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Clinical practice competencies for standard critical care nursing: consensus statement based on a systematic review and Delphi survey

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ABSTRACT

Objectives A clear development process and scientifically validated clinical practice competencies in standard critical care nursing (SCCN) have not yet been developed in Japan. Thus, this study aimed to develop a consensus-based set of SCCN competencies to provide a framework for critical care nursing education, training and evaluation.

Design Multistep, modified Delphi study (a systematic review, focus group interviews, a three-round web-based Delphi survey and an external validation process).

Participants A systematic review of 23 studies, focus group interviews by 12 experts, a Delphi survey by 239 critical care experts (physicians, nurses and physical therapists) and an external validation by 5 experts (physicians and nurses).

Results A systematic review identified 685 unique competencies. The focus group interviews resulted in the addition of 3 performance indicator items, a synthesis of 2 subdomains and 10 elements. Of the 239 participants, 218 (91.2%), 209 (98.9%) and 201 (96.2%) responded in rounds 1, 2 and 3 of the Delphi survey, respectively. After round 3, 57 items were below the consensus level and were removed in the final round. External validation process feedback was received from experts after two revisions to ensure that the final competencies were valid, applicable, useful and clear. The final set of competencies was classified into 6 domains, 26 subdomains, 99 elements and 525 performance indicators.

Conclusions This study found a set of SCCN competencies after a multistep, modified Delphi study. The results of this study are robust, and the competency framework can be used in multiple areas to improve clinical practice, including the assessment, training and certification of standard critical care nurses.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Contemporary clinical practice competencies developed for standard critical care nursing are highly reliable due to the use of a multistep, modified Delphi study (systematic review, focus group interviews, three rounds of web-based Delphi surveys and external validation process).
⇒ Few studies on clinical practice competencies for standard critical care nursing have been reported.
⇒ A limitation of the study is that patients and families were not involved, although they are important stakeholders in determining nursing competence.
⇒ The lack of a prioritisation or ranking system in expert panels and Delphi rounds is a methodological limitation, which may have resulted in broad and highly detailed competency items.

INTRODUCTION

Critical care nursing deals with specific human responses to actual or potentially life-threatening problems.[1] According to the World Federation of Societies of Intensive and Critical Care Medicine, critical care is 'a multidisciplinary and interprofessional specialty dedicated to the comprehensive management of patients having, or at risk of developing, acute, life-threatening organ dysfunction'.[2] In recent years, intensive care medicine has undergone significant changes because of the increasing number of older individuals and complexity and advancements in medical equipment.[2] It also serves the needs of survivors experiencing post-intensive care syndrome.[3] Thus, critical care nurses must have more complex competencies in the intensive care unit (ICU) than non-critical care nurses.

However, the education provided to critical care nurses involves a long-term training process and is unable to meet rapidly increasing demands, such as disasters.[2 4] The shortage of critical care nurses worldwide during the coronavirus disease 2019 (COVID-19) pandemic became a serious issue.[4] In Japan, there is no system to identify

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the number of nurses who can provide standard critical care; thus, determining the actual shortage of nurses and from where they should be supplied is impossible.[5] These issues highlight the lack of clinical practice competencies in standard critical care nursing (SCCN) in Japan.

Competencies are generally defined as a combination of knowledge, skills, attitudes and values that support effective and efficient performance in professional or occupational areas.[6 7] A competency framework is a range of required behaviours that provide structural guidelines, which enable admission, development, education, training and evaluation.[7] Therefore, by identifying competencies, SCCN competency helps define and provides a framework for the evaluation of actual knowledge, skills and abilities in the practice of critical care.[8 9] In addition, SCCN competencies lead to the development of a system to register critical care nurses with competence characteristics.[5 7] Several national and international clinical practice competencies for critical care nurses already exist.[8 9] However, a clear development process and scientifically validated competencies have not been previously developed in Japan. In addition, SCCN competency is strongly influenced by sociocultural factors related to healthcare and the era.[10]

Therefore, developing a scientific method for identifying the characteristics of SCCN competencies in Japan is necessary. This study aimed to develop a consensus-based set of SCCN competencies for teaching and learning programmes, and a framework for the evaluation of critical care nursing. The standardised education provided to critical care nurses also presents challenges for several countries because of the differences in the era and healthcare culture.[8 11] Therefore, a detailed description of the design presented in this study and its results and other competencies can be used in several countries as a framework for standardised education of critical care nurses and a resource for future studies.[8 11 12]

MATERIAL AND METHODS

Study design

This study was conducted as a multistep, modified Delphi study with reference to previous studies.[13] First, a systematic review (SR) was conducted to construct the initial competencies that include related potential competencies. Second, focus group interviews were conducted with expert nurses for supplementary and content expert validation. Third, a modified three-round Delphi survey was performed using an internet-based questionnaire to reach a consensus among critical care nurses. Finally, feedback on the final competencies was obtained from external experts (figure 1).

This study was contracted on behalf of the Committees of Nursing Education and Critical Care Nursing and Working group for Critical Care Nurse Survey Working Group and the AdHoc Committee of Intensive Care Registered Nurse, Japanese Society of Intensive Care Medicine (JSICM).

Development of initial competencies based on an SR

We conducted an SR according to the detailed methodology presented in online supplemental materials 1–3. The eligibility criterion was competencies related to SCCN. MEDLINE using PubMed, Cumulative Index to Nursing and Allied Health Literature and Igaku-Chuo-Zasshi (Ichu-shi) databases were manually searched for related studies. Ichu-shi is a Japanese medical database managed by the Japan Medical Abstract Society. Only studies written in Japanese or English were included. Two author groups (HS and TK, AO and JH) independently screened the titles and abstracts for inclusion eligibility. After screening, two authors independently assessed the full text to identify eligible literature. Disagreements were resolved through a discussion. Subsequently, one of the authors (TK) extracted the competencies from the eligible literature. We translated all competencies into Japanese and reviewed this competency set as the initial

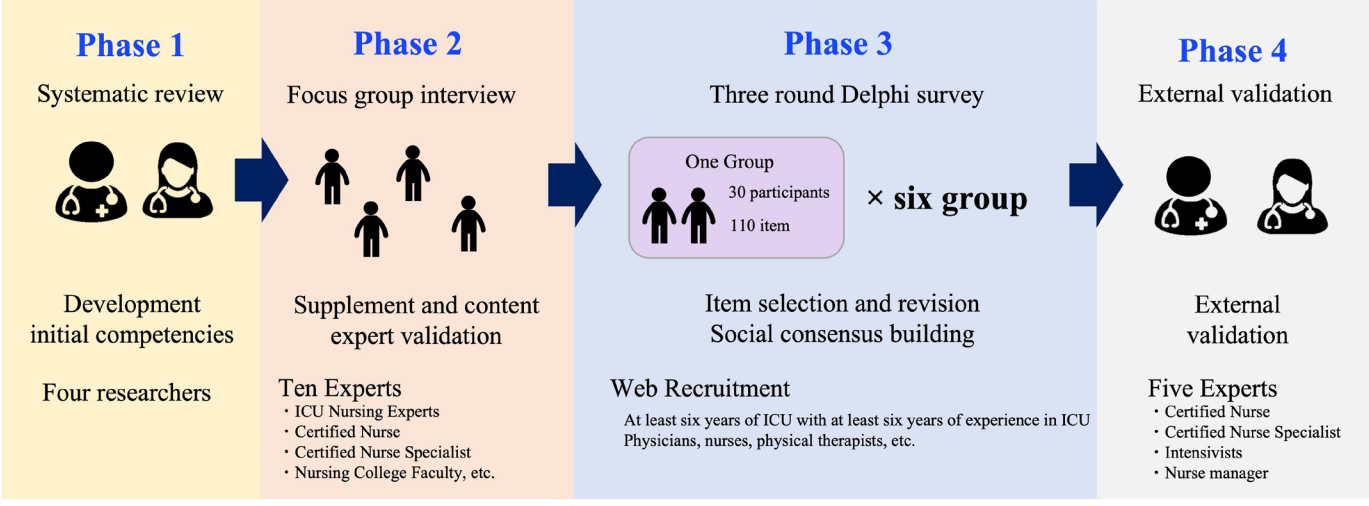

Figure 1 Overall research methods. The overall research methods of the study are shown: A consensus-based set of standard critical care nursing competencies was developed in four stages. ICU, intensive care unit.

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competencies for duplication, overlap and clarity. Subsequently, the research team classified the words or phrases extracted from the literature into different themes and abstraction levels, such as nursing practice and communication. The researchers ultimately classified the domains, subdomains, elements and performance indicators at four abstraction levels.

Focus group interview

We conducted a focus group interview (FGI) with expert nurses and researchers according to the Benner's clinical skills acquisition model.[14] The FGI was conducted to supplement and validate the initial competencies developed based on the SRs from an expert's perspective. We recruited participants who met both the following criteria using the purposive snowball sampling method to include a diverse range of critical care researchers and experts: (1) critical care nurses who had experience in ICU nursing for >10 years and (2) researchers or expert nurses (certified nurses or nurse specialists who have received formal national critical care education as expert nurses) in the critical care field. The selection was made to ensure a balance between experts and researchers and a broad selection from different regions and institutions in Japan.

In total, 10 participants were recruited for the FGI. The FGI was conducted in two groups, comprising five members per group, for approximately 60 min using Zoom (Zoom Video Communications, San Jose, California, USA). The participants who wanted to join the FGI submitted their personal information through the internet. All the researchers were trained beforehand, and their roles for the day were predetermined. The FGI was recorded using the recording function of Zoom, and the interviews were transcribed. Subsequently, a qualitative analysis of the verbatim transcript was performed in three steps. First, we created a code that was shortened to a point where the meaning of the sentence could be understood. Second, the codes and selected keywords related to clinical practice competencies for SCCN obtained from the FGI were organised. Third, the organised codes and selected keywords from the FGI results were compared with the initial set of competencies obtained in the SR. Competency items for initial competencies were added or revised, as required.

Three-round Delphi survey

A modified three-round Delphi survey was conducted to attain a consensus on SCCN competencies among healthcare professionals who work in the critical care settings.[15] The invitation was distributed via the mailing lists of the JSICM and Japan Society of Education for Physicians and Trainees in Intensive Care. An invitation was also posted in community mailing lists and social network services, such as the Japan Association of Certified Intensive Care Nurses Twitter and Facebook. According to the Benner's model of clinical skills acquisition,[14] only healthcare professionals who had more than 6 years of experience working in the ICU were eligible for the modified Delphi survey. Data were collected from 4 December 2021 to 10 February 2022. Owing to the large number of items, the initial competencies were divided into six groups. We planned to include 40 participants in each group, for a total of 240 participants, assuming 10 dropouts in each group in the three rounds.

SurveyMonkey (Momentive, San Mateo, California, USA) web-based survey service was used for all three rounds of the Delphi survey. Participants rated each SCCN competency using a Visual Analogue Scale (VAS) anchored with two descriptors labelled 'not needed at all' at the far left (0) and 'fully needed' at the far right (100), and they wrote free comments. In the first and second rounds, we decided to obtain a consensus for each competency using a median VAS score of >70. In the third round, consensus was obtained based on a median VAS score ≥80. A post-meeting to discuss the results of the Delphi round was conducted by the researchers after each Delphi round. In the post-meeting, based on the free comments, revisions or deletions for competency items that did not reach consensus based on the value of VAS were discussed.

External validation

The pre-final set of competencies was sent to five experts (intensivist, critical care nurse, clinical nurse specialist and nurse manager) to obtain feedback and ensure the validity, applicability, utility and clarity of competencies. These five experts were recruited using purposive sampling. The manuscript was revised based on comments from experts, the revised pre-final set of competencies was re-sent and a consensus was obtained from all experts.

Patient and public involvement

No patient or the public was directly involved in the development of this Delphi study.

RESULTS

Generation of an initial set of relevant SCCN competencies

In total, 685 SCCN competencies were identified in the SR. These competencies were classified into 6 domains, 29 subdomains, 111 elements and 639 performance indicators after removing duplicates (online supplemental materials 4–6). The two FGIs were conducted by 12 experts. One expert withdrew from the interviews. The characteristics of the experts who conducted the FGIs have been presented in online supplemental material 7. The FGI resulted in the addition of 3 performance indicator items, a synthesis of 2 subdomains and 10 elements. Revisions were also made to the SCCN's competency representation by FGIs.

Three-round Delphi survey

The demographic characteristics of the participants are presented in table 1. Among the registered professionals, 53.6% were women and the median (IQR) healthcare work

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Table 1 Characteristics of the participants in the three-round Delphi survey

Characteristics	Registration of interest (n=239)	Round 1 (n=218)	Round 2 (n=209)	Round 3 (n=201)
Female, n (%)	128 (53.6)	116 (53.2)	112 (53.6)	107 (53.2)
Years of experience (years), median (IQR)	15 (11–20)	15 (11–20)	15 (11–20)	16 (11–20)
Years of ICU experience (years), median (IQR)	10 (8–13)	10.5 (8–13)	11 (8–13)	11 (8–13)
Setting or institution, n (%)				
Hospital	224 (93.7)	203 (93.1)	194 (92.8)	186 (92.5)
University	10 (4.1)	10 (4.6)	10 (4.8)	10 (5.0)
Others	5 (2.1)	5 (2.3)	5 (2.4)	5 (2.5)
Position, n (%)				
Nurse	232 (97.1)	211 (96.8)	202 (96.7)	194 (96.5)
CNS*†	34 (14.7)	30 (14.2)	27 (13.4)	24 (12.4)
CN*‡	70 (30.2)	61 (28.9)	60 (29.7)	58 (29.9)
Physical therapist	4 (1.7)	4 (1.8)	4 (1.9)	4 (2.0)
Physician	3 (1.2)	3 (1.4)	3 (1.4)	3 (1.5)

*Duplicate responses available, percentage of total nurses.
†CNS is an advanced practiced nurse who completed a graduate master's programme and accreditation by the Japanese Nursing Association.
‡CN is an expert nurse who completed half a year of formal education and accreditation by the Japanese Nursing Association.
CN, certified nurse; CNS, certified nurse specialist; ICU, intensive care unit.

and ICU work experiences were 15 (11–20) and 10 (8–13) years, respectively. Of the 239 professionals who registered, 218 (91.2% of registered professionals), 209 (98.9% of round 1 participants) and 201 (96.2% of round 2 participants) responded in rounds 1, 2 and 3 of the Delphi survey, respectively. The withdrawal rates between enrolment and each round were <10% each (table 1 and figure 2).

After round 1, 89 items were below the consensus level (VAS <70) or required revision based on the free comments. After discussions among the researchers, 22 items were deleted and 67 items were revised. In addition, a new item was added based on the free comments. After round 2, 17 items were below the consensus level (VAS <70) or required revision based on the free comments. After discussions among the researchers, 8 items were deleted and 9 items were revised. In addition, a new item was added based on the free comments. After round 3, 57 items were below the consensus level (VAS <70) and were deleted in the final round. When the entire document was rechecked, 17 items were additionally deleted because they were duplicates. After discussions among the researchers, based on the free comments, 2 items needed revision and 1 item was added. Figure 2 illustrates the results of the modified Delphi survey. Online supplemental file 8 presents the detailed results for each round. No revisions were made to the domain subdomain elements.

External validation

Based on the expert comments, 21 performance indicator items were generated, 5 performance indicator items were added and 60 performance indicator items were revised for representation; one subdomain and two elements were generated after discussion among the researchers. Feedback was received from experts after two revisions to ensure that the final competencies were valid, applicable, useful and clear. After three rounds of the Delphi survey and external validation by experts, the final set of competencies was classified into 6 domains, 26 subdomains, 99 elements and 525 performance indicators.

Final SCCN competencies

A summary of the overall results is shown in figure 2 and table 2, and details of the final SCCN competencies are shown in online supplemental materials 9, 10. Domain 1 required critical care nurses to understand each organ's anatomy and physiology and the techniques and knowledge required for physical assessment. Domain 2 required critical care nurses to develop a series of nursing processes for critically ill patients and provide nursing care that considers the mental and psychological aspects of patients and their families. Domain 3 required critical care nurses to support patients and families in decision-making and practice in compliance with ethical principles and laws. Domain 4 required critical care nurses to acquire new knowledge, skills and practices based on evidence to constantly improve the quality and safety of nursing care. Domain 5 required critical care nurses to manage their unit's work environment and collaborate with other healthcare providers. Finally, domain 6 required critical care nurses to reflect introspectively on practice and keep learning to change their behaviours.

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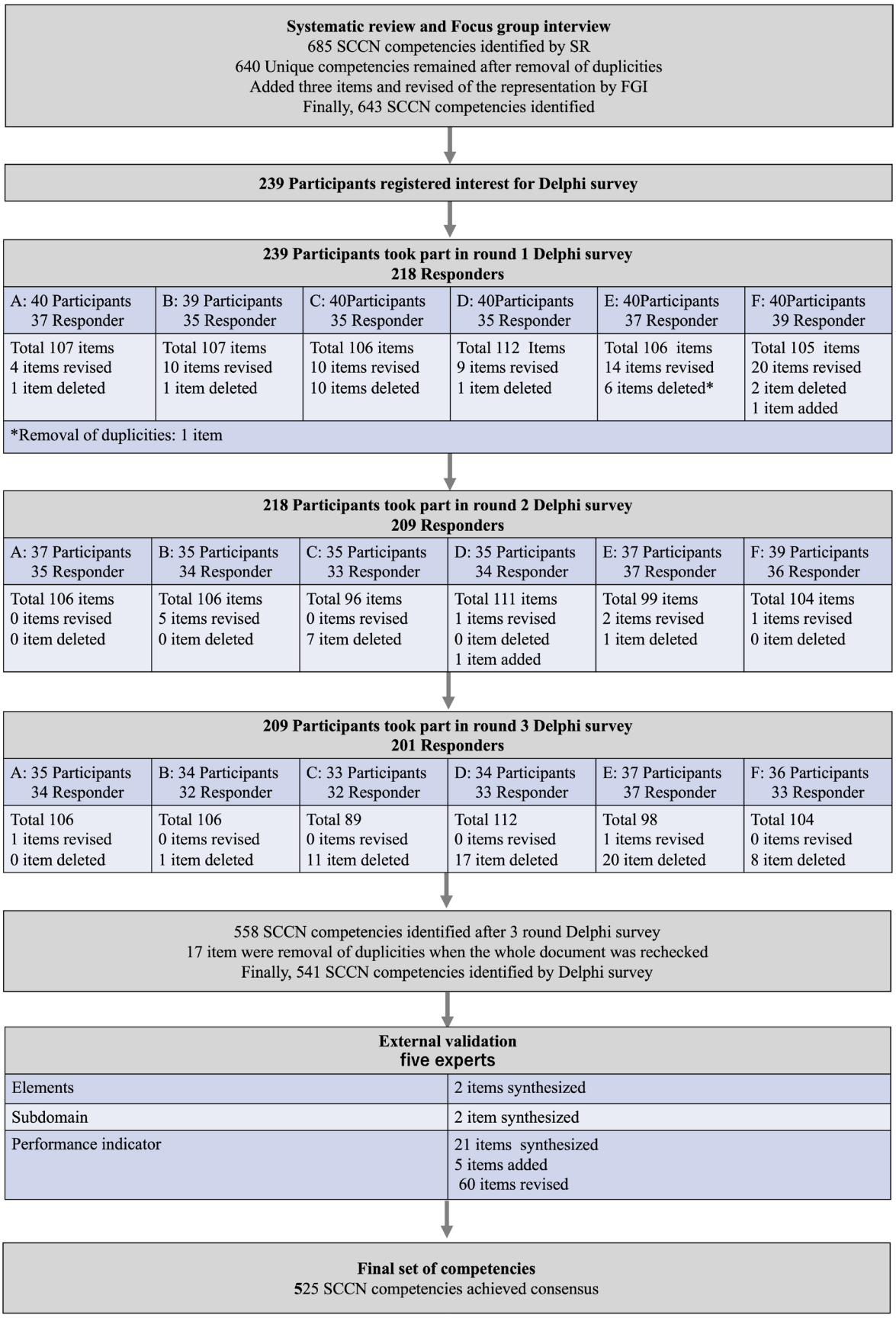

Figure 2 Flow diagram for development of competencies. The number of competencies obtained after the systematic review and subsequent stages is shown in the figure. The number of competencies revised, deleted or added to each group in the three Delphi rounds is indicated. The number of participants that dropped out in each round is shown. FGI, focus group interview; SCCN, standard critical care nursing; SR, systematic review.

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Table 2 Final set of competencies

Domain		Subdomain		Element	Performance indicator
1.	Therapeutic management of disease and clinical decision-making	1.1.	Respiratory system	4 items	25 items
		1.2.	Cardiovascular system	5 items	34 items
		1.3.	Gastrointestinal system and nutrition	6 items	31 items
		1.4.	Renal system	4 items	17 items
		1.5.	Endocrine and metabolic systems	4 items	13 items
		1.6.	Cerebral nervous system	4 items	26 items
		1.7.	Skin/musculoskeletal system	4 items	15 items
		1.8.	Infectious diseases, blood and immune system	4 items	25 items
		1.9.	Other diseases	4 items	15 items
		1.10.	Treatment equipment management	11 items	70 items
		1.11.	Organ transplantation	2 items	5 items
This domain includes the following examples:					
	1.1.	– Element: observation, monitoring and assessment of the respiratory system.			
		– Performance indicator: assessing the results of blood gas analysis.			
	1.9.	– Element: nursing practice for resuscitation and sudden changes.			
		– Performance indicator: recognising and assessing critically ill patients who deteriorate rapidly and managing them to stabilise their conditions.			
2.	Caring	2.1.	Nursing diagnosis and planning	4 items	10 items
		2.2.	Relief of discomfort symptoms	6 items	11 items
		2.3.	Rehabilitation of critically ill patients/PICS	3 items	15 items
		2.4.	End-of-life care	4 items	16 items
		2.5.	Provision of an ICU environment to promote healing	2 items	12 items
This domain includes the following examples:					
	2.1.	– Element: development of appropriate care plans for critically ill patients.			
		– Performance indicator: identifying and prioritising evidence-based interventions to promote and restore health and prevent further disease and disability.			
	2.3.	– Element: nursing practice for maintenance and recovery of physical function.			
		– Performance indicator: implementing practices to maintain motor function and improve activities of daily living in critically ill patients.			
3.	Advocacy and moral agency	3.1.	Support decision-making	1 item	6 items
		3.2.	Ethical practice	2 items	19 items
		3.3.	Patient and family communication	2 items	11 items
This domain includes the following example:					
	3.2.	– Element: practice based on ethical principles and compliance with the law.			
		– Performance indicator: embracing equality and diversity and respecting without discrimination of age, sex, religion, sexual orientation, race, disability, sentiments and social status.			
4.	Evidence-based practice	4.1.	Quality assurance and improvement of care (PDCA)	2 items	9 items
This domain includes the following example:					
	4.1.	– Element: quality assessment and improvement activities.			
		– Performance indicator: implementing practices to improve care processes and outcomes based on evidence, expertise and patient preferences.			
5.	Collaboration and management ability	5.1.	Unit management	3 items	11 items
		5.2.	Team management	4 items	42 items
		5.3.	Medical safety	4 items	23 items
		5.4.	In-hospital and out-of-hospital patient transport	4 items	34 items
This domain includes the following examples:					

Continued

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Table 2 Continued

Domain		Subdomain		Element	Performance indicator
	5.2.	– Element: membership and followership.			
		– Performance indicator: recognising, respecting and promoting collaboration with team members.			
	5.3.	– Element: safety culture and incident reporting.			
		– Performance indicator: understanding and complying with local and national regulations and laws regarding the prevention, reporting and monitoring of adverse events, including medication errors, adverse events and equipment malfunctions.			
6.	Education and self-development ability	6.1.	Self-development	2 items	13 items
		6.2.	Education	4 items	17 items
This competency includes the following example:					
	6.1.	– Element: introspective practice.			
		– Performance indicator: reflecting on nursing practice based on an introspective and self-aware approach.			
6 Domains*		26 subdomains*		99 elements*	525 items*

*Total number of each item.
ICU, intensive care unit; PDCA, plan-do-check-assessment; PICS, post-intensive care syndrome.

DISCUSSION

In this study, the expert panel reached consensus on the importance of 541/643 competencies for SCCN, after a three-round Delphi survey. Subsequent revisions through external validity assessment resulted in 525 competencies. Finally, the developed clinical practice competencies for SCCN were categorised into six domains: therapeutic management and clinical judgement; caring, advocacy and moral agency; evidence-based practice; collaboration and management ability; and educational and self-development ability.

When the competency frameworks implemented in this study were compared with those of developed countries, the six domains generally overlapped with the existing competency frameworks that assessed SCCN characteristics. An SR was used to develop the main framework based on previous studies, which was then adjusted to fit the national legislation and the needs of patients' families. Therefore, the domains were categorised as cultivating caring, advocacy, altruism and humanity and patient treatment management, physical assessment and clinical judgement, as in other countries.[8 16] With respect to differences, there were differences in the level of practice by law and in the performance indicator level according to the needs of the population. Multicultural considerations are common in critical care nursing practice in developed countries. In contrast, most Japanese patients are homogeneous[10]; thus, cultural considerations are less prioritised.

The results of this study are highly trustworthy. Delphi results are evaluated with respect to trustworthiness rather than validity, as in quantitative surveys. Trustworthiness encompasses 'sub-concepts' that consist of the components of credibility, transferability, confirmability and dependability.[17 18] Previous studies have developed a set of standard critical care competencies, but they did not use an SR to support the Delphi survey.[8 9 16] The credibility of the findings was also confirmed by using previous relevant studies and by the number and expertise of the panellists, who represented various professional groups in critical care. The confirmability of the findings was verified using a replicated study design, as all data were obtained from identifiable sources.[18] The dependability of the findings indicated the repeatability of the results in other studies and confirmed a detailed description of the study design.[17 18] The findings of this study were robust, with low attrition rates and were from experts across several regions in Japan. The attrition rate at each stage of the Delphi survey is a hindrance.[19] In this study, a high response rate was achieved, with an attrition rate of <10% in the three rounds. In addition, the experts recruited for this study were active in various areas of critical care and were able to ensure that the competency framework constructed was comprehensive and specific to SCCN practices.

Therefore, the results of this study are robust, and the competency framework can be used in multiple areas to improve clinical practice, including the assessment of competency and competent level certification of critical care nurses. During the COVID-19 pandemic, the number of competent nurses who could provide intensive care nursing care was unknown in Japan.[5] Therefore, it was difficult to respond to the problem of critical care nurse shortage during the pandemic. In the future, nursing associations and academic societies will be able to use the results of this study to assess competency and certify the competent level of critical care nurses. If a system for education, assessment and certification of nurses who can provide standardised critical care nursing care is implemented based on these competencies, a system that can respond to unknown disasters, such as the COVID-19 pandemic, where nurses are in shortage, can be designed in the future.

This study may contribute to the standardisation of education in critical care nursing in Japan. Several countries in Europe and the USA have systems for educating

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and evaluating the competencies of clinical nurse specialists and critical care nurses.[8] The frameworks of these systems are also based on the identification of competencies.[8 9 16] In addition, previous studies have reported that higher level of competencies among critical care nurses established using competency-based certification systems is associated with lower complications and infection rates.[20 21] However, the education of general nurses working in the critical care field, being entrusted to each hospital in Japan, is not standardised. Using competencies for standard Japanese critical care nurses and developing educational programmes may lead to improvements in the quality of critical care, and subsequently the patient's outcomes in Japan.

Strengths and limitations

A key strength of this study is the SR and Delphi survey approach used to achieve national consensus on a contemporary set of SCCN competencies. However, our study has some limitations. First, although the participants in the Delphi survey were selected to represent a multiplicity of health professions and expertise, they may not adequately represent the full range of views held by professionals. In addition, patients and families were not involved in this study, although they are important stakeholders in determining nursing competence. The competency in which consensus was reached in this study is the necessity to consider cultural influences on patient attitude toward health, illness, compliance and care.[10] A more comprehensive research design that involves patients and families is required in the future. Second, the methodological limitation of the lack of a prioritisation or ranking system in expert panels and Delphi rounds may be the reason for the broad and highly detailed competency items, reflecting the scope of work that a standard critical care nurse is expected to accomplish. Therefore, the competency framework may ultimately need to be shortened to improve its learning curve and applicability in clinical practice, in conjunction with professional needs. Moreover, a prioritisation or ranking system in expert panels and Delphi rounds should be added to the study methodology in future studies.

