

**Safety Management System Seminar
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Patient Safety Activities in Japanese Healthcare Settings

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Osaka University Hospital



- An academic & teaching hospital
- 1076 beds
- 723 physicians
- 852 nurses
- 532 other employees (in 2007)
- 15,692 discharges / year
- 606,848 outpatient visits / year
- 7,984 surgical operations / year
- 612 ED admissions / year
- 20.3 days of ALOS (in 2006)

Regulations for Patient Safety

1. A policy for patient safety
2. Hospital-wide incident reporting
3. A functional committee for patient safety
4. Staff education on patient safety
5. A hospital division for patient safety
6. A full-time clinical risk manager
7. A patient complaint office

Strategies for Patient Safety

1. Introduction of an intranet-based incident reporting system
2. Setting up a new organizational structure for patient safety
3. Specific actions resulting from Incident reporting system

Strategy 1: Introduction of an intranet-based incident reporting system

The screenshot displays the 'Incident Entry Screen' with a current time of 2003-09-07 14:57:49. On the left, a vertical flowchart outlines the reporting process: Reporter's information, Place and subject of incident, Type of incident and details, Response to incident, Preventive strategy, Problems and next steps, and Comments on reporting system. The central form includes a 'Type of incident' section with a red square icon and a list of radio buttons: Surgery and anaesthesia, Medication (selected), Blood transfusion, Lines and tubes, Medical equipment, Clinical lab tests, Radiology and oncology, Falls and slips, Exposure control, Meals, Therapeutics and procedures, Rehabilitation, Patient/family behavior, Patient/family complaint, and Other. On the right, there are two dropdown menus: 'Medication' with options like 'drug with oral use' and 'drug with intravenous use', and 'Process' with options like 'order' and 'transcription'. Below these is another dropdown menu for 'Type of Incident' with options such as 'wrong patient', 'wrong drug', 'wrong dose', 'wrong route', 'wrong frequency', 'wrong time', 'wrong day', 'wrong storage', 'missed dose', 'extra dose', 'known allergy', 'wrong choice', 'injury by drug bottles', 'wrong speed', 'wrong mixture (dilution)', 'foreign body contamination', 'wrong prescription', 'expiration of drug', 'adverse drug reaction', 'delayed treatment for adverse drug reaction', and 'other'. Navigation buttons for '<< return' and 'next >>' are visible at the bottom of the form.

Advantages of a web-based system

For reporters

- Easier access
- Anonymous entry of information
- Shorter data entry time (9 minutes on average)

For monitors

- Legibility of reports
- Easier and faster monitoring
- Security of access
- No additional work to create database

Continual reporting by all hospital staff

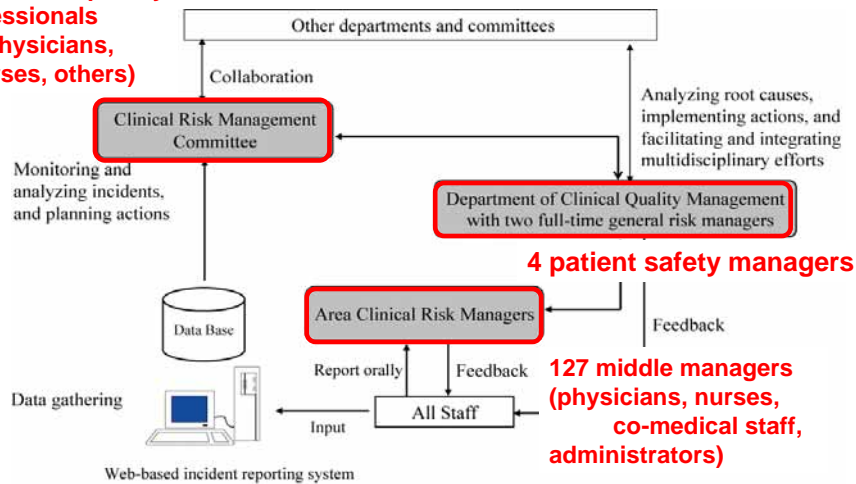
- Past
 - paper-based, by nurses
 - 50 reports a month
- Present
 - Web-based, by all staff
 - 300 reports a month
 - Physicians' contribution: 10%

Major types of incidents

1. Medication
(ordering, dispensing, administering): 46.6%
2. Lines and tubes: 19.0%
3. Falls and slips: 13.7%

Strategy 2: The organization for patient safety

22 multidisciplinary professionals
(15 physicians,
3 nurses, others)



Strategy 3: Specific actions resulting from the incident reporting system:

- Alerts (paper- and email-based)
- System-oriented improvements
- Ward rounds
- Education (seminars, e-learning, etc)

Providing alerts based on reported incidents

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WARNING (警告) !

