

were in a position to contribute to Kaye's experiment; it was simply too soon. Also, Australia was a young nation; very few people were engaged solely in the practice of anesthesia, and the population was spread thinly over enormous distances.

But probably Kaye's most important error was to retain ownership of the building, and to a large extent, the project. Successful leaders know that to engage the team, you need to give them some ownership of your vision. Kaye invested his private wealth in the building; he lived there and provided the facilities, which he maintained. Australian anesthesia was in its adolescence in the 1950s. Kaye had no children, so he did not know how to deal with teenagers—on the cusp of adulthood but still happy to let someone else do everything for them if that person is foolish enough to offer. He gave them too much, foisted his own expectations on them, and, like a frustrated parent, ultimately threw them out of home. He failed to engage them at the outset, did not provide consequences early on, and, so when the rift came, it was irreparable. Maybe that is the real reason he failed as a leader in this project, and the important lesson of history provided by Edwards and Waisel is that good leaders need the same skills as good parents—setting clear boundaries, providing immediate consequences and rewards, but stepping back to allow others to make and learn from their mistakes.

The good news is that after the failure of 49 Mathoura Road, the museum collection was handed over to the Faculty of Anaesthetists at the Royal Australasian College of Surgeons. In September 2014, the now independent Australian and New Zealand College of Anaesthetists opened a new learning facility at its headquarters in Melbourne. This facility includes a renovated library and study area for the Fellows of the College, but importantly, a newly developed display area for the Geoffrey Kaye Museum of Anaesthetic History. This state-of-the-art museum stands with the wonderful Wood Library-Museum as an enduring legacy of both Geoffrey Kaye and Paul Wood.

Competing Interests

Dr. Ball has been the honorary curator of the Geoffrey Kaye Museum of Anaesthetic History for 25 yr.

Christine Ball, M.B.B.S. (Hons), F.A.N.Z.C.A., M.D., Alfred Hospital and Monash University, Melbourne, Australia. cmball4@gmail.com

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In Reply:

Thank you Dr. Ball for offering your perspective on our editorial, "Be Able, Available, and Especially *Affable* if You Want Team Success"¹ that accompanied Edwards and Waisel's detailed account² of Geoffrey Kaye's efforts on behalf of anesthesiology in Australia.

Christine Ball is eminently qualified to discuss Geoffrey Kaye in that she has served as the honorary curator of the Geoffrey Kaye Museum of Anaesthetic History for the past 25 yr. What insights has Dr. Ball provided us in her letter? She has insight about the value of history and about Kaye's success.

In recasting the story of Kaye's 49 Mathoura Road experiment, Dr. Ball demonstrates for us the richness of history. History may be viewed from many vantage points and through many lenses, all teaching different lessons. Dr. Ball's emphasis on Kaye's contributions to the growth and development of anesthesiology in Australia properly place his role as central to the success of our specialty in his homeland.

Our editorial described successful anesthesiologists with 3-As: *able, available, and affable*. Dr. Ball's letter describes several other As to characterize Geoffrey Kaye success: *achieving, acknowledging, and allowing*.

Dr. Ball makes sure we *acknowledge* Kaye for his *achievements* including editing (at the young age of 29 yr) the first textbook on anesthesiology written in Australia and being one of the seven founding members of the Australian Society of Anaesthetists (ASA).

Dr. Ball also describes Kaye's difficulty being successful because he lacked an ability to *acknowledge* his colleagues and *allow* them to become engaged with and gain ownership of ASA's growth and development. Although Dr. Ball's analysis of Kaye's activities places a different spin on the story, her lesson and ours are quite compatible. Anesthesiology is a "team sport"! Being such, leaders in our midst must be *able, available, affable, achieving, acknowledging, and allowing*. Although we agree with Dr. Ball that Kaye may not have personified all of these characteristics, his contribution, in total, to anesthesiology in Australia and the World was huge. His legacy, the "other" ASA (American Society of Anesthesiologists) and the Geoffrey Kaye Museum of Anaesthetic History, is testimony to that.

Studying and having differing interpretations of history has enabled Edwards, Waisel, Ball, and us to engage our readers in contemplating what will make us, individually and collectively, successful anesthesiologists.