Clinical implications and further research

The competency framework in which consensus was achieved in this study can be used in multiple areas to improve clinical practice, including the assessment, training and certification of standard critical care nurses. A previous study suggested that nurses with more clinical experience and higher educational level had significantly better critical thinking and intuitive decision-making skills than less experienced and less educated nurses.[22] Therefore, in future studies, changes in these skills and patient outcomes should be measured before and after the implementation of a system for competency-based education, and certification programmes should be investigated. By contrast, we view this set of standard critical care competencies as a dynamic set that reflects the current state of healthcare. As the field matures, new competencies will need to be added and others need to be removed. Therefore, this set of competencies should be revised regularly. The detailed methodology presented will be a useful reference for future studies. In addition, future studies based on several study designs are also required, as indicated by the limitations. Moreover, further studies will be required to create excerpted versions (eg, informing educational programmes and performance evaluations) from the current set of competencies that are more amenable to knowledge mobilisation/use.

CONCLUSION

This study established a set of SCCN competencies and categorised them into 6 domains, 26 subdomains, 99 elements and 525 performance indicators after a multistep, modified Delphi study. The results of this study are robust, and the competency framework can be used in multiple areas to improve clinical practice, including the assessment, training and certification of standard critical care nurses.

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Supplement Text 1. eMethods: Systematic review for the construction of initial competencies

Background and Objectives

The educational level of critical care nurses is important. Particularly, it is necessary to train nurses to provide standard critical care by themselves. This will help increase the number of nurses who can work in intensive care units (ICUs) during regular periods and will be a step toward ensuring adequate nurse availability in the event of a pandemic or other healthcare system crises. There are several studies and guidelines, both in Japan and overseas, that indicate the clinical competence of ICU nurses. However, the development process of these competencies in Japan and the validity of these competencies have not been examined. Healthcare systems and abilities required in ICU nursing differ between Japan and other countries. Therefore, the characteristics of clinical practice competencies for providing standard nursing care in ICUs both nationally and internationally should be evaluated using scientific methods to develop educational guidelines and competence characteristics of ICU nurses certified by academic societies in Japan. This study aimed to develop initial set of clinical practice competencies for standard critical care nursing (SCCN) by performing a systematic review (SR).

Methods

The SR was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) reporting guidelines. [1] Supplementary Table 1 (Supplementary Material 3) shows the supporting information for the completed PRISMA 2020 checklist. The SR protocol was not registered in the International Prospective Register of Systematic Reviews.

Eligibility criteria

Design: Any study design

Population: Critical care nurses

Intervention: Any intervention

Outcomes: Clinical practice skills and competencies

Search strategy

The following databases were searched on July 19, 2021: MEDLINE via the PubMed, Cumulative Index to Nursing and Allied Health Literature, and Igaku-Chuo-Zasshi, a

Japanese medical database. The key search terms used to identify potentially relevant studies are listed in Supplement Text 2 (Supplementary Material 2). In addition, a non-systematic search was conducted using Google Scholar. All non-systematic searches were conducted by four authors. We attempted to identify additional relevant studies by manually searching the reference lists of both the studies returned by the search and articles citing such studies (based on Google Scholar).

Selection of studies

Titles and abstracts were independently screened by two of the four reviewers to identify potentially eligible studies, and their full texts were assessed for inclusion. Any concerns regarding study eligibility were deliberated by the authors. Disagreements were resolved by discussion, and if necessary, a third person was brought in for arbitration.

Data extraction

The data charts were created by two researchers to determine the variables that were extracted. Details of the study characteristics, including authors, publication year, title, journal, country, sample size, design, population, intervention, and outcomes, were extracted from the study. The original publications and any other additional relevant resources (searching the reference list and tracking the author's relevant publications) were reviewed, and information and materials were provided to identify SCCN competencies. One of the four authors independently extracted the competencies from the included articles and continued discussion until consensus was reached. We did not assess the risk of bias of the included studies.

Results

Of the 2310 articles identified in our search, 1920 titles and abstracts were screened for eligibility. Of these, 86 full-text articles were obtained for review, 60 articles were excluded, and 26 articles were finally included (S3 text, S1 Table, and S3 Table in the Supplementary Material). In total, 685 critical care nurse competencies were identified in the included studies. The initial list of critical care competencies was reviewed for duplication, consistency, and comprehension, and the competencies were eventually reduced to 640. These competencies were grouped into relevant categories.

1. Page, M.J., et al., The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. PLoS Medicine, 2021. 18(3): p. e1003583.

Supplement Text 2. Search terms.

MEDLINE via PubMed

#1 critical care[mh]
#2 intensive care unit[mh]
#3 critical care nursing[mh]
#4 #1 OR #2 OR #3
#5 "critical care"[tiab]
#6 "intensive care"[tiab]
#6 "intensive care unit"[tiab]
#7 ICU[tiab]
#8 "critical care nurse"[tiab]
#10 "critical care nursing"[tiab]
#11 #5 OR #6 OR #7 OR #8 OR #9 OR #10
#12 #4 OR #11
#13 competency[tiab]
#14 "competency framework"[tiab]
#15 "clinical ladder"[tiab]
#16 #13 OR #14 OR #15
#17 #12 AND #16
#18 animals [mh] NOT humans [mh]
#19 #16 NOT #18

CINAHL via EBSCO

S1 critical care
S2 intensive care unit
S3 critical care nurs*
S4 ICU
S5 S1 OR S2 OR S3 OR S4
S6 competency
S7 "competency framework"
S8 "clinical ladder"
S9 S6 OR S7 OR S8
S10 S5 AND S9

医学中央雑誌　Igaku-Chuo-Zasshi

#1 クリティカル
#2 クリティカルケア
#3 集中治療
#4 ICU
#5 #1 OR #2 OR #3 OR #4
#6 看護
#7 #5AND #6
#8 (専門能力/TH or コンピテンシー/AL) or (臨床能力/TH or コンピテンシー/AL)
#9 コンピテンシーフレームワーク
#10 臨床実践能力
#11 職歴の移動/TH or クリニカルラダー/AL
#12 #8 OR #9 OR #10 OR #11
#13 #7AND #11
#14 #13 AND (PT=原著論文)

Supplement Table 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a literature review.	P1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist for the complete list.	P2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge, i.e., what is already known about your topic.	Supplement text 1
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	P5 Supplement text 1
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses with study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Supplement text 1
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	P5 Supplement text 1
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	P5 Supplement text 1
Selection process	8	State the process for selecting studies (i.e., screening, eligibility). Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	P5 Supplement text 1
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	NA
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Supplement table 3
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	NA

The checklist has been adapted for KIN 4400 Independent Research Study in Kinesiology at the University of Guelph-Humber. Last updated: Dec 9, 2021

Adapted From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71 *Adapted From:* Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

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Supplement Table 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
Study characteristics	17	Cite each included study and present its characteristics (e.g., study size, PICOS, follow-up period).	Supplement text 1
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	NA
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Supplement table 2
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	NA
	23b	Discuss any limitations of the evidence included in the review.	NA
	23c	Discuss any limitations of the review processes used.	NA
	23d	Discuss implications of the results for practice, policy, and future research.	NA
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	P6
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	P6
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	P6
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	P14
Competing interests	26	Declare any competing interests of review authors.	P14
Availability of data, code, and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Supplement text 3 Supplement table 2

The checklist has been adapted for KIN 4400 Independent Research Study in Kinesiology at the University of Guelph-Humber. Last updated: Dec 9, 2021

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Supplement Text 3. eReferences of included studies in systematic reviews

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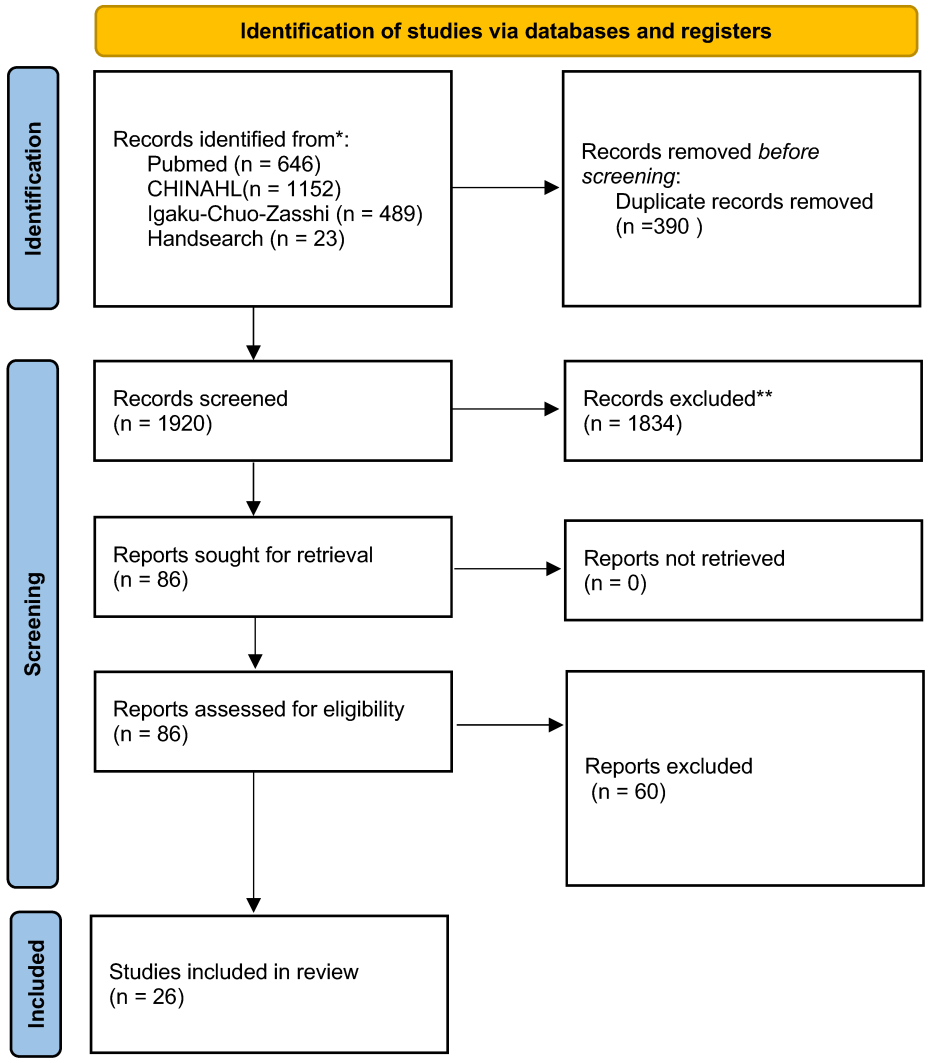
Supplement Table 2. Characteristics of included study of systematic reviews

Author, year	Country, language	Main results
Papers		
Canfield, 1981	US, English	Perceptions of clinical competencies for critical care nurses between baccalaureate educators and nursing employers
Inman, 1991	US, English	Six domains of competency
Scribante, 1996	US, English	Four domains of competency and 25 subdomains
Underwood, 1996	Australia, English	Explanation of Confederation of Australian Critical Care Nurses Inc. Competency Standards for Specialist Critical Care Nurses
Dunn, 2000	Australia, English	Six domains of competency and 20 subdomains
Bench, 2003	UK, English	Four domains of competency
Bourgault, 2004	US, English	Five domains of competency
McLean, 2005	UK, English	Differences between the mentors and students perceptions of competencies
Becker, 2006	US, English	Differences in the practice of clinical nurse specialists and acute care nurse practitioners
American Journal of Electroneurodiagnostic Technology, 2008	US, English	Two section, 16 subdomains of competency about ICU/cEEG
Nel, 2011	South Africa, English	Seven domains of competency and 25 items

Sugita, 2012	Japan, Japanese	Concept analysis of expertise for critical care nurses
Hadjibalassi, 2013	Nicosia, English	Four domains of competency and 72 items
Price, 2013	UK, English	Explanation of national critical care competency framework
Gill, 2016	Australia, English	Four domains of competency and 15 subdomains
Deacon, 2017	UK, English	Explanation of the national critical care competency framework
Zhang, 2018	China, English	Six domains of competency and 92 items
Shunman, 2020	US, English	Three domains of competency
Academic society (Hand search)		
American Association of Critical-Care Nurses, 2015	US, English	Six domains of competency and 28 items
Australian College of Critical Care Nurses, 2015	Australia, English	Four domains and 15 subdomains
Canadian Association of Critical Care Nurses, 2017	Canada, English	Seven domains of competency and 40 items
Critical Care Networks-National Nurse Leads, 2015 (Step 2)	English	Ten domains of competency and 27 subdomains
Critical Care Networks-National Nurse Leads, 2015 (Step 3)	English	Nine domains of competency and 16 subdomains
European federation of Critical Care Nursing associations, 2013	EU, English	Four domains of competency and 14 subdomains
Japanese Society of Intensive Care Medicine,	Japan, Japanese	Three domains of competency and 36 subdomains
Japanese Society of Intensive Care Medicine, 2019	Japan, Japanese	Four domains of competency and five steps of ladder

Supplement Table 3. Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 flow diagram for systematic reviews



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

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Supplement Table 4. Characteristics of participants in the focus group interview

Characteristics		n = 11
Years of clinical experience	Median (IQR)	17 (16-19.5)
Female	n (%)	5 (45.5)
Facility	n (%)	
Educational		3 (27.3)
University hospital		3 (27.3)
General hospital		5 (45.5)
Certification	n (%)	
Certified Nurses		5 (45.5)
Clinical Nurse Specialists		5 (45.5)
Highest educational level	n (%)	
Master's program		5 (45.5)
Doctoral program		1 (9.1)
Region in Japan	n (%)	
Hokkaido/Tohoku		2 (18.2)
Kanto/Chubu		5 (45.5)
Kinki/Chugoku/Shikoku		2 (18.2)
Kyushu/Okinawa		2 (18.2)

Supplement Table 5. Delphi Survey Items and Results of Each Survey Item

Disease Treatment Management and Clinical Decision Making			Median (IQR)		
1.1. Respiratory system			1st round	2nd round	3rd round
Anatomy and Physiology of the Respiratory System and Understanding of Disease	1	Understand the anatomy and physiology involved in the respiratory system	91 (80-100)	90 (80-100)	92 (90-100)
	2	Explain the four components of internal and external respiration, cellular respiration, acid-base equilibrium, and respiratory failure	80 (70-99)	85 (75-91)	85 (80-96)
	3	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of respiratory diseases such as pneumonia, asthma, chronic obstructive airway disease, acute lung injury syndrome (ALI/ARDS), pulmonary embolism, and pneumothorax	80 (70-90)	85 (79-90)	85 (80-90)
	4	Explain the effects of body position on the respiratory system	90 (80-100)	90 (90-100)	90.5 (90-100)
Nursing Practice for Respiratory System	5	Perform assessment and nursing practice to improve respiratory function	95 (80-100)	95 (90-100)	95 (90-100)
	6	Understand the complications associated with suctioning airway secretions and perform suctioning using methods that minimize or prevent them	100 (90-100)	100 (90-100)	100 (94-100)
	7	Appropriately assess the risk of difficult airway clearance (cannot ventilate and cannot intubate: CVCI) and explain how to respond to it	80 (70-95)	85 (77-90)	85 (80-92)
	8	Explain the impact, benefits, and risks of each position performed as respiratory therapy	90 (80-100)	90 (80-100)	90 (85-100)
	9	Explain how to position the body to optimize respiratory function	90 (80-100)	90 (83-100)	90.5 (90-98)
	10	Report abnormalities or changes in the respiratory system to the appropriate health care professions	100 (89-100)	100 (93-100)	100 (98-100)
Observation, monitoring and evaluation of the respiratory system	11	Assess the airway and secure the airway	100 (81-100)	100 (91-100)	100 (95-100)
	12	Assess for airway stenosis or obstruction	100 (90-100)	100 (90-100)	100 (99-100)
	13	Assess the amount and nature of airway secretions and sputum culture results	80 (75-90)	85 (75-90)	85 (85-90)
	14	Assess respiratory function based on respiratory frequency, breathing patterns, and use of accessory respiratory muscles	95 (80-100)	95 (84-100)	95 (90-97)
	15	Assess for diminished or absent breath sounds, left-right differences, and abnormal sounds	100 (85-100)	99 (90-100)	98.5 (93-100)
	16	Identify abnormal respiratory condition such as seesaw breathing, cyanosis, subcutaneous emphysema, uneven chest expansion, tension pneumothorax, hypoxia, restlessness, and altered mental status	95 (80-100)	95 (88-100)	95 (90-99)
	17	Use of respiratory monitors such as SpO2, SVO2, and capnography	90 (84-100)	90 (80-100)	91 (90-100)
	18	Explain the need for blood gas analysis testing	90 (80-100)	90 (87-100)	90 (90-95)
	19	Assess the results of blood gas analysis	90 (80-91)	90 (82-98)	90 (85-95)
	20	Determine the patient's condition from chest X-P, CT, and MRI (including readings)	80 (70-90)	80 (75-90)	82 (80-90)
Administration of drugs related to the respiratory system	21	Understand common drugs used in the respiratory system, their indications, mechanisms of action, and potential complications	80 (70-85)	80 (75-82)	80 (80-89)
	22	Care for and manage patients requiring respiratory medicine therapy	80 (75-90)	80 (75-88)	81 (80-90)
	23	Safely prepare and manage medications related to the treatment of the respiratory system	90 (80-100)	92 (85-100)	90 (86-98)
	24	Ability to adequately monitor patients during drug administration	100 (80-100)	100 (90-100)	100 (94-100)
	25	Assess the effects of medicines related to the respiratory system and adjust care and treatment according to the patient's condition	80 (75-90)	80 (80-90)	85 (80-94)
	26	Manage airway and breathing during procedures requiring sedation	100 (85-100)	100 (90-100)	100 (93-100)
	27	Adjust drug dosage based on physician's orders to achieve established goals such as sedation scale	90 (82-100)	90 (85-100)	91 (90-98)
	28	Practice care of patients with continuous inhalation of nitric oxide	70 (60-90)	77 (70-85)	80 (70-85)
	29	Prepare, perform, and change circuits of nebulizers	90 (80-100)	90 (80-100)	90 (85-100)
1.2. Cardiovascular system					
Anatomy and Physiology of the Cardiovascular System and Understanding of Disease	30	Understand the anatomy and physiology related to the cardiovascular system	100 (86-100)	100 (95-100)	100 (95-100)
	31	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of cardiovascular diseases such as hypertension, peripheral vascular disease, unstable angina, acute myocardial infarction, cardiomyopathy and inflammation, heart failure, pulmonary embolism, cardiac tamponade, arrhythmia, and pacing failure	85 (80-100)	87 (80-97)	89 (85-92)
	32	Understand the normal cardiac cycle flow.	80 (80-100)	87 (80-99)	90 (85-99)
	33	Understand normal cardiac conduction.	95 (80-100)	95 (90-100)	95 (92-100)
	34	Understand the determinants of cardiac output	90 (80-100)	92 (90-100)	95 (90-100)
	35	Understand the determinants of blood pressure	95 (80-100)	95 (90-100)	95 (90-100)

	36	Understand the determinants of central venous pressure	82 (80-90)	85 (80-90)	89 (80-91)
	37	Understand the effects of ventilation and intrathoracic pressure on the cardiovascular system	90 (80-100)	90 (90-99)	90 (87-93)
Nursing Practice for the Cardiovascular System	38	Manage critically ill patients with rapidly deteriorating circulatory status	95 (89-100)	95 (89-100)	92.5 (90-100)
	39	Manage patients after vascular or cardiac surgery	90 (80-100)	90 (80-100)	90 (90-95)
	40	Coordinate patient activities and nursing care taking into account circulatory load	95 (85-100)	95 (90-100)	95 (90-95)
	41	Explain indications and timing of defibrillation	100 (80-100)	100 (99-100)	100 (96-100)
	42	Explain indications and timing of pacing	90 (76-100)	90 (87-100)	90 (90-95)
Observation, monitoring and evaluation of the cardiovascular system	43	Appropriate hemodynamic monitoring of adult critically ill patients	94 (80-100)	95 (85-100)	95 (90-100)
	44	Assess the arterial pressure waveforms	90 (80-100)	90 (85-99)	90 (87-95)
	45	Assess the central venous pressure values and waveforms	80 (70-93)	83 (80-92)	85 (80-90)
	46	Assess the Swan-Gans catheter readings and waveforms	80 (71-90)	82 (80-90)	83 (80-90)
	47	Assess the dynamic indicators such as SVV	81 (75-90)	85 (80-90)	85 (83-90)
	48	Assess the capillary reflex	80 (70-95)	83 (80-90)	85 (80-90)
	49	Assess the limb and skin temperatures	95 (80-100)	95 (90-100)	95 (90-100)
	50	Assess blood test results related to circulatory function	80 (80-92)	87 (80-92)	90 (80-90)
	51	Understand normal ECG waveforms	100 (97-100)	100 (100-100)	100 (100-100)
	52	Assess the common arrhythmias (atrial tachycardia, ventricular tachycardia, atrial fibrillation, ventricular fibrillation, atrioventricular block, etc.)	100 (86-100)	100 (98-100)	100 (95-100)
	53	Appropriate continuous ECG monitoring	100 (95-100)	100 (100-100)	100 (99-100)
	54	Correctly measure 12-lead ECG	100 (95-100)	100 (100-100)	100 (99-100)
	55	Observations on settings, modes, and readings of advanced circulatory support devices (e.g., VA-ECMO) and circulatory assist devices (e.g., IABP)	80 (75-100)	88 (80-90)	90 (85-90)
	56	Report abnormalities or changes in the cardiovascular system to the appropriate health care provider	100 (95-100)	100 (99-100)	100 (94-100)
Administration of drugs related to the circulatory system	57	Manage critically ill patients with rapidly deteriorating circulatory status with a medical team	92 (90-100)	90 (87-97)	90 (90-95)
	58	Explain the indications, contraindications, mechanism of action, and side effects of cardiovascular agents (vasoactive medicines, inotropic medicines, antiarrhythmic medicines, etc.)	90 (80-100)	90 (85-95)	90 (90-95)
	59	Explain infusion therapy (understand the need for infusions, follow guidelines, and accurately record fluid balance)	85 (80-90)	90 (80-91)	90 (88-90)
	60	Understand the main differences between colloids, crystalloid solutions, and blood products	80 (73-90)	83 (80-90)	85 (80-90)
	61	Explain indications, contraindications, mechanism of action, and side effects of blood products	90 (80-100)	90 (90-96)	90 (90-93)
	62	Safely administer blood products and follow the facility's policy	100 (90-100)	100 (94-100)	100 (92-100)
	63	Assess clinical findings and adjust increase/decrease of circulatory agonists under the direction of a physician	90 (80-100)	90 (90-98)	90 (88-98)
	64	Tailor infusion management to the patient's physiological status	80 (70-90)	90 (80-95)	90 (85-94)
	65	Assess the effectiveness of drugs related to the cardiovascular system and adjust care and treatment according to the patient's condition	85 (76-100)	89 (80-91)	90 (85-91)
Shock Management	66	Explain the classification and treatment of shock (cardiogenic, abnormal blood distribution, obstructive, hypovolemic)	91 (90-100)	93 (90-99)	91 (90-97)
	67	Understand treatment protocols according to different shock classifications and be able to assist in treatment	90 (80-100)	90 (88-95)	90 (90-97)
	68	Understand oxygenated and non-oxygenated blood flow	90 (80-100)	93 (90-100)	92.5 (90-100)
	69	Implement practices that provide emotional reassurance and support to shock patients	99 (85-100)	100 (95-100)	100 (95-100)
	70	Perform necessary assessment and monitoring for shock patients (ECG, blood pressure, temperature, urine output, IV fluids, skin, limb temperature, blood tests)	97 (90-100)	99 (90-100)	100 (90-100)
	71	Recognize and correct electrolyte, glucose, and acid-base disturbances in shock patients	80 (70-90)	80 (80-90)	89.5 (80-94)
1.3. Gastrointestinal system and nutrition					
Anatomy and physiology of the gastrointestinal system and	72	Understand the anatomy and physiology of the gastrointestinal system (including the gastrointestinal tract, pancreas, gallbladder, and liver)	85 (80-95)	85 (80-94)	85 (80-90)
	73	Understand the endocrine and exocrine systems of the pancreas	80 (70-90)	80 (80-85)	81.5 (80-88)
	74	Understand the action of liver enzymes and understand abnormalities	80 (72-92)	80 (76-85)	80 (80-85)
	75	Understand the causes of lactic acid abnormalities	90 (80-97)	90 (85-97)	90 (85-95)

understanding of diseases	76	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of gastrointestinal disorders such as gastrointestinal bleeding/ischemia/perforation, bowel obstruction, esophageal varices, pancreatitis, cirrhosis/liver failure, and abdominal compartment syndrome	85 (75-90)	85 (80-90)	85 (80-90)
	77	Understand the process of critical illness from physiologic changes associated with chronic and acute liver and biliary tract disorders	80 (75-90)	80 (80-85)	81.5 (80-87)
	78	Understand and assess symptoms of shock and deterioration of general condition due to gastrointestinal disease	90 (80-95)	90 (80-91)	90 (85-95)
	79	Understanding of Bacterial Translocation	90 (80-100)	90 (85-100)	90 (88-95)
	80	Understand the effects associated with increased intra-abdominal pressure	85 (80-97)	90 (85-96)	90 (86-92)
Nursing Practice for the Gastrointestinal System	81	Manage patients with gastrointestinal diseases such as liver failure and shock due to gastrointestinal diseases	80 (80-95)	85 (80-92)	85.5 (85-91)
	82	Manage patients after typical abdominal surgeries such as Hartmann, esophagectomy, and bowel resection	85 (80-100)	85 (80-90)	86 (85-90)
	83	Manage patients with increased intra-abdominal pressure	90 (80-92)	90 (85-95)	90 (85-90)
	84	Manage drains associated with abdominal disease	90 (80-100)	90 (88-99)	90 (90-98)
	85	Insert a gastric tube in a critically ill patient	50 (5-79)		
	86	Manage gastric tubes in critically ill patients	100 (90-100)	100 (90-100)	100 (91-100)
	87	Manage the rectal balloon catheter for severe diarrhea	90 (74-100)	90 (85-96)	90 (86-94)
Observation, monitoring and assessment of the gastrointestinal system	88	Determine the need for monitoring patients at risk for deterioration related to gastrointestinal tract function	90 (80-100)	90 (85-96)	90 (89-92)
	89	Assess diarrhea, constipation, etc. using appropriate scales	90 (80-100)	90 (87-99)	90 (90-98)
	90	Assess the need to measure intra-abdominal pressure and measure it appropriately	86 (90-99)	85 (80-90)	87 (83-90)
	91	Assess blood test results related to gastrointestinal function	80 (76-90)	84 (80-90)	85 (80-90)
	92	Report abnormalities or changes in the gastrointestinal system to the appropriate health care provider	90 (90-100)	91 (90-100)	90 (90-100)
Administration of medicines related to the gastrointestinal system	93	Assess the effectiveness of medicines related to the gastrointestinal system and adjust care and treatment according to the patient's condition	80 (75-90)	80 (80-89)	85 (80-90)
	94	Understand medicine specificity (e.g., contraindications to grinding)	90 (77-100)	90 (83-97)	90 (89-91)
	95	Adjust dosage of medication to achieve therapeutic effect under the direction of a physician	90 (80-100)	90 (83-100)	90 (90-95)
	96	Understand intestinal motility and motility enhancers, laxatives, anti-stimulants, insulin/hypoglycemic agents, probiotics, steroids, antidiarrheals, and antisecretory agents	81 (75-90)	80 (80-90)	84.5 (80-90)
Nursing Practice for Nutritional Management	97	Understand the nutritional needs of individuals (calorie requirements, protein levels, etc.)	80 (70-90)	80 (80-90)	84 (80-90)
	98	Assess changes in nutritional status	80 (86-92)	85 (80-90)	85 (80-90)
	99	Understand the need for vitamins and minerals	80 (70-90)	80 (80-90)	81 (80-90)
	100	Assess the nutrition-related laboratory values	80 (75-90)	80 (80-90)	84.5 (80-90)
	101	Explain to the patient's past medical history and describe diseases affecting digestive function	80 (70-90)	80 (80-88)	83.5 (80-90)
	102	Adjust nutritional strategies according to guidelines and other recommendations	80 (70-80)	80 (79-90)	80.5 (80-86)
	103	Assess the results of nutritional therapy and adjust nutritional therapy according to the patient's condition	78 (60-80)	87 (79-97)	90 (85-93)
Nursing Practice for Dysphagia	104	Explain the mechanism of swallowing	80 (80-100)	81 (80-90)	85 (80-90)
	105	Explain risk factors for dysphagia	90 (80-100)	90 (80-96)	90 (85-90)
	106	Assess swallowing function (water-only test, repeated saliva-only test, food test, etc.)	90 (76-100)	90 (85-97)	90 (83-95)
	107	Provide consultation to specialists regarding the causes of dysphagia and therapeutic rehabilitation methods.	80 (72-90)	82 (80-90)	85 (80-90)
	108	Prepare the environment for eating, adjust food form and thickening, and provide appropriate dietary assistance.	90 (80-100)	90 (85-100)	95 (90-100)
1.4. Renal system					
Anatomy and Physiology of the Renal and Urinary System and Understanding of Disease	109	Understand the anatomy and physiology of the renal and urinary system	80 (70-100)	80 (72-91)	83.5 (76.5-90)
	110	Understand the function of the kidneys	87 (80-100)	90 (80-100)	90 (80-95)
	111	Understand electrolyte excretion	80 (70-100)	83 (76-100)	88.5 (88-98)
	112	Understand the renal blood supply	75 (70-89)	80 (75-100)	85 (79-100)
	113	Explain electrolyte abnormalities	90 (80-100)	90 (80-100)	93 (84-100)

