

Wrong Method of Administering a Potassium Preparation (1st Follow-up Report)

Cases have been reported in which a potassium preparation was transferred from a prefilled syringe to another syringe and administered as an intravenous bolus.

Information was originally provided in Medical Safety Information No.98 "Wrong Method of Administering a Potassium Preparation" (January 2015). Subsequently, one event of this nature was reported in the period to February 28, 2025. This information was compiled on the basis of the content featured in the Details of Events section of the 78th Quarterly Report.

**Administering a potassium preparation
as an intravenous bolus runs
the risk of causing cardiac arrest.**

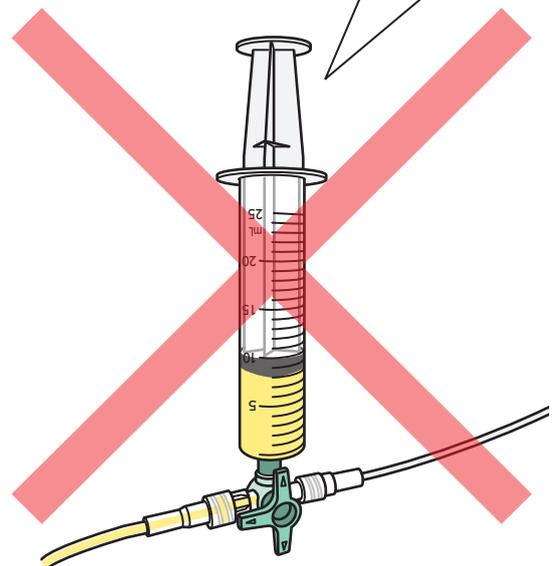
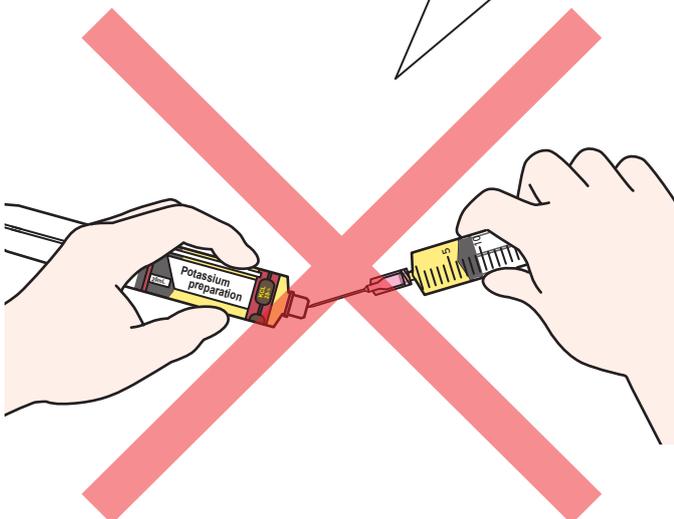
Image of case



Drug solutions in prefilled syringes must not be transferred into other syringes.



Potassium preparations must not be administered as an intravenous bolus.



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Case

The physician in the department of cardiovascular medicine entered “Potassium supplementation: At 3.0 mEq/L or less, administer KCL 20 mEq/20 mL at 10 mL/h” on the order for a patient being treated in the ICU. As the patient’s potassium level was 1.8 mEq/L, the lead nurse and the primary nurse looked at the order and confirmed that they should administer 20 mL of KCL. In order to administer the preparation undiluted, as instructed, the lead nurse transferred the KCL 20 mL from the prefilled syringe in the stock drugs into another syringe. The lead nurse then told the primary nurse to administer the preparation at 10 mL/h and handed the syringe over. Without checking the administration method or flow rate specified on the order, the primary nurse administered the high-concentration potassium preparation as an intravenous bolus via the central venous line. After the preparation was administered, the patient went into cardiac arrest.

Preventive measures taken at the medical institution in which the events occurred

- When using prefilled syringes, medical staff will ensure they do not transfer the drug solution into other syringes.
- Medical staff will be informed of the purpose of the prefilled syringe dosage form.
- The medical institution will standardize the dilution method used for potassium preparations and ensure that medical staff dilute such preparations, without fail.

The measures above are examples. Please consider initiatives suitable for your own facility.

* As part of the Project to Collect Medical Near-Miss/Adverse Event Information (a Ministry of Health, Labour and Welfare grant project), this medical safety information was prepared based on the cases collected in the Project as well as on opinions of the “Comprehensive Evaluation Panel” to prevent the occurrence and recurrence of medical adverse events. See the Project website for details.

<https://www.med-safe.jp/>

* Accuracy of information was ensured at the time of preparation but cannot be guaranteed in the future.

* This information is intended neither to limit the discretion of healthcare providers nor to impose certain obligations or responsibilities on them.

