand and hold steadily and operate the syringe plunger with the other hand. In use, the cylinder of the sleeve-valve is lubricated with sterile mineral oil. The system may be filled with sterile citrate or normal saline before use.

The model in its present form is crude and merely illustrates the principle but even in its crudeness it has clinically operated successfully. Several improvements and suggestions are shown on the accompanying diagram.

Thanking you in advance for your kind consideration and hoping to hear from you at your earliest convenience we remain,

Sincerely yours,

M.E. DeBakey, M.D.

Wm. H. Gillentine, M.D.