	114	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of renal and urologic diseases, including renal disorders (acute kidney injury, chronic kidney injury, end-stage renal disease) and electrolyte abnormalities	85 (80-100)	80 (74-95)	84 (73.5-91.5)
Nursing Practice for Renal and Urinary System	115	Insert a urinary catheter	100 (83-100)	100 (100-100)	100 (100-100)
	116	Manage a urinary catheter after placement	100 (100-100)	100 (100-100)	100 (100-100)
	117	Understand guideline-based treatment strategies for acute kidney injury	80 (66-90)	80 (70-90)	80 (75-90)
	118	Understand the selection and principles of renal replacement therapy in HD, CHDF, CVVHD, CVVH, SLED and peritoneal dialysis	80 (70-98)	80 (71-90)	80 (77-92)
	119	Develop an individualized plan of care for renal replacement therapy	75 (60-80)	77 (60-90)	79 (71-84)
Observation, monitoring and evaluation of the renal and urinary system	120	Determine the need for monitoring of people at risk of renal function decline	80 (80-100)	80 (80-97)	86 (80-99)
	121	Understand how to monitor fluid status, fluid delivery, and renal function in patients at risk for renal impairment (cardiovascular, dehydration, overflow, balance check, body weight, ml/kg, Cr, nephrotoxic drugs, drug dosage adjustment in renal failure, fluid overload, hyperkalemia)	90 (80-100)	90 (80-100)	90 (82.5-98)
	122	Understand how to measure and record fluid volume	95 (80-100)	96 (80-100)	100 (90-100)
	123	Understand the causes of fluid loss (drains, gastrointestinal system, hemorrhage, insensate excretion, etc.)	95 (80-100)	90 (85-100)	99.5 (89-100)
	124	Assess blood collection results in patients with renal and urinary dysfunction	87 (80-100)	88 (80-95)	90 (82.5-98.5)
	125	Appropriately report abnormalities or changes in the renal and urinary system	90 (81-100)	95 (86-100)	92.5 (90-100)
Administration of drugs related to the renal and urinary system	126	Understand diuretics, glucose and insulin, salbutamol (nebulizer), calcium, sodium bicarbonate, and other medicines related to the kidney	80 (75-94)	80 (79-93)	80 (76-95.5)
	127	Assess the effectiveness of infusions and medications related to the renal and urologic system and adjust care and treatment according to the patient's condition	80 (70-90)	80 (75-90)	82 (80-94.5)
1.5. Endocrine and metabolic systems					
Anatomy and physiology of the endocrine and metabolic systems and understanding of disease	128	Understand the anatomy and physiology of the endocrine and metabolic systems	76 (65-90)	80 (70-90)	80 (70.5-90)
	129	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of metabolic and endocrine disorders such as diabetes, adrenal insufficiency, and thyroid	75 (60-90)	80 (70-90)	80 (75-90)
Nursing Practice for Endocrine and Metabolic Systems	130	Explain the need for blood glucose monitoring in critically ill patients	95 (81-100)	96 (89-100)	100 (90-100)
	131	Explain the care and management of patients with diabetic ketoacidosis, nonketotic hyperosmotic syndrome, and hypoglycemia	84 (76-100)	85 (75-94)	85.5 (81-95)
	132	Explain the care and management of patients with abnormal thyroid function (hyperthyroidism including crisis, hypothyroidism)	80 (60-90)	80 (70-90)	80 (74.5-90)
Observation, monitoring and evaluation of endocrine and metabolic systems	133	Explain the need for blood glucose monitoring in critically ill patients	90 (80-100)	95 (90-100)	100 (90-100)
	134	Assess periodic blood glucose readings based on patient condition and the effects of medications used	90 (80-100)	90 (85-100)	90 (86.5-100)
	135	Make necessary observations and assess patients with abnormal thyroid function (hyperthyroidism including crisis, hypothyroidism) appropriately	80 (70-90)	80 (70-90)	80 (75.5-91.5)
	136	Assess the results of blood tests related to endocrine and metabolic functions	80 (70-93)	80 (70-95)	80 (78-90)
	137	Report endocrine and metabolic abnormalities and changes to appropriate health care providers	86 (70-100)	90 (80-100)	90 (83-98)
Management of drugs related to endocrine and metabolic systems	138	Understand insulin and other medicines related to the endocrine and metabolic systems	80 (75-100)	85 (80-98)	90 (80.5-98.5)
	139	Assess the effects of medicines related to the endocrine and metabolic systems and adjust care and treatment according to the patient's condition	80 (68-90)	80 (75-90)	82.5 (80-90)
	140	Manage insulin administration based on blood glucose levels	95 (85-100)	99 (90-100)	100 (93-100)
1.6. Cerebral nervous system					
Anatomy and physiology of the nervous system and understanding of disease	141	Understand the anatomy and physiology of the cranial nervous system	90 (80-100)	90 (80-100)	91.5 (82.5-97.5)
	142	Explain the Monroe Kelly's Law	75 (50-88)	72 (60-80)	76 (67.5-80)
	143	Explain the Cushing's phenomenon	90 (80-100)	90 (80-100)	90 (80.5-100)
	144	Understand primary and secondary brain injury	81 (70-100)	85 (80-100)	88.5 (82.5-100)
	145	Be able to determine how neurological impairment may compromise patient safety	86 (80-100)	85 (80-100)	90 (82.5-99)
	146	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of neurological disorders such as dementia, cerebral hemorrhage, cerebral infarction, subarachnoid hemorrhage, seizures, and encephalitis and meningitis	90 (80-100)	90 (80-100)	90 (81.5-96)
	147	Provide nursing care for patients with neurological dysfunctions	98 (80-100)	95 (88-100)	95 (90-100)

Nursing Practice for the Brain Nervous System	148	Understand the symptoms associated with seizures and manage and care for them with safety in mind	90 (80-100)	90 (86-100)	92 (89-100)
	149	Manage the airway in relation to impaired consciousness	100 (90-100)	100 (95-100)	100 (92.5-100)
	150	Adjust body position with an understanding of changes in cerebral pressure and cerebral blood flow	95 (80-100)	96 (85-100)	96 (88.5-100)
	151	Know the indications for CT and MRI of the head	80 (60-100)	85 (71-100)	85 (80-96)
	152	Provide care that is aware of the potential impact on ICP	90 (80-100)	90 (80-100)	90 (86-100)
	153	Devise and implement appropriate strategies to maintain adequate cerebral perfusion pressure or MAP when ICP cannot be monitored	80 (80-97)	90 (80-100)	90 (85-99)
	154	Assess nursing care for rising ICP and adjust care plans accordingly	90 (80-100)	90 (80-100)	90 (86.5-99)
	155	Explain the criteria for transport to a specialized hospital for neurological diseases	70 (40-80)		
Observation, monitoring and evaluation of the brain nervous system	156	Assess and accurately record Glasgow Coma Scale (GCS)	100 (100-100)	100 (99-100)	100 (100-100)
	157	Observe and assess pupils (size, shape, responsiveness)	100 (100-100)	100 (100-100)	100 (100-100)
	158	Assess cranial nervous system function such as paralysis of the extremities	100 (90-100)	100 (90-100)	100 (99-100)
	159	Understand the mechanisms of normal control of cerebral perfusion and intracranial pressure (ICP) and explain normal parameters of intracranial pressure (ICP) and cerebral perfusion pressure (CPP)	80 (80-100)	82 (80-93)	85 (80-92.5)
	160	Recognize signs and symptoms of elevated intracranial pressure (ICP)	90 (80-100)	90 (80-100)	90.5 (88.5-99.5)
	161	Monitor hemodynamics with consideration of the impact on cranial nerve damage	90 (80-100)	90 (80-100)	91 (86.5-100)
	162	Ability to adequately monitor patients with brain nervous system disorders during hypothermia therapy.	87 (80-100)	90 (83-100)	91 (86.5-100)
	163	Recognize abnormalities in continuous EEG monitoring for seizure patients and others.	70 (50-80)	75 (70-94)	80 (70-89.5)
	164	Appropriately report abnormalities or changes in the cranial nervous system	95 (85-100)	100 (90-100)	100 (92.5-100)
Administration of drugs related to the nervous system	165	Prepare and administer therapeutic agents (osmotic treatments, analgesics, muscle relaxants, anticonvulsants, catecholamines, steroids, antihypertensive medications, etc.) for the treatment of cranial nervous system disorders	89 (80-100)	90 (81-100)	90 (86-96.5)
	166	Assess fluid balance with consideration of the impact on cranial nerve damage and consult on the administration of appropriate fluids	85 (79-100)	85 (80-100)	87.5 (85-95)
	167	Assess the effects of medicines related to the nervous system, consult with patients on their conditions, and coordinate their care	85 (80-99)	85 (80-100)	87.5 (85-95)
1.7. Skin/musculoskeletal system					
Anatomy and physiology of the skin, musculoskeletal system, and understanding of disease	168	Understand the anatomy and physiology of the skin, musculoskeletal system	80 (70-90)	80 (72-92)	81.5 (80-90)
	169	Explain ICU-AW	85 (75-100)	85 (80-100)	86 (80-100)
	170	Explain risk factors for ICU-AW	85 (77-100)	85 (80-100)	87 (80-94.5)
	171	Explain risk factors for pressure ulcers, pressure wounds on medical devices, and skintightness in critically ill patients	90 (80-100)	90 (83-100)	90 (85-100)
Nursing practice for skin, musculoskeletal system	172	Explain how to prevent and treat ICU-AW	85 (71-100)	85 (80-100)	87 (80-96.5)
	173	Prepare, treat, and care for wounds accordingly	85 (80-100)	90 (82-99)	90 (85-100)
	174	Explain how to prevent pressure ulcers, pressure wounds on healthcare-related equipment, and skin lesions in critically ill patients.	90 (85-100)	90 (85-100)	92 (88.5-100)
	175	Explain the care of critically ill patients with pressure ulcers, pressure wounds and skin lesions on medical related equipment.	90 (80-100)	90 (80-100)	90 (84.5-100)
Observation, monitoring and evaluation of skin, musculoskeletal system	176	Monitor and assess musculoskeletal system related issues such as muscle strength (MMT, MRC score, grip strength, etc.) and ADL assessment	85 (70-99)	90 (80-99)	90 (85.5-96)
	177	Observe skin and wounds (including trauma and post-operative) and detect abnormalities early	100 (90-100)	100 (95-100)	100 (90-100)
	178	Assess pressure ulcer risk (e.g., Braden scale) in critically ill patients	90 (80-100)	90 (85-100)	95 (85-100)
	179	Continuous monitoring (e.g. DESIGN-R) and evaluation of pressure ulcers in critically ill patients	90 (80-100)	90 (83-100)	94.5 (86.5-100)
	180	Appropriately report abnormalities or changes in the skin, musculoskeletal system	90 (80-100)	92 (85-100)	90 (85-99)
Knowledge of pharmacology as it relates to the skin, musculoskeletal system	181	Explain agents that affect the musculoskeletal system, including ICU acquired muscle weakness	80 (70-89)	80 (70-99)	84.5 (79-91.5)
	182	Explain the treatment methods (drugs) for pressure ulcers, pressure wounds on medical-related equipment, and skintare in critically ill patients	85 (75-99)	85 (80-100)	85.5 (81-95.5)
	183	Assess the effects of medicines related to the skin, musculoskeletal system, and adjust care and treatment according to the patient's condition	81 (70-95)	95 (80-100)	90 (80-95)
1.8. Infectious diseases, blood and immune system					
Anatomy and physiology	184	Understand the anatomy and physiology of the blood and immune system	80 (65-96)	80 (70-93)	84 (76-92)

and disease understanding of infectious diseases, blood and immune systems	185	Explain the pathophysiology, causes, signs, symptoms, and treatment management of sepsis	95 (80-100)	97 (85-100)	98 (87.5-100)
	186	Understand the definition and diagnostic criteria for sepsis	90 (80-100)	91 (80-100)	92.5 (85-100)
	187	Understand the septic shock	99 (85-100)	100 (90-100)	100 (94-100)
Nursing Practice for Infectious Diseases, Hematology, and Immune System	188	Recognize patients with infectious diseases who are at risk of worsening their condition	85 (80-100)	88 (80-95)	90 (83.5-99)
	189	Refer to sepsis guidelines and practice appropriate care bundles	90 (80-100)	90 (80-100)	93 (90-100)
	190	Take necessary infection control precautions for individual patients and treatment environments	99 (85-100)	100 (90-100)	100 (96-100)
	191	Take precautions against multimedicine-resistant bacteria	95 (85-100)	100 (90-100)	100 (94.5-100)
Prevention and Nursing Care of Device-Related Infections	192	Explain risk factors for catheter-related bloodstream infections	90 (90-100)	94 (86-100)	95 (90-100)
	193	Explain how to prevent and treat catheter-related bloodstream infections	90 (80-100)	93 (85-100)	94 (90-100)
	194	Explain risk factors for ventilator-associated pneumonia and ventilator-associated events (VAE)	91 (80-100)	95 (86-100)	95 (91-100)
	195	Explain how to prevent and treat ventilator-associated pneumonia and ventilator-associated events (VAE)	93 (80-100)	96 (88-100)	95 (90-100)
	196	Explain how to prevent and treat urinary catheter-related urinary tract infections	95 (80-100)	95 (82-100)	95.5 (90-100)
	197	Explain how to prevent and treat urinary catheter-related urinary tract infections	91 (80-100)	95 (84-100)	95 (86.5-100)
	198	Explain risk factors for surgical site infection	90 (78-100)	90 (86-100)	92 (86.5-100)
	199	Explain how to prevent and treat surgical site infections	87 (80-100)	90 (80-100)	90 (88-100)
Nursing Practice for Blood Coagulation Abnormality	200	Practice nursing care for patients with blood coagulation abnormalities	90 (75-100)	90 (80-100)	91 (85-100)
	201	Understand hematological disorders such as major bleeding requiring massive blood transfusions, immunosuppression, and immunodeficiency	85 (70-100)	88 (80-100)	90 (81-93)
	202	Explain the transfusion-related adverse events such as transfusion-related acute lung injury (TRALI), Graft versus host disease (GVHD), etc.	80 (70-91)	81 (78-100)	83.5 (77-95)
	203	Understand disseminated intravascular coagulation syndrome (DIC)	90 (72-100)	92 (81-100)	90 (89.5-100)
	204	Understand the indications and administration of anticoagulants	88 (75-100)	90 (80-100)	90 (82-100)
	205	Explain risk factors for deep vein thrombosis (DVT)	95 (80-100)	99 (80-100)	99 (88.5-100)
	206	Explain how to prevent and treat deep vein thrombosis (DVT)	95 (80-100)	97 (82-100)	96.5 (89-100)
1.9. Other diseases					
Nursing Practice for Resuscitation and Sudden Changes	207	Anticipate rapidly changing patient conditions and respond proactively	100 (90-100)	100 (94-100)	100 (88-100)
	208	Assess and respond to rapidly changing patient and treatment situations	95 (85-100)	95 (90-100)	96 (90-100)
	209	Recognize early warning signs quickly and consult with other nursing staff, medical team members, and others as needed	90 (80-100)	100 (95-100)	100 (94.5-100)
	210	Consider care and clinical priorities in response to emergencies and unforeseen circumstances	95 (85-100)	98 (90-100)	98 (90-100)
	211	Recognize and assess critically ill patients who deteriorate rapidly and manage them toward condition stabilization	92 (80-100)	91 (89-100)	94.5 (90-100)
	212	Respond to cardiopulmonary arrest (BLS, ACLS)	100 (100-100)	100 (100-100)	100 (100-100)
	213	Defibrillate according to resuscitation protocols	98 (89-100)	100 (90-100)	100 (93-100)
	214	Identify and respond to lethal arrhythmias	100 (100-100)	100 (100-100)	100 (100-100)
	215	Manage post-resuscitation, including management of airway, breathing, circulation, arrhythmias, and abnormal metabolic states	99 (80-100)	99 (80-100)	97 (90-100)
Nursing Practice for Trauma	216	Explain the pathophysiology, causes, signs, symptoms, and treatment management of multiple trauma, head trauma, thoracoabdominal trauma, extremity pelvic trauma, and spinal trauma	80 (65-90)	80 (70-85)	80.5 (77.5-89)
	217	Provide nursing care for trauma patients	70 (50-80)	60 (50-70)	
Nursing Practice for Burns	218	Explain the pathophysiology, causes, signs, symptoms, and management of burns	80 (60-90)	80 (70-85)	80 (70-87.5)
	219	Provide nursing care for burn patients	80 (70-90)	80 (70-94)	80 (75-89)
Nursing Practice for Acute Poisoning	220	Explain the pathophysiology, causes, signs, symptoms, and treatment management of acute poisoning, including acute drug poisoning, carbon monoxide poisoning, and natural poison poisoning	75 (60-80)	71.5 (65-80)	74 (69-80)
	221	Provide nursing care for acutely poisoned patients, including acute drug poisoning, carbon monoxide poisoning, and natural poison poisoning	80 (56-90)	75.5 (70-85)	75 (70-80)
Nursing practice for abnormal	222	Explain the pathophysiology, causes, signs, symptoms, and treatment management of hyperthermia and hypothermia, including heat stroke, malignant hyperthermia, and malignant syndrome	80 (65-90)	80 (70-87)	80 (71.5-85)

body temperature	223	Provide nursing care for patients with hyperthermia and hypothermia, including heat stroke, malignant hyperthermia, and malignant syndromes	80 (70-90)	80 (70-90)	80 (78.5-85)
	224	Handle, assist, observe, and manage the use of temperature control devices.	90 (80-100)	90 (71-100)	85 (80-90.5)
Nursing Practice for Emergency Conditions of Pregnant Women	225	Explain the pathophysiology, causes, signs, symptoms, and treatment management of gestational hypertension, amniotic fluid embolism, cervical laceration, and flaccid hemorrhage	50 (31-80)	50 (45-62)	
	226	Provide nursing care for patients with gestational hypertension, amniotic fluid embolism, cervical laceration, and flaccid hemorrhage	50 (40-80)	50 (45-70)	
1.10. Treatment equipment management					
Noninvasive ventilatory management	227	Explain the indications for non-invasive ventilation	100 (90-100)	100 (97-100)	100 (94-100)
	228	Explain the advantages and disadvantages of noninvasive ventilation	100 (90-100)	100 (97-100)	100 (95.5-100)
	229	Explain the physiological and psychological effects of noninvasive ventilation on patients	100 (85-100)	100 (100-100)	100 (96-100)
	230	Correctly prepare non-invasive ventilators (including circuit assembly, proper parameter and alarm settings)	86 (78-100)	99 (80-100)	95 (84-100)
	231	Use of a heated humidifier for non-invasive ventilators	100 (90-100)	100 (95-100)	100 (90-100)
	232	Provide initiate, administer, and wean from noninvasive ventilation	92 (84-100)	96 (85-100)	99 (87-100)
	233	Explain the different types of masks and mask fitting methods	100 (90-100)	100 (90-100)	100 (95-100)
	234	Prevent complications of non-invasive ventilation (e.g., skin problems)	100 (90-100)	100 (90-100)	100 (95-100)
	235	Assist in the daily living of patients on non-invasive ventilation while dealing with their symptoms	100 (89-100)	100 (95-100)	100 (93.5-100)
	236	（Adjust sedation and other treatments and ventilator settings according to the condition of the patient being non-invasively ventilated (based on physician orders)	90 (80-100)	92.5 (80-100)	90 (80-100)
	237	Correctly troubleshoot non-invasive ventilatory equipment	98 (85-100)	98 (85-100)	99 (85-100)
Invasive ventilatory management	238	Explain the indications for invasive ventilation	100 (90-100)	100 (90-100)	100 (90-100)
	239	Explain the physiological and psychological effects of invasive mechanical ventilation on patients	100 (90-100)	100 (90-100)	100 (92.5-100)
	240	Invasive mechanical ventilator is properly prepared (including circuit assembly, proper parameter and alarm settings)	90 (80-100)	94 (85-100)	92.5 (84-100)
	241	Use of a Heated humidifier for invasive mechanical ventilators	100 (90-100)	100 (95-100)	100 (91-100)
	242	Initiate, manage, and wean from invasive mechanical ventilation	94 (80-100)	100 (85-100)	100 (86-100)
	243	Assist with daily living while dealing with symptoms of patients on invasive ventilation	100 (90-100)	100 (97-100)	100 (92-100)
	244	Identify ventilation modes and ventilator settings explain them	94 (80-100)	98.5 (80-100)	100 (89-100)
	245	Explain how to prevent complications of invasive mechanical ventilation (e.g., lung protective ventilation for ventilator lung injury)	90 (80-100)	95 (80-100)	95 (90-100)
	246	（Adjust treatment and mechanical ventilator settings, such as sedation, according to the patient's condition during invasive ventilation (based on physician's orders)	90 (82-100)	90.5 (80-100)	94 (84.5-100)
	247	Troubleshoot invasive mechanical ventilator (high pressure, low pressure, low tidal volume, high peak airway pressure, high breathing and other alarms, power failure response, equipment malfunction, etc.)	91 (80-100)	94.5 (80-100)	95.5 (82.5-100)
	248	Explain the significance of practicing the invasive mechanical ventilator Care Bundle	90 (80-100)	92 (80-100)	95 (82-100)
	249	Coordinate and implement personnel needed for prone therapy during invasive mechanical ventilation	86 (80-100)	89 (79-100)	90 (81.5-100)
	250	Assist with bronchoscopy during invasive mechanical ventilation	90 (70-100)	90 (76-100)	90 (80-100)
Nursing Practices Related to Oral Intubation	251	Explain the indications, advantages, and disadvantages of intubation	100 (90-100)	100 (96-100)	100 (93.5-100)
	252	Understand the intubation process and prepare necessary supplies and medications	100 (95-100)	100 (95-100)	100 (92.5-100)
	253	Assist with intubation and extubation	100 (95-100)	100 (100-100)	100 (100-100)
	254	Appropriately manage intubation tube (including position, fixation, and cuff pressure management)	100 (95-100)	100 (99-100)	100 (90.5-100)
	255	Assess the patency of the artificial airway and assess and respond to urgent airway problems (airway obstruction due to sputum, unscheduled tracheal tube removal or dislodgement, pneumothorax).	90 (80-100)	92 (85-100)	95 (89.5-100)
	256	Assess the need for suctioning during ventilation using indicators such as cough, secretions, hypoxemia, restlessness, high airway pressure, and hemodynamic changes	100 (90-100)	100 (90-100)	99.5 (90-100)
	257	Explain the advantages and disadvantages of subglottic suction	90 (80-100)	96.5 (85-100)	99 (89.5-100)
	258	Practice measures to minimize the causes and risks of emergency reintubation	90 (80-100)	93 (80-100)	96 (90-100)
	259	Properly care for the oral health of intubated patients	100 (90-100)	100 (97-100)	100 (92-100)
	260	Capable of manual ventilation using a bag-valve device	100 (85-100)	100 (98-100)	100 (92-100)

Practices related to tracheostomy	261	Understand percutaneous tracheostomy, surgical tracheostomy, and minitrack, their indications, advantages, and disadvantages	90 (75-100)	92.5 (80-100)	92 (80-99)
	262	Appropriate timing of tracheostomy can be identified.	80 (62-90)	85 (77-100)	89.5 (80-99.5)
	263	Explain the indications and necessity for emergency airway clearance procedures such as emergency cricothyrotomy	80 (65-100)	80 (70-98)	84 (77-95)
	264	Explain complications after tracheostomy	100 (80-100)	100 (84-100)	100 (85-100)
	265	Understand the process of performing a tracheostomy and be able to practice preparing and assisting with necessary supplies and medications	90 (76-100)	90.5 (80-100)	93.5 (84.5-100)
	266	Ability to practice patient care and observation before, during, and after tracheostomy	90 (80-100)	91 (80-100)	93 (86-100)
	267	Ability to properly manage (including position, fixation, and cuff pressure) tracheostomy tubes, including speaking valves	90 (74-100)	90 (75-100)	90 (80-92.5)
	268	Explain the advantages and disadvantages of suction above the cuff	100 (80-100)		
	269	Observe patients for possible physical and psychological effects associated with tracheostomy and respond accordingly	90 (80-100)	90 (80-100)	90 (81-100)
Knowledge of renal replacement therapy	270	Explain the types of renal replacement therapy and the advantages and disadvantages of each method	90 (75-100)	90 (80-100)	90 (84.5-100)
	271	Ensure that the necessary circuits for renal replacement therapy are assembled correctly	71 (50-100)	78 (60-85)	79 (70-99.5)
	272	Explain the advantages and disadvantages of different types of dialysis solutions	75 (50-92)	75 (60-85)	75 (68.5-92.5)
	273	Select the treatment mode that best suits the individual patient and set individual predefined treatment goals and adjust treatment according to coagulation, electrolyte, and acid-base goals.	71 (50-80)	70 (60-87)	80 (70-84.5)
	274	Properly manage equipment during renal replacement therapy	87 (70-100)	80.5 (75-100)	85 (80-94.5)
	275	Explain complications during renal replacement therapy and how to minimize them (thrombocytopenia/clotting disorders, anemia, circulation, electrolytes, bleeding, hypothermia, infection, thrombosis/embolism)	86 (70-100)	80.5 (70-95)	85 (78-93)
	276	The impact of renal replacement therapy on the metabolism of medicines and how to deal with it appropriately	80 (60-100)	80 (70-95)	80 (76.5-90)
	277	Appropriate equipment monitoring (access pressure, membrane pressure, etc.) and troubleshooting during renal replacement therapy	80 (70-100)	80.5 (70-90)	81.5 (75.5-93.5)
	278	Report any abnormalities or changes during renal replacement therapy to the appropriate health care provider	100 (80-100)	100 (87-100)	100 (87.5-100)
	279	Provide psychological care for patients undergoing renal replacement therapy	90 (80-100)	93.5 (83-100)	95 (82.5-100)
	280	Accurate fluid balance including cumulative balance after renal replacement therapy to record	91 (80-100)	96 (84-100)	96 (81-100)
Drain management	281	Correctly assemble evidence-based equipment required for insertion of a thoracic drain	100 (81-100)	100 (93-100)	100 (90-100)
	282	Assist with insertion and removal of chest drains	100 (90-100)	100 (95-100)	100 (91-100)
	283	Appropriately manage patients with chest drains inserted	100 (100-100)	100 (91-100)	100 (90-100)
	284	Adjust treatment modalities related to thoracic drainage according to the patient's condition	90 (50-100)	100 (80-100)	100 (91.5-100)
	285	Assist with emergency decompression of tension pneumothorax	90 (80-100)	90 (85-100)	90 (80-100)
	286	Troubleshoot problems related to various drains, including ventricular drains and abdominal drains	99 (80-100)	98.5 (90-100)	100 (84.5-100)
	287	Manage various types of drains, including ventricular drains and abdominal drains	100 (84-100)	100 (93-100)	100 (87.5-100)
	288	Provide psychological care to patients with various drain insertions, including ventricular drains and abdominal drains	100 (82-100)	100 (88-100)	100 (84-100)
Management of circulatory assist devices (IABP, IMPELLA, etc.)	289	Understand the indications for circulatory assist devices (IABP, IMPELLA, etc.)	90 (80-100)	90 (80-98)	91 (80-100)
	290	Manage and care for patients on circulatory assist devices (IABP, IMPELLA, etc.)	92 (75-100)	90 (80-99)	90 (80-100)
Management of auxiliary circulatory equipment (VA-ECMO, etc.)	291	Explain indications for assistive circulatory devices (e.g., VA-ECMO)	90 (71-100)	80 (93-100)	91 (80-100)
	292	Manage and care for patients on assisted circulatory devices (e.g., VA-ECMO)	71 (90-100)	94 (80-100)	94 (80-100)
Management of pulmonary function assist devices (e.g.	293	Explain indications for pulmonary function assist devices (e.g., VV-ECMO) using membrane-type artificial lungs	74 (90-100)	90 (80-100)	90 (80-100)

