Closed Technique for Collection and Storage of Aliquots of Blood[1]

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To follow the aging process of the erythrocytes in various "preservatives," serial tests must be done and compared. A system for aliquoting and storing samples has been devised which is superior to present methods. The storage container is fabricated from a nonreactive, temperature-resistant plastic of polyvinyl chloride. It consists of a suitable length of 2-cm, lay-flat tubing, which is partitioned by sealing barriers transversely every 3 cm. The partitions have an opening about 1 cm in diameter along one side of the tube and serve to divide the container into 10 small compartments of about 5 cc each. In addition, a 50-cc compartment is formed at one end in which the blood is first mixed with the diluent. A three-way stopcock, treated to render its surface hemorepellent (*1*), is inserted into the collecting tube. This permits control of the stream of blood and the attachment of a syringe. In preparation, the entire unit (Fig. 1) is sterilized by exposure to saturated steam at 121° C for 30 min.

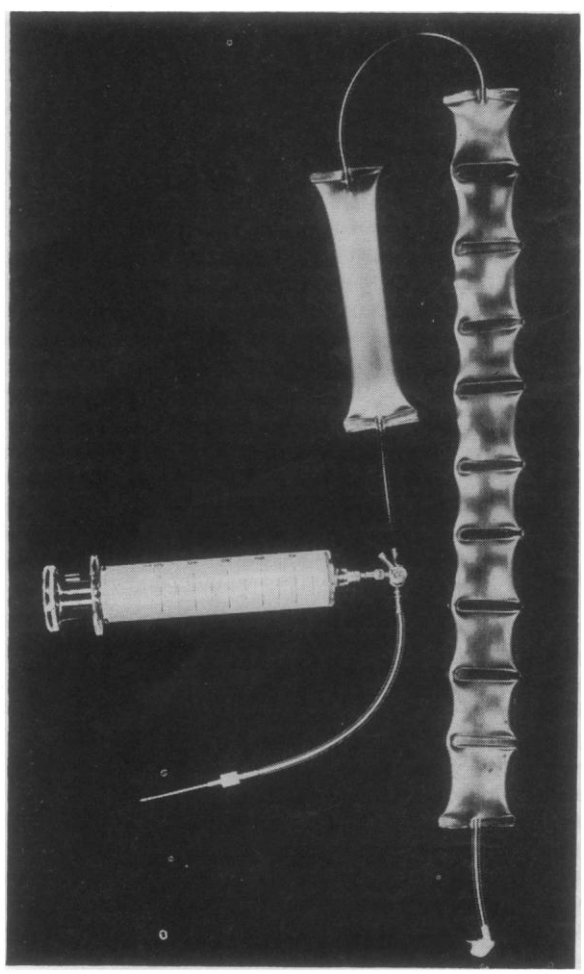

FIG. 1. Unit for collection and storage of aliquots of blood.

Blood is collected by gravity under sterile conditions in the large chamber, where a thorough mixing of blood and diluent from the syringe is accomplished. It is then permitted to enter the smaller compartments, where it is equally and automatically divided among them. The small passage in the partitions between chambers is sealed hermetically by dielectric heat. The chain of compartments may now be stored under identical environmental conditions. An aliquot can be removed periodically by dividing the sealed barrier with scissors to free a single compartment, leaving the remaining ones sterile and undisturbed.

[1] This work was done under a contract (DDRD-3) with the Department of the Army.

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Reference

1. WALTER, C. W., *et al.* In *Surgical Forum: Clinical Congress of the American College of Surgeons, 1951.* Philadelphia: Saunders (1952).

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Some New Coordination Compounds of Thallium

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In 1909 the German chemist J. Gewecke became interested in the extensive agreement in the behavior between trivalent thallium and gold. This behavior became more apparent in some of the double chlorides of these two metals. He prepared a number of these double salts using the chlorides of divalent metals by allowing a solution of the component salts in water acidified with HCl to evaporate in a vacuum over concentrated sulfuric acid. These salts all corresponded to the formula $2TlCl_3 \cdot MCl_2 \cdot x\ H_2O$, where "$x$" was usually equal to 6 or 8. The similarity of the double salts of thallium and gold can be seen from Table 1 (*1*):

TABLE 1

$2TlCl_3 \cdot NiCl_2 \cdot 8H_2O$	$2AuCl_3 \cdot NiCl_2 \cdot 8H_2O$
$2TlCl_3 \cdot CoCl_2 \cdot 8H_2O$	$2AuCl_3 \cdot CoCl_2 \cdot 8H_2O$
$2TlCl_3 \cdot CaCl_2 \cdot 6H_2O$	$2AuCl_3 \cdot CaCl_2 \cdot 6H_2O$
$2TlCl_3 \cdot SrCl_2 \cdot 6H_2O$	$2AuCl_3 \cdot SrCl_2 \cdot 6H_2O$
$2TlCl_3 \cdot MgCl_2 \cdot 6H_2O$	$2AuCl_3 \cdot MgCl_2 \cdot 6H_2O$
$2TlCl_3 \cdot ZnCl_2 \cdot 6H_2O$	$2AuCl_3 \cdot ZnCl_2 \cdot 8H_2O$
$2TlCl_3 \cdot CuCl_2 \cdot 6H_2O$	

Notably missing from Gewecke's list are the double chlorides of barium chloride and mercuric chloride. There seemed to be no apparent reason for their nonexistence, and so their preparation was instituted in a method similar to that outlined by Gewecke for the previously prepared salts. A typical preparation