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**EPINet Report:**

# ABG Syringes Associated with More Injuries During Procedure

EPINET DATA PROVIDES INDIRECT support for the clinical observation that arterial blood drawing causes more patient discomfort than other needle procedures such as intramuscular or subcutaneous (IM/SQ) injections. A higher proportion of health care worker injuries would be expected during the performance of more painful procedures as a result of unexpected patient movements related to pain response. Injuries, however, occurring after the procedure but before disposal, during disposal or after disposal are not considered indicative of patient responses or discomfort. We compared the mechanism of injuries caused by arterial blood gas (ABG) syringes to those caused by syringes used for IM/SQ procedures. The data were obtained from a 64-hospital EPINet database\* during a two-year period beginning in September 1992.

**Figure 1** shows that only 22% of injuries caused by syringes used for IM/SQ injections occurred during the procedure (injection), whereas **Figure 2** shows that 47% of injuries caused by ABG syringes occurred during the procedure (arterial blood drawing). This difference was statistically significant ( $\chi^2 = 31, p < .0001$ ). Clearly, there is a proportionately higher risk of health care worker injury during arterial blood drawing than during IM/SQ injection. Factors other than pain may also contribute to this difference, since arterial blood drawing is often a more difficult and complex procedure than IM/SQ injection. The degree to which patient discomfort accounts for the difference seen in this comparison cannot be precisely determined. However, the

open-ended descriptions of incidents with ABG syringes showed that injured health care workers noted patient movements as a contributing factor in more than half of the injuries that occurred during arterial blood drawing.

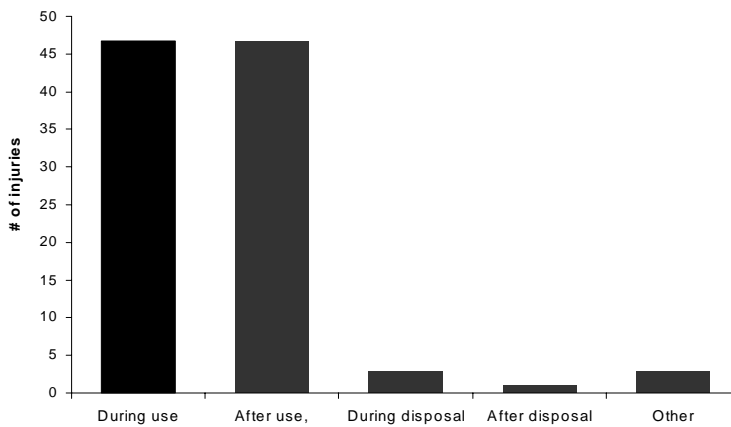
Measures to reduce patient discomfort should be considered as one potential strategy for minimizing

health care worker risk of needlestick during arterial blood drawing. Because needlesticks from blood drawing needles in general are among the most likely to transmit bloodborne pathogens, all potential risk-reducing measures with these needles should be actively investigated. □

- Janine Jagger, M.P.H., Ph.D.

**Figure 1. Mechanism of Blood Gas Syringe Injuries**

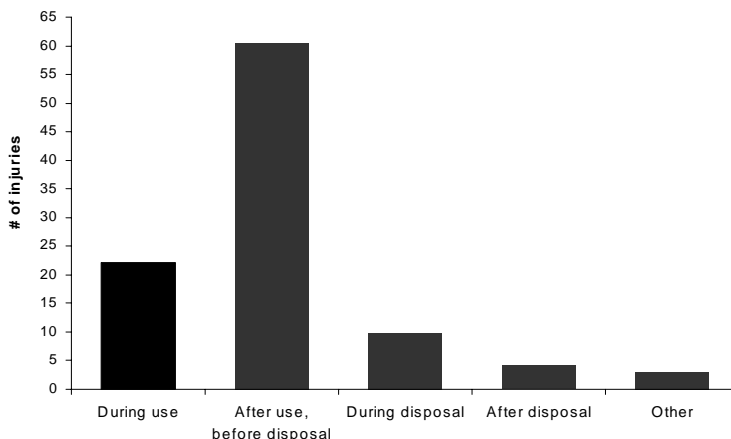
EPINet, 64 hospitals, 2 years, injuries = 107



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**Figure 2. Mechanism of Injuries for Syringes Used for IM Injections**

EPINet, 64 hospitals, 2 years, injuries = 1,103



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