VV-ECMO) with membrane type artificial lungs	294	Manage and care for patients using (e.g., VV-ECMO, a pulmonary function support device using membrane-type artificial lungs)	90 (77-100)	90.5 (80-100)	92.5 (80-100)
Pacemaker Management	295	Explain indications and timing of defibrillation	90 (70-100)	90 (74-100)	90 (80-100)
	296	Explain indications and timing of pacing	96 (80-100)	95.5 (78-100)	95 (84.5-100)
Various line management	297	Assist, observe, and handle the use of an implantable pacemaker	100 (95-100)	100 (98-100)	100 (90-100)
	298	Assist, observe, and respond to the use of external (temporary) pacing	100 (95-100)	100 (99-100)	100 (90.5-100)
1.11. organ transplant					
Indications for organ transplantation and donor identification	299	Understand the anatomy and physiology of the brainstem	91 (80-100)	90 (80-100)	90 (80.5-100)
	300	Understand the causes of irreversible disorders of consciousness	90 (80-100)	90 (79-100)	90 (83-100)
	301	Know the procedures for early identification of patients indicated for organ transplantation.	70 (60-86)	68 (51-80)	
	302	Identify donors and discuss with the medical team the possibility of tissue or organ donation	68 (50-80)	69.5 (51-76)	
	303	Initiate systematic and timely referrals to organ donation as part of a team in accordance with national policy when there is potential for organ and tissue donation	61 (05-80)		
Donor/recipient support	304	Able to support physiologic optimization with donor care bundles (cardiovascular, endocrine/metabolic, respiratory, renal, hematologic, temperature)	60 (50-90)		
	305	Provide appropriate care to patients undergoing organ donation	68 (50-100)		
Collaboration with teams for organ transplantation	306	Work with organ donor teams	70 (50-100)	71 (60-88)	70.5 (60-81)
	307	Understand the nurse's role in organ donation and access to resources	66 (50-90)		
Assistance with brain death determination	308	Understand the prerequisites for testing for brainstem death	70 (50-100)	70 (60-82)	70 (60.5-80)
	309	Explain the method of determining brain death	70 (50-80)	70 (60-80)	70 (60-72.5)
	310	Manage relevant equipment for brainstem testing and assist with testing	60 (34-83)		
	311	Various procedures can be performed, such as recording the time of death	99 (52-100)	76.5 (54-95)	72.5 (60-81.5)
Support for brain-dead family members	312	Discuss organ donation with family members as needed	80 (50-100)	78 (56-85)	71 (59.5-80)
	313	Explain the donor's condition, what will be done, and how to relieve the family's anxiety	78 (45-100)	68 (52-81)	
	314	Explain the purpose of each test to the family and explain that the patient is not in pain	77 (50-100)	69 (50-84)	
	315	Respond to family requests to visit the patient during the examination and provide immediate support in case of distress	77 (60-100)	75 (70-84)	76 (65-82)
	316	Provide reassurance and appropriate methods when family members are distressed or express concern about organ donation	80 (50-100)	77.5 (65-89)	75 (60-81)
Legal Understanding for Organ Transplantation	317	Understand current national policies, protocols, and guidelines for brain stem testing and organ donation	70 (45-82)		
	318	Understands procedures for early identification of potential organ donors and organized and timely referral of potential organ donors	58 (50-80)		
	319	Understand the procedures for planning and implementing a collaborative approach to families to obtain consent for organ and tissue donation	61 (45-80)		
	320	Understand the legal, ethical, and consent issues related to organ and tissue donation for transplantation and research	65 (47-80)		
	321	Understands patient confidentiality issues related to organ transplantation	80 (60-100)	82 (74-90)	80 (70-85)
2. Caring					
2.1. Nursing Diagnosis and Planning					
Collect appropriate information on critically ill patients	322	Collect physiological, psychosocial, cultural, developmental, and spiritual data with appropriate resources, depending on the patient's condition	75 (65-90)	77.5 (70-85)	78 (70-81)
	323	Use appropriate evidence-based assessment techniques to determine a patient's overall needs (including learning needs, psychological support, and psycho-social needs)	80 (65-90)	80 (72-90)	80 (75-87)
Appropriate assessment of critically ill patients	324	Use appropriate evidence-based assessment techniques and tools to get a complete picture of the patient	80 (74-90)	80 (71-90)	81 (80-85)
	325	Prioritize data collection activities according to patient characteristics	85 (80-90)	80 (72-90)	80 (77-85)
	326	Relate collected data to current and predicted future conditions according to patient characteristics	80 (75-85)	80 (72-87)	80 (75-85)
	327	Analyze data from multiple sources to determine patient and family needs	80 (73-90)	80 (76-89)	80 (80-85)

Develop appropriate care plans for critically ill patients	328	Identify and prioritize evidence-based interventions to promote and restore health and prevent further disease and disability	80 (70-85)	80 (70-88)	80 (77-84)
	329	Develop goals that take into account relevant risks, benefits, current evidence, expertise, and costs	78 (60-80)	76.5 (63-90)	77 (70-80)
	330	Work with patients, families, and multidisciplinary teams to develop a plan	81 (70-90)	80 (72-90)	80 (76-81)
	331	Assess, document, and communicate pertinent and relevant data within the team	80 (67-85)	80 (67-90)	80 (74-81)
	332	Collaborate with patients, families, significant others, and professionals to develop a plan of care in a manner that promotes each member's contribution to the desired outcome	75 (65-85)	75 (70-82)	75 (71-80)
	333	Individualize and critically evaluate a plan of care, taking into account the individual requirements and clinical situation of the patient	70 (65-89)	75 (70-81)	75 (71-80)
	334	Recognize and understand the economic and resource implications when developing a plan of care	70 (60-76)	71.5 (66-81)	72 (70-79)
	335	Develop accurate care plans with a view to life after discharge from the hospital	75 (55-80)	75 (65-80)	75 (70-80)
	336	Document and communicate data, diagnoses and related issues, and measurable goals in a clear and searchable format within the team	70 (60-80)	75.5 (70-82)	75 (70-80)
Assessment of Critical Care	337	Assess the effectiveness of interventions in a timely manner and modify treatment and care modalities as needed to achieve expected outcomes	80 (64-100)	77.5 (70-84)	80 (75-81)
	338	Involve patients, families, and multidisciplinary professionals in the evaluation process as needed	72 (60-85)	75 (65-81)	75 (72-80)
	339	Properly record the results of the evaluation	80 (73-90)	80 (75-87)	80 (80-87)
2.2. Relief of discomfort symptoms					
Nursing Practice for Pain	340	Assess, prevent, and treat pain, including pharmacological and non-pharmacological interventions	85 (72-100)	85 (77-90)	85 (80-86)
Nursing practice for restlessness and sedation	341	Appropriate use of neuromuscular blocking agents and proper patient monitoring and assessment during use (including BIS: depth of sedation monitor)/TOF: nerve locator stimulator)	70 (59-83)	71 (60-80)	75 (65-80)
	342	Responsive to the assessment, prevention, and treatment of delirium, including pharmacological and non-pharmacological interventions	80 (75-90)	80 (73-90)	80 (80-88)
Nursing Practice for Delirium	343	Respond to the assessment, prevention, and treatment of insomnia and sleep disorders, including pharmacological and non-pharmacological interventions	85 (80-100)	85 (77-90)	85 (80-90)
	344	Respond to the assessment, prevention, and treatment of anxiety, including pharmacological and non-pharmacological interventions	85 (75-96)	82.5 (75-90)	82 (80-89)
Nursing Practice for Insomnia	345	Be responsive to the assessment, prevention, and treatment of insomnia and sleep disorders, including pharmacological and non-pharmacological interventions	80 (71-90)	80 (75-85)	80 (80-88)
Nursing practice for anxiety, depression, fear, etc.	346	Respond to the assessment, prevention, and treatment of anxiety, including pharmacological and non-pharmacological interventions	80 (70-90)	80.5 (75-85)	81 (79-85)
	347	Ensure that patients and families make informed treatment and care choices and understand the consequences	80 (70-95)	81 (75-90)	80 (75-85)
	348	Provide supportive care and coaching for patients and families during difficult procedures	76 (66-90)	77.5 (70-81)	80 (75-81)
	349	Minimize the psychological impact related to critical illness and treatment on the patient and family	75 (65-90)	78 (75-80)	80 (76-84)
	350	Respond to patients and families in the event of bereavement or traumatic events	80 (65-90)	80 (71-87)	80 (73-82)
Nursing practice for other discomfort symptoms	351	Assess, prevent, and treat discomfort symptoms such as dry mouth, dyspnea, and fatigue, including pharmacological and non-pharmacological interventions	80 (70-90)	80 (72-80)	80 (74-85)
2.3. Rehabilitation of Critically Ill Patients / PICS					
Understanding and implementing the rehabilitation needs of patients and families	352	Explain PICS/PICS-F and its risks and prevention methods	84 (75-100)	80 (70-85)	80 (75-85)
	353	Explain the challenges of rehabilitation in the critical care area	80 (75-92)	80 (75-85)	84 (77-86)
	354	Understand why critically ill patients need ongoing rehabilitation	90 (76-100)	85 (75-90)	85 (80-90)
	355	Set rehabilitation goals (short, medium, and long term) appropriate for individual critically ill patients	80 (70-90)	79 (70-85)	80 (75-85)
	356	Coordinate rehabilitation of critically ill patients according to guidelines and other recommendations	80 (70-90)	80 (72-85)	80 (79-85)
	357	Understand and recognize rehabilitation prescriptions for critically ill patients	80 (70-95)	80 (75-85)	80 (75-85)
	358	Utilize specialized therapies for critical care rehabilitation	75 (64-90)	76 (73-80)	78 (75-82)

	359	Understand the issue of individual patient diversity and how it affects the patient's rehabilitation needs	80 (70-90)	80 (73-84)	80 (75-82)
	360	Properly assess the effectiveness of rehabilitation	75 (70-95)	75 (70-82)	75 (74-80)
Nursing practice for maintenance and recovery of physical functions	361	Practice positioning of critically ill patients	90 (80-100)	90 (80-90)	90 (85-92)
	362	Practice joint range of motion training in critically ill patients	80 (70-90)	82.5 (73-90)	85 (75-86)
	363	Practice respiratory rehabilitation of critically ill patients	82 (75-91)	80 (78-90)	85 (80-88)
	364	Practice swallowing rehabilitation in critically ill patients	75 (66-90)	75 (69-80)	80 (75-90)
	365	Practice early mobilization of critically ill patients	88 (79-100)	86 (79-92)	87 (85-90)
	366	Implement practices to maintain motor function and improve ADLs in critically ill patients	80 (75-97)	80 (76-87)	85 (80-88)
	367	Understand risk assessment related to rehabilitation of critically ill patients and rehabilitate them	85 (74-100)	83.5 (76-87)	85 (80-89)
Nursing practice for maintenance and recovery of cognitive function and mental health	368	Explain rehabilitation methods to prevent and ameliorate cognitive dysfunction and delirium	77 (70-90)	80 (74-85)	84 (80-89)
	369	Explain how to prevent and improve mental health disorders (depression, anxiety, PTSD) in patients and families	75 (65-90)	80 (73-82)	81 (80-85)
	370	Understand the advantages and disadvantages of ICU diaries in recovery from serious illness	70 (56-85)	71 (60-80)	76 (70-80)
	371	Understand and comply with legal and ethical considerations regarding ICU diaries	71 (58-85)	70 (60-80)	73 (70-80)
Utilize available resources for rehabilitation of critically ill patients	372	Involve the patient and family in the rehabilitation process, including prompt referral to appropriate multidisciplinary team members and family involvement	75 (60-84)	75 (70-80)	75 (74-80)
	373	Help facilitate health and lifestyle changes appropriate to the patient and family	73 (60-80)	73 (70-78)	75 (70-80)
2.4. End of life care					
Evaluation of patient prognosis	374	Assess the patient severity	90 (80-100)	90 (80-91)	90 (80-93)
	375	Appropriate prognostic evaluation of critically ill patients	80 (61-90)	80 (75-82)	80 (75-87)
	376	Be prepared to anticipate, prevent, and recognize life-threatening situations and intervene	85 (80-100)	85 (79-90)	85 (80-90)
Advance Care Planning	377	Encourage patients and families to discuss advance care planning and directives	76 (55-88)	79 (65-81)	78 (72-81)
	378	Utilize appropriate resources to guide ethically complex situations and find effective coping strategies and possible solutions	80 (65-90)	80 (72-85)	80 (75-83)
Withholding or withdrawing treatment	379	Explain the palliative care procedures for critically ill patients	75 (52-90)	75 (71-80)	75 (70-85)
	380	Communicate care plans and discuss end-of-life care with patients and families	80 (69-90)	80 (75-87)	80 (71-83)
	381	Discuss end-of-life care plans with the patient's family			80 (74-85)
	382	Provide symptom relief and individualized treatment and care plans for terminally ill patients according to the patient's needs	80 (65-90)	80 (75-85)	80 (75-85)
	383	In a multidisciplinary team, assess futility and other factors and consider withholding or terminating treatment as appropriate	80 (70-90)	80 (74-82)	80 (75-85)
	384	Consider end-of-life care options appropriate for the patient, taking into account the patient's and family's wishes, including the choice of ward after treatment is discontinued.	80 (75-95)	80 (77-84)	80 (77-85)
	385	Understand the procedures for forming and recording agreements regarding treatment cessation, including legal restrictions on treatment cessation or withholding, mental capacity laws, and ethical principles	80 (60-90)	80 (73-85)	80 (76-83)
	386	Understand what care is appropriate for the patient after discontinuation of treatment	80 (75-90)	80 (79-85)	81 (80-86)
Assess, monitor, and observe terminally ill patients	387	Observe and assess symptoms of terminally ill patients, including pain, nausea, agitation, dyspnea, and fatigue.	80 (75-100)	81 (79-87)	85 (80-87)
	388	Recognize that the palliative approach integrates palliative care principles (symptom management, patient-centered care) throughout the patient's life and is not just for the last few days of life	90 (75-100)	87.5 (78-90)	85 (80-90)
	389	Work with patients, families, and professionals to determine end-of-life wishes, identify available resources, and implement strategies to promote dignity, comfort, and quality care at the end of life	80 (70-90)	82 (70-88)	84 (79-87)
	390	Seek and incorporate patient and family input to provide quality end-of-life care that meets their needs	80 (80-100)	82.5 (80-86)	85 (77-87)
Utilize appropriate resources for end-of-life issues	391	Work with multidisciplinary teams to facilitate palliative care and end-of-life discussions, decisions, and care	81 (70-90)	80 (75-87)	80 (80-85)
	392	Maintain ongoing communication with family and professionals regarding palliative approaches/care at the end of life and provide ongoing emotional support	80 (70-92)	80 (76-88)	82 (80-86)
	393	Can refer to social support such as bereavement support	60 (50-76)		

2.5. Providing an ICU environment that promotes healing					
Environmental management to promote healing for patients and families	394	Appropriate assessment of patient's sensory perceptions, such as noise, illumination, smell, care, and other stimuli	80 (70-95)	80 (77-88)	81 (80-89)
	395	Ability to manage the environment appropriately for the patient's senses, including noise, lighting, smells, care, and other stimuli	85 (75-98)	83 (80-90)	84 (78-90)
	396	Minimize environmental risk factors that could cause physical harm or injury to patients, families, and health care providers	81 (70-95)	80.5 (79-90)	83 (79-87)
	397	Can promote proper day/night sleep cycles for critical care patients	90 (80-100)	88 (80-90)	86 (80-90)
	398	Able to provide a safe, healing and caring environment that respects the individual	91 (80-100)	89 (83-90)	90 (81-90)
	399	Able to effectively facilitate patient orientation	80 (70-90)	83 (78-90)	85 (80-89)
Improve patient and family services	400	Obtain and act upon feedback and experiences from patients, caregivers and service users	78 (60-85)	78 (70-85)	80 (77-85)
	401	Question existing ways of doing things and propose new ways to current performance and culture	80 (72-90)	80 (72-85)	82 (80-89)
	402	Contribute to change management initiatives led by experienced colleagues	80 (70-93)	82.5 (80-88)	85 (80-90)
	403	Contribute to quality improvement initiatives taking place within the department	85 (75-95)	85 (76-90)	85 (80-90)
	404	Able to practice care that restores, supports, promotes, and maintains physiological and psychosocial stability for patients of all ages across the lifespan	80 (70-90)	82 (77-86)	83 (80-85)
3. Advocacy and moral agent					
3.1. Support decision-making					
Support for decision-making	405	Take into account patient and family preferences for treatment and intervention	85 (73-92)	85 (70-88)	85 (80-85)
	406	Support ethical decision making	85 (75-100)	85.5 (80-90)	85 (80-88)
	407	Provide information to help patient families make decisions	84 (75-96)	83 (78-88)	85 (80-89)
	408	Leverage and use a variety of evidence in making complex decisions	76 (57-88)	79.5 (70-84)	80 (80-85)
	409	Support problem solving and decision making for a variety of clinical situations for the patient's family	80 (71-90)	80 (73-87)	80 (78-86)
	410	Consider patient and family preferences for treatment and interventions	85 (78-94)	84.5 (78-90)	85 (80-89)
	411	Embracing equality and diversity and respecting without discrimination age, gender, religion, sexual orientation, race, disability, sentiments, social status, etc.	88 (80-100)	85 (79-90)	85 (80-90)
3.2. Ethical Practices					
Practices based on ethical principles and compliance with the law	412	Act ethically and responsibly and participate in ethical discussions and decision-making processes	90 (78-100)	86 (80-90)	85 (80-90)
	413	Understand ethical practices, autonomy, equality and diversity, and legal regulations to protect the rights of patients and families	87 (75-99)	85 (76-90)	85 (78-88)
	414	Practices that consistently nurture the autonomy, dignity, values, beliefs, and rights of patients and their families	85 (75-92)	85 (75-90)	85 (81-89)
	415	Articulate an understanding of ethical principles relevant to the delivery of critical care	85 (75-100)	85 (70-90)	85 (80-87)
	416	Promote ethical accountability and integrity in relationships, organizational decision-making, and resource management	80 (70-96)	80 (74-87)	85 (80-88)
	417	Document patient care and its ongoing evaluation in a clear, concise, accurate and timely manner, while respecting privacy and confidentiality of personal information	80 (70-92)	80.5 (77-85)	80 (80-86)
	418	Provide care in a fair and equitable manner that meets the diverse needs of patients, families, and the community	90 (76-100)	88 (80-91)	85 (80-90)
	419	Report unethical, illegal, or impaired conduct	90 (80-100)	90 (80-95)	90 (85-90)
	420	Demonstrate awareness of patient autonomy, consent, and relevant local and national laws	85 (70-90)	83.5 (80-89)	85 (80-90)
	421	Demonstrate responsibility for self-care and self-advocacy	80 (68-90)	90 (83-99)	92 (90-100)
	422	Understand and comply with national regulations and laws, such as the Medical Care Act and the Health and Nursing Care Act	90 (73-100)	90 (75-91)	90 (82-91)
	423	Protect patient confidentiality within legal regulations	92 (81-100)	90 (80-95)	90 (85-92)
	424	Take into consideration and practice standards of confidentiality, data protection, and documentation	95 (85-100)	90 (80-99)	90 (85-94)
	425	Comply with working conditions, employment rights, and work environment considerations set by the state and the facility (e.g., disposal of hazardous materials)	90 (80-100)	90 (80-95)	90 (82-93)
	426	Understand and comply with local and national regulations and laws regarding the prevention, reporting, and monitoring of adverse events, including medication errors, adverse events, and equipment malfunctions	87 (80-100)	90 (80-95)	90 (81-93)
	427	Working conditions, employment rights, and working environment considerations (e.g., disposal of hazardous materials)	89 (80-100)	87 (80-95)	87 (84-90)
	428	Recognize and comply with court decisions and laws relevant to their role	85 (69-91)	85 (73-91)	85 (80-90)

	429	Demonstrate an understanding of the law as it relates to patient care and health care delivery	80 (65-90)	83 (71-90)	85 (80-90)
Practices for resolving ethical issues	430	Use available resources in making ethical decisions	84 (73-95)	84 (72-90)	85 (80-88)
	431	Make ethical decisions using available resources	85 (75-95)	85 (75-90)	84 (80-87)
	432	Address the needs of patients and families facing unanticipated treatment, quality of life, and end-of-life decisions	85 (78-95)	85 (80-90)	85 (80-87)
	433	Maintain a therapeutic and professional nurse-patient relationship within the appropriate role assignment	87 (80-100)	86 (80-90)	85 (80-87)
	434	Contribute to the resolution of ethical issues involving patients, families, and multidisciplinary teams	83 (70-100)	80 (70-86)	80 (70-88)
3.3. Patient and Family Communication					
Communicate and provide information in a respectful manner to patients and families	435	Respect others' viewpoints in discussions with patients and families	86 (70-100)	85 (77-93)	85 (80-90)
	436	Attentive to patient and family wishes and communicate information in a respectful manner according to needs, developmental stage, and level of understanding	85 (70-100)	88 (78-92)	90 (80-100)
	437	Communicate effectively with patients and families regarding treatment and nursing plans and the patient's clinical status	80 (70-100)	84 (80-99)	85 (75-90)
	438	Effectively communicate and explain difficult clinical information using terms and language that patients and families can understand	80 (70-100)	83 (79-96)	84 (80-90)
	439	Effectively communicate with and support patients and families in crisis situations	80 (70-90)	85 (75-93)	81 (75-90)
	440	Effective communication in complex situations.	75 (69-90)	80 (70-88)	80 (67-84)
	441	Notify bad news in a sensitive and compassionate way	80 (70-92)	80 (75-86)	80 (73-85)
Accountability for nursing practice (informed consent)	442	Explain their roles and responsibilities to patients and families and facilitate relationship building	80 (60-90)	80 (74-92)	80 (74-86)
	443	Recognize and comply with regulations and laws related to the nursing role	80 (70-100)	80 (72-90)	81 (80-90)
	444	Indicate an understanding of national laws related to patient care and health care delivery	64 (51-85)		
	445	Explain treatment options to patients and families and assist in facilitating informed decision making	80 (65-100)	80 (70-89)	80 (70-83)
	446	Enable patients and families to make informed choices and understand the consequences	85 (70-100)	81 (80-90)	82 (77-86)
4. Evidence-based practice					
4.1. Quality assurance and improvement of care (PDCA)					
Quality Assessment and Improvement Activities	447	Actively pursue new knowledge and skills to provide quality nursing care	90 (80-100)	90 (80-99)	90 (80-95)
	448	Implement practices to improve care processes and outcomes based on evidence, expertise, and patient preferences	85 (71-100)	85 (70-90)	80 (74-87)
	449	Explain clinical problems using evidence from the department or organization, including data on patient outcomes and facility quality improvement	80 (66-90)	75 (69-85)	75 (70-80)
	450	Participate in the development, implementation, evaluation, and revision of facility policies and procedures to improve the quality and effectiveness of nursing practice	80 (70-90)	80 (60-85)	75 (68-80)
	451	Ensure that nursing practices are in accordance with formal procedures and regulations	90 (80-100)	88 (70-100)	83 (76-90)
	452	Ongoing monitoring and evaluation of care processes and outcomes to determine best practices for individuals, groups, and populations	80 (70-93)	80 (70-90)	80 (70-82)
	453	Ability to question medical practices as needed to improve safety and quality	90 (80-100)	85 (75-96)	83 (80-90)
	454	Propose practices to challenge performance and culture	65 (52-80)		
	455	Improve services together with colleagues	80 (70-91)	80 (70-89)	80 (77-86)
Promoting Evidence-Based Practices	456	Know how to search for evidence and literature using available resources	80 (67-90)	80 (70-90)	80 (75-85)
	457	Keep updated and current in knowledge of evidence-based practice	80 (70-100)	80 (70-90)	80 (70-87)
	458	Understand the importance of evidence-based practice and be able to critically evaluate the literature	70 (60-80)	70 (60-80)	75 (67-80)
	459	Demonstrate an understanding of evidence-based practice and its translation into clinical practice	75 (60-85)	70 (61-80)	75 (70-80)
	460	Engage in and contribute to evidence-based critical care nursing practice	85 (71-100)	80 (70-88)	80 (75-80)
	461	Know what care practices are based on the guidelines	85 (75-94)	80 (70-90)	80 (75-85)
	462	Disseminate information on evidence-based best practices	77 (70-85)	75 (69-80)	77 (70-80)
4.2. Clinical research					
Research activities to establish evidence	463	Explain research questions based on clinical practice to improve quality of care	70 (59-80)	70 (63-80)	70 (65-78)
	464	Promote research, evidence-based practice, and the dissemination of nursing knowledge	70 (57-83)	75 (65-84)	74 (69-80)
	465	Participation in research activities	71 (60-80)	75 (70-82)	75 (70-80)

