Japan Council for Quality Health Care

Project to Collect Medical Near-Miss/ Adverse Event Information

Medical Safety Information

No.67, June 2012

Medical Safety Information released from 2006 to 2010

Cases similar to those published in Medical Safety Information bulletins in 2006-2010 were reported again in 2011.

No.[1)]	Title -Description-	Number of cases reported in 2011
	[Case]	
No.1	**Misconception of insulin content** – Cases resulting in hypoglycemia due to overdose, associated with the misconception of the display “100units/mL” on the vial –	3
	Nurse A (a first-year nurse) was preparing Novolin R for the first time for a patient who was being administered a continuous infusion of insulin diluted in normal saline. The following was written on the order sheet: "Novolin R 100 IU/mL (10mL) 40 units + normal saline 40mL". The nurse looked at the order sheet and misconstrued it as meaning that 10ml of Novolin R was 100 units, so in relation to the order for 40 units, s/he prepared 4mL (400 units) with normal saline and made the total quantity 40mL. Four hours later, the patient did not wake even when spoken to and showed low blood glucose (17mg/dL), so was transferred to ICU. (There were two other similar cases)	
No.4	**Drug mix-up** – Cases of mix-up due to similarity in drug names –	6
	When newly prescribing Almarl tablets (an antiarrhythmic drug) to an outpatient, the physician wrote “prescription: Almarl” on the medical chart, but entered “Amaryl” in katakana characters on the prescription screen, resulting in prescribing Amaryl tablets (an anti-diabetic drug). On a return visit about two months later, the patient complained of dizziness after taking the drug. The physician checked the prescription and found that Amaryl tablets had been prescribed. (There were five other similar cases)	
No.5	**Burn during assisted bathing** – Cases of burns due to not checking the hot water temperature just before assisted bathing –	4
	The nurse and nursing assistant took the patient to a bath equipped with a lift. After washing the patient, they did not check the temperature of the water when putting the patient in the water. When they placed their hands inside the bathtub to pour water over the patient, once his/her back and lower limbs were in the water, they realized that the water was very hot. They immediately lifted the patient out of the water, but when they checked his/her skin, there was redness and a slight feeling of heat on the lateral side of the body and the whole of the lower limbs. (There were three other similar cases)	

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No.[1)]	Title -Description-	Number of cases reported in 2011
	[Case]	
No.7	**Extravascular leakage in pediatric patients** – Cases of requiring subsequent treatment because of extravascular leakage when infusion was administered to the pediatric patients, regardless of whether or not the risk of transfusion leakage is described in the package insert –	9

270mg of Vancomycin was dissolved in 25mL of normal saline and administered over the course of an hour via a peripheral IV line. About 20 minutes after commencing administration, the insertion site was checked without turning on the light, but the site could not be checked properly because the majority of it was covered by the tape fixing it in place. After administration of the drug ended, swelling and discoloration of the skin were observed at the insertion site. (There were eight other similar cases)

No.8	**Wrong site surgery (right/left)** – Cases of wrong site surgery between right and left –	4

When carrying out an exploratory sinus puncture due to a suspected right maxillary sinus tumor, the patient's name, name band and surgical site (right maxillary sinus) were checked at the entrance to the operating theater. A time out was then taken and the surgery commenced after administering local anesthesia to the left side. Nobody in the operating theater noticed that they were working on the left side and the patient did not complain of the confusion between left and right either. After finishing the surgery, the fact that left and right had been mixed up when operating was noticed after the surgery when recording the post-operative time out. (All three other similar cases occurred after the provision of Medical Safety Information No.50 (January 2011: 1st Follow-up Report).)

