ERRATUM

Erratum/Correction of Evett IW, Foreman LA, Lambert JA, Emes A. Using a tree diagram to interpret a mixed DNA profile. J Forensic Sci 1998 May;43(3):472–76

Sir:

Since publication of the above referenced paper, we have noticed a couple of errors in our analysis. Please notice the following corrections.

1. *Figure 3*—For hypotheses 4 & 12, the numbers in the final two columns should be doubled; i.e. $Pr(E_3|H_2, H_3)$ changes from 1.8 $\times$ 10^{-12} to 3.6 $\times$ 10^{-12}, $Pr(E|H_4)$ changes from 9 $\times$ 10^{-13} to 1.8 $\times$ 10^{-12} and $Pr(E|H_{12})$ changes from 27 $\times$ 10^{-18} to 5.4 $\times$ 10^{-18}. This is to take account of the 2 different ways that two unknown people can contribute profiles matching Lisa & Pauline in stain 2.
2. *Likelihood ratio*—The numerical (and, hence, algebraic) analyses described in the paper are flawed since the probability of the evidence, *E*, given the composite hypothesis *The knife bears DNA from both Lisa and Pauline* does not equal the sum of the values in the final column of Fig. 3 corresponding to hypotheses 1, 3, 5, and 7. Similarly, for the probability of *E* given the complementary hypothesis. In order to evaluate a likelihood ratio, we must focus on just 2 competing hypotheses, H_p for the numerator and H_d for the denominator. After discussion with the scientist, we can use the tree diagram of Fig. 2 and the probabilities specified in Fig. 3 to identify the most "suitable" hypotheses for comparison in the likelihood ratio. For example:

   - Choosing $H_p = H_1$ gives the maximum value of $Pr(E|H_i)$ for H_i which include both Lisa & Pauline. Choosing $H_d = H_{11}$ gives the maximum value of $Pr(E|H_i)$ for H_i which exclude both Lisa & Pauline. The resulting likelihood ratio is given by $1/(p_L p_P) = 6 \times 10^{11}$.
   - Alternatively, choosing $H_p = H_3$ or H_7 maximises $Pr(E|H_i)$ for H_i which include both Lisa & Pauline plus 1 unknown person, giving a reduced LR of $1/p_P = 1.67 \times 10^6$.

   In this way, a range of LR values can be identified corresponding to the comparison of plausible alternatives for H_p and H_d. In this particular case, all LR values in this range provided very strong support for the presence of blood from both Lisa & Pauline on the knife.

Editor's Note: Any and all future citations of the above-referenced paper should read: Evett IW, Foreman LA, Lambert JA, Emes A. Using a tree diagram to interpret a mixed DNA profile. [published erratum appears in J Forensic Sci 1999 Mar;44(2)] J Forensic Sci 1998;43:472–76.