

one. Therefore, even the first transfusion should not be given lightly. In addition, it is now possible, with newer techniques and more readily available serum, to perform Rh typing on blood taken from the finger or ear of a patient directly on a slide within two minutes or less. No emergency suggests that a delay of this brief duration might be harmful to the patient.

2. A second point is the use of group O blood universally, without addition of Witebsky A and B substances. It has now been proved beyond possible doubt that the addition of this material is perfectly harmless even for repeated injections into recipients of O, A or B groups, whereas even a titer of anti-A or anti-B as low as 1-64 may destroy some of the recipients' own incompatible cells in certain cases, particularly if more than a single transfusion must be given within a period of twelve hours or less. The routine use of group O blood, therefore, seems to demand the routine addition of Witebsky's A and B substances.

3. Most important of all, it has been shown by studies in the Army Transfusion Service, in the similar organization of the Navy and in various projects sponsored by the National Research Council, that the greatest harm to blood may result from variations in temperature and fluctuations between refrigerator and room temperature. Therefore, the practice of warming the blood to body temperature, keeping it so for several hours, and then refrigerating it is a very dangerous one indeed. In fact, it seems advisable in most instances to pre-cool the bottle containing the preservative diluent before the blood is drawn into it, then immediately restore the blood to the refrigerator after drawing it from the pa-

tient, and keep it there until it is ready for use. If it is necessary to warm blood before giving it to the patient, which is rarely an important consideration except when dealing with cold agglutinins, the warmed blood should be discarded if not completely used, and certainly never re-refrigerated for later use.

4. Finally it might be pointed out that even after only three days' storage in plain sodium citrate solution blood cells are less viable when injected into the recipient than after storage for a week or more in the newer acid-citrate-sodium citrate-dextrose mixtures, which have been adopted by the Navy, by the English Medical Services, and by most of the hospitals in this country during the past year or two. It seems wise, therefore, to use routinely this so-called ACD solution in preference to plain sodium citrate, unless the blood is to be used for injection into a recipient within forty-eight hours of the time of its withdrawal.

If you have no objections I should be very glad if my criticisms were sent on to the Mayo Group so that they might have a chance to answer them, for, after all, they might have some very good and authoritative reasons for having omitted the things for which I am making my criticisms. In addition, it would seem that if they were to make an answer and the two could be published in the near future under the section "Current Comment and Case Reports" it might be more beneficial to the reader than to have my criticisms appear one month and their answers another.

Sincerely yours,

MORRIS J. NICHOLSON, M.D.,  
*Lahey Clinic,*  
*Boston, Mass.*

May 24, 1946

To the Editor:

Doctor Nicholson's consideration of our paper is thoughtful and courteous. To us it seems that he excludes other viewpoints in some particulars concerning which other opinions than those he records are admissible; but let us, in a few words, take up the four points he raises:

1. In the interview between the writing of our paper and its publication, new

knowledge became established and we changed our technique in some (not in all) of the particulars to which Doctor Nicholson draws attention.

2. This is one of the points on which we think Doctor Nicholson is more positive than present knowledge warrants. Even now we would not change our sentences which read: "We do not hesitate to use group O blood as a universal donor blood. . . . The blood of all group O donors hav-

ing a high anti-A titer is now used only for Group O recipients."

3. Concerning the matter of refrigerating again blood that has once been warmed, we must stand on our experience, the length and volume of which Doctor Nicholson is aware. We know of none of our patients who has been adversely affected by this practice.

4. As is true of others, so are we required now to preserve blood for a longer time than formerly was necessary. Consequently, in the interval between writing and the publication of our paper, we modified the system employed in our blood bank so

that our practice now is similar to that recorded in Doctor Nicholson's letter.

Such letters as Doctor Nicholson's help to compensate for the unavoidable lag in publication of medical material, and they help also to establish knowledge by offering an opportunity for considerate airing of opinions.

Very truly yours,

T. H. SELDON, M.D.,  
JOHN S. LUNDY, M.D.,  
R. CHARLES ADAMS, M.D.,  
*Mayo Clinic,*  
*Rochester, Minn.*

(Continued from page 415)

2:30-2:40 p.m. Discussor: J. Adriani, M.D., New Orleans, Louisiana.

II. 2:40-3:10 p.m. "Gaseous Anesthetics." W. Bourne, M.D., Montreal, Canada.

3:10-3:20 p.m. Discussor: H. Livingstone, M.D., Chicago, Illinois.

III. 3:20-3:50 p.m. "Chloroform." H. W. Featherstone, M.D., Burton-on-Trent, England.

3:50-4:00 p.m. Discussor: H. J. Shields, M.D., Toronto, Canada.

8 p.m. to 11 p.m. Guests of the Massachusetts General Hospital to the Centennial Meeting at Sanders Theatre.

Thursday, October 17—

9 a.m. to 12 noon. Operative Schedule: A, Massachusetts General Hospital; B, Faulkner Hospital.

12:30 to 2 p.m. Luncheon, Hotel Sheraton.

2 p.m. to 4 p.m. Afternoon Lectures, Hotel Sheraton, Dr. Hand presiding.

Speakers and Topics:

I. 2-2:30 p.m. "Curare, Historical Review and Present Experiences." Stuart C. Cullen, M.D., Iowa City, Iowa.

2:30-2:40 p.m. Discussor: H. Griffith, M.D., Montreal, Canada.

II. 2:40-3:10 p.m. "Regional Anesthesia." P. D. Woodbridge, M.D., Reading, Pennsylvania.

3:10-3:20 p.m. Discussor: R. Whitacre, M.D., East Cleveland, Ohio.

III. 3:20-3:50 p.m. "Intravenous Anesthesia." R. C. Adams, M.D., Rochester, Minnesota.

3:50-4:00 p.m. Discussor: Ralph M. Tovell, M.D., Hartford, Connecticut.

8 p.m. to 11:30 p.m. Formal Dinner, Hotel Sheraton.

Toastmaster: H. K. Beecher, M.D., Sterling Professor of Physiology, Yale University School of Medicine.