No.9	**Confusion between total product amount and content of the active ingredient** – Cases of confusing of the total product amount and the content of active ingredient –	4

The physician wrote "Brufen Granule 450mg/day 3 times/day × 14 days' supply" with the intention of writing the quantity of the active ingredient on the prescription. The standard practice was to write down both the total quantity and the quantity of the active ingredient, but the physician did not write down the total quantity. The pharmacist did not realize that the active ingredient of Brufen Granule 20% was 200mg in 1g, so dispensed the amount on the prescription as the total amount. About a month later, the patient's mother complained that the quantity of medication was less than usual and the error with the drug weight was discovered when a check was made in the pharmaceutical department. (There were three other similar cases)

No.10	**Magnetic material (e.g. metal products) taken in the MRI room** – Cases of bringing magnetic material (e.g. metal products) into the MRI room –	6

A patient was to undergo an MRI while admitted as an inpatient. After entering the MRI room, the patient vomited, so the physician went to the emergency room to borrow a monitor that could be used in the MRI room as well. The emergency room nurse thought that the monitor would be used in the examination room waiting room, so lent the physician a monitor made of magnetic material. The physician thought that it was made of non-magnetic material and when s/he took it into the examination room, the monitor stuck to the MRI gantry. (There were five other similar cases)

No.11	**Blood transfusion to wrong patient** – Cases where the blood product to be given to the patient was not finally checked when connecting the blood products for a transfusion –	3

The nurse removed a transfusion bag from the refrigerator for blood transfusions and then, with the transfusion docket in hand, double-checked it at the bedside of Patient A (type O), but checked only the lot numbers. However, the transfusion bag and transfusion docket were actually for Patient B (type A). When verifying the blood transfusion, the nurse input it by hand, rather than confirming it using the bar code, as was standard practice within the hospital, and s/he connected the transfusion line to Patient A. About an hour later, the patient complained of feeling cold and when the transfusion docket was checked, the misidentification of the patient was discovered. (There were two other similar cases)

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No.[1)]	Title -Description-	Number of cases reported in 2011
	[Case]	
No.13	**Failure to check of infusion pump flow** – Cases of forgetting to check the flow rate when using an infusion pump, etc. –	1

After surgery, propofol was infused continuously using a syringe pump, for the purpose of sedation. The patient's blood pressure fell, so the propofol flow rate was reduced from 25mL/h to 20mL/h. To reduce the frequency with which the drug solution would need to be replaced, Nurse A switched from using a syringe pump to using an infusion pump to administer the propofol. Subsequently, when Nurse B, who had noticed an alarm, looked at the infusion pump, s/he noticed that the patient's blood pressure had declined further and that the infusion speed on the infusion pump was set at 130mL/h. The standard practice was to double-check the pump settings when replacing the pump or changing the settings, but this had not been done.

No.14	**Tubing (catheter/drain) misconnections** – Cases of tubing (catheter/drain) misconnection for infusion in patients into whom multiple catheters or drains were inserted –	5

The patient had two Penrose drains and a mediastinal drain, which were covered in gauze, inserted through the right side of the neck. A sterilized gastroesophageal tube was substituted for the mediastinal drain and connected to the drainage bottle. Moreover, an enteral feeding tube was inserted into the stomach via the left nostril as a gastric tube and connected to the drainage bottle. When commencing enteral feeding, the nurse connected the sterilized gastroesophageal tube, which s/he thought was the gastric tube, to the enteral nutrient and commenced administration. Three hours later, the nurse discovered that the gauze was soiled and when s/he checked it, s/he found that the gauze smelled of the enteral nutrient. The physician who received the report on this discovered that the enteral nutrient had been connected to the mediastinal drain. (There were four other similar cases)

No.15	**Wrong pick-up of syringe containing drug** – Cases of multiple syringes being prepared for operation or treatment with labels displaying the drug name, but despite this, wrong pick-up of syringe containing drug occurred because these labels were not checked –	3

