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Enhancing Emergency Cart Standardization:
A Systematic Approach and Ongoing Management

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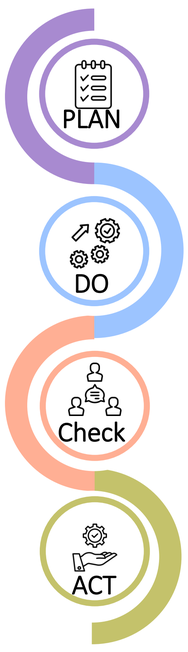
INTRODUCTION

With the progression of healthcare systems, hospitals increasingly recognize the need for efficient emergency response protocols. Standardizing emergency carts has emerged as a pivotal initiative, enabling swift and proficient intervention accessible across diverse hospital settings. However, achieving uniformity in emergency cart standardization across departments, each with its unique environment and requirements presents notable challenges. Beyond mere protocol standardization, there is a critical need for adaptable solutions tailored to individual departmental needs while maintaining compliance with established guidelines. Consequently, an ongoing post-standardization management activity was initiated to dynamically respond to evolving demands and ensure adherence to standardized protocols.

METHOD

From February to November 2022, emergency cart composition, location, and management protocols were systematically standardized. Ongoing management activities continued from September 2022 to February 2024, addressing identified discrepancies and incorporating adaptations through multidisciplinary meetings. Modified guidelines were effectively communicated to relevant departments and supported by a comprehensive tracking system. This process followed the Plan-Do-Check-Act (PDCA) Cycle.



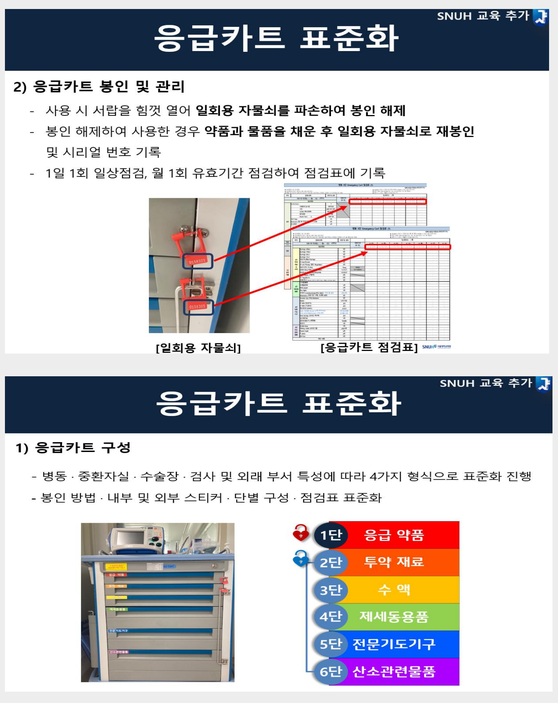
PLAN
- Develop guidelines and checklists
- Collect contact information of E-cart manager to streamline guideline dissemination
- Accepting feedback from department in actual use
- Announce the relevant department about the inspection

DO
- Educate all staff
- Reorganize the emergency cart according to the guidelines
- Appointment of designated personnel to address inquiries about emergency cart

Check
- Annual inspection
- Provide feedback based on the checklists
- Systematically address vulnerabilities
- Share the inspection results through the internal bulletin board and meetings

ACT
- manage and use the emergency cart according to guidelines and standard protocols

▪ All employees receive training once every 2 years : Partial of education materials



SNUH 교육 추가

응급카트 표준화

2) 응급카트 봉인 및 관리
- 사용 시 서랍을 힘껏 열어 **일회용 자물쇠를 파손하여 봉인 해제**
- 봉인 해제하여 사용한 경우 **약품과 물품을 채운 후 일회용 자물쇠로 재봉인** 및 시리얼 번호 기록
- 1일 1회 일상점검, 월 1회 유효기간 점검하여 점검표에 기록

[일회용 자물쇠] [응급카트 점검표]