	466	Participate in the development of evidence-based protocols and guidelines	70 (41-75)	70 (60-80)	70 (65-80)
	467	Facilitate the development and implementation of innovative solutions in intensive care nursing	60 (40-80)		
5. Collaboration and management ability					
5.1. Unit Management					
Therapeutic intervention and system management	468	Clearly explain the role, function, and benefits of a critical care organization at your facility	80 (68-90)	78 (66-82)	79 (70-80)
	469	Organizational awareness of how services related to critical care are planned at their facility	70 (60-82)	70 (60-80)	70 (68-80)
	470	Understands the services and improvement plans related to critical care at his/her facility	74 (65-85)	70 (60-80)	70 (67-77)
	471	Implement service plans and projects related to critical care at their facility	71 (60-85)	70 (60-78)	78 (70-80)
	472	Assist in the development of guidelines and policies for critical care practices at their facility	70 (50-80)	65 (60-80)	
	473	Incorporate professional, legal, ethical, and critical care standards into practice	80 (70-90)	75 (60-82)	75 (70-81)
	474	Political awareness of key policies affecting critical services in the country	60 (40-70)		
Logistics Management and Cost Awareness	475	Implement cost and waste reduction practices	76 (62-85)	77 (70-85)	80 (73-85)
	476	Recognize the nurse's financial responsibilities and role in managing the logistics of the organization	68 (50-80)		
	477	Identify and report logistics management issues (e.g., insufficient stock, damaged equipment, supplies not fit for purpose) through appropriate systems	70 (60-85)	75 (70-85)	78 (71-84)
	478	Effective use of logistics systems including capacity, supplies, equipment, and consumables	70 (54-80)	75 (66-80)	77 (70-82)
Participation in organizational activities	479	Participate in committees, councils, and multidisciplinary teams	80 (71-100)	81 (70-90)	81 (78-87)
	480	Promote professional development through participation in professional organizations	75 (60-85)	75 (70-80)	78 (70-84)
	481	Participate in strategies and activities to promote healthy communities	65 (46-80)		
	482	Facilitate the development and implementation of innovative solutions in intensive care nursing	70 (40-80)		
Healthy work environment and work style	483	Demonstrate an understanding of work-life balance	82 (75-100)	85 (77-94)	85 (80-90)
	484	Work-life balance.	85 (80-100)	85 (78-95)	85 (80-90)
	485	Contribute to and support efforts to improve the quality of the critical care environment and work-life balance at your facility	71 (61-80)	75 (70-80)	79 (72-81)
	486	Contribute to the creation and maintenance of a healthy work environment	80 (70-98)	80 (75-86)	80 (77-84)
	487	Indicate flexibility and patient focus in a rapidly changing environment	90 (76-100)	90 (80-100)	85 (80-92)
	488	Ask for an appropriate number of staff with the knowledge and skills to care for critically ill patients when needed	82 (75-100)	80 (75-90)	80 (78-85)
	489	Adhere to standards governing the behavior of health care professionals to create a healthy work environment that promotes cooperation, respect, and trust	88 (75-100)	85 (78-94)	83 (80-88)
	490	Understand, embrace and actively participate in change management and related processes	80 (64-90)	80 (66-86)	80 (79-85)
	491	Maintain a physical and psychosocial environment that promotes safety, security, and optimal health	80 (75-95)	80 (75-90)	81 (76-85)
5.2. Team Management					
Membership and Followership	492	Recognize common team objectives and respect team decisions	85 (80-100)	85 (80-90)	83 (76-86)
	493	Adopt a team approach and be able to recognize and appreciate efforts, contributions and compromises	80 (70-90)	80 (77-90)	80 (77-85)
	494	Share information widely with staff	95 (81-100)	90 (80-100)	90 (80-96)
	495	Care plans can be shared	90 (80-100)	90 (80-100)	88 (80-95)
	496	Share knowledge and collaborate with others to create change and positive outcomes	85 (74-98)	83 (80-95)	80 (73-85)
	497	Actively seek the opinions of others	90 (80-100)	88 (80-95)	85 (80-90)
	498	Utilize SBAR and report appropriately to team members and other professionals	87 (80-100)	88 (80-97)	85 (79-90)
	499	Able to recognize, respect, and promote cooperation with staff	93 (80-100)	92 (80-100)	90 (80-95)
	500	Respect others' viewpoints and actively ask their opinions in discussions with other healthcare professionals.	90 (80-100)	85 (80-100)	86 (80-90)
	501	Recognize and participate in the need to support and debrief with colleagues and each other	89 (80-100)	85 (76-100)	85 (80-90)
	502	Support others in providing good patient care and better service	88 (80-100)	85 (80-93)	85 (80-90)
	503	Opportunities to be more effective by working with others	90 (80-100)	85 (80-93)	85 (80-90)
	504	Proactively and independently derive solutions to recurring problems and issues	80 (71-98)	80 (73-90)	80 (75-80)

leadership	505	Clearly recognize their role, responsibilities, and purpose within the nursing team	87 (80-100)	85 (80-90)	85 (80-90)
	506	Have a sense of role in the team in order to form an effective team	83 (80-98)	85 (80-90)	82 (80-86)
	507	Demonstrate effective interpersonal communication, leadership, negotiation, and conflict resolution skills to build positive relationships with colleagues, patients, and families	80 (75-95)	82 (74-90)	80 (75-85)
	508	Facilitate collaboration among team members	81 (75-90)	84 (77-85)	80 (75-86)
	509	Foster a spirit of transparency, trust, and respect among team members	88 (75-100)	80 (76-90)	80 (76-85)
	510	Provide leadership and support for service improvement initiatives within the department	80 (78-91)	80 (73-85)	80 (75-85)
	511	Emphasize the value of shared responsibility in decision-making and support shared leadership and coordination roles	80 (70-90)	80 (70-85)	80 (75-85)
	512	Resolve interpersonal and personal issues affecting individual and team performance	80 (70-90)	80 (70-85)	78 (74-80)
	513	Encourage open and constructive discussion and respect the diverse viewpoints of others	88 (80-97)	81 (80-90)	80 (75-85)
Management and coordination of care and operations, stress management	514	Manage activities on a daily or shift basis	87 (70-100)	87 (80-91)	85 (76-90)
	515	Manage patient care to ensure that it is effective and efficient	80 (71-97)	85 (75-90)	83 (75-87)
	516	Plan and prioritize work and workload during the shift according to patient needs	90 (80-100)	88 (80-95)	85 (81-90)
	517	Adjust priorities and change work plans as circumstances dictate	90 (80-100)	85 (80-96)	85 (80-90)
	518	Delegate appropriate tasks to other team members as needed	85 (80-100)	85 (80-91)	85 (80-90)
	519	Assess and adjust the workload and workload of staff and other team members to meet the changing needs of the patient's family	85 (75-96)	85 (80-90)	82 (80-90)
	520	Effectively manage the workload in your department	80 (70-92)	80 (75-87)	80 (78-85)
	521	Identify and, if necessary, coordinate the work of professional or other positions (including clerical, etc.)	80 (70-88)	80 (70-85)	80 (75-85)
	522	Recognize and effectively utilize coping strategies to deal with stressful situations in the clinical environment	82 (75-95)	80 (73-90)	80 (75-83)
	523	Know how to prevent stressors in the workplace	80 (70-89)	80 (75-89)	80 (70-85)
	524	Observe and address the health status of other team members	80 (70-90)	80 (75-90)	80 (73-87)
Use of other experts (consultation)	525	Assess individual patient needs and select the available resources (other professionals) to achieve the best outcomes	85 (80-90)	80 (72-90)	80 (72-83)
	526	Consider cost-effectiveness issues and use resources (other professionals) efficiently	80 (70-84)	78 (70-85)	77 (70-83)
	527	Facilitate sharing of information and resources (other professionals) among staff	80 (74-90)	80 (78-90)	80 (75-85)
	528	Suggest additional and necessary resources (other professionals) to improve nursing practice and quality of care for critically ill patients	80 (70-89)	80 (75-90)	80 (74-85)
	529	Assist patients and families in identifying and securing appropriate services to address their health-related needs, depending on available resources (other professionals)	80 (70-86)	80 (70-81)	80 (71-85)
	530	Collaborate to provide optimal care, respecting each other's roles, responsibilities, and abilities.	85 (80-100)	83 (78-90)	84 (80-90)
	531	Contribute to the development of effective interprofessional relationships to meet the needs of patients and their families	80 (77-91)	80 (73-90)	80 (77-85)
	532	Ability to consult with appropriate staff/professionals to develop/review care plans and facilitate continuity of care	85 (75-99)	85 (80-91)	85 (80-89)
	533	Work to resolve conflicts between multiple professions and contribute to interprofessional care planning	80 (70-90)	80 (70-86)	80 (70-85)
	534	Effective verbal and written communication with all members of the multidisciplinary team	85 (80-100)	83 (74-90)	85 (77-85)
	535	Ask questions of all members of the multidisciplinary team about the care process and the rationale supporting decisions	80 (70-90)	80 (71-85)	80 (76-85)
	536	Offer own professional perspective in discussions with multidisciplinary teams	80 (76-100)	80 (75-90)	80 (80-85)
	537	Communicate and collaborate effectively within a multidisciplinary team	90 (80-100)	89 (80-90)	85 (80-90)
	538	Choose appropriate methods in communicating with other professionals	86 (78-100)	84 (90-90)	85 (80-90)
	539	Explain and facilitate their roles and responsibilities to other members of the health care community	85 (76-95)	80 (76-89)	80 (80-85)
	540	Facilitate sharing of information and resources (other professionals) among staff	85 (70-100)	80 (80-90)	80 (80-85)
5.3. Medical safety					

Compliance with Nursing Standards	541	Understand and participate in clinical audits, including patient safety, environmental safety, and medical equipment maintenance	80 (70-90)	80 (75-90)	80 (80-88)
	542	Understand the value of quality indicators related to patient outcomes (e.g., length of stay, ventilatory time, prevention of infections, etc.) and participate in data collection	70 (55-80)	80 (72.5-87.5)	80 (80-90)
	543	Contribute to the collection of data on quality indicators related to patient outcomes (length of stay, ventilatory time, prevention of infections, etc.)		70 (70-80)	75 (70-84)
	544	Understand and be able to apply academic and national recommendations, policies, and guidelines to the department	70 (55-87)	76 (68.5-84)	75 (70-80)
Safety Culture and Incident Reporting	545	Understand their role in influencing the quality of safe and effective critical care services	80 (64-100)	80 (77.5-90)	85 (80-90)
	546	Respond quickly to protect patient safety	100 (80-100)	100 (94.5-100)	100 (90-100)
	547	Use safe and effective written, verbal, telephone, and electronic communication strategies	80 (70-90)	80 (75-90)	80 (79-86)
	548	Take necessary actions against actual or potential risks and incidents	85 (80-100)	88.5 (80-95)	90 (83-90)
	549	Identify and demonstrate observations and concerns regarding safety, hazards, and errors in the care and practice environment	80 (70-90)	80 (79-90)	85 (80-90)
	550	Provide feedback to the organization on issues related to the practices of others	70 (67-80)	72.5 (70-81.5)	75 (70-84)
	551	Report adverse or potential risks through the organization's internal incident reporting system	90 (72-100)	90 (80-100)	90 (80-95)
	552	Quickly identify serious or adverse incidents that occur in the hospital	80 (70-90)	84.5 (80-90)	85 (80-90)
	553	Respond appropriately to critical or adverse incidents	90 (80-100)	90 (80-100)	90 (80-100)
	554	Properly report serious and adverse incidents in accordance with unit, hospital, and national policies and protocols	80 (60-100)	80 (74-90)	80 (78-85)
	555	Understand and comply with local and national regulations and laws regarding the prevention, reporting, and monitoring of adverse events, including medication errors, adverse events, and equipment malfunctions	80 (61-90)	80 (71-90)	80 (79-90)
	556	Consider measures to prevent recurrence of medical accidents	86 (80-100)	90 (80-90)	90 (85-95)
	557	Actively participate in the recognition, response, disclosure, reporting, and prevention of recurrence of adverse events and near-misses	90 (80-100)	90 (80-90)	90 (83-92)
	558	Promote a safe culture of learning from and responding to risk	85 (75-100)	90 (85-90)	90 (82-93)
	559	Build a culture of safety for patients, families, and providers	80 (65-95)	84 (80-90)	85 (80-90)
Awareness of infection prevention and toxic exposure	560	Safe handling and disposal of contaminated, biological, chemical, and toxic materials in accordance with local and national policies and protocols	80 (50-90)	80 (71-90)	80 (80-90)
	561	Promote proper use of disposable items in the department	80 (60-100)	80 (80-90)	82 (80-90)
	562	Communicate environmental health risks and exposure reduction measures to patients, families, and health care providers	80 (75-99)	80.5 (80-90)	80 (80-89)
	563	Use reliable sources of information to determine if a product or treatment has a negative impact on the environment	71 (68-80)	74.5 (70-80)	77 (73-80)
Handling of complex medical equipment	564	Maintain a safe medical environment (e.g., bed space organization, emergency equipment)	90 (80-100)	90 (81.5-95)	90 (80-95)
	565	Safe use of medical equipment required for critical care	100 (87-100)	100 (88-100)	100 (85-100)
	566	Safely assist or perform advanced and complex procedures required for medical device operation	90 (80-100)	90 (81.5-95)	90 (85-95)
Safe medication and medication administration	567	Maintain and update knowledge of medications administered in the critical care setting	91 (80-100)	90 (85.5-100)	90 (85-94)
	568	Knowing the right patient, the right time, the right route, the right medicine, the right dose, the right label, the right calculation, and the relevant details will ensure that medication errors are prevented	95 (80-100)	95 (85.5-100)	95 (90-100)
	569	Follow and promote unit, hospital, and national guidelines for critical care medications	80 (65-94)	80 (80-90)	80 (78-90)
	570	Participate in the development of protocols and guidelines for safe medication administration in critical care	60 (46-80)		
5.4. In-hospital and out-of-hospital patient transport					
Evaluation of indications for intra- and extra-hospital patient transport	571	Describe the bed management system at your facility	70 (50-80)	70 (69.5-80)	74 (70-80)
	572	Work as a team to perform a comprehensive risk assessment to ensure the patient is suitable for transport	80 (65-90)	80 (76-82.5)	80 (75-85)
	573	Explain the potential risks associated with transporting critically ill patients	80 (70-92)	80 (76-90)	80 (76-84)
	574	Explain what may happen to the patient during transport	80 (76-96)	80 (77.5-89)	80 (76-85)
	575	Determine if the transport is urgent and time-critical	90 (73-95)	85 (78.5-90)	80 (80-85)
	576	Review patient priorities and needs and coordinate patient transfers	80 (70-96)	80 (73.5-86.5)	80 (76-84)
	577	Reassess safety and risk factors prior to transport	82 (70-100)	80 (75.5-88.5)	80 (78-85)

Preparation for in-hospital and out-of-hospital patient transport	578	Understand the preparation process for in-hospital/out-of-hospital transport of critically ill patients	80 (70-95)	80 (78-85)	80 (79-85)
	579	Understands the roles of team members in arranging and conducting intra-hospital and inter-hospital transports	80 (70-95)	80 (75-85.5)	80 (76-85)
	580	Assess patient needs prior to transport	80 (72-90)	80 (76-87)	80 (78-88)
	581	Assess patient's clinical condition prior to transfer out of the ICU	88 (80-100)	90 (81-95)	90 (85-90)
	582	Anticipate potential problems with conveyance and plan to reduce risk	89 (80-94)	85 (80-90)	85 (80-90)
	583	Prepare spare battery packs and alternative equipment in case of failure	83 (70-90)	85 (80-90)	85 (80-90)
	584	Prepare medical records, radiology results, and recent blood test results, etc prior to transport	90 (80-99)	90 (80-90.5)	85 (80-91)
	585	Prepared transport monitoring equipment	95 (90-100)	91 (86.5-100)	90 (83-95)
	586	Understand the ethical issues and legal requirements related to transfers	70 (61-80)	70.5 (70-80)	74 (65-80)
	587	Explain referrals to receiving hospitals (including critical care and specialty consultants)	70 (55-86)	70 (64-73)	70 (65-80)
	588	Explain the care that should be responsibly performed during transport	80 (71-100)	80 (80-90)	80 (77-90)
	589	Explain about indemnity insurance	60 (30-80)		
	590	Assess the competence and skills of transport personnel	75 (60-90)	78.5 (71.5-82)	80 (75-83)
	591	Consider contingency plans/backups	80 (70-90)	80 (76-90)	80 (80-84)
	592	Communicate with the receiving hospital that will transport the patient.	80 (65-90)	80 (70-85)	80 (70-85)
	593	Explain transport time issues	76 (60-90)	74.5 (68.5-80)	79 (70-80)
	594	Explain the types of transport available and their advantages (out-of-hospital: ambulance/helicopter transport, in-hospital: stretcher, wheelchair, etc.)	80 (75-90)	78 (70-83.5)	80 (70-83)
	595	Prepare and complete necessary paperwork such as transport documents, progress notes, nursing plans, etc.	86 (80-100)	84 (79.5-90)	80 (78-90)
	596	Work with patients, families, and multidisciplinary teams to facilitate effective and safe transport across care settings	81 (70-90)	80 (80-89)	80 (76-83)
Practice and evaluation during transport	597	Monitor and assess changes in physiological indicators of patients during transport	90 (80-100)	90 (81.5-100)	90 (80-95)
	598	Manage necessary medications to patients during transport	90 (80-100)	90 (83-95)	90 (80-95)
	599	Appropriately recognize situations that may affect the quality and safety of critical care transfers	90 (80-95)	90 (81-91)	89 (80-90)
	600	Identify issues and problems that can be remedied during transport	82 (73-95)	81 (77.5-90)	82 (78-86)
	601	Reflect on the conveyance experience	85 (80-100)	85 (74.5-90)	85 (80-90)
	602	Coordinate the provision of ongoing care, including specialist treatment and observation, for patients being transported	80 (65-90)	80 (74-87.5)	80 (77-85)
Communication necessary during transport, such as signing off	603	Provide information and informed consent for transporting a conscious patient	90 (80-100)	90 (84.5-91.5)	90 (80-90)
	604	Communicate with family members during transport and provide ongoing status reports as needed	90 (80-100)	90 (83-95)	90 (80-90)
	605	Communicate openly with multiple disciplines to minimize risks associated with patient transfers, intra-hospital transfers, and transitions of care	89 (75-97)	88.5 (80-90.5)	85 (80-90)
	606	Properly contact the receiving unit upon departure when moving out	85 (80-100)	85 (80-90)	85 (75-90)
	607	Communicate patient status and physiological requirements to transport team/staff	90 (79-100)	90 (85-93.5)	85 (75-90)
	608	Share information with the team related to safety, risk assessment, and planning for the unexpected regarding transport	86 (74-96)	85 (80-90)	85 (80-90)
	609	Appropriate transfer of patient status to receiving unit at time of transfer	90 (81-100)	90 (85-95)	87 (80-90)
6. Education and self-development ability					
6.1. Self-development					
Introspective Practice	610	Actively ask feedback on your practice from patients, family members, colleagues, and professionals	88 (80-95)	85.5 (90-90)	80 (75-90)
	611	Reflect on nursing practice through an introspective and self-aware approach	83 (71-100)	81 (80-88)	80 (80-90)
	612	Reflect on current activities and identify how future activities should be developed	80 (70-90)	80 (80-87)	80 (75-90)
	613	Deepen self-awareness and recognize one's own strengths and limitations	89 (80-100)	90 (80-93)	90 (84-94)
	614	Admit failure and treat it as a learning opportunity	90 (80-100)	90 (82.5-95)	90 (90-95)
	615	Change behavior based on feedback and reflection	90 (85-100)	90(80-91)	90 (83-92)
	616	Maintain competence in critical care by reflecting on clinical experiences and participating in educational programs necessary for professional development	90 (80-100)	81.5 (80-90)	80 (75-90)
	617	Recognize their own strengths and limitations	90 (80-100)	90 (80-94.5)	90 (83-99)
Self-development and	618	Understand the need for education in critical care	99 (89-100)	99.5 (85-100)	100 (89-100)
	619	Facilitate the transfer of information and professional development through writing, publishing, and presentations to professional and general audiences	80 (60-85)	80 (70.5-82)	80 (75-85)

professional development	620	Able to share acquired knowledge and skills	81 (80-94)	80 (80-90)	85 (80-90)
	621	Willingness to learn on one's own initiative	90 (80-100)	90 (80-100)	90 (87-95)
	622	Actively seek opportunities and challenges for personal learning and development	90 (80-100)	90 (80.5-98)	90 (80-90)
	623	Take initiative in one's own educational and professional development	89 (80-100)	90 (80.5-95.5)	90 (81-91)
	624	Know how to access learning and teaching opportunities/resources that support continuing professional development	85 (70-97)	84 (80-90)	84 (80-90)
	625	Recognize and, when possible, participate in local, national, and international conferences and committees related to critical care nursing	80 (60-90)	80 (70-85)	80 (75-86)
	626	Participate in ongoing learning experiences and activities to develop and maintain clinical and professional skills and knowledge	80 (70-98)	80 (77-88)	80 (80-90)
	627	Keep records and activity histories that provide evidence of professional competence and lifelong learning	80 (60-95)	80 (70-83.5)	80 (73-85)
6.2. Education					
Fostering a learning environment	628	Participate in activities that facilitate the teaching and learning of others in a multidisciplinary team	80 (70-90)	80 (74.5-82.5)	81 (80-88)
	629	Support individual and group self-development in a critical care environment	80 (70-91)	80 (78.5-85.5)	80 (80-85)
	630	Contribute to a work environment conducive to professional education	80 (70-90)	80 (75-81.5)	80 (80-85)
Feedback and Coaching	631	Provide regular feedback to colleagues and acknowledge successes and need for improvement as needed	80 (70-90)	80 (78-84)	80 (78-85)
	632	Provide formal or informal constructive feedback on colleagues' practices and role performance	75 (70-90)	80 (71-80)	80 (78-85)
Educational involvement with colleagues	633	Behave in a professional manner as a role model for juniors and students	80 (75-90)	80 (79-90)	80 (79-85)
	634	Serve as a resource, educator, role model, preceptor, advocate, and mentor to students, colleagues, and multidisciplinary team members	80 (75-90)	80 (79-85.5)	80 (75-85)
	635	Demonstrate ability to be an effective mentor and role model as needed	83 (77-95)	81 (78.5-88)	80 (77-85)
	636	Support staff and other colleagues through mentoring and other professional development	80 (70-90)	80 (77.5-83.5)	80 (75-85)
	637	Share acquired educational knowledge, experience, and ideas with peers	83 (75-90)	82 (80-85.5)	84 (78-88)
	638	Teach and review practices with colleagues	80 (75-90)	84.5 (80-90)	85 (80-90)
training of new recruits	639	Support newcomers.	90 (80-100)	90 (86.5-100)	90 (83-91)
	640	Assist newcomers in developing their skills	90 (80-100)	88.5 (80-90)	85 (80-90)
	641	Motivate and encourage newcomers to develop their skills	83 (72-91)	83.5 (80-90)	82 (80-85)
	642	Guide, supervise, and assess nursing care provided by less experienced colleagues	83 (74-95)	84 (80-88)	85 (80-90)
	643	Coach colleagues on tasks, goals, processes, and performance standards	80 (70-93)	80 (74-86)	80 (75-85)
Learning Support for Patients/Families	644	Educate patients and families as needed	83 (80-98)	85 (80-90)	85 (80-88)
	645	Provide patients and families with the study information they need	84 (70-94)	84.5 (80-90)	85 (80-86)

*Abbreviations: Acute lung injury; ALI, Acute respiratory distress syndrome; ARDS, Cannot ventilate and cannot intubate; CVCI, Stroke Volume Variation; SVV, Glasgow Coma Scale; GCS, Intracranial pressure; ICP, Cerebral perfusion pressure; CPP, ICU acquired weakness; ICU-AW, Ventilator associated event; VAE, Transfusion related acute lung injury; TRALI, Graft versus host disease; GVHD, Basic Life Support; BLS, Advanced Cardiovascular Life Support; ACLS, Intra Aortic Balloon Pumping; IABP, Venoarterial-extracorporeal membrane oxygenation; VA-ECMO, Venovenous-extracorporeal membrane oxygenation; VV-ECMO, Post intensive care syndrome/ post intensive care syndrome - family; PICS/PICS-F, Post Traumatic Stress Disorder; PTSD, Activities of Daily Living; ADL, Quality of Life; QOL, Medical Research Council; MRC, manual muscle testing; MMT

Supplement Table 6. Final set of an English version of standard critical care nursing competencies

Characteristics of clinical practice skills necessary to provide standard nursing care in the intensive care unit

Based on previous research, we define those that meet the following as capable of providing standard nursing care in the intensive care unit, and list in a table the characteristics of clinical practice skills necessary to meet this definition for which there is social consensus.

The patient is able to immediately grasp the whole picture of a typical patient/family and plan and practice individualized nursing care for critically ill patients.
Based on the individuality of the critically ill patients/families, the system is able to deal with possible problems in a predictive and preventive manner.
The ability to practice nursing care that is holistic and respectful of the values of patients and families with serious illnesses.
He tries to use the latest guidelines and information for nursing.
Recognize the limitations of their abilities and consult with the necessary resources (other nurses, multidisciplinary professionals).
Participate in the training of new and inexperienced staff.

Please note that this does not imply or imply that all of the listed clinical practice competencies must be met in order to be able to provide standard nursing care in the intensive care unit.

1. Therapeutic Management of Disease and Clinical Decision Making		
1.1. Respiratory system		
Anatomy and Physiology of the Respiratory System and Understanding of Disease	1	Understand the anatomy and physiology involved in the respiratory system
	2	Explain the four components of internal and external respiration, cellular respiration, acid-base equilibrium, and respiratory failure
	3	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of respiratory diseases such as pneumonia, asthma, chronic obstructive airway disease, acute lung injury syndrome (ALI/ARDS), pulmonary embolism, and pneumothorax
	4	Perform assessment and nursing practice to improve respiratory function

Nursing Practice for Respiratory System	5	Understand the complications associated with suctioning airway secretions and perform suctioning using methods that minimize or prevent them
	6	Appropriately assess the risk of difficult airway clearance (cannot ventilate and cannot intubate: CVCI) and explain how to respond to it
	7	Explain the impact, benefits, and risks of each position performed as respiratory therapy
	8	Explain how to position to optimize respiratory function
	9	Report abnormalities or changes in the respiratory system to the appropriate health care professions
Observation, monitoring, and assessment of the respiratory system	10	Assess the airway and secure the airway
	11	Assess for airway stenosis or obstruction
	12	Assess the amount and nature of airway secretions and sputum culture results
	13	Assess respiratory function based on respiratory frequency, breathing patterns, and use of accessory respiratory muscles
	14	Assess for diminished or absent breath sounds, left-right differences, and abnormal sounds
	15	Identify abnormal respiratory condition such as seesaw breathing, cyanosis, subcutaneous emphysema, uneven chest expansion, tension pneumothorax, hypoxia, restlessness, and altered mental status
	16	Use of respiratory monitors such as SpO2, SVO2, and capnography
	17	Explain the need for blood gas analysis testing
	18	Assess the results of blood gas analysis
	19	Determine the patient's condition from chest X-P, CT, and MRI (including readings)
Administration of medicine related to the respiratory system	20	Safely prepare and administer medications related to the treatment of the respiratory system
	21	Assess the effects of medicines related to the respiratory system and adjust care and treatment according to the patient's condition
	22	Assess airway and breathing during procedures requiring sedation
	23	Monitor sedation depth and sedative dosage
	24	Practice care of patients with continuous inhalation of nitric oxide
	25	Prepare, perform, and change circuits of nebulizers
1.2. Cardiovascular system		
Anatomy and Physiology of the Cardiovascular System and Understanding of Disease	26	Understand the anatomy and physiology related to the cardiovascular system
	27	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of cardiovascular diseases such as hypertension, peripheral vascular disease, unstable angina, acute myocardial infarction, cardiomyopathy and inflammation, heart failure, pulmonary embolism, cardiac tamponade, arrhythmia, and pacing failure
	28	Understand the normal cardiac cycle.
	29	Understand the normal cardiac conduction system of stimulation
	30	Understand the determinants of cardiac output
	31	Understand the determinants of blood pressure

	32	Understand the determinants of central venous pressure
	33	Understand the effects of ventilation and intrathoracic pressure on the cardiovascular system
Observation, monitoring and assessment of the cardiovascular system	34	Appropriate hemodynamic monitoring on adult critically ill patients
	35	Assess the arterial pressure waveforms
	36	Assess the central venous pressure values and waveforms
	37	Assess the pulmonary artery catheter readings and waveforms
	38	Assess the dynamic indicators such as SVV
	39	Assess the capillary reflex
	40	Assess the limb and skin temperatures
	41	Assess blood test results related to circulatory function
	42	Understand normal ECG waveforms
	43	Assess the common arrhythmias (atrial tachycardia, ventricular tachycardia, atrial fibrillation, ventricular fibrillation, atrioventricular block, etc.)
	44	Appropriate continuous ECG monitoring
	45	Correctly measure 12-lead ECG
	46	Report abnormalities or changes in the circulatory system to medical personnel at the appropriate time
Nursing Practice for the Cardiovascular System	47	Manage critically ill patients with rapidly deteriorating circulatory status with a medical team
	48	Manage patients after vascular or cardiac surgery
	49	Coordinate patient activities and implement nursing care taking into account circulatory load
Administration of medicines related to the circulatory(cardiovascular) system	50	Explain infusion therapy (understand types of infusions, need for infusions, follow guidelines, accurately record fluid balance)
	51	Explain the indications, contraindications, mechanism of action, and side effects of cardiovascular agents (vasoactive medicines, inotropic medicines, antiarrhythmic medicines, etc.)
	52	Assess clinical findings and adjust increase/decrease of circulatory agonists under the direction of a physician
	53	Ask the physician to adjust infusion management according to the patient's physiological status
Shock Management	54	Explain the classification and treatment of shock (cardiogenic, abnormal blood distribution, obstructive, hypovolemic)
	55	Understand the balance between oxygen supply and demand
	56	Understand the causes of lactic acid abnormalities
	57	Perform necessary assessment and monitoring for patients in shock (EKG, blood pressure, temperature, urine output, IV fluids, skin, limb temperature, blood tests)
	58	Understand treatment protocols according to different shock classifications and assist in treatment
	59	Appropriately assess and respond to electrolyte, glucose, and acid-base disturbances in patients with shock