There was a syringe of Takepron for Patient A on the tray on top of the trolley at the bedside, and next to it was a separate tray on which there was a syringe containing potassium chloride solution for continuous intravenous infusion into Patient B. The bed number, Patient A's name, the name of the drug (syringe content), and the administration method were written on a form called the Injection Drug Check Sheet, which is used when syringes are too slim to write the name of the drug on them, and the Takepron was placed on the tray along with this form. The syringe containing the potassium chloride solution had the bed number, Patient B's name, the name of the drug (syringe content) and the administration time written on the body of the syringe. The resident intravenously injected Patient A with both. (There were two other similar cases)

No.17	**Burn during use of a hot water bottle** – Cases of burn during use of hot water bottles –	1

On the evening of the tenth day of the patient's admission, a family member brought him/her a hot water bottle and placed it beneath the patient's feet before going home. The following morning, the patient complained and when the nurse checked, s/he discovered that the patient had blisters (3×4cm) and redness (5×8.5cm), thought to be low-temperature burns, near the sole of the left foot, and redness of his/her first and second right toes.

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No.[1)]	Title -Description-	Number of cases reported in 2011
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No.19	**Use of unsterile medical supplies** – Cases involving preparation of unsterile medical supplies and Incorrect use of them –	3

After the instruments used in the operating theater had undergone initial cleaning, the sterilization time frame and name of the instrument was written on them and they were placed in sealed packages before they were all put into a special case for unsterilized items and taken away. Subsequently, they underwent gas sterilization and were placed into a case for sterilized items before being delivered to the operating theater. As cases with the same shape were used for unsterilized and sterilized instruments, unsterilized surgical instruments that had only undergone initial cleaning became mixed up with the sterilized ones and unsterilized surgical instruments were used in ophthalmic surgery. (There were two other similar cases)

No.20	**Failure to transmit an alteration of instruction** – Case of original instructions being implemented although they were altered, due to the alteration not being transmitted to the related department –	4

The physician halted the infusion at 14:00, but did not tell the nurse and simply entered the order to stop it. Nurse A prepared the prescription for the following day's injection, which s/he had printed out at 11:00, and the infusion that had been sent up from the pharmacy. Subsequently, Night Shift Nurse B checked the printed injection prescription and the infusion, and administered the following day's infusion to the patient. When Nurse C printed out the next day's infusion prescription, s/he noticed that there were no further orders from that day onward. When s/he checked with the pharmacy, s/he was told that the infusion was meant to have been halted from 14:00 the previous day. (There were three other similar cases)

No.22	**Wrong prescription related to chemotherapy protocol** – Cases of incorrect prescription related to chemotherapy protocol –	2

Ward Physician A prescribed and administered Endoxan 1000mg infusion to a patient with prostate cancer, who had been admitted for chemotherapy, in accordance with the registered regimen. Subsequently, the patient was discharged, but when the outpatient appointment to check on any complications was made, the plan for the second and subsequent cycles of chemotherapy was not entered on the patient's written records. After checking that there was no bone marrow suppression, Outpatient Physician B noticed that the date of the next administration of Endoxan was not clear, so checked the registered regimen with the pharmaceutical department. The pharmacist advised that the regimen record for the use of Endoxan by the urology department stated "Endoxan 1000mg to be administered once every week for three weeks, followed by a one-week drug holiday". Outpatient Physician B recorded the second and third administration dates on the chemotherapy schedule, in accordance with the regimen. A week later, on the day of the second chemotherapy cycle, 1000mg of Endoxan was administered as planned. Subsequently, when Outpatient Physician B checked the administration schedule with Outpatient Attending Physician C, they realized that there was an error in the registered regimen, and that the actual regimen was for administration of "Endoxan 1000mg once every three weeks". (There was another similar case)

No.23	**Wrong input of units on computerized prescription order entry system** – Cases of overdose due to wrong input of units on computerized prescription order entry system –	2

When issuing an infusion order, the physician mistakenly entered "4V", where s/he should have input an order for "4mL" of Fragmin IV (5mL) to be dissolved in the infusion bottle. The injection order was issued as it was and about half a day's quantity was administered. The error was detected when replacing the infusion and administration was halted immediately. (There was another similar case)

