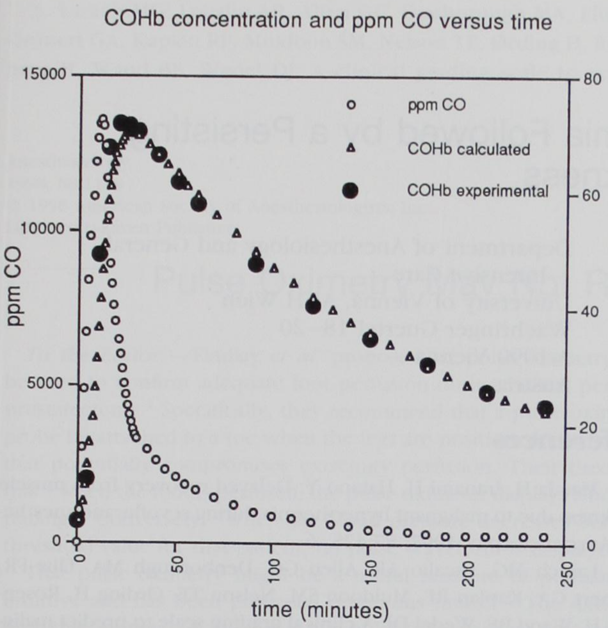

Fig. 2. Shows the predicted concentration of COHb in % resulting from the use of the CFK equation as a function of time at different inspired oxygen concentrations. The data at 40% O_2 are identical to those in figure 1.

CFK equation was developed. Despite these limitations, the CFK equation provides excellent predictions under these extreme conditions.

In figure 2, we show the results of mathematical modeling using the CFK equation to extrapolate the CO concentration data to different inspired oxygen concentrations (F_{IO_2}). These COHb concentrations would be predicted to result from exposure to the CO concentrations interpolated from the data of Frink *et al.* and also at 100% and 25% oxygen. Predicted results at 100% oxygen yielded smaller COHb concentrations, possibly accounting for the low incidence of CO poisoning detected by clinical signs. Conversely, the predicted results at 25% oxygen suggest that CO toxicity would be enhanced under these conditions. The routine use of an increased F_{IO_2} may reduce CO poisoning during anesthesia because of the competitive binding of CO and oxygen, but CO poisoning occurring with low F_{IO_2} may be more severe.

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In Reply:—We appreciate the additional calculations of Drs. Woehlck and Dunning to our published data regarding calculated carboxyhemoglobin concentrations from CO exposure with desflurane and dry CO_2 absorbent. From our CO data, the calculated data by Woehlck and Dunning closely approximates our observed carboxyhemoglobin concentrations with 40% O_2 in pigs, which is encouraging. Their calculation involves several assumptions concerning ventilatory values, as shown in their table 1. Although these values for individual animals are not exact, the values closely approximate those of the mean for our study animals, and hence their calculated values parallel our experimental results. Their calculations for carboxyhemoglobin with 25% and 100% O_2 concentrations are useful additions—particularly the data regarding results in 100% O_2, as this oxygen concentration would often be used by practitioners during the first few minutes of anesthesia when the greatest CO exposure is occurring. Several other variables will likely alter the CO exposure and resultant carboxyhemoglobin concentrations. These include the use of a higher fresh gas flow rate and lower anesthetic concentration, both of which might reduce the degree of CO exposure that occurs. These several factors, along with our inability to readily detect CO exposure, likely produce the low incidence of reports regarding this phenomenon.

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