1.3. Gastrointestinal system and nutrition		
Anatomy and physiology of the gastrointestinal system and understanding of diseases	60	Understand the anatomy and physiology of the gastrointestinal system (including the gastrointestinal tract, pancreas, gallbladder, and liver)
	61	Understand gastrointestinal tract function.
	62	Understand the endocrine and exocrine systems
	63	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of gastrointestinal disorders such as gastrointestinal bleeding/ischemia/perforation, bowel obstruction, esophageal varices, pancreatitis, cirrhosis/liver failure, and abdominal compartment syndrome
	64	Understand the process of critical illness from physiologic changes associated with chronic and acute liver and biliary tract disorders
	65	Understanding of Bacterial Translocation
	66	Understand the effects associated with increased intra-abdominal pressure
Observation, monitoring and assessment of the gastrointestinal system	67	Determine the need for monitoring patients at risk for deterioration related to gastrointestinal tract function
	68	Assess diarrhea, constipation, etc. using appropriate scales
	69	Assess the need to measure intra-abdominal pressure and measure it appropriately
	70	Assess blood test results related to gastrointestinal function
	71	Report abnormalities or changes in the gastrointestinal system to the appropriate health care provider
Nursing Practice for the Gastrointestinal System	72	Manage patients with gastrointestinal diseases such as liver failure and shock due to gastrointestinal diseases
	73	Manage patients after typical abdominal surgeries such as Hartmann, esophagectomy, and bowel resection
	74	Manage patients with increased intra-abdominal pressure
	75	Manage drains associated with abdominal disease
	76	Manage gastric tubes in critically ill patients
	77	Manage the rectal balloon catheter for severe diarrhea
Administration of medicines related to the gastrointestinal system	78	Assess the effectiveness of medicines related to the gastrointestinal system and adjust care and treatment according to the patient's condition
	79	Understand medicine specificity (e.g., contraindications to grinding)
	80	Understand intestinal motility and motility enhancers, laxatives, anti-stimulants, insulin/hypoglycemic agents, probiotics, steroids, antidiarrheals, and antisecretory agents
Nursing Practice for Nutritional Management	81	Understand basic ideas about nutrition, including individual nutritional needs (calorie requirements, protein levels, vitamins and minerals, etc.)
	82	Assess the body's response (including nutritional status and laboratory values) related to nutritional administration
	83	Refer to the patient's past medical history and explain diseases affecting gastrointestinal function
	84	Explain nutritional therapy according to guidelines and other recommendations

	85	Provide consultation to specialists to adjust nutritional therapy according to the patient's condition.
Nursing Practice for Dysphagia	86	Explain the mechanism of swallowing
	87	Explain risk factors for dysphagia
	88	Assess swallowing function (water-only test, repeated saliva-only test, food test, etc.)
	89	Provide consultation to specialists regarding the causes of dysphagia and therapeutic rehabilitation methods.
	90	Prepare the environment for eating, adjust food form and thickening, and provide appropriate dietary assistance.
1.4. Renal system		
Anatomy and Physiology of the Renal and Urinary System and Understanding of Disease	91	Understand the anatomy and physiology of the renal and urinary system
	92	Understand the function of the kidneys.
	93	Understand electrolyte excretion.
	94	Explain factors affecting renal blood flow
	95	Explain electrolyte abnormalities
	96	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of renal and urologic diseases, including renal disorders (acute kidney injury, chronic kidney injury, end-stage renal disease) and electrolyte abnormalities
Observation, monitoring and assessment of the renal and urinary system	97	Determine the need for monitoring of people at risk of renal function decline
	98	Understand how to monitor fluid status, fluid delivery, and renal function in patients at risk for renal impairment
	99	Understand how to measure and record fluid volume
	100	Understand the causes of fluid loss (drains, gastrointestinal system, hemorrhage, insensate excretion, etc.)
	101	Assess blood collection results in patients with renal and urinary dysfunction
	102	Appropriately report abnormalities or changes in the renal and urinary system
Nursing Practice for Renal and Urinary System	103	Insert a urinary catheter
	104	Understand the need for urinary catheters and their harmful effects during insertion, and observe them correctly.
	105	Understand guideline-based treatment strategies for acute kidney injury
Management of medicines related to the renal and urinary system	106	Understand diuretics, glucose and insulin, salbutamol (nebulizer), calcium, sodium bicarbonate, and other medicines related to the kidney
	107	Assess the effectiveness of infusions and medications related to the renal and urologic system and adjust care and treatment according to the patient's condition
1.5. Endocrine and metabolic systems		
Anatomy and	108	Understand the anatomy and physiology of the endocrine and metabolic systems

physiology of the endocrine and metabolic systems and understanding of disease	109	Explain the pathophysiology, causes, signs, symptoms, and therapeutic management of metabolic and endocrine disorders such as diabetes, adrenal insufficiency, and thyroid
Observation, monitoring and assessment of endocrine and metabolic systems	110	Explain the need for blood glucose monitoring in critically ill patients
	111	Assess periodic blood glucose readings based on patient condition and the effects of medications used.
	112	Provide necessary observations and appropriate assessment for patients with abnormal thyroid function (e.g., hyperthyroidism including crisis, hypothyroidism)
	113	Assess blood test results related to endocrine and metabolic functions
	114	Appropriate reporting of endocrine and metabolic abnormalities and changes
Nursing Practice for Endocrine and Metabolic Systems	115	Manage glycemic control in critically ill patients
	116	Explain the care and management of patients with diabetic ketoacidosis, nonketotic hyperosmotic syndrome, and hypoglycemia
	117	Explain the care and management of patients with abnormal thyroid function (hyperthyroidism including crisis, hypothyroidism)
Management of medicines related to endocrine and metabolic systems	118	Understand insulin and other medicines related to the endocrine and metabolic systems
	119	Assess the effects of medicines related to the endocrine and metabolic systems and adjust care and treatment according to the patient's condition
	120	Manage insulin administration based on blood glucose levels
1.6. Cerebral nervous system		
Anatomy and physiology of the nervous system and understanding of disease	121	Understand the anatomy and physiology of the cranial nervous system
	122	Explain the state of cerebral hypertension
	123	Understand primary and secondary brain injury
	124	Explain the impact of neurological disorders on the patient
	125	Explain the pathophysiology, causes, signs, symptoms, and treatment management of cerebral hemorrhage, cerebral infarction, subarachnoid hemorrhage, seizures, encephalitis and meningitis, and other neurological disorders
Observation, monitoring and assessment of the brain nervous	126	Assess and accurately record Glasgow Coma Scale (GCS)
	127	Observe and assess pupils (size, shape, responsiveness)
	128	Assess cranial nervous system function such as paralysis of the extremities
	129	Understand the mechanisms of normal control of cerebral perfusion and intracranial pressure (ICP) and explain normal parameters of intracranial pressure (ICP) and cerebral perfusion pressure (CPP)

system	130	Recognize signs and symptoms of elevated intracranial pressure (ICP)
	131	Monitor hemodynamics with consideration of the impact on cranial nerve damage
	132	Ability to adequately monitor patients with brain nervous system disorders during hypothermia therapy.
	133	Recognize abnormalities in continuous EEG monitoring for seizure patients and others.
	134	Appropriately report abnormalities or changes in the cranial nervous system
Nursing Practice for the Brain Nervous System	135	Provide nursing care for patients with neurological dysfunctions
	136	Understand the symptoms associated with seizures and manage and care for them with safety in mind
	137	Manage the airway in relation to impaired consciousness
	138	Adjust body position with an understanding of changes in cerebral pressure and cerebral blood flow
	139	Know the indications for CT and MRI of the head
	140	Provide care that is aware of the potential impact on intracranial pressure (ICP)
	141	Understand the patient's condition from CT and MRI of the head (including readings)
	142	Devise and practice appropriate methods of care to maintain adequate cerebral perfusion pressure or mean arterial pressure when intracranial pressure (ICP) cannot be monitored
	143	Assess nursing care for increased intracranial pressure (ICP) and adjust care plan accordingly
Manage of medicines related to the nervous system	144	Prepare and administer therapeutic agents (osmotic treatments, analgesics, muscle relaxants, anticonvulsants, catecholamines, steroids, antihypertensive medications, etc.) for the treatment of cranial nervous system disorders
	145	Assess fluid balance with consideration of the impact on cranial nerve damage and consult on the administration of appropriate fluids
	146	Assess the effects of medicines related to the nervous system, consult with patients on their conditions, and coordinate their care
1.7. Skin/musculoskeletal system		
Anatomy and physiology of the skin, musculoskeletal system, and understanding of disease	147	Understand the anatomy and physiology of the skin, musculoskeletal system
	148	Explain ICU-AW
	149	Explain risk factors for ICU-AW
	150	Explain risk factors for pressure ulcers, pressure wounds on medical devices, and skintightness in critically ill patients
Observation, monitoring and assessment of	151	Monitor and assess musculoskeletal system related issues such as muscle strength (MMT, MRC score, grip strength, etc.) and ADL assessment
	152	Observe skin and wounds (including trauma and post-operative) and detect abnormalities early

skin, musculoskeletal system	153	Assess pressure ulcer risk (e.g., Braden scale) in critically ill patients
	154	Continuous monitoring (e.g. DESIGN-R) and evaluation of pressure ulcers in critically ill patients
	155	Appropriately report abnormalities or changes in the skin, musculoskeletal system
Nursing practice for skin, musculoskeletal system	156	Explain how to prevent and treat ICU-AW
	157	Prepare, treat, and care for wounds accordingly
	158	Explain how to prevent pressure ulcers, pressure wounds on healthcare-related equipment, and skin lesions in critically ill patients.
	159	Explain the care of critically ill patients with pressure ulcers, pressure wounds and skin lesions on medical related equipment.
Knowledge of pharmacology as it relates to the skin, musculoskeletal system	160	Explain how to treat pressure ulcers, pressure wounds and skin lesions in critically ill patients.
	161	Assess the effects of medicines related to the skin, musculoskeletal system, and adjust care and treatment according to the patient's condition
1.8. Infectious diseases, blood and immune system		
Anatomy and physiology of infectious diseases, blood and immune system and disease understanding	162	Understand the anatomy and physiology of the blood and immune system
	163	Explain the pathophysiology, causes, signs, symptoms, and treatment management of sepsis
	164	Understand the definition and diagnostic criteria for sepsis
	165	Understand the septic shock
Nursing Practice for Infectious Diseases, Hematology, and Immune System	166	Recognize patients with infectious diseases who are at risk of worsening their condition
	167	Refer to sepsis guidelines and practice appropriate care bundles
	168	Take necessary infection control precautions for individual patients and treatment environments
	169	Take precautions against multimedicine-resistant bacteria
Prevention and Nursing Care of Device-Related Infections	170	Explain risk factors for catheter-related bloodstream infections
	171	Explain how to prevent and treat catheter-related bloodstream infections
	172	Explain risk factors for ventilator-associated pneumonia and ventilator-associated events (VAE)
	173	Explain how to prevent and treat ventilator-associated pneumonia and ventilator-associated events (VAE)
	174	Explain risk factors for urinary catheter-related urinary tract infection
	175	Explain how to prevent and treat urinary catheter-related urinary tract infections
	176	Explain risk factors for surgical site infection

	177	Explain how to prevent and treat surgical site infections
Nursing Practice for Blood Coagulation Abnormality	178	Practice nursing care for patients with blood coagulation abnormalities
	179	Explain indications, contraindications, and side effects of blood products
	180	Safely administer blood products and follow facility policy
	181	Understand hematological disorders such as major bleeding requiring massive blood transfusions, immunosuppression, and immunodeficiency
	182	Explain TRALI, GVHD, and other transfusion-related adverse events
	183	Understand disseminated intravascular coagulation syndrome
	184	Understand the indications and administration of anticoagulants
	185	Explain risk factors for deep vein thrombosis
	186	Explain how to prevent and treat deep vein thrombosis
1.9. Other diseases		
Nursing Practice for Resuscitation and Sudden Changes	187	Prepared to anticipate, prevent, and recognize life-threatening situations and intervene
	188	Assess and respond to rapidly changing patient and treatment situations during resuscitation and emergencies
	189	Recognizing early warning signs quickly and consult with other nursing staff, medical team members, and others as needed
	190	Consider care and clinical priorities in response to emergencies and unforeseen circumstances
	191	Recognizing and assess critically ill patients who deteriorate rapidly and manage them toward condition stabilization
	192	Respond to cardiopulmonary arrest (BLS, ACLS)
	193	Identify and respond to lethal arrhythmias
	194	Manage post-resuscitation, including management of airway, breathing, circulation, arrhythmias, and abnormal metabolic states
Nursing Practice for Trauma	195	Explain the pathophysiology, causes, signs, symptoms, and treatment management of multiple trauma, head trauma, thoracoabdominal trauma, extremity pelvic trauma, and spinal trauma
	196	Provide nursing care for trauma patients
Nursing Practice for Burns	197	Explain the pathophysiology, causes, signs, symptoms, and management of burns
	198	Provide nursing care for burn patients
Nursing practice for abnormal body temperature	199	Explain the pathophysiology, causes, signs, symptoms, and treatment management of hyperthermia and hypothermia, including heat stroke, malignant hyperthermia, and malignant syndrome
	200	Provide nursing care for patients with hyperthermia and hypothermia, including heat stroke, malignant hyperthermia, and malignant syndromes
	201	Handle, assist, observe, and manage the use of temperature control devices.
1.10. Treatment equipment management		

Noninvasive ventilatory management	202	Explain the indications for non-invasive ventilation
	203	Explain the advantages and disadvantages of noninvasive ventilation
	204	Explain the physiological and psychological effects of noninvasive ventilation on patients
	205	Correctly prepare non-invasive ventilators (including circuit assembly, proper parameter and alarm settings)
	206	Use of a heated humidifier for non-invasive ventilators
	207	Provide initiate, administer, and wean from noninvasive ventilation
	208	Explain the different types of masks and mask fitting methods
	209	Prevent complications of non-invasive ventilation (e.g., skin problems)
	210	Assist in the daily living of patients on non-invasive ventilation while dealing with their symptoms
	211	（Adjust sedation and other treatments and ventilator settings according to the condition of the patient being non-invasively ventilated (based on physician orders)
	212	Correctly troubleshoot non-invasive ventilatory equipment
Invasive ventilatory management	213	Explain the indications for invasive ventilation
	214	Explain the physiological and psychological effects of invasive mechanical ventilation on patients
	215	Invasive mechanical ventilator is properly prepared (including circuit assembly, proper parameter and alarm settings)
	216	Use of a Heated humidifier for invasive mechanical ventilators
	217	Initiate, manage, and wean from invasive mechanical ventilation
	218	Assist with daily living while dealing with symptoms of patients on invasive ventilation
	219	Identify ventilation modes and ventilator settings explain them
	220	Explain how to prevent complications of invasive mechanical ventilation (e.g., lung protective ventilation for ventilator lung injury)
	221	（Adjust treatment and mechanical ventilator settings, such as sedation, according to the patient's condition during invasive ventilation (based on physician's orders)
	222	Troubleshoot invasive mechanical ventilator (high pressure, low pressure, low tidal volume, high peak airway pressure, high breathing and other alarms, power failure response, equipment malfunction, etc.)
	223	Explain the significance of practicing the invasive mechanical ventilator Care Bundle
	224	Coordinate and implement personnel needed for prone therapy during invasive mechanical ventilation
	225	Assist with bronchoscopy during invasive mechanical ventilation
Nursing Practices Related to Oral Intubation	226	Explain the indications, advantages, and disadvantages of intubation
	227	Understand the intubation process and prepare necessary supplies and medications
	228	Assist with intubation and extubation
	229	Manage the safe and accurate positioning of the intubation tube as appropriate, set the appropriate cuff pressure, and select the appropriate method of immobilization for the patient.
	230	Assess the patency of the artificial airway and assess and respond to urgent airway problems (airway

		obstruction due to sputum, unscheduled tracheal tube removal or dislodgement, pneumothorax).
	231	Assess the need for suctioning during ventilation using indicators such as cough, secretions, hypoxemia, restlessness, high airway pressure, and hemodynamic changes
	232	Explain the advantages and disadvantages of suction above the cuff
	233	Practice measures to minimize the causes and risks of emergency reintubation
	234	Properly care for the oral health of intubated patients
	235	Capable of manual ventilation using a bag-valve device
Nursing Practices Related to Tracheostomy	236	Understand percutaneous tracheostomy, surgical tracheostomy, and minitrack, their indications, advantages, and disadvantages
	237	Understand when a tracheostomy is appropriate
	238	Explain the indications and necessity of emergency airway clearance procedures such as emergency cricothyrotomy
	239	Explain complications after tracheostomy
	240	Understand the process of performing a tracheostomy and be prepare and assist with necessary supplies and medications
	241	Care for and observe patients before, during, and after tracheostomy
	242	Properly manage (including position, fixation, and cuff pressure) tracheostomy tubes, including speaking valves
	243	Observe patients for possible physical and psychological effects associated with tracheostomy and respond accordingly
Knowledge of renal replacement therapy	244	Explain the types of renal replacement therapy and the advantages and disadvantages of each method
	245	Select individual patient treatment modes and set individual prescribed treatment goals, as well as adjust treatment according to coagulation, electrolyte, and acid-base goals
	246	Explain complications during renal replacement therapy and how to minimize them (thrombocytopenia/clotting disorders, anemia, circulation, electrolytes, bleeding, hypothermia, infection, thrombosis/embolism)
	247	The impact of renal replacement therapy on the metabolism of medicines and how to deal with it appropriately
	248	Appropriate equipment monitoring (access pressure, membrane pressure, etc.) and troubleshooting during renal replacement therapy
	249	Report any abnormalities or changes during renal replacement therapy to the appropriate health care provider
	250	Provide psychological care for patients undergoing renal replacement therapy
	251	Accurate fluid balance including cumulative balance after renal replacement therapy to record
Drain management	252	Correctly assemble the equipment needed to insert a thoracic drain
	253	Assist with insertion and removal of chest drains
	254	Appropriately manage patients with chest drains inserted

	255	Understand the indications for thoracic drainage according to the patient's condition
	256	Assist with emergency decompression of tension pneumothorax
	257	Troubleshoot problems related to various drains, including ventricular drains and abdominal drains
	258	Manage various types of drains, including ventricular drains and abdominal drains
	259	Provide psychological care to patients with various drain insertions, including ventricular drains and abdominal drains
Management of defibrillators and pacemakers	260	Explain indications and timing of defibrillation
	261	Explain indications and timing of pacing
	262	Assist, observe, and handle the use of an implantable pacemaker
	263	Assist, observe, and respond to the use of external (temporary) pacing
Management of circulatory assist devices (IABP, IMPELLA, etc.)	264	Understand the indications for circulatory assist devices (IABP, IMPELLA, etc.)
	265	Manage and care for patients on circulatory assist devices (IABP, IMPELLA, etc.)
Management of auxiliary circulatory equipment (VA-ECMO, etc.)	266	Explain indications for assistive circulatory devices (e.g., VA-ECMO)
	267	Manage and care for patients on assisted circulatory devices (e.g., VA-ECMO)
Management of pulmonary function assist devices (e.g. VV-ECMO) with membrane type artificial lungs	268	Explain indications for pulmonary function assist devices (e.g., VV-ECMO) using membrane-type artificial lungs
	269	Manage and care for patients using (e.g., VV-ECMO, a pulmonary function support device using membrane-type artificial lungs)
Various line management	270	Assist with insertion and removal of arterial lines, central venous lines, and catheters for renal replacement therapy
	271	Properly manage arterial lines, central venous lines, and catheters for renal replacement therapy
1.11. organ transplantation		
Indications and Legal	272	Understand basic institutional rules and procedures for organ transplantation
	273	Understand the cause of irreversible disorientation

Understanding of Organ Transplantation	274	Understand patient confidentiality issues related to organ transplantation
Management of organ transplant patients	275	Work with internal and external coordinators (organ transplant team)
	276	Manage donor patients according to the manual
2. Caring		
2.1 Nursing Diagnosis and Planning		
Collect appropriate information on critically ill patients	277	Use appropriate evidence-based assessment techniques to determine a patient's overall needs (including learning needs, psychological support, and psycho-social needs)
	278	Use appropriate evidence-based assessment techniques and tools to get a complete picture of the patient
	279	Prioritize data collection activities according to patient characteristics
Appropriate assessment of critically ill patients	280	Relate collected data to current and predicted future conditions according to patient characteristics
	281	Analyze data from multiple sources to determine patient and family needs
Development of appropriate care plans for critically ill patients	282	Identify and prioritize evidence-based interventions to promote and restore health and prevent further disease and disability
	283	Work with patients, families, and multidisciplinary teams to develop a plan
	284	Assess and communicate pertinent and relevant data to the team
Assessment of Critical Care	285	Assess the effectiveness of interventions in a timely manner and modify treatment and care modalities as needed to achieve expected outcomes
	286	Properly record the results of the evaluation
2.2 Relief of discomfort symptoms		
Nursing Practice for Pain	287	Assess, prevent, and treat pain, including pharmacological and non-pharmacological interventions
Nursing practice for restlessness and sedation	288	Assess, prevent, and treat restless and sedated states, including pharmacological and non-pharmacological interventions
Nursing Practice for	289	Explain risk factors for delirium in critically ill patients
	290	Responsive to the assessment, prevention, and treatment of delirium, including pharmacological and

Delirium		non-pharmacological interventions
Nursing Practice for Insomnia	291	Respond to the assessment, prevention, and treatment of insomnia and sleep disorders, including pharmacological and non-pharmacological interventions
Nursing practice for anxiety, depression, fear, etc.	292	Respond to the assessment, prevention, and treatment of anxiety, including pharmacological and non-pharmacological interventions
	293	Ensure that patients and families make informed treatment and care choices and understand the consequences
	294	Provide supportive care and coaching for patients and families during difficult procedures
	295	Minimize the psychological impact related to critical illness and treatment on the patient and family
	296	Respond to patients and families in the event of bereavement or traumatic events
Nursing practice for other discomfort symptoms	297	Assess, prevent, and treat discomfort symptoms such as dry mouth, dyspnea, and fatigue, including pharmacological and non-pharmacological interventions
2.3. Rehabilitation of critically ill patients / PICS		
Understanding and implementing the rehabilitation needs of patients and families	298	Explain PICS/PICS-F and its risks and prevention methods
	299	Explain the challenges of rehabilitation in the critical care area
	300	Understand why critically ill patients need ongoing rehabilitation
	301	Set rehabilitation goals (short, medium, and long term) appropriate for individual critically ill patients
	302	Coordinate rehabilitation of critically ill patients according to guidelines and other recommendations
	303	Understand and recognize rehabilitation prescriptions for critically ill patients
	304	Understand the issue of individual patient diversity and how it affects the patient's rehabilitation needs
Nursing practice for maintenance and recovery of physical function	305	Practice positioning of critically ill patients
	306	Practice joint range of motion training in critically ill patients
	307	Practice respiratory rehabilitation of critically ill patients
	308	Practice early mobilization of critically ill patients
	309	Implement practices to maintain motor function and improve ADL in critically ill patients
	310	Understand risk assessment related to rehabilitation of critically ill patients and rehabilitate them
Nursing practice for maintenance and recovery of cognitive function and mental health	311	Explain rehabilitation methods to prevent and ameliorate cognitive dysfunction and delirium
	312	Explain how to prevent and improve mental health disorders (depression, anxiety, PTSD) in patients and families

2.4. End-of-life care		
Evaluation of patient prognosis	313	Assess the patient severity
	314	Appropriate prognostic evaluation of critically ill patients
Withholding or withdrawing treatment	315	Communicate end-of-life care plan to patient's family
	316	Discuss end-of-life care plans with the patient's family
	317	Provide symptom relief and individualized treatment and care plans for terminally ill patients according to the patient's needs
	318	In a multidisciplinary team, assess futility and other factors and consider withholding or terminating treatment as appropriate
	319	Consider end-of-life care options appropriate for the patient, taking into account the patient's and family's wishes, including the choice of ward after treatment is discontinued.
	320	Understand the procedures for forming and recording agreements regarding treatment cessation, including legal restrictions on treatment cessation or withholding, mental capacity laws, and ethical principles
	321	Understand what care is appropriate for the patient after discontinuation of treatment
Assess, monitor, and observe terminally ill patients	322	Observe and assess symptoms of terminally ill patients, including pain, nausea, agitation, dyspnea, and fatigue.
	323	Recognize that the palliative approach integrates palliative care principles (symptom management, patient-centered care) throughout the patient's life and is not just for the last few days of life
	324	Work with patients, families, and professionals to determine end-of-life wishes, identify available resources, and implement strategies to promote dignity, comfort, and quality care at the end of life
	325	Seek and incorporate patient and family input to provide quality end-of-life care that meets their needs
Utilize appropriate resources for end-of-life issues	326	Work with multidisciplinary teams to facilitate palliative care and end-of-life discussions, decisions, and care
	327	Maintain ongoing communication with family and professionals regarding palliative approaches/care at the end of life and provide ongoing emotional support
	328	Appropriate resources are available to guide and identify effective and possible solutions to ethically complex situations.
2.5. Provide an ICU environment that promotes healing		
Patient and family environmental management	329	Provide a safe, healing and caring environment that respects the individual
	330	Effectively facilitate patient orientation
	331	Appropriate assessment of patient's sensory perceptions, such as noise, illumination, smell, care, and other stimuli
	332	Manage the environment appropriately for the patient's senses, including noise, lighting, smells, care, and other stimuli
	333	Minimize environmental risk factors that could cause physical harm or injury to patients, families, and

		health care professionals
	334	Promote proper day/night sleep cycles in critically ill patients
Improve patient and family services	335	Work with colleagues to propose service improvements
	336	Obtain and act upon feedback and experiences from patients, caregivers and service users
	337	Question existing ways of doing things and propose new ways to current performance and culture
	338	Contribute to new initiatives within the department led by experienced colleagues
	339	Contribute to the quality of health care improvement efforts taking place in the department
	340	Care for patients of all ages across the lifespan to restore, support, promote, and maintain physiological and psychosocial stability
3. Advocacy and moral agency		
3.1. Support decision-making		
Support for decision-making	341	Take into account patient and family preferences for treatment and intervention
	342	Consider patient and family preferences for treatment and interventions
	343	Act ethically and responsibly and participate in ethical discussions and decision-making processes
	344	Provide information to help patient families make decisions
	345	Leverage and use a variety of evidence in making complex decisions
	346	Support problem solving and decision making for a variety of clinical situations for the patient's family
3.2. Ethical practice		
Practices based on ethical principles and compliance with the law	347	Understand national regulations and laws (e.g., Medical Care Act, Health and Nursing Code, etc.) related to patient care and health care delivery
	348	Comply with national regulations and laws (e.g., Medical Care Act, Health and Nursing Code, etc.) related to patient care and health care delivery
	349	Understand ethical practices, autonomy, equality and diversity, and legal regulations to protect the rights of patients and families
	350	Demonstrate awareness of patient autonomy, consent, and relevant local and national laws
	351	Articulate an understanding of ethical principles relevant to the delivery of critical care
	352	Embracing equality and diversity and respecting without discrimination age, sex, religion, sexual orientation, race, disability, sentiments, social status, etc.
	353	Practices that consistently nurture the autonomy, dignity, values, beliefs, and rights of patients and their families
	354	Provide care in a fair and equitable manner that meets the diverse needs of patients, families, and the community
	355	Take responsibility for your own words and actions.
	356	Promote ethical accountability and integrity in relationships, organizational decision-making, and resource management
	357	Document patient care and its ongoing evaluation in a clear, concise, accurate and timely manner,

		while respecting privacy and confidentiality of personal information
	358	Protect patient confidentiality within legal regulations
	359	Take into consideration and practice standards of confidentiality, data protection, and documentation
	360	Report unethical, illegal, or impaired conduct
Practices for resolving ethical issues	361	Use available resources in making ethical decisions
	362	Make ethical decisions using available resources
	363	Address the needs of patients and families facing unanticipated treatment, quality of life, and end-of-life decisions
	364	Maintain a therapeutic and professional nurse-patient relationship within the appropriate role assignment
	365	Contribute to the resolution of ethical issues involving patients, families, and multidisciplinary teams
3.3 Patient and Family Communication		
Respectful communication with patients and families	366	Respect others' viewpoints in discussions with patients and families
	367	Attentive to patient and family wishes and communicate information in a respectful manner according to needs, developmental stage, and level of understanding
	368	Communicate effectively with patients and families regarding treatment and nursing plans and the patient's clinical status
	369	Effectively communicate and explain difficult clinical information using terms and language that patients and families can understand
	370	Effectively communicate with and support patients and families in crisis situations
	371	Effective communication in complex situations.
	372	Communicate what may be considered bad news to the patient and family in a polite and compassionate manner
Accountability for nursing practice (informed consent)	373	Explain their roles and responsibilities to patients and families and facilitate relationship building
	374	Recognize and comply with regulations and laws related to the nursing role
	375	Explain treatment options to patients and families and assist in facilitating informed decision making
	376	Enable patients and families to make informed choices and understand the consequences
4. Evidence-based practices		
4.1. Quality assurance and improvement of care (PDCA)		
Quality Assessment and Improvement Activities	377	Actively pursue new knowledge and skills to provide quality nursing care
	378	Ability to question medical practices as needed to improve safety and quality
	379	Continuously monitor and assess care processes and outcomes to determine best practices for individuals, groups, and populations
	380	Ensure that nursing practices are in accordance with formal procedures and regulations
	381	Implement practices to improve care processes and outcomes based on evidence, expertise, and patient preferences

Promoting Evidence-Based Practices	382	Know how to search for evidence and literature using available resources
	383	Keep updated and current in knowledge of evidence-based practice
	384	Know what care practices are based on the guidelines
	385	Contribute through evidence-based critical care nursing practice
5. Collaboration and management ability		
5.1. Unit management		
Logistics Management and Cost Awareness	386	Implement cost and waste reduction practices
Participation in organizational activities	387	Participate in committees, councils, and multidisciplinary teams
Healthy work environment and work style	388	Demonstrate an understanding of work-life balance
	389	Balance one's own work-life balance
	390	Contribute to the creation and maintenance of a healthy work environment
	391	Indicate flexibility and patient focus in a rapidly changing environment
	392	Ask for an appropriate number of staff with the knowledge and skills to care for critically ill patients when needed
	393	Adhere to standards governing the behavior of health care professionals to create a healthy work environment that promotes cooperation, respect, and trust
	394	Understand, embrace and actively participate in change management and related processes
	395	Maintain a physical and psychosocial environment that promotes safety, security, and optimal health
	396	Comply with working conditions, employment rights, and work environment considerations set by the state and the facility
5.2. Team management		
Membership and Followership	397	Recognize common team objectives and respect team decisions
	398	Adopt a team approach and recognize and appreciate efforts, contributions and compromises
	399	Recognize, respect, and promote collaboration with team members
	400	Recognize and participate in the need to support and debrief with colleagues and each other
	401	Support others in providing good patient care and better service
	402	Opportunities to be more effective by working with others
	403	Share care plans and other information widely with team members
	404	Report appropriately to team members and other professionals using SBARs and other tools.
	405	Respect others' viewpoints and actively ask their opinions in discussions with other healthcare professionals.

