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## Should Drugs be Injected Via Stopcocks When Caring for Children?

*To the Editor:*—The report of Hein *et al.*<sup>1</sup> regarding persistence of blood in iv tubing combined with the recommendations of the CDC for the prevention of the transmission of HIV<sup>2</sup> provide all anesthesiologists cause to reconsider their technique. However, as anesthesiologists specializing in the care of infants and children, we find their recommendation that all administration of drugs into iv tubing be done at in-line stopcocks to be impractical. We offer the following reasons:

1. Unless meticulous technique is observed, the attachment of syringe to stopcock is accompanied by an air bubble. This bubble is of little concern in the adult, but may represent significant risk in the infant or small child.
2. Accurate dosing of small volumes of drug is difficult with stopcocks. An unknown quantity of drug may be left in the stopcock; if fluid is drawn into the syringe to clear the air bubble dilution of the drug may occur; and if the syringe is repeatedly flushed with iv fluid to clear all the drug, the dose is increased by the volume of drug in the hub. These seemingly minor problems assume major importance when attempting to deliver doses representing small fractions of a milliliter.
3. Stopcocks are usually located at some distance from the patient. The need for rapid action of drugs and avoidance of excessive fluid delivery require that drugs be given to infants and children at a point as close

as possible to the patient. We prefer T-ports placed at the iv site.

For these reasons we intend to continue our practice of injecting drugs through ports in iv tubing. However, we would certainly support the recommendation that needles used for this purpose be neither recapped nor reused, and would add that syringes used in one case should be considered contaminated and discarded after that case.

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### REFERENCES

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2. Center for Disease Control: Summary: Recommendations for preventing transmission of infection with HTLV-III/LAV in the workplace. *JAMA* 254:3023–3026, 1985

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*In Reply:*—We agree with Drs. Gunter and Dunn that there are instances in which drug injections into iv lines via in-line stopcocks may be impractical or even contraindicated. We would like to add to their list:

1. Adult patients with known atrial septal or ventricular septal defects, in which case even very small air bubbles may be detrimental.
2. During cardiopulmonary resuscitation in patients who already have an intravenous line but no in-line stopcock. In these cases, it may be more important to rapidly administer drugs than to insert the missing in-line stopcock.

Whether to use in-line stopcocks or not should be left to the discretion of the anesthesiologists; however, if no

such devices are used, that should not constitute an exemption of the rule not to recap needles.

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