特に注意を要する職種・部署 病棟医師及び看護師

Re: alarm of medical devices

ある国立大学医学部附属病院で心拍呼吸モニターの警報音を切っていたことなどから、患者様の心停止に気づくのが遅れ、これが、患者様に後遺障害を残す可能性がある事象が発生しました。

- ◆ 心拍呼吸モニターだけでなく、人工呼吸器等、現在使用のME機器のアラーム設定は適切でしょうか。
- ◆ 夜勤帯のモニター監視状況はどうなっていますか。オーステーションが空になる時間をできるだけ少なくする工夫が必要です。
- ◆ 患者病態による病室の位置の配慮はできていますか。



心停止を13分放置
9か月児人工呼吸中
看護協会 医療事故安全管理情報 No.4 参照のこと
リスクマネジメント委員会委員長

Contents

- ◆ Media coverage of a serious adverse event in another hospital
- ◆ Similar incidents in our hospital
- ◆ Knowledge, advice and check points for prevention of similar events

No awareness of cardiac arrest of a 9 month-baby with ventilator due to off-alarm

Change in search method for computer prescriptions

Incident at other institutions:
Drug search errors caused by one wrong click.

- ・ an immunosuppressant (Selcept®) vs. an anti-ulcer drug (Selbex®)
- ・ a muscular relaxant (Succin®) vs. a steroid (Saxizon®)]
- ・ an antineoplastic (Alkeran®) vs. an anti-ulcer drug (Ulcerlmin®)

薬剤選択(薬剤名)

セルベックスカプセル50mg 検索(Q)

薬剤名
001. セルシン錠2mg
002. セルシン錠5mg
003. セルシン散
004. セルタ錠0.15mg
005. セルシンシロップ(1mg/ml)
006. セルニルトン錠
007. セルセプトカプセル250mg (Selcept®)
008. セルベックスカプセル50mg (Selbex®)
009. セルデクト錠30mg
010. セルデクトドライシロップ

Discussion: What is drug specification rate?

10% in first-two-syllable search
65% in first-three-syllable search

Action: The first-three-syllable search was implemented to reduce confusion.

Elimination of look-alike drugs

Incident at other institutions : 10% Lidocaine accidentally administered instead of 2% due to similar appearance.



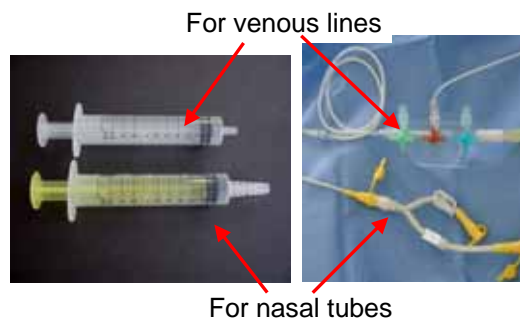
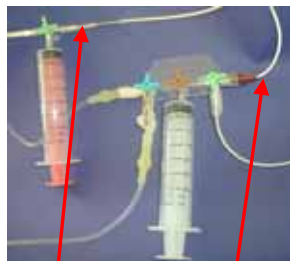
Discussion: Is it really necessary to maintain a supply of 10% Lidocaine?

Action: 10% Lidocaine has been dropped from the hospital drugs' list.