	406	Share knowledge and collaborate with others to create change and positive outcomes
	407	Proactively and independently derive solutions to recurring problems and issues
	408	Clearly recognize their role, responsibilities, and purpose within the nursing team
leadership	409	Have a sense of role in the team in order to form an effective team
	410	Demonstrate effective interpersonal communication, leadership, negotiation, and conflict resolution skills to build positive relationships with colleagues, patients, and families
	411	Facilitate collaboration among team members
	412	Foster a spirit of transparency, trust, and respect among team members
	413	Provide leadership and support for service improvement initiatives within the department
	414	Emphasize the value of shared responsibility in decision-making and support shared leadership and coordination roles
	415	Encourage open and constructive discussion and respect the diverse viewpoints of others
Management and coordination of care and operations, stress management	416	Manage activities on a daily or shift basis
	417	Manage patient care to ensure that it is effective and efficient
	418	Plan and prioritize work and workload during the shift according to patient needs
	419	Adjust priorities and change work plans as circumstances dictate
	420	Delegate appropriate tasks to other team members as needed
	421	Assess and adjust the workload and workload of staff and other team members to meet the changing needs of the patient's family
	422	Effectively manage the workload in your department
	423	Identify and, if necessary, coordinate the work of professional or other positions (including clerical, etc.)
	424	Recognize and effectively utilize coping strategies to deal with stressful situations in the clinical environment
	425	Know how to prevent stressors in the workplace
	426	Observe and address the health status of other team members
Use of other experts (consultation)	427	Facilitate sharing of information and resources (other professionals) among staff
	428	Assess individual patient needs and select the available resources (other professionals) to achieve the best outcomes
	429	Additional and necessary resources (other professionals) can be suggested to improve nursing practice and quality of care for critically ill patients
	430	Assist patients and families in identifying and securing appropriate services to address their health-related needs, depending on available resources (other professionals)
	431	Work to resolve conflicts between multiple professions and contribute to interprofessional care planning
	432	Consultation with appropriate staff/professionals to develop/review care plans and facilitate continuity of care

	433	Contribute to the development of effective interprofessional relationships to meet the needs of patients and their families
	434	Collaborate to provide optimal care, respecting each other's roles, responsibilities, and abilities.
	435	Choose appropriate methods in communicating with other professionals
	436	Explain and facilitate their roles and responsibilities to other members of the health care community
	437	Offer own professional perspective in discussions with multidisciplinary teams
	438	Ask questions of all members of the multidisciplinary team about the care process and the rationale supporting decisions
5.3. Medical safety		
Safety Culture and Incident Reporting	439	Understand the value of quality indicators (e.g., length of stay, ventilatory time, prevention of infections) for patient outcomes
	440	Understand their role in influencing the quality of safe and effective critical care services
	441	Build a culture of safety for patients, families, and providers
	442	Promote a safe culture of learning from and responding to risk
	443	Identify and demonstrate observations and concerns regarding safety, hazards, and errors in the care and practice environment
	444	Understand and comply with local and national regulations and laws regarding the prevention, reporting, and monitoring of adverse events, including medication errors, adverse events, and equipment malfunctions
	445	Actively participate in the recognition, response, disclosure, reporting, and prevention of recurrence of adverse or potential risks or incidents
	446	Appropriately report adverse or potential risks or incidents in accordance with unit, hospital, and national policies and protocols
	447	Quickly identify adverse or potential risks or incidents that have occurred in the hospital
	448	Respond quickly to protect patient safety
	449	Respond appropriately to adverse or potential risks or incidents and take necessary actions
	450	Consider measures to prevent recurrence of medical accidents
	451	Use safe and effective written, verbal, telephone, and electronic communication strategies
	452	Understand and participate in clinical audits, including patient safety, environmental safety, and medical equipment maintenance
Awareness of infection prevention and toxic exposure	453	Safe handling and disposal of contaminated, biological, chemical, and toxic materials in accordance with local and national policies and protocols
	454	Promote proper use of disposable items in the department
	455	Communicate environmental health risks and exposure reduction measures to patients, families, and health care professionals
Handling of	456	Maintain a safe medical environment (e.g., bed space organization, emergency equipment)
	457	Safe use of medical equipment required for critical care

complex medical equipment	458	Safely assist or perform advanced and complex procedures required for medical device operation
Safe medication and medication manegement	459	Maintain and update knowledge of medications administered in the critical care setting
	460	Knowing the right patient, the right time, the right route, the right medicine, the right dose, the right label, the right calculation, and the relevant details will ensure that medication errors are prevented
	461	Follow and promote unit, hospital, and national guidelines for critical care medications
5.4. In-hospital and out-of-hospital patient transport		
Evaluation of indications for intra- and extra-hospital patient transport	462	Work as a team to perform a comprehensive risk assessment to ensure the patient is suitable for transport
	463	Explain the potential risks associated with transporting critically ill patients
	464	Explain what may happen to the patient during transport
	465	Determine if the transport is urgent and time-critical
	466	Review patient priorities and needs and coordinate patient transfers
	467	Reassess safety and risk factors prior to transport
Preparation for in-hospital and out-of-hospital patient transport	468	Understand the preparation process for in-hospital/out-of-hospital transport of critically ill patients
	469	Understands the roles of team members in arranging and conducting intra-hospital and inter-hospital transports
	470	Assess patient needs prior to transport
	471	Assess patient's clinical condition prior to transfer out of the ICU
	472	Anticipate potential problems with conveyance and plan to reduce risk
	473	Prepare spare battery packs and alternative equipment in case of failure
	474	Prepare medical records, radiology results, and recent blood test results, etc prior to transport
	475	Prepared transport monitoring equipment
	476	Explain the care that should be responsibly performed during transport
	477	Assess the competence and skills of transport personnel
	478	Consider contingency plans/backups
	479	Communicate with the receiving hospital that will transport the patient.
	480	Explain the types of transport available and their advantages (out-of-hospital: ambulance/helicopter transport, in-hospital: stretcher, wheelchair, etc.)
	481	Prepare and complete necessary paperwork such as transport documents, progress notes, nursing plans, etc.
	482	Work with patients, families, and multidisciplinary teams to facilitate effective and safe transport across care settings
	483	Monitor and assess changes in physiological indicators of patients during transport

Practice and evaluation during transport	484	Manage necessary medications to patients during transport
	485	Appropriately recognize situations that may affect the quality and safety of critical care transfers
	486	Identify issues and problems that can be remedied during transport
	487	Reflect on the conveyance experience
	488	Coordinate the provision of ongoing care, including specialist treatment and observation, for patients being transported
Communication necessary during transport, such as signing off	489	Provide information and informed consent for transporting a conscious patient
	490	Communicate with family members during transport and provide ongoing status reports as needed
	491	Communicate openly with multiple disciplines to minimize risks associated with patient transfers, intra-hospital transfers, and transitions of care
	492	Properly contact the receiving unit upon departure when moving out
	493	Communicate patient status and physiological requirements to transport team/staff
	494	Share information with the team related to safety, risk assessment, and planning for the unexpected regarding transport
	495	Appropriate transfer of patient status to receiving unit at time of transfer
6. Education and self-development ability		
6.1. Self-development		
Introspective Practice	496	Actively ask feedback on your practice from patients, family members, colleagues, and professionals
	497	Reflect on nursing practice through an introspective and self-aware approach
	498	Reflect on current activities and identify how future activities should be developed
	499	Deepen self-awareness and recognize one's own strengths and limitations
	500	Admit failure and treat it as a learning opportunity
	501	Change behavior based on feedback and reflection
Self-development and professional development	502	Understand the need for education in critical care
	503	Take initiative in one's own educational and professional development
	504	Know how to access learning and teaching opportunities/resources that support continuing professional development
	505	Participate in continuing education programs and learning activities to develop and maintain clinical and professional competence
	506	Recognize and, when possible, participate in local, national, and international conferences and committees related to critical care nursing
	507	Facilitates the transfer of information and professional development through writing, publishing, and presentations to professional and general audiences
	508	Keep records and activity histories that provide evidence of professional competence and lifelong learning
6.2. Education		

Fostering a learning environment	509	Participate in activities that facilitate the teaching and learning of others in a multidisciplinary team
	510	Support individual and group self-development in a critical care environment
	511	Contribute to a work environment conducive to professional education
Educational involvement with colleagues	512	Provide regular feedback to colleagues and acknowledge successes and need for improvement as needed
	513	Provide formal or informal constructive feedback on colleagues' practices and role performance
	514	Behave in a professional manner as a role model for juniors and students
	515	Serve as a resource, educator, role model, preceptor, advocate, and mentor to students, colleagues, and multidisciplinary team members
	516	Demonstrate ability to be an effective mentor and role model as needed
	517	Share acquired educational knowledge, experience, and ideas with peers
	518	Teach and review practices with colleagues
training of new recruits	519	Support newcomers.
	520	Assist newcomers in developing their skills
	521	Motivate and encourage newcomers to develop their skills
	522	Guide, supervise, and assess nursing care provided by less experienced colleagues
	523	Coach colleagues on tasks, goals, processes, and performance standards
Learning Support for Patients and Families	524	Educate patients and families as needed
	525	Provide patients and families with the study information they need

*Abbreviations: Acute lung injury; ALI, Acute respiratory distress syndrome; ARDS, Cannot ventilate and cannot intubate; CVCI, Stroke Volume Variation; SVV, Glasgow Coma Scale; GCS, Intracranial pressure; ICP, Cerebral perfusion pressure; CPP, ICU acquired weakness; ICU-AW, Ventilator associated event; VAE, Transfusion related acute lung injury; TRALI, Graft versus host disease; GVHD, Basic Life Support; BLS, Advanced Cardiovascular Life Support; ACLS, Intra Aortic Balloon Pumping; IABP, Venoarterial-extracorporeal membrane oxygenation; VA-ECMO, Venovenous-extracorporeal membrane oxygenation; VV-ECMO, Post intensive care syndrome/ post intensive care syndrome - family; PICS/PICS-F, Post Traumatic Stress Disorder; PTSD, Activities of Daily Living; ADL, Quality of Life; QOL, Medical Research Council; MRC, manual muscle testing; MMT

Supplement Table 7. Final Set of a Japanese version standard critical care nursing Competencies

集中治療室において標準的な看護を提供するために必要な臨床実践能力特性

先行研究を元に下記を満たすものを、集中治療室において標準的な看護を提供することが可能であると定義し、この定義を満たすために必要な臨床実践能力の特性のうち、社会的なコンセンサスの得られた特性を表に一覧で示す。

・重症患者に対し、定型的な患者・家族の全体像を即座に把握し、個別的な看護を計画し実践できる。
・重症患者・家族の個別性に基づき、起こりうる問題に予測的・予防的に対処できる。
・重症患者・家族を全人的に捉え、患者・家族の価値観を尊重した看護を実践できる。
・看護に最新のガイドラインや情報を活用しようとする。
・自分の能力の限界を認識し、必要なリソース（他の看護師、多職種）と相談できる。
・新人及び経験の浅いスタッフの教育に参加できる。

なお、集中治療室において標準的な看護を提供することが可能であるとするために、一覧にある臨床実践能力特性を全て満たさなければならないということを意味せず、またそうした性質のものではない。

1. 疾病治療管理と臨床判断		
1.1.呼吸システム		
呼吸器系の解剖生理と疾患理解	1	呼吸器系に関連する解剖生理が理解できる
	2	内呼吸と外呼吸、細胞呼吸、酸塩基平衡、呼吸障害の４つの成因を述べることができる
	3	肺炎、喘息、慢性閉塞性気道疾患、急性肺損傷症候群（ALI/ARDS）、肺塞栓、気胸などの呼吸器系疾患の病態生理、原因、徴候、症状、治療管理について説明できる
呼吸系に対する看護実践	4	呼吸機能改善に向けたアセスメントと看護実践ができる
	5	気道分泌物の吸引に関連する合併症を理解し、それらを最小限に抑える／予防する方法を用いて吸引が行える
	6	気道確保困難（CVCI）のリスクを適切にアセスメントし対応方法が説明できる
	7	呼吸療法として行われる各体位が及ぼす影響、利点、リスクについて説明できる
	8	呼吸機能を最適化するための体位の取りかたについて説明できる
	9	呼吸器系の異常や変化を適切な医療者に報告できる
呼吸器系の観	10	気道を評価し、気道確保ができる
	11	気道の狭窄または閉塞がアセスメントできる

察・モニタリングとアセスメント	12	気道分泌物の量と性状、喀痰培養検査結果がアセスメントできる
	13	呼吸回数、呼吸パターン、補助呼吸筋の使用などから呼吸機能がアセスメントできる
	14	呼吸音の減弱、消失、左右差、異常音がアセスメントできる
	15	シーソー呼吸、チアノーゼ、皮下気腫、不均等な胸部拡張、緊張性気胸、低酸素症、落ち着きのなさ、精神状態の変化など異常な呼吸状態が識別できる
	16	SpO2 や SVO2、カプノグラフィーなど呼吸器系モニターが使用できる
	17	血液ガス分析検査の必要性が説明できる
	18	血液ガス分析の結果がアセスメントできる
	19	胸部の X-P、CT、MRI（読影結果を含む）から患者の状態が把握できる
呼吸系に関連する薬剤の管理	20	呼吸器系の治療に関連した薬物を安全に準備し、投与できる
	21	呼吸器系に関連した薬剤の効果を評価し、患者の状態に応じてケアおよび治療法が調整できる
	22	鎮静剤を必要とする処置の際に気道・呼吸の評価ができる
	23	鎮静深度をモニタリングし鎮静剤の投与量が調整できる
	24	一酸化窒素を持続的に吸入している患者のケアが実践できる
	25	ネブライザーの準備、実施、回路交換ができる
1.2. 循環システム		
循環器系の解剖生理と疾患理解	26	循環器系に関連する解剖生理が理解できる
	27	高血圧症、末梢血管疾患、不安定狭心症、急性心筋梗塞、心筋症・炎、心不全、肺塞栓、心タンポナーデ、不整脈、ペーシング不全などの循環器系疾患の病態生理、原因、徴候、症状、治療管理について説明できる
	28	正常な心周期が理解できる
	29	正常な心臓の刺激伝導系が理解できる
	30	心拍出量の決定因子が理解できる
	31	血圧の決定因子が理解できる
	32	中心静脈圧の決定要因が理解できる
	33	心血管系に対する換気・胸腔内圧の影響が理解できる
循環器系の観察・モニタリングとアセスメント	34	成人重症患者に関する血行動態モニタリングが適切にできる
	35	動脈圧波形がアセスメントできる
	36	中心静脈圧値および波形がアセスメントできる
	37	肺動脈カテーテル測定値および波形がアセスメントできる
	38	SVV など動的指標がアセスメントできる
	39	毛細血管反射がアセスメントできる
	40	四肢温や皮膚温がアセスメントできる
	41	循環機能に関連する血液検査結果がアセスメントできる
	42	正常な心電図波形が理解できる
	43	一般的な不整脈（心房頻拍、心室頻拍、心房細動、心室細動、房室ブロック等）が評価できる

	44	持続的な心電図モニターが適切にできる
	45	12 誘導心電図を正しく測定ができる
	46	循環器系の異常や変化を適切なタイミングで医療者に報告できる
循環器系に対する看護実践	47	急激に循環状態が悪化する重篤な患者の管理が医療チームで行える
	48	血管または心臓手術後の患者が管理できる
	49	循環負荷を考慮した患者活動の調整・看護ケアが実施できる
循環系に関連する薬剤の管理	50	輸液療法について説明できる（輸液の種類、輸液の必要性、ガイドラインに沿った輸液を理解、体液バランスを正確に記録する）
	51	循環作動性の薬剤（血管作動薬、強心薬、抗不整脈薬など）の適応、禁忌、作用機序、副作用が説明できる
	52	臨床所見をアセスメントして、医師の指示のもと循環作動薬の増減が調整できる
	53	患者の生理学的状態に合わせて輸液管理の調整が医師に依頼できる
ショックの管理	54	ショックの分類と治療法について説明できる（心原性、血液分布異常性、閉塞性、循環血液量減少性）
	55	酸素供給と需要のバランスに関して理解できる
	56	乳酸異常原因が理解できる
	57	ショック患者に対して必要な評価とモニタリングができる（心電図、血圧、体温、尿量、輸液、皮膚、手足の温度、血液検査）
	58	ショックの分類別に応じた治療プロトコルを理解し、治療が補助できる
	59	ショック患者の電解質、グルコース、酸塩基の障害を適切に評価し、それに基づく対応ができる
1.3. 消化器システム・栄養		
消化器系の解剖生理と疾患理解	60	消化器系（消化管、膵胆肝を含む）の解剖生理が理解できる
	61	消化管機能が理解できる
	62	内分泌系、外分泌系が理解できる
	63	消化管出血・虚血・穿孔、腸閉塞、食道静脈瘤、膵炎、肝硬変・肝不全、腹部コンパートメント症候群などの消化器系疾患の病態生理、原因、徴候、症状、治療管理について説明できる
	64	慢性および急性肝疾患、胆道障害に伴う生理学的変化および原因に応じてどのように重症化するか理解できる
	65	バクテリアルトランスロケーションに関して理解できる
	66	腹腔内圧亢進に伴う影響が理解できる
消化器系の観察・モニタリングとアセスメント	67	消化管機能に関連して悪化のリスクがある患者のモニタリングの必要性が判断できる
	68	下痢、便秘など適切なスケールを用いた評価ができる
	69	腹腔内圧の測定の必要性を評価し、適切に測定できる
	70	消化管機能に関連する血液検査の結果がアセスメントできる
	71	消化器系の異常や変化を適切な医療者に報告できる
消化器系に対する看護実践	72	肝不全、消化器系疾患によるショックなどの消化器系疾患患者が管理できる
	73	ハルトマン、食道切除、腸管切除など代表的な腹部手術後の患者が管理できる
	74	腹腔内圧亢進に伴う患者が管理できる
	75	腹部疾患に伴うドレーンが管理できる

	76	重症患者の胃管が管理できる
	77	重度の下痢時の直腸用バルーンカテーテルが管理できる
消化器系に関連する薬剤の管理	78	消化器系に関連した薬剤の効果を評価し、患者の状態に応じてケアおよび治療法が調整できる
	79	薬剤の特異性が理解できる（粉砕することの禁忌など）
	80	腸管運動促進剤および運動性改善剤、緩下剤、抗刺激剤、インスリン／血糖降下剤、プロバイオティクス、ステロイド、抗下痢剤、抗分泌剤の薬剤が理解できる
栄養管理に対する看護実践	81	個人の栄養ニーズ（必要カロリー、タンパク質量、ビタミン・ミネラル等）など栄養に関する基本的な考えが理解できる
	82	栄養投与に関連した生体の反応（栄養状態、検査値を含む）が評価できる
	83	患者の過去の病歴を参照し、消化機能に影響を与える疾患について説明できる
	84	ガイドラインなどの推奨に沿った栄養療法が説明できる
	85	患者の状態に応じて、栄養療法の調整を専門家へコンサルテーションできる
嚥下障害に対する看護実践	86	嚥下のメカニズムについて説明できる
	87	嚥下障害のリスク因子について説明できる
	88	嚥下機能が評価できる（水のみテスト，反復唾液のみテスト，フードテスト等）
	89	嚥下障害の原因・治療リハビリテーション方法について専門家へコンサルテーションできる
	90	食事をする環境整備や食形態・とろみの調整、適切な食事介助ができる
1.4. 腎・泌尿器システム		
腎・泌尿器系の解剖生理と疾患理解	91	腎・泌尿器系の解剖生理が理解できる
	92	腎臓の機能が理解できる
	93	電解質の排泄が理解できる
	94	腎血流量に影響を与える因子について説明できる
	95	電解質異常について説明できる
	96	腎障害（急性腎障害、慢性腎障害、末期腎疾患）、電解質異常などの腎・泌尿器系疾患の病態生理、原因、徴候、症状、治療管理について説明できる
腎・泌尿器系の観察・モニタリングとアセスメント	97	腎機能低下のリスクがある人のモニタリングの必要性が判断できる
	98	腎機能低下のリスクがある患者の体液状態、水分出納、腎機能をモニターする方法が理解できる
	99	体液量の測定および記録方法が理解できる
	100	体液喪失の原因が理解できる（ドレーン、消化器系、出血、不感蒸泄など）
	101	腎・泌尿器機能障害を有する患者の採血結果がアセスメントできる
	102	腎・泌尿器系の異常や変化を適切に報告できる
腎・泌尿器系に対する看護実践	103	尿道カテーテルが留置できる
	104	尿道カテーテルの必要性や挿入中の弊害を理解し、正しく観察できる
	105	急性腎障害のガイドラインに基づいた治療方針を理解している
腎・泌尿器系に	106	利尿剤、ブドウ糖とインスリン、サルブタモール（ネブライザー）、カルシウム、重炭酸ナトリウムなど腎に関連する薬剤が理解できる

関連する薬剤の管理	107	腎・泌尿器系に関連した輸液や投薬の効果を評価し、患者の状態に応じてケアおよび治療法が調整できる
1.5. 内分泌・代謝システム		
内分泌・代謝系の解剖生理と疾患理解	108	内分泌・代謝系の解剖生理が理解できる
	109	糖尿病、副腎不全、甲状腺などの代謝・内分泌系疾患の病態生理、原因、徴候、症状、治療管理について説明できる
内分泌・代謝系の観察・モニタリングとアセスメント	110	重症患者の血糖モニタリングの必要性について説明できる
	111	定期的な血糖測定値を、患者状態や使用薬剤の影響を踏まえアセスメントできる
	112	甲状腺機能異常（クリーゼ含む機能亢進症、 機低低下症）の患者に必要な観察を行い、適切にアセスメントできる
	113	内分泌・代謝機能に関連する血液検査の結果がアセスメントできる
	114	内分泌・代謝系の異常や変化が適切に報告できる
内分泌・代謝系に対する看護実践	115	重症患者の血糖コントロールが適切にできる
	116	糖尿病性ケトアシドーシス、非ケトン性高浸透圧症候群、低血糖症の患者のケアと管理について説明できる
	117	甲状腺機能異常（クリーゼ含む機能亢進症、 機低低下症）の患者のケアと管理について説明できる
内分泌・代謝系に関する薬剤の管理	118	インシュリンなど内分泌・代謝系に関連する薬剤が理解できる
	119	内分泌・代謝系に関連した薬剤の効果を評価し、患者の状態に応じてケアおよび治療法が調整できる
	120	血糖値に基づくインスリン投与の管理ができる
1.6. 脳神経システム		
脳神経系の解剖生理と疾患理解	121	脳神経系の解剖生理が理解できる
	122	脳圧亢進状態について説明できる
	123	１次および２次脳損傷が理解できる
	124	神経学的な障害が患者に与える影響について説明できる
	125	脳出血、脳梗塞、くも膜下出血、痙攣、脳炎・髄膜炎などの脳神経系疾患の病態生理、原因、徴候、症状、治療管理について説明できる
脳神経系の観察・モニタリングとアセスメント	126	グラスゴー・コーマ・スケール（GCS)の評価と正確な記録ができる
	127	瞳孔を観察し評価できる（大きさ、形、反応性）
	128	四肢の麻痺等の脳神経系機能評価ができる
	129	脳灌流と頭蓋内圧(ICP)の正常な制御のメカニズムを理解し、頭蓋内圧(ICP)および脳灌流圧(CPP)の正常なパラメータについて説明できる
	130	頭蓋内圧（ICP）上昇の兆候と症状がわかる
	131	脳神経障害への影響を考慮した血行動態がモニタリングできる
	132	低体温療法中の脳神経系に障害のある患者の適切なモニタリングができる
	133	痙攣患者等に対する持続の脳波モニタリングの異常に気がつける

	134	脳神経系の異常や変化を適切に報告できる
脳神経系に対する看護実践	135	脳神経系機能異常の患者の看護ケアができる
	136	痙攣に関連した症状を理解し、安全性に配慮した管理・ケアができる
	137	意識障害に関連した気道の管理ができる
	138	脳圧および脳血流の変化を理解した体位の調整ができる
	139	頭部 CT、MRI の適応がわかる
	140	頭蓋内圧（ICP）に影響を与える可能性があることを意識したケアが提供できる
	141	頭部の CT、MRI(読影結果を含む)から患者の状態が把握できる
	142	頭蓋内圧（ICP）がモニタリングできない場合、適切な脳灌流圧または平均動脈圧を維持するための適切なケア方法を考え実践できる
	143	頭蓋内圧（ICP）が上昇する看護ケアを評価し、それに応じてケアプランが調整できる
脳神経系に関連する薬剤の管理	144	脳神経系障害の治療に関わる治療薬（浸透圧治療薬、鎮痛薬、筋弛緩薬、抗痙攣薬、カテコラミン、ステロイド、降圧薬等）の薬剤の準備と投与ができる
	145	脳神経障害への影響を考慮した体液バランスの評価が行え、適切な輸液の投与に関して相談できる
	146	脳神経系に関連した薬剤の効果を評価し、患者の状態に応じた治療法の相談、およびケア方法の調整ができる
1.7. 皮膚・筋・骨格系システム		
皮膚・筋・骨格系の解剖生理と疾患理解	147	皮膚・筋・骨格系の解剖生理が理解できる
	148	ICU-AW について説明できる
	149	ICU-AW のリスク因子について説明できる
	150	重症患者の褥瘡・ 医療関連機器圧迫創傷・スキンテアのリスク因子について説明できる
皮膚・筋・骨格系の観察・モニタリングとアセスメント	151	筋力（MMT、MRC スコア、握力など）・ADL 評価など筋骨格系に関するモニタリング・評価ができる
	152	皮膚、創部（外傷、術後を含む）の観察ができ、異常を早期に発見できる
	153	重症患者の褥瘡リスク（ブレーデンスケールなど）を評価できる
	154	重症患者の褥瘡の継続的なモニタリング（DESIGNーR など）と評価ができる
	155	皮膚・筋・骨格系の異常や変化を適切に報告できる
皮膚・筋・骨格系に対する看護実践	156	ICU-AW の予防・治療方法について説明できる
	157	創部に応じた準備、処置、ケアができる
	158	重症患者の褥瘡・ 医療関連機器圧迫創傷・スキンテアの予防方法について説明できる
	159	重症患者の褥瘡・ 医療関連機器圧迫創傷・スキンテアのケアについて説明できる
皮膚・筋・骨格系に関連する薬理学の知識	160	重症患者の褥瘡・ 医療関連機器圧迫創傷・スキンテアの治療方法について説明できる
	161	皮膚・筋・骨格系に関連した薬剤の効果を評価し、患者の状態に応じてケアおよび治療法が調整できる
1.8. 感染症・血液・免疫系システム		
感染症・血液・	162	血液・免疫系の解剖生理が理解できる