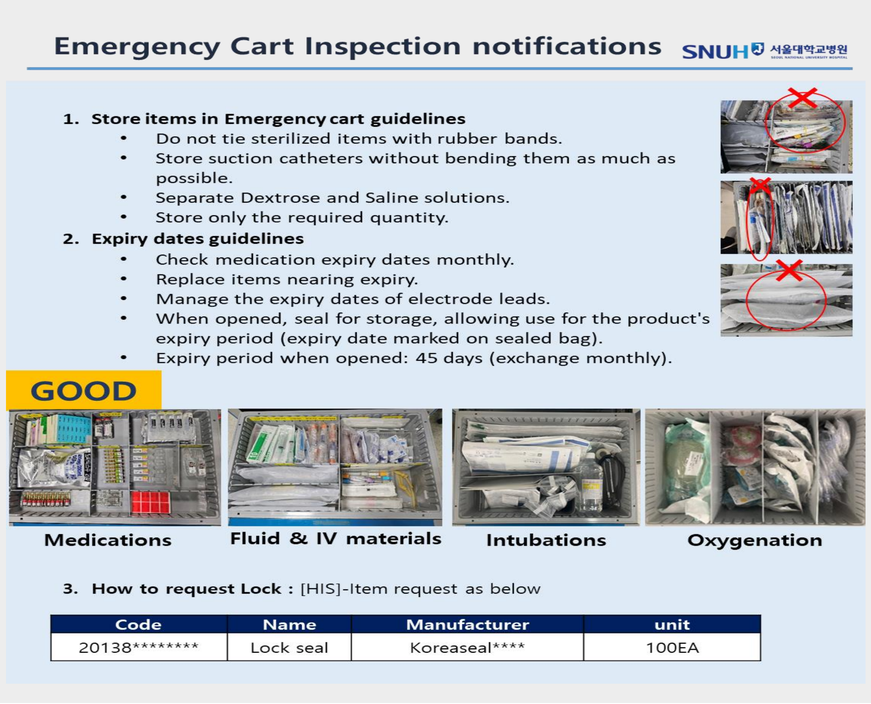
SNUH 교육 추가

응급카트 표준화

1) 응급카트 구성
- 병동 · 중환자실 · 수술장 · 검사 및 외래 부서 특성에 따라 4가지 형식으로 표준화 진행
- 봉인 방법 · 내부 및 외부 스티커 · 단별 구성 · 점검표 표준화

1단 응급 약품
2단 투약 재료
3단 수 액
4단 제세동용품
5단 전문기도기구
6단 산소관련물품

▪ Utilizing the internal bulletin board for announcements



Emergency Cart Inspection notifications SNUH 서울대학교병원

1. **Store items in Emergency cart guidelines**
   - Do not tie sterilized items with rubber bands.
   - Store suction catheters without bending them as much as possible.
   - Separate Dextrose and Saline solutions.
   - Store only the required quantity.
2. **Expiry dates guidelines**
   - Check medication expiry dates monthly.
   - Replace items nearing expiry.
   - Manage the expiry dates of electrode leads.
   - When opened, seal for storage, allowing use for the product's expiry period (expiry date marked on sealed bag).
   - Expiry period when opened: 45 days (exchange monthly).

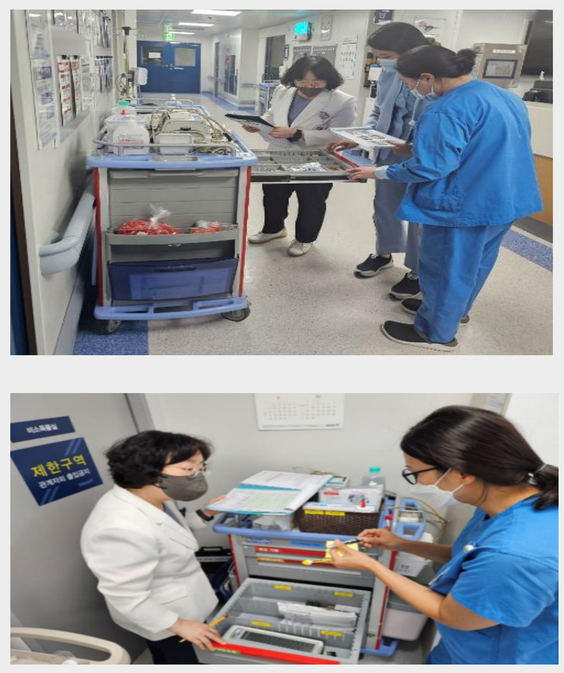
GOOD

Medications | Fluid & IV materials | Intubations | Oxygenation

3. **How to request Lock :** [HIS]-Item request as below

Code	Name	Manufacturer	unit
20138********	Lock seal	Koreaseal****	100EA

▪ Annual implementation of inspection rounds



RESULTS

- 123 E-carts were standardized
- Total of 144 times inspection was done
- 10.2 points was increased compared to the first year

Inspection Content		2022	2023	2024
Management	Sealing status	95.0%	95.0%	**97.1%**
	Consistency with Emergency Cart Inspection Form	100.0%	85.0%	**98.1%**
	Expiration Date Check and Compliance	60.0%	40.0%	**68.3%**
Configuration	Item Labeling	80.0%	100.0%	**92.3%**
	Compliance with Emergency Cart Item Storage Guidelines	90.0%	70.0%	**73.1%**
	Possession of Essential Items in Emergency Cart	95.0%	100.0%	**91.3%**
	Emergency Cart Item Location	50.0%	75.0%	**80.8%**
Medications	Medications Quantity	65.0%	95.0%	**92.3%**
	Compliance with Medication Storage Guidelines	55.0%	85.0%	**93.3%**
Equipment	Compliance with Defibrillator Recommended TEST Energy Guidelines	95.0%	95.0%	**100.00%**
Total		78.5%	84.0%	**88.7%**

CONCLUSION

Continuous verification and feedback mechanisms are vital role in emergency cart standardization, going beyond mere guideline establishment. Adapting to the evolving healthcare landscape is essential for ensuring effective emergency responses. This conclusion highlights the critical need for consistent validation and refinement of standards to address changes and achieve ongoing quality enhancement. Practical protocol development must carefully address real-world usage challenges. Tailoring protocols to fit the unique needs of different departments can help ensure the readiness of emergency carts and enhance overall patient safety. Additionally, maintaining a sustained focus on ongoing management is crucial for preserving the efficacy of standardized protocols.

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