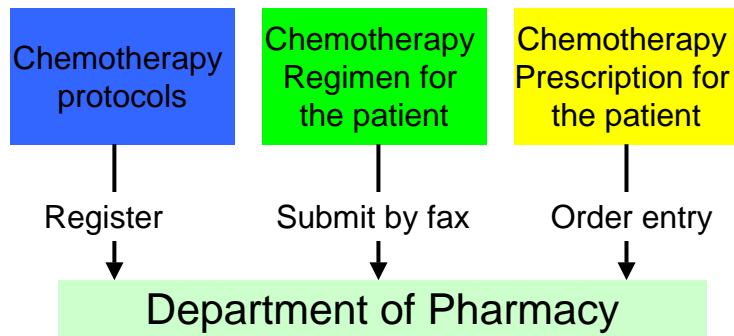
Development of fool-proof equipment

Incident at other institutions : A diet for nasal feeding was administered through a vascular line by a nurse due to visual confusion.

Action: A new nasal feeding system with a large diameter of the syringe nozzle and its corresponding tube has been blocked connecting errors.



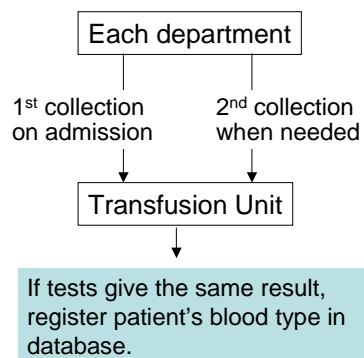
Pharmacist review of chemo protocols & orders



% of inquiry among received regimens: 15.2%

Error detection system for blood transfusions

(1) Two different occasions for the pre-transfusion test

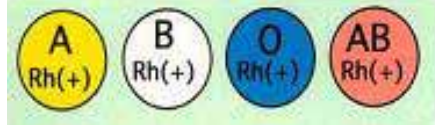


(2) 24-hour operation of the Transfusion Unit

(3) Automatic checking system with a barcode reader



(4) A large colored sign with a patient's name and blood type



Standardized color for each blood type all over Japan



Improvement in operation of ventilators

- **Incident at other institutions** : A cardiac arrest of a 9 month-baby with a ventilator was not detected for 13 minutes due to off-alarm.
- **Root cause**: Inspection of ventilators' alarm setting and the individuals responsible have not been clarified.

- **Action**: A check sheet for physician order and nurse confirmation during the use of a ventilator has been developed by medical engineers. It is hung on a ventilator to unify relevant information for appropriate management.



A check sheet for ventilation and alarm setting

【使用機種】 PB7200 管理番号 (RB)

No	記録項目		No	払出初期値	1	2	3	4
			日付		/	/	/	/
			時間	:	:	:	:	:
1	PF	SET (L/min)	40					
2	WAVE FORM		漸減波	矩形・漸減 正弦	矩形・漸減 正弦	矩形・漸減 正弦	矩形・漸減 正弦	矩形・漸減 正弦
3	MODE		SIMV	CMV* SIMV CPAP	CMV* SIMV CPAP	CMV* SIMV CPAP	CMV* SIMV CPAP	CMV* SIMV CPAP
4	FiO2	SET (%)	40					
5	TV	SET (L)	0.5					
		Pt LO EXH TV	> 0.45	>	>	>	>	>
6	RR	SET (min)	12					
		Pt HI RSP RT	< 25	<	<	<	<	<
7	PEEP / CPAP 圧	SET (cmH2O)	0	/	/	/	/	/
8	PSV	SET (cmH2O)	10					
9	TRIGGER	SET (cmH2O)	1.0					
10	PLATEAU	SET (sec)	0.3					
		Pt						
11	MV	Pt (MV/Spont) (L)						
		LO EXH MV	> 5.4	>	>	>	>	
12	PIP (MIP)	SET (cmH2O)						
		LO PRESS HI PRESS	3 << 40	<<	<<	<<	<<	
13	I/E	Pt		:	:	:	:	
14	採血時刻							

Prevention of foreign bodies

Root cause:

- (1) A flawed protocol allowing staff to proceed without critical checks
- (1) Poor communication between staff due to authority gradient or human relationships



Action:

A clear protocol with a checklist has been introduced

- Take a X-ray in thoracic or abdominal surgeries in OR
- Check the film by two physicians
- Sign in an operative sheet by two physicians