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No.[1)]	Title -Description-	Number of cases reported in 2011
	[Case]	
No.24	**Tubing misconnection of ventilator circuit** – Cases of the tubing misconnection of ventilator circuit –	1
	When connecting the circuit after disposing of water that had accumulated in it, the inhaler, which should have been fitted to the inspiratory side, was actually connected to the expiratory side and inhalation was carried out. There was no change in the patient, but the inhalant was not administered.	
No.27	**Wrong dosage of drug due to incomplete verbal instruction** – Cases of Incorrect dosage orders occurring due to not clearly transmitting the units, dose or dilution conditions when verbal instructions were given –	4
	The physician gave a verbal order for the injection of 1% propofol 3mL. The nurse could not hear the order for the injection amount and, without obeying the rule that verbal orders should be repeated, slowly injected 13mL until the patient became calmer. The patient was oversedated, so the quantity of Nor-Adrenalin was increased and the respiratory apparatus settings were altered. (There were three other similar cases)	
No.29	**Administration of 10 times proper dosage to pediatric patients** – Cases of overdose due to administration of 10 times proper dosage to pediatric patients –	2
	Sulbacillin for injection was administered, but the patient continued to be febrile, so the treating physician switched to Zosyn. The order was for "Zosyn 450mg + normal saline 10mL", but the staff member in charge of the injection assumed that 450mg was 4.5g and requested this, so Zosyn 4.5g + normal saline 10mL was prepared. The night shift nurse dissolved the drug that had been prepared and administered it as it was, without double-checking. (There was another similar case)	
No.30	**Administration of allergic drug to patient with previous known allergy history** – Cases of administration of contraindicated drug occurred due to drug allergy information not described in the predetermined site on the medical chart –	5
	Wystal for injection was administered to a patient with acute cholangitis. Ten minutes later, the patient developed symptoms of anaphylaxis accompanied by shock. After receiving treatment for this, the patient's state of consciousness and breathing stabilized, but s/he was admitted for observation. When a check was carried out, it was discovered that the patient had previously required emergency treatment for anaphylactic shock after being administered Wystal for injection for an attack of acute cholangitis, but this had not been written on his/her record in a conspicuous manner. (There were four other similar cases)	
No.33	**Extravascular leakage of gabexate mesilate** – Cases of using concentrations which exceeded the recommended dosage as listed on the “precautions regarding use and dose” in the package insert, during administration of gabaxate mesilate, leading to extravascular leakage –	5
	It was decided to administer Reminaron 1500mg/day as a measure against severe infection, DIC following a massive hemorrhage, and respiratory disorder. The central vein route could not be used because the patient was being administered catecholamine, etc., so the Reminaron was adjusted to 0.6% in order to reduce the infusion volume as much as possible, and was administered alone via the peripheral route. The following day, redness was noticed at the route insertion site, so administration was halted and the route removed. Exacerbation of the swelling and redness were observed at the site of the redness, and debridement of the necrotic site was carried out. (There were four other similar cases)	

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No.[1)]	Title -Description-	Number of cases reported in 2011
	[Case]	
No.34	**Surgical fire due to ignition of a flammable drug by an electrosurgical pencil** – Cases of patients sustaining burns due to the use of an electrosurgical pencil causing a drug to ignite –	1

Before closing the incision in a partial cystectomy, colectomy and fistula closure, Physician A disinfected the wound with Stericlon R ethanol solution 0.5 (containing 0.5% chlorhexidine and 83% alcohol) and then sprinkled the drug solution over the surrounding skin. When Physician B subsequently used an electrosurgical pencil because a hemorrhage had occurred in part of the wound, the gauze that had been placed over the wound ignited. Normal saline was immediately poured over it to extinguish the flames, but when the sterile drapes were removed, excoriation thought to be a burn was observed on the wound.

