and standard thermodilution (td) by Colbert *et al.*¹ However, the methods of analysis serve to confuse the findings of this paper.

The authors state in the abstract; "A strong correlation was observed ($r = 0.714$; $P < 0.00001$) between the ODM and td measurements of cardiac output. The use of the correlation coefficient in this setting is misleading. The correlation coefficient assesses the relationship between two variables, not the degree of agreement between them. When investigating a relationship between intervention and outcome, a correlation of 0.7 may be considered "strong" but, when comparing two technologies measuring the same physiological variable, it is expected that the correlation coefficient be much higher (i.e. $r > 0.95$).

The authors correctly use the Bland and Altman method for assessing agreement between two methods of clinical measurement.² They report a mean difference (i.e. "bias") of 0.07 min^{-1} but a very large 95% confidence interval (i.e. "precision") of -4.1 to $+4.2 \text{ L min}^{-1}$. A small bias does not necessarily imply good agreement between measurement methods. The difference between the technologies may be consistently large but in favour of neither method. In the abstract the authors state; "There were no differences observed between the two measurements at any of the times studied...". This statement is inconsistent with the observed precision.

On the basis of their results, the authors correctly conclude that the ODM is unreliable as a monitor of cardiac output during liver transplantation. However, as discussed by Bland and Altman, analysis of correlation is inappropriate and should not figure prominently when assessing agreement between two technologies measuring the same variable.

Fergus Walsh MB MRCPI FFARCSI
Daniel Wigglesworth BSC
Claude P. Tousignant MD FRCPC
St. Michael's Hospital
University of Toronto
Toronto, Ontario

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- 1 Colbert S, O'Hanlon DM, Duranteau J, Ecoffey C. Cardiac output during liver transplantation. *Can J Anaesth* 1998; 45: 133-8.
- 2 Bland JM, Altman DG. Statistical methods for assessing agreement between two methods of clinical measurement. *Lancet* 1986; i: 307-10.

REPLY:

In response to the letter by Walsh et al., we agree that correlation and agreement are not always the same thing. In our discussion we alluded to most of Dr. Walsh's comments. We would like to stress that, when comparing new

technologies, standard statistical analysis is inadequate and this was emphasized in our discussion. There was no difference in the mean values at each of the time intervals studied - this was included to highlight the fact that standard statistical analysis is inadequate for the topic of the paper. This is why we used the Bland and Altman method of statistical analysis and included both the measured bias and precision in the abstract.

Sallyann Colbert MB FFARCSI
Dublin, Ireland

Generic atracurium

To the Editor:

Our hospital recently began stocking a generic brand of atracurium besylate from Sabex replacing the brand name Tracrium from Glaxo Wellcome, a move which was unilaterally decided by the pharmacy and likely as a cost saving measure. Unfortunately, the Sabex atracurium bottle looks remarkably similar to the Sabex neostigmine bottle, each being a dark brown multidose 10 ml vial similar in size and shape with the same size labels, the former white with a horizontal purple strip and the latter light brown with a dark brown stripe. The caps of the uncapped bottles are a different colour, atracurium is purple and neostigmine dark brown. However, once uncapped, the bottles viewed from above or from the side with the labels blocked are indistinguishable. Medication errors could result and our department has contacted our pharmacy and the manufacturer with our concerns. I have enclosed pictures of these bottles.

Robert Kobayashi MD
Nelson, BC