Abstract:

The unintended intravenous infusion of small volumes of air is common in clinical practice. International Electrotechnical Commission guidelines for infusion pumps permit infusion of up to 1 mL in 15 minutes and discount bubbles smaller than 50 μL. A review of the literature, however, suggests that these limits may be too generous. Neonates and patients with right-to-left cardiac shunts (e.g., patent foramen ovale) are at risk from lower volumes. Because PFO is prevalent in 20% to 27% of healthy adults and generally asymptomatic, all patients are at risk from small air bubbles, although clinically significant air embolism from intravenous infusion is rare. Attention to good clinical practice and use of an inline air filter should be considered to reduce any risk.