No.37	**Failure to release "standby" mode when resuming ventilation** – Cases of ventilation not taking place because the ventilator was fitted to the patient while in "standby" mode –	1

The nurse carried out aspiration on a patient who had been fitted with a ventilator because s/he was unconscious and had hardly any spontaneous respiration. In doing so, while carrying out aspiration, the nurse used the "standby" function on the ventilator, which it was not customary to use in the hospital in question under normal circumstances, but forgot to disengage "standby" mode after completing aspiration. The nurse knew that ventilation would not take place in "standby" mode, but used the "standby" function during aspiration because it made the procedure easier.

No.39	**Insufficient confirmation of medicines brought in at hospitalization** – Cases of patient treatment being affected because of insufficient confirmation of medicines brought in at hospitalization –	8

The patient, who was admitted for the purpose of chemotherapy, was examined the same day in the department of cardiovascular medicine. At that point, due to the chemotherapy, the physician recorded on the medical chart an order for the cardiovascular therapeutic drug Maintate and Lasix, as well as ordering the reduction of Selara and the cessation of Vasolan and Warfarin. The nurse entered the details of the medicines brought in by the patient at hospitalization on the Pre-admission Medication Form and administered those drugs to the patient. When the medical chart was subsequently checked because one of the medicines brought in at hospitalization was running out, the order was discovered and the drug administration error was noticed. (There were seven other similar cases)

No.42	**Reception error of patient's ECG waveform in central monitoring system** – Cases of providing treatment after the ECG for a different patient was displayed as the ECG for the patient in question because ECGs from a single transmitter were displayed in multiple locations –	2

Patient A was admitted requiring an ECG monitor to be fitted. The nurse fitted the monitor to Patient A without entering the patient's name on Channel X of the main monitor unit. When the nurse subsequently opened the operation screen for ward admission and discharge, in order to enter the patient's name on the channel screen, s/he mistakenly selected Channel Y, which was the channel for Patient B. As Patient B's name was entered on the ward admission and discharge operation screen, the nurse erased Patient B's name and entered Patient A's name instead. As a result, Patient A's waveform was displayed on the Channel X section without a name, while Patient B's waveform - labeled as being for Patient A - was displayed on the Channel Y section. The error was noticed three hours later, because the waveform was still showing, even after Patient A had left the ward to go for an examination. (There was another similar case)

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No.[1]	Title -Description-	Number of cases reported in 2011
	[Case]	
No.46	**Burn caused by a bed-bath towel** – Cases of burn due to a hot towel prepared in a plastic bag coming in contact with patient's body during bed-bath –	3
	On giving a bed-bath, the nurse placed a plastic bag containing a hot towel near the patient's leg. When the nurse gave the bed-bath and placed the patient in the right lateral decubitus position, the nurse noticed redness and epidermal detachment on the lateral side of the patient's left knee. The nurse checked and found an unused hot towel in a plastic bag under where the patient's knee had been positioned. (There were two other similar cases)	
No.47	**Mix-up of the tooth extraction site** – Cases of the mix-up of the tooth extraction site in the dental department –	7
	Both the right mandibular wisdom tooth and the second molar were impacted, and the dentist planned to extract only the wisdom tooth. However, due to inadequate checking by means of an X-ray photograph during the treatment process, the dentist mistakenly extracted the second molar, which was impacted further forward. (There were six other similar cases)	
No.48	**Failure to check oxygen remaining** – Cases of failure to check oxygen remaining –	1
	Before transferring the patient, Nurse A checked that the oxygen tank was full. When s/he handed the patient over to Nurse B in the X-ray TV room, s/he did not check whether the patient had been switched over to the central piping system. After the examination, when the patient left the X-ray TV room, the amount of oxygen remaining was not checked. During transfer of the patient, the oxygen ran out and SpO_2 fell to 62%.	

1) "No." indicates the provision number of the Medical Safety Information.

◆ Other similar cases are to be included in the Annual Report 2011.

* 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 quarterly reports and annual reports posted on the Japan Council for Quality Health Care website for details of the Project.
http://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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