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prevented by first, more comprehensive use of proof-of-principle (Phase 2) trials, and second, use of complex adaptive trial design.

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THE SIGNIFICANCE OF THE TREATMENT FOR THE ELDERLY EMERGENCY PATIENTS REQUIRING INTENSIVE CARE

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Learning Objectives: The number of emergency ambulance dispatches of the elderly people recently increases in Japan with aging of the Japanese people. However, there are no established guidelines whether how much we should cure for elderly people. In addition, the effect of the intensive care for the elderly emergency patients is still controversial. We hypothesize that the length of hospital stay is long, the prognosis is poor and the total treatment cost is expensive in the elderly patients who admitted to intensive care unit (ICU) through emergency room (ER). **Methods:** Patients who were admitted to ICU directly or after operation through emergency room in our hospital in 2013 were analyzed (both of intrinsic and extrinsic causes were included, and patients removed from ICU within 24 hours were excluded). Patients were divided into two groups; patients who were less than 75 years old (A group) and those aged 75 and older (B group, because the medical administration system is different in patients aged 75 years and older in Japan). The duration of ICU stay, the total hospital days, the prognosis and the total treatment costs were compared between the two groups. **Results:** In the total of 688 patients admitted to ICU in 2013, 139 patients were analyzed. There were 98 cases in the A group and 41 in the B group, respectively. There was no significant difference in the duration of ICU stay (mean: 5.5 days in the A group, 6.2 days in the B group, p=0.375). The total hospital day was longer in the A group (mean: 26.2 days) than in the B group (20.5 days) without a significant difference (p=0.181), and the total treatment cost was significantly ($p<0.05$) higher in the A group (mean: $25,720, exchanging $1 as 101 yen) than in the B group ($18,789). However, the hospital mortality was significantly ($p<0.05$) higher in the B group (11/41, 26.8%) than in the A group (12/98, 12.3%). **Conclusions:** The effect of the medical treatments is poorer in the elderly patients requiring the admission to ICU through ER compared with the younger patients.

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NURSE AND PATIENT INTERACTION BEHAVIORS AND NURSING CARE QUALITY OF CRITICALLY ILL, OLDER ADULTS

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Learning Objectives: The purpose of this study is to: 1) to assess the individual interaction behaviors over observation sessions and ICUs and 2) explore the association between specific nurse and patient interaction behaviors and nursing care quality indicator (restraint use, pain management, sedation use and level). **Methods:** We conducted an expanded secondary analysis on a subset of 38 mechanically ventilated, critically ill older adults (>60 years of age) and their nurse (N=24) from the Study of Patient-Nurse Effectiveness with Communication Strategies (SPEACS). Each nurse-patient dyad had four video-recorded observation sessions. Twenty-nine interaction behaviors were coded from the video-recordings using the Communication Interaction Behaviors Instrument (CIBI). Demographic, clinical characteristics and quality indicators were obtained from the SPEACS dataset and medical chart abstraction. Data were analyzed using descriptive statistics and repeated measures analysis. **Results:** Between unit analysis demonstrates that nurse's use of smiling differed significantly between sessions (p=.03). In unit A, nurse smiling increased from session 1 to 4. In comparison, the occurrence of nurse smiling in unit B was lower in session 4 than in session 1. Nurse use of augmenting verbal message with gesture or visual aids varied significantly across sessions (p=.04). Session 4 had the greatest number of occurrences of nurse augmenting. There was no significant difference in patient behaviors across the sessions or units. The patient's use of visual contact was significantly associated with absence of reported pain (p=.028). Patients were more likely to be calm in the presence of physical contact by the nurse (p=.043). Patients who utilized the positive behaviors of acceptance, visual contact, request, and maintaining attention were also more likely to be calm (p-values <.05). **Conclusions:** This study provides unique descriptive information on nurse and patient interaction behaviors in the ICU setting and shows beginning evidence potentially linking specific interaction behaviors to patient pain and sedation states.

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THE EFFECT OF THE MEDICAL EMERGENCY TEAM IN PREVENTING THE DETERIORATION OF INPATIENTS

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Learning Objectives: Although the interest in patient safety has been growing, the introduction of the Rapid Response System (RRS) has been delayed in Eastern countries. St. Marianna University Hospital in Japan has deployed the RRS since June 2010 and is a pioneer of RRS in Japan. The purpose of this study was to determine the impact of a Medical Emergency Team (MET) when responding to acutely and critically deteriorating inpatients. **Methods:** Retrospective observational study of implementation of the RRS at 1,208-bed tertiary referral teaching hospital. All reports of patients for which the RRS was activated during the study period (June 2010 to May 2013) were investigated. We conducted the number, time, department, characteristic and prognosis of MET attendance over three years. **Results:** During the study period there were 64,216 patient admissions and 89 activations of the RRS. Among those MET calls were greater during the daytime weekday hours (55.1%). General wards accounted for 51.6% as the activation department. The maximal reason triggering the RRS was respiratory problems (29.2%). The MET secured the airway in 34 cases (38.2%). The Medical Safety Office estimated 36 lives were rescued by activation of the RRS. Effect of the RRS on hospital-wide mortality has not been yet proven in our institute because the number of activations of the RRS is not large. However, it was revealed that the MET contributed to avoidance of around forty percent of preventable deaths when the RRS was activated. From the short-term viewpoint the MET in our institute has been playing an important role in the achievement of realizing patient safety. **Conclusions:** MET is useful in the rescue of deteriorating inpatients, resulting in a measurable increase in patient safety and better patient outcomes.

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CARD SORTS HELP "UNPACK" CLINICIAN PERSPECTIVES ON PATIENT CONDITION AND TREATMENT PRIORITIES

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Learning Objectives: Patient care in the burn intensive care unit (BICU) is complex and understanding clinician decision making is a challenging. We developed a card sort to learn how clinicians perceive patient condition and how they prioritize care. Results will support development of cognitive aids to improve communication and decision making. **Methods:** We developed the card sort through serial interviews with experts in burn critical care. The interviews discovered 10 categories of information that clinicians use to assess patient condition ("features") and 9 categories of care elements ("treatment") they use to manage patient care. This resulted in 97 total cards (67 features and 30 treatments). During the card sorts, clinicians were asked to identify a patient's severity of illness on a scale from "could die today" to "could leave the ICU today." Clinicians then reviewed cards. They chose the cards they considered important to how they identified the patient's condition and what treatments should be given. The resulting arrangement of cards depicts a visual representation of the mental model they use to understand and care for patients. **Results:** The research team completed 133 card sorts were performed on clinicians from three backgrounds (nurse, physician, other) caring for 70 patients. Clinician experience ranged from 0–42 years. Card sorts took on average 32 minutes to complete. Of the cards that were chosen, clinicians identified identical feature cards 48 ± 23% of the time, and treatment cards 55 ± 25% of the time. While most clinicians identified severity of illness similarly, there were notable differences with perceptions related to 7 patients (> 3 point variance). Clear patterns of clinician perspective emerged that can be used to develop cognitive aids. **Conclusions:** Card sorting is a simple, effective method to help clinicians "unpack" their complex, intuitive understanding of patients and how they prioritize information and treatment. Understanding these mental models can support development of cognitive aids that may help communication and improve decision making.

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INSERTION AND USE OF ARTERIAL CATHETERS: A NATIONAL SURVEY OF CLINICIAN ANTISEPTIC TECHNIQUE

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