Competing Interests

The authors declare no competing interests.

Alan Jay Schwartz, M.D., M.S.Ed., Mark E. Schroeder, M.D. The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania (A.J.S.). schwartzta@email.chop.edu

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Transfusion-related Acute Lung Injury: More Questions Than Answers?

To the Editor:

We congratulate Clifford *et al.*¹ on their important contribution to the transfusion-related acute lung injury (TRALI) literature. There were a number of important findings in their article. First, the incidence of postoperative TRALI (1.3 to 1.4%) was higher than anticipated. Interestingly, in a previous study including the same center, the incidence of TRALI was estimated to be between 1 in 4,000 and 1 in 12,000 transfused units.² Also, the mitigation strategies of leukoreduction and elimination of female donor plasma had no effect on TRALI incidence in Clifford *et al.*'s study. This is also contradictory to the findings by Toy *et al.* who suggested that transition to all male donor plasma decreased the incidence of TRALI substantially.

The data presented by Clifford *et al.* also suggest that there is substantial TRALI risk in patients who receive only red cell transfusion, and there were zero cases of TRALI in patients who received only plasma transfusion in their study. This is similar to the data presented in the Serious Hazards of Transfusion (SHOT) 2012 and 2013 annual reports (table 1).^{3,4} These data bring into question whether there is an alternative mechanism for TRALI. According to the Food and Drug Administration

This letter was sent to the author of the original article referenced above, who declined to respond.

Center for Biologics Evaluation and Research, the putative cause of TRALI is anti-human leukocyte antigen or granulocyte antibodies in the donor blood product with 89% of TRALI cases having these antibodies.⁵ Clifford *et al.* did not present data on these antibodies, but the 2013 SHOT annual report suggested that antibodies were present in 40% of TRALI cases. Assuming the anti-human leukocyte antigen/granulocyte antibody mechanism is correct, it is important to explain why patients who receive only red cell transfusion appear to have a higher incidence of TRALI than those who receive only plasma. One possibility is that because red cell units are still collected from female donors and there is a small amount of plasma present in these units, they may presently carry a higher risk for TRALI. Alternatively, stored erythrocyte units may cause TRALI through a different mechanism that has not yet been elucidated.

The study by Clifford *et al.* also suggested that increased volumes of transfused blood products were associated with TRALI, which demonstrates the blurred lines that exist between TRALI and transfusion-associated circulatory overload. In their study, Clifford *et al.* classified patients as having both diagnoses when neither diagnosis alone could fully explain the clinical picture. We believe there is considerable overlap between these two diagnoses, and this may account for the underreporting that occurs with TRALI to some degree.

Recent alternatives to standard allogeneic plasma transfusion (e.g., prothrombin complex and solvent detergent plasma) potentially eliminate the risk for TRALI from plasma transfusion altogether, but to date, there are questions about their safety and high costs. These products are prepared through large-scale pooling, and thus, the causative antibodies for TRALI may be diluted to insignificant levels. Thus far, there have been no cases of TRALI reported with solvent detergent plasma or prothrombin complex, but there has been limited surveillance.⁶ In addition, the data from Clifford *et al.* and the SHOT annual reports suggest that

Table 1. Recent TRALI Studies

	Toy 2006–2009	Clifford* 2004	Clifford* 2011	SHOT 2012	SHOT 2013
Whole blood only	1 (1.1)	—	—	—	—
Erythrocyte only	20 (22.5)	7 (30.4)	8 (36.4)	7 (63.6)	4 (40.0)
Plasma only	13 (14.6)	0	2 (9.1)	0	0
Platelets only	5 (5.6)	0	1 (4.5)	2	1 (10.0)
Mixed	50 (56.2)	16 (69.6)	11 (50.0)	0	5 (50.0)
Others†	—	—	—	2 (36.4)	0
Total TRALI cases	89	23	22	11	10

Numbers in rows represent total number (and %) of TRALI events stratified by individual blood products.

* Included both definite and possible TRALI cases. † Included intravenous immunoglobulin and granulocyte transfusion.

SHOT = Serious Hazards of Transfusion; TRALI = transfusion-related acute lung injury.