遺 残 確 認	ガーゼ: OK (カウント・術野確認)・NO (対策))
	針: OK (カウント・術野確認)・NO (対策))
	器械: OK (カウント・術野確認)・NO (対策))
	パテスポンジ: OK (カウント・術野確認)・NO (対策))
	血管テープ: OK (カウント・術野確認)・NO (対策))
	看護師サイン (/))
	XP 確認医師氏名 (医師1 / 医師2))

Physician's signature for X-ray film check

Rapid Response Team to resuscitate patients

- CPR (cardiopulmonary resuscitation) calls
 - Dial 77 : ICU physicians
 - Dial 99: ER physicians
- ACLS (advanced cardiac life support) training
- AED (Automated External Defibrillator)placement

Patient Safety Rounds

- Staff involvement
- Compliance check
- Checked issues
 - Management of verbal orders
 - Patient identification procedures
 - Overall procedures for medication/transfusion processes
 - The use of a ventilator check sheet
 - Interview patients about employee compliance
- Feedback of the results



Multidisciplinary peer review for serious adverse events

- Complications or unforeseeable events
- Purposes
 - Improvement of patient safety & quality
 - Accountability
 - Timely and full disclosure policy
 - Public disclosure & Investigation Committee
 - Prevention of defensive medicine



A consensus statement of
the Harvard hospitals.
March 2006

E-learning Quiz: basic knowledge

The image is a screenshot of a web browser displaying an e-learning quiz. The browser window title is "Internet Navigware 学習 - Internet Navigware Debuzzer". The page title is "医療安全クイズ" (Medical Safety Quiz). The quiz question is: "気管チューブ、気管切開チューブが留置された状態で酸素吸入を行う場合に、次のうち正しい接続はどれか?" (When performing oxygen inhalation with an endotracheal tube and tracheostomy tube in place, which of the following is the correct connection?). There are three options: 1. 写真(Lピース) (Photo of L-piece), 2. 写真(Tピース) (Photo of T-piece), and 3. 写真(酸素吸入回路を直接接続) (Photo of direct connection of oxygen inhalation circuit). To the right of the options are three images: an L-piece labeled "Lピース", a T-piece labeled "Tピース", and an oxygen tube labeled "酸素吸入回路". The browser interface includes a navigation bar with icons for home, back, forward, stop, refresh, search, and help.

E-learning Quiz: compliance with a rule

When the endoscopic examination finished

<p>Dr. old: Please wait there. (soto)</p>  <p style="text-align: right; font-weight: bold; font-size: 24px;">1</p>	<p>Yes, I'll wait here. (soko)</p>  <p style="text-align: right; font-weight: bold; font-size: 24px;">2</p>
<p>Dr. young: Let's start the exam</p>  <p style="text-align: right; font-weight: bold; font-size: 24px;">3</p>	<p>Again?</p>  <p style="text-align: right; font-weight: bold; font-size: 24px;">4</p>

E-learning Simulation: SBAR Situational Briefing

- S** – situation
- B** – background
- A** – assessment
- R** – recommendation

 <p style="text-align: center; font-weight: bold; background-color: blue; color: white; padding: 2px;">Bad case</p>	 <p style="text-align: center; font-weight: bold; background-color: blue; color: white; padding: 2px;">Good case</p>
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CRM-like approach in ER



- High risk
- High stress
- Team training



Endoscopic Surgery Training Center

Virtual reality simulator for endoscopic surgery
“LapSim” (Surgical Science, Sweden)



Legal Climate

OB doctor arrested !



Sankei Newspaper, March 11, 2006

- Criminal sanction for
 - Professional negligence
 - Failure to notify police of unnatural death
- Criminal investigation
 - Confidential
 - Less professional
 - No feedback for improvement
- Collapse of medical system
 - Quitting risky specialties
 - Closing hospitals

Conclusions

- The Web-based incident reporting system has:
 - Creation of safety culture
 - Facilitation of hospital-wide collaboration
 - Results in specific actions related to patient safety.
- Multidisciplinary peer review activities can :
 - Promote quality and patient safety
 - Achieve accountability
 - Deter negative defensive medicine
- Future challenges include:
 - Identification & measurement of patient safety indicators
 - Development of effective educational programs
 - Legal and social systems to foster patient safety
 - Patient safety-centered payment system

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