Project to Collect Medical Near-Miss/Adverse Event Information

Medical Safety Information

August 2024

No.213

Error When Changing Syringe on Syringe Pump

Cases have been reported in which, when multiple drugs were being administered using syringe pumps, an error when changing the syringe resulted in a syringe containing a different drug being connected and administered to the patient.

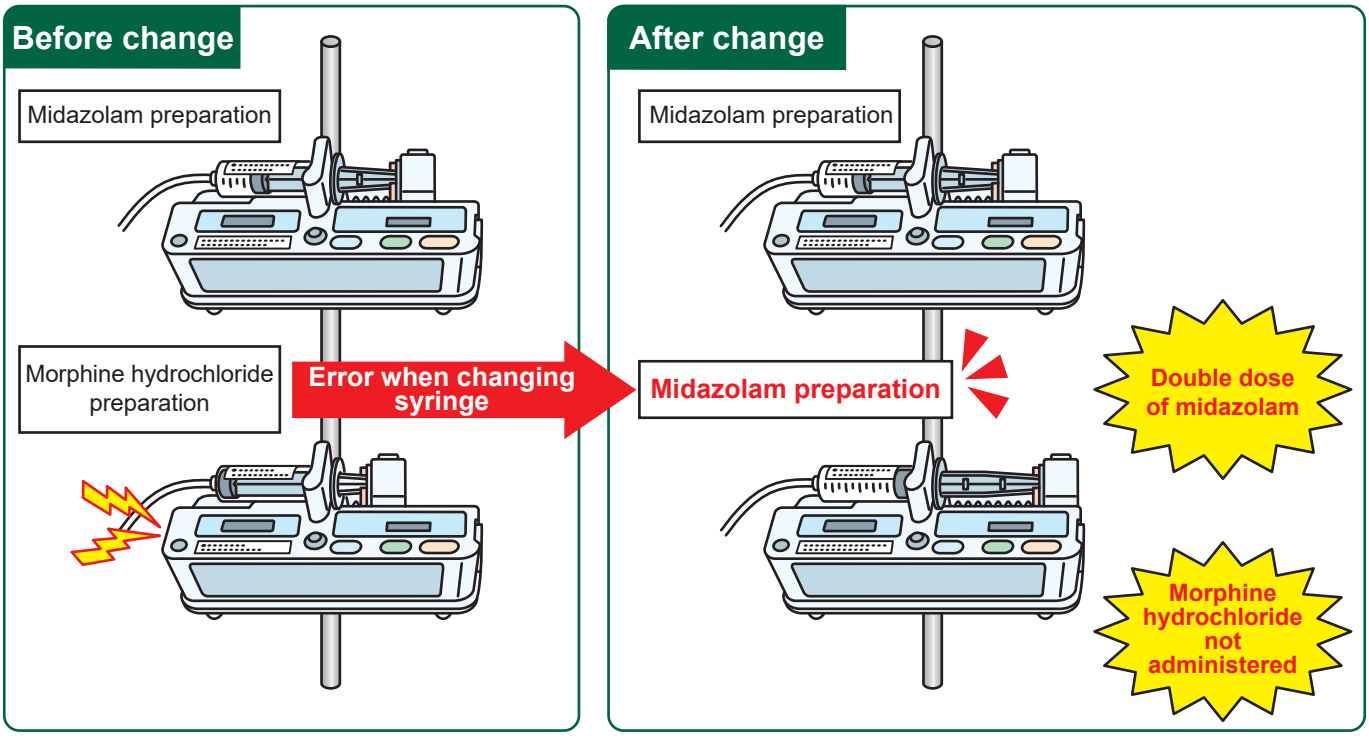
Seven such cases were reported between January 1, 2020 and June 30, 2024. This information was compiled on the basis of the content featured in the Details of Events section of the 54th Quarterly Report.

Main Background Factors of Reported Events

-The nurse did not check the drug name on the label of the replacement syringe against the drug name on the label of the empty syringe.

-When carrying out barcode authentication of the patient's wristband and the label on the replacement syringe, a circle was displayed on the electronic medical record screen, indicating that it was a drug that had been ordered for the patient, so the nurse thought it was the correct drug.

Image of case



Error When Changing Syringe on Syringe Pump

Case 1

Midazolam preparation and morphine hydrochloride preparation were being continuously administered to the patient for palliative purposes, using separate syringe pumps. When the alarm signaling a low quantity remaining sounded on the syringe pump for the morphine hydrochloride preparation, the nurse assumed it was the alarm for the midazolam preparation. When carrying out barcode authentication of the patient's wristband and the label on the replacement syringe, a circle was displayed on the electronic medical record screen, indicating that it was a drug that had been ordered for the patient, so the nurse thought it was the correct drug. The nurse did not check the drug name on the label of the replacement syringe against the drug name on the label of the empty syringe when changing the syringe. Without looking at the label bearing the words "morphine hydrochloride" affixed to the syringe pump, the nurse placed a syringe containing midazolam preparation in the syringe pump and started administration. The fact that midazolam preparation had been being administered via two syringe pumps was discovered later.

Case 2

During surgery, remifentanil preparation and nor-adrenalin preparation were being continuously administered to the patient, using separate syringe pumps. When changing the remifentanil preparation syringe, the anesthesiologist did not check the drug name and, based on an assumption, placed a syringe containing nor-adrenalin preparation in the syringe pump and started administration. When the anesthesiologist subsequently checked the syringe pump because the patient's blood pressure had risen, they discovered that nor-adrenalin preparation had been being administered via both syringe pumps.

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

-When changing the syringe in a syringe pump, check the drug name on the label of the replacement syringe against the drug name on the label of the empty syringe and on any label affixed to the syringe pump.

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.

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