免疫系の解剖生理と疾患理解	163	敗血症の病態生理、原因、徴候、症状、治療管理について説明できる
	164	敗血症の定義・診断基準が理解できる
	165	敗血症性ショックが理解できる
感染症・血液・免疫系に対する看護実践	166	感染症患者のうち病態悪化のリスクがあるものが認識できる
	167	敗血症ガイドラインを参照して適切なケアバンドルが実践できる
	168	個々の患者と治療環境に対して、必要な感染予防策ができる
	169	多剤耐性菌への予防策ができる
デバイス関連感染症の予防と看護	170	カテーテル関連血流感染症のリスク因子について説明できる
	171	カテーテル関連血流感染症の予防・治療方法について説明できる
	172	人工呼吸器関連肺炎・人工呼吸器関連事象（VAE）のリスク因子について説明できる
	173	人工呼吸器関連肺炎・人工呼吸器関連事象（VAE）の予防・治療方法について説明できる
	174	尿道カテーテル関連尿路感染のリスク因子について説明できる
	175	尿道カテーテル関連尿路感染の予防・治療方法について説明できる
	176	手術部位感染のリスク因子について説明できる
	177	手術部位感染の予防・治療方法について説明できる
血液凝固異常に対する看護実践	178	血液凝固異常患者の看護実践ができる
	179	血液製剤の適応、禁忌、副作用が説明できる
	180	血液製剤を安全に管理し、施設の方針に沿って投与できる
	181	大量の輸血を必要とする大出血、免疫抑制、免疫不全などの血液学的障害が理解できる
	182	TRALI、GVHD など輸血関連有害事象について説明できる
	183	播種性血管内凝固症候群が理解できる
	184	抗凝固剤の適応と投与方法が理解できる
	185	深部静脈血栓症のリスク因子について説明できる
	186	深部静脈血栓症の予防・治療方法について説明できる
1.9. 特殊な疾患に対する看護		
蘇生・急変に対する看護実践	187	生命を脅かす状況を予測し、予防し、認識できるよう準備し、介入できる
	188	蘇生・急変中の患者の急激に変化する患者・治療状況を評価し、対応できる
	189	早期警告の徴候を迅速に認識し、必要に応じて他の看護スタッフや医療チームメンバーなどに相談できる
	190	緊急時や不測の事態に対応して、ケア、臨床上の優先順位が検討できる
	191	急激に悪化した重症患者を認識し、評価し、状態安定に向けた管理を行うことができる
	192	心肺停止へ対応（BLS、ACLS）できる
	193	致死的不整脈を識別して対応できる
	194	気道、呼吸、循環、不整脈、異常な代謝状態の管理を含む蘇生後の管理ができる
外傷に対する看護実践	195	多発外傷、頭部外傷、胸腹部外傷、四肢骨盤外傷、脊椎外傷の病態生理、原因、徴候、症状、治療管理について説明できる

	196	外傷患者の看護ケアができる
熱傷に対する看護実践	197	熱傷の病態生理、原因、徴候、症状、管理について説明できる
	198	熱傷患者の看護ケアができる
体温異常に対する看護実践	199	熱中症、悪性高熱、悪性症候群などの高体温症および低体温症の病態生理、原因、徴候、症状、治療管理について説明できる
	200	熱中症、悪性高熱、悪性症候群などの高体温症および低体温症患者の看護ケアができる
	201	体温調整機器使用時における対処、介助、観察、管理ができる
1.10. 診療補助と治療機器管理		
非侵襲的人工呼吸管理	202	非侵襲的人工呼吸の適応について説明できる
	203	非侵襲的人工呼吸の利点、欠点について説明できる
	204	非侵襲的人工呼吸が患者に与える生理的・心理的影響について説明できる
	205	非侵襲的人工呼吸器を正しく準備できる（回路の組み立て、適切なパラメータとアラーム設定を含む）
	206	非侵襲的人工呼吸器用の加温加湿器が使用できる
	207	非侵襲的人工呼吸の開始、管理、離脱ができる
	208	マスクの種類とマスクフィッティングの方法について説明できる
	209	非侵襲的人工呼吸の合併症（皮膚トラブルなど）の予防ができる
	210	非侵襲的人工呼吸を行っている患者の症状に対応しながら生活援助ができる
	211	（医師の指示に基づいて）非侵襲的人工呼吸を行っている患者の状態に応じて鎮静剤などの治療および呼吸器設定が調整できる
	212	非侵襲的人工呼吸機器の正しいトラブルシューティングができる
侵襲的人工呼吸管理	213	侵襲的人工呼吸の適応について説明できる
	214	侵襲的人工呼吸が患者に及ぼす生理的・心理的影響について説明できる
	215	侵襲的人工呼吸器が正しく準備できる（回路の組み立て、適切なパラメータとアラーム設定を含む）
	216	侵襲的人工呼吸器用の加温加湿器が使用できる
	217	侵襲的人工呼吸の開始、管理、離脱ができる
	218	侵襲的な機械式人工呼吸を行う患者の症状に対応しながら生活援助ができる
	219	換気モードや呼吸器設定を識別し、それらについて説明できる
	220	侵襲的人工呼吸の合併症の予防方法について説明できる（人工呼吸器肺障害に対する肺保護換気など）
	221	（医師の指示に基づいて）侵襲的人工呼吸中の患者の状態に応じて鎮静剤などの治療および呼吸器設定が調整できる
	222	侵襲的人工呼吸器の（高圧、低圧、低潮容積、高ピーク気道圧、高呼吸などアラーム、停電時対応、機器異常など）のトラブルシューティングができる
	223	侵襲的人工呼吸器ケアバンドルを実践することの意義について説明できる
	224	侵襲的人工呼吸中の腹臥位療法に必要な人員を調整し、実施できる
	225	侵襲的人工呼吸中の気管支鏡検査が介助できる
経口挿管に関連	226	挿管の適応、利点、欠点について説明できる

する看護実践	227	挿管のプロセスを理解し、必要な物品と薬剤が準備できる
	228	挿管・抜管が介助できる
	229	適切に挿管チューブの安全で的確な位置調整、適切なカフ圧設定、患者に合わせた固定方法の選択などの管理ができる
	230	人工気道の開存性を評価でき、緊急性のある気道の問題（痰等による気道閉塞、予定外の気管チューブ抜去やズレ、気胸）に対する評価と対応ができる
	231	咳、分泌物の有無、低酸素血症、落ち着きのなさ、高い気道内圧、血行動態の変化などを指標とし、人工呼吸中の吸引の必要性がアセスメントできる
	232	カフ上部吸引の利点と欠点について説明できる
	233	緊急再挿管の原因とリスクを最小化するための措置が実践できる
	234	適切に挿管患者の口腔ケアができる
	235	バッグバルブ装置を使用した用手的換気ができる
気管切開に関連する看護実践	236	経皮的気管切開術、外科的気管切開術、ミニトラック、それぞれの適応、利点、欠点が理解できる
	237	気管切開の適切な時期が理解できる
	238	緊急輪状甲状間膜切開など緊急の気道確保方法の適応と必要性について説明できる
	239	気管切開後の合併症について説明できる
	240	気管切開術の実施プロセス理解し、必要な物品と薬剤の準備、介助ができる
	241	気管切開術の前中後における患者のケアと観察ができる
	242	スピーキングバルブを含む気管切開チューブを適切に管理（位置、固定、カフ圧含む）できる
	243	気管切開に伴う身体的・心理的影響の可能性について患者を観察し、適宜対応できる
腎代替療法に関する知識	244	腎代替療法の種類および各方法の利点・欠点について説明できる
	245	個々の患者にあった治療モードを選択および個々の所定の治療目標を設定や、凝固・電解質、酸塩基の目標に応じた治療の調整に対応できる
	246	腎代替療法中の合併症やそれを最小限にする方法について説明できる（血小板減少症・凝固障害、貧血、循環動態、電解質、出血、低体温、感染、血栓・塞栓症）
	247	腎代替療法中による薬剤の代謝に与える影響と適切な対処ができる
	248	腎代替療法中の機器モニタリング（アクセス圧、メンブレン圧等）とトラブルシューティングが適切にできる
	249	腎代替療法中の異常や変化を適切な医療者に報告できる
	250	腎代替療法を受けている患者の心理的ケアができる
	251	腎代替療法後の累積バランスを含む正確な体液バランスが記録できる
ドレーンの管理	252	胸腔ドレーンの挿入に必要な機器を正しく組み立てることができる
	253	胸部ドレーンの挿入・抜去が介助できる
	254	胸腔ドレーンを挿入した患者の管理が適切にできる
	255	患者の状態に応じた胸腔ドレナージの適応が理解できる
	256	緊張性気胸の緊急脱気が介助できる
	257	脳室ドレーン、腹腔ドレーンなど各種ドレーンに関連するトラブルシューティングができる

	258	脳室ドレーン、腹腔ドレーンなど各種ドレーンの管理ができる
	259	脳室ドレーン、腹腔ドレーンなど各種ドレーンを挿入した患者の心理的ケアができる
除細動器・ペースメーカーの管理	260	除細動の適応とタイミングが説明できる
	261	ペーシングの適応とタイミングが説明できる
	262	植え込み型ペースメーカー使用時における介助、観察、対処ができる
	263	体外式（一時的）ペーシング使用時における介助、観察、対処ができる
循環補助機器（IABP、IMPELLA など）管理	264	循環補助機器（IABP、IMPELLA など）の適応が理解できる
	265	循環補助機器（IABP、IMPELLA など）使用中の患者の管理・ケアができる
補助循環機器（VA-ECMO など）管理	266	補助循環機器（VA-ECMO など）の適応について説明できる
	267	補助循環機器（VA-ECMO など）使用中の患者の管理・ケアができる
膜型人工肺による肺機能補助機器（VV-ECMO など）管理	268	膜型人工肺による肺機能補助機器（VV-ECMO など）の適応について説明できる
	269	膜型人工肺による肺機能補助機器 VV-ECMO など）使用中の患者の管理・ケアができる
各種ライン管理	270	動脈ライン、中心静脈ライン、腎代替療法のためのカテーテルなどの挿入・抜去の介助ができる
	271	動脈ライン、中心静脈ライン、腎代替療法のためのカテーテルなどの管理が適切にできる
1.11. 臓器移植		
臓器移植の適応と法的理解	272	臓器移植に関する基本的な施設のルール・手順を理解している
	273	不可逆な意識障害の原因が理解できる
	274	臓器移植に関連する患者の守秘義務の問題について理解している
臓器移植患者の管理	275	院内・外のコーディネーター（臓器移植チーム）と協働できる
	276	マニュアルに沿ってドナー患者の管理ができる
2. ケアリング		
2.1 看護診断とプランニング		
重症患者の適切な情報収集	277	エビデンスに基づいた適切なアセスメント技術を使用し患者のニーズ（学習ニーズ、心理的サポート、精神的・社会的ニーズを含む）を全体的に把握できる
	278	患者の全体像を把握するために、根拠に基づいた適切な評価技術と手段を用いることができる
	279	患者の特性に応じてデータ収集活動に優先順位をつけることができる
重症患者の適切なアセスメント	280	患者の特性に応じて収集されたデータを現在の状態と予測される将来の状態に関連付けることができる
	281	複数の情報源から得られたデータを分析し、患者と家族のニーズが判断できる
重症患者の適切	282	健康の増進と回復、およびさらなる疾患、障害の予防のためのエビデンスに基づく介入を特定し、優先順位をつけることができる

なケアプランの立案	283	計画を策定するために、患者、家族、多職種チームと協力できる
	284	適切なデータや関連するデータを評価し、チーム内に伝達できる
重症患者のケアの評価	285	介入の効果をタイムリーに評価し、期待される結果を得るために必要に応じて治療・ケア方法が修正できる
	286	評価の結果を適切に記録できる
2.2 不快症状の緩和		
疼痛に対する看護実践	287	薬理学的・非薬理学的介入を含む、疼痛の評価、予防、治療に対応できる
不穏・鎮静に対する看護実践	288	薬理学的・非薬理学的介入を含む、不穏・鎮静状態の評価、予防、治療に対応できる
せん妄に対する看護実践	289	重症患者のせん妄のリスク因子について説明できる
	290	薬理学的・非薬理学的介入を含む、せん妄の評価、予防、治療に対応できる
不眠に対する看護実践	291	薬理学的・非薬理学的介入を含む、不眠・睡眠障害の評価、予防、治療に対応できる
不安・うつ・恐怖などに対する看護実践	292	薬理学的・非薬理学的介入を含む、不安の評価、予防、治療に対応できる
	293	患者や家族が十分な情報を得た上で治療やケアを選択し、その結果を理解できるようにする
	294	患者や家族のために、困難な処置をサポートするケアやコーチングを提供する
	295	患者と家族に対する重症病態および治療に関連した心理的影響を最小限に抑えることができる
	296	死別やトラウマになるような出来事が起こった場合に、患者や家族へ対応できる
その他不快症状に対する看護実践	297	薬理学的・非薬理学的介入を含む、口渇感・呼吸困難・倦怠感などの不快症状の評価、予防、治療に対応できる
2.3. 重症患者のリハビリテーション・PICS		
患者・家族のリハビリテーションニーズの理解と実践	298	集中治療後症候群（PICS/PICS-F）および、そのリスク・予防方法について説明できる
	299	クリティカルケア領域におけるリハビリテーションの課題について説明できる
	300	重症患者に継続的なリハビリテーションが必要な理由がわかる
	301	個々の重症患者に適したリハビリテーションの目標（短期・中期・長期）が設定できる
	302	ガイドラインなどの推奨に沿って重症患者のリハビリテーションが調整できる
	303	重症患者のリハビリテーション処方の理解と認識ができる
	304	個々の患者の多様性の問題と、それが患者のリハビリのニーズにどのように影響するか理解できる
身体機能の維持回復に対する看護実践	305	重症患者のポジショニングが実践できる
	306	重症患者の関節可動域トレーニングが実践できる
	307	重症患者の呼吸リハビリテーションが実践できる
	308	重症患者の早期離床が実践できる
	309	重症患者の運動機能の維持・ADL の向上のための実践ができる
	310	重症患者のリハビリテーションに関するリスクアセスメントを理解し、リハビリテーションができる

認知機能・メンタルヘルスの維持回復に対する看護実践	311	認知機能障害やせん妄を予防・改善するためのリハビリテーションの方法について説明できる
	312	患者・家族のメンタルヘルス障害（うつ・不安・PTSD）を予防・改善するための方法について説明できる
2.4. エンドオブライフケア		
患者予後の評価	313	患者の重症度が評価できる
	314	重症患者の予後評価が適切にできる
治療の差し控え・撤退	315	終末期のケアプランを患者家族へ伝えることができる
	316	終末期のケアプランについて患者家族と話し合うことができる
	317	終末期患者に対して患者のニーズに合わせた症状の緩和、個別の治療・ケアプランが立案できる
	318	多職種チームにおいて、無益性などを評価し、治療の差し控えや終了を適切に検討できる
	319	治療中止後の病棟選択についてなど患者や家族の希望を考慮し、患者に適した終末期ケアの選択肢を検討できる
	320	治療の中止または保留に関する法的制約、精神能力法、倫理原則など治療中止に関する合意を形成し、記録するための手順がわかる
	321	治療中止後の患者に適したケアがわかる
終末期患者のアセスメント、モニター、観察	322	痛み、吐き気、焦燥感、呼吸困難、倦怠感など終末期患者の症状観察とアセスメントができる
	323	緩和アプローチは、緩和ケアの原則（症状管理、患者中心のケア）を患者の生活全体に統合するものであり、人生の最後の数日間だけのものではないことを認識する
	324	患者、家族、専門家と協力して、終末期の希望を決定し、利用可能なリソースを特定し、終末期の尊厳、快適さ、質の高いケアを促進するための戦略を実施する
	325	ニーズに合った質の高い終末期ケアを提供するため、患者と家族の意見を求め、取り入れる
終末期の問題に対する適切なリソースの活用	326	緩和ケアや終末期の話し合い、決定、ケアを促進するために、多職種チームと協力できる
	327	終末期における緩和アプローチ／ケアについて、家族や専門家との継続的なコミュニケーションを維持し、継続的な精神的サポートを行うことができる
	328	倫理的に複雑な状況に対して、導き効果的な対処法や可能な解決策を見出すために適切なリソースが利用ができる
2.5. 癒しを促進する ICU 環境の提供		
患者・家族の環境管理	329	個人を尊重した、安全で癒やしと思いやりのある環境が提供できる
	330	患者のオリエンテーションを効果的に進めることができる
	331	騒音、照度、におい、ケアなどの刺激など、患者の感覚に関わる適切な評価ができる
	332	騒音、照度、におい、ケアなどの刺激など、患者の感覚に関わる適切な環境管理ができる
	333	患者、家族、医療者に身体的危害や傷害を与える可能性のある環境リスク要因を最小限に抑えることができる
	334	重症患者の昼夜の適切な睡眠サイクルが促進できる
患者・家族サービスの向上	335	同僚とともにサービス改善の提案ができる
	336	患者、介護者、サービス利用者からのフィードバックや体験談を入手し、それに基づいて行動できる

	337	既存のやり方に疑問を持ち、現在のパフォーマンスや文化にあらたな方法を提案する
	338	経験豊富な同僚が主導する部署内の新たな取り組みに貢献できる
	339	部署内で行われている医療の質の向上の取り組みに貢献できる
	340	生涯にわたってあらゆる年齢層の患者が生理的、心理社会的安定性を回復、支援、促進、維持するためのケアができる
3. 代弁者・道徳的主体者		
3.1. 意思決定支援		
意思決定に向けた支援	341	患者や家族の好みを考慮して、治療や介入ができる
	342	治療や介入に対する患者や家族の希望を考慮できる
	343	倫理観に基づき、責任を持って行動し、倫理的な議論や意思決定プロセスに参加できる
	344	患者家族の意思決定に役立つ情報が提供できる
	345	複雑な意思決定を行う際に、さまざまなエビデンスを活用し、利用できる
	346	患者家族の様々な臨床的状況に対応するための問題解決および意思決定がサポートできる
3.2. 倫理的な実践		
倫理的原則および法律の遵守に基づいた実践	347	患者のケアと医療提供に関連する国の規定や法律（医療法、保助看法など）が理解できる
	348	患者のケアと医療提供に関連する国の規定や法律（医療法、保助看法など）を遵守できる
	349	患者と家族の権利を守るための倫理的実践、自律、平等性と多様性、法規制が理解できる
	350	患者の自律性、同意、および関連する地域や国の法律についての認識を示すことができる
	351	クリティカルケアの提供に関連した倫理原則の理解を明確にできる
	352	平等と多様性を受け入れ、年齢、性別、宗教、性的指向、人種、障害、心情、社会的身分などを差別せず尊重する
	353	患者と家族の自律性、尊厳、価値観、信念、および権利を常に養護する実践ができる
	354	患者、家族、および地域社会の多様なニーズを満たす公平・平等な方法でケアができる
	355	自分の言動に責任を持つことができる
	356	人間関係、組織の意思決定、および資源の管理において、倫理的な説明責任と誠実さを促進する
	357	患者のケアとその継続的な評価を、プライバシーと個人情報の機密性を尊重しつつ、明確、簡潔、正確かつタイムリーに文書化できる
	358	法的規制の範囲内で患者の機密性を保護できる
	359	秘密保持、データ保護、文書化の基準に配慮して実践できる
	360	非倫理的、違法、または障害のある行為を報告できる
倫理的問題の解決に向けた実践	361	倫理的判断を下す際に利用可能なリソースが使用できる
	362	利用可能な資源を使用した倫理的な決定ができる
	363	予期せぬ治療や QOL、終末期の決断を迫られている患者と家族のニーズに対応できる
	364	適切な役割分担の範囲内で、治療的かつ専門的な看護師と患者の関係を維持できる
	365	患者、家族、多職種チームが関与する倫理的問題の解決に貢献できる

3.3 患者および家族とのコミュニケーション		
患者および家族を尊重したコミュニケーション	366	患者、家族との話し合いにおいて、他者の視点を尊重できる
	367	患者や家族の希望に気を配り、ニーズ、発達段階、理解度に応じて、敬意を持って情報を伝達できる
	368	治療および看護計画や患者の臨床状況について、患者や家族と効果的にコミュニケーションができる
	369	難しい臨床情報を、患者や家族が理解できる用語や言葉を使って、効果的に伝え、説明できる
	370	危機的な状況にある患者、家族と効果的にコミュニケーションをとり、サポートできる
	371	複雑な状況下でも効果的なコミュニケーションができる
	372	患者と家族にとって悪い知らせと思われる内容を、丁寧で思いやりのある方法で伝えることができる
看護実践の説明責任（インフォームドコンセント）	373	患者、家族に自分の役割と責任を説明し、関係性の構築を促進できる
	374	看護師の役割に関連する規則や法律を認識し、それを遵守できる
	375	患者と家族に治療法の選択肢を説明し、説明を受けた上での意思決定を促進するための支援ができる
	376	患者と家族が十分な情報を得た上で選択し、その結果を理解できるようにすることができる
4. エビデンスベースドプラクティス		
4.1. ケアの質担保と改善（PDCA）		
質の評価と改善活動	377	質の高い看護を提供するために、新しい知識や技術を積極的に追求できる
	378	安全と質の向上のために、必要に応じて医療行為に疑問を呈することができる
	379	個人、グループ、集団に対するベストプラクティスを決定するために、ケアプロセスとアウトカムの継続的なモニタリングと評価ができる
	380	看護実践が正式な手順や規則に沿って行われていることを確認できる
	381	エビデンス、専門知識、患者の嗜好に基づいて、ケアプロセスとアウトカムを改善するために実践できる
エビデンスに基づいた実践の促進	382	利用可能なリソースを用いて、エビデンスや文献を検索する方法を知っている
	383	エビデンスに基づく診療に関する知識を常に更新し、最新の状態に保つことができる
	384	ガイドラインに基づいたケアの実践内容を知ることができる
	385	エビデンスに基づく重症患者看護の実践に取り組み、貢献できる
5. コラボレーション・マネジメント能力		
5.1. 病棟マネジメント		
物流管理とコスト意識	386	コストと廃棄物削減の方法を意識した実践ができる
組織内活動への参加	387	委員会、評議会、および多職種チームに参加できる
職場環境・働き方の健全化	388	ワークライフバランスへの理解を示すことができる
	389	自己のワークライフバランスをとることができる
	390	健全な職場環境の構築と維持に貢献できる
	391	急速に変化する環境の中で、柔軟性を発揮し、患者を中心に考えることができる

	392	必要時に重症患者を看護できる知識と技術を備えた適切な数のスタッフを求めることができる
	393	協力、尊敬、信頼を促進する健康的な職場環境を構築するために、医療者の行動を規定する基準が遵守できる
	394	チェンジマネジメントおよび関連するプロセスを理解し、受け入れ、積極的に参加できる
	395	安全、安心、最適な健康状態を促進する物理的および心理社会的環境を維持できる
	396	国や施設が定めた労働条件、雇用権、労働環境の考慮事項を遵守できる
5.2. チームマネジメント		
メンバーシップ・フォロワーシップ	397	チームの共通の目的を認識し、チームの決定を尊重できる
	398	チームアプローチを採用し、努力、貢献、妥協点を認め、評価できる
	399	チームメンバーと互いに認め合い、尊重し、また協力関係を推進できる
	400	同僚と互いに支え合うことやデブリーフィングをすることの必要性を認識し参加できる
	401	良好な患者ケアとより良いサービスを提供するために他者をサポートできる
	402	他者と協力することで、さらに効果的な機会を得ることができる
	403	チームメンバーとケアプランなど広く情報を共有できる
	404	SBAR 等を活用し適切にチームメンバー、他の専門家へ報告できる
	405	医療者間との話し合いにおいて、他者の視点を尊重し積極的に意見を求めることができる
	406	知識を共有することにより、他者と協力して変化を起こし、ポジティブな結果を生み出すことができる
	407	繰り返される問題や課題に対して、主体的・積極的に解決策を導き出すことができる
	408	看護チーム内での自分の役割、責任、目的を明確に認識できる
リーダーシップ	409	効果的なチームを形成するために、チームにおいて役割意識をもつことができる
	410	同僚、患者、家族との良好な関係を築くために、効果的な対人コミュニケーション、リーダーシップ、交渉、揉め事を解決するスキルを発揮する
	411	チームメンバー間のコラボレーションを促進できる
	412	チームメンバーの間に透明性、信頼、尊敬の精神を育むことができる
	413	部署内のサービス向上のための取り組みにリーダーシップを発揮し、サポートできる
	414	意思決定における責任共有の価値を強調し、リーダーシップと調整の役割を共有することを支援できる
	415	オープンで建設的な議論を奨励し、他者の多様な視点を尊重できる
ケアや業務の管理調整・ストレスマネジメント	416	1 日またはシフト単位で活動を管理できる
	417	患者へのケアが効果的かつ効率的に行われているかどうか管理できる
	418	患者のニーズに応じてシフト中の作業や業務量を計画し、優先順位をつけることができる
	419	優先順位を調整し、状況に応じて作業計画が変更できる
	420	必要に応じて他のチームメンバーに適切な仕事を任せることができる
	421	患者家族のニーズの変化に合わせて、スタッフや他のチームのメンバーの業務内容・量を評価し、調整できる
	422	部署での作業量を効果的に管理することができる
	423	専門職種あるいは他の職種（事務などを含む）の業務内容を確認し、必要に応じて調整できる
	424	臨床環境におけるストレスの多い状況に対処するための対処法を認識し、効果的に活用できる

	425	職場でのストレス要因をどのようにして防ぐことができるかを知っている
	426	他のチームメンバーの健康状態を観察し、対処できる
他の専門家の活用（コンサルテーション）	427	スタッフ間での情報やリソース（他の専門家）の共有を促進できる
	428	望ましい結果を得るために、個々の患者のニーズの評価とそれに見合う利用可能なリソース（他の専門家）が選択できる
	429	重症患者の看護実践とケアの質を向上させるための追加で必要なリソース（他の専門家）が提案できる
	430	利用可能なリソース（他の専門家）に応じて、健康関連のニーズに対応するための適切なサービスを患者および家族が見つけ、確保できるよう支援できる
	431	多職種間のコンフリクトの解消に取り組み専門家間のケアプランの立案に貢献できる
	432	適切なスタッフ・専門家と相談して、ケアプランの立案／見直しを行い、ケアの継続が促進できる
	433	患者と家族のニーズを満たすための効果的な専門職間の関係構築に貢献できる
	434	専門職種として、それぞれの役割、責任、能力を尊重した上で、最適なケアを提供するために協力できる
	435	他の専門家とのコミュニケーションにおいて、適切な方法を選択できる
	436	他の医療者のメンバーに自分の役割と責任を説明し、促進できる
	437	多職種チームとの話し合いにおいて、自身の専門的な視点を提供できる
	438	多職種チームのすべてのメンバーとケアプロセスや決定を支える根拠について質問できる
5.3. 医療安全		
安全文化・インシデント報告	439	患者の転帰に関する品質指標（在院日数、人工呼吸時間、感染症の予防など）の価値を理解できる
	440	安全で効果的なクリティカルケアサービスの質に影響を与える自分の役割を理解できる
	441	患者、家族、および医療者のために安全な文化を構築できる
	442	リスクから学び、リスクに対応する安全な文化を促進できる
	443	ケアや診療環境における安全性、危険性、エラーに関する観察や懸念を明らかにし、示すことができる
	444	投薬過誤、有害事象、機器の故障などの有害事象の予防、報告、監視に関する地域、国の規定や法律を理解し、これを遵守できる
	445	有害または潜在的なリスクやインシデントの認識、対応、開示、報告、および再発防止に積極的に参加できる
	446	有害または潜在的なリスクやインシデントを、ユニット、病院、国の方針やプロトコルに従って適切に報告できる
	447	院内で発生した有害または潜在的なリスクやインシデントを迅速に把握できる
	448	患者の安全を守るために迅速な対応ができる
	449	有害または潜在的なリスクやインシデントに対し、適切に対応し、必要な行動をとることができる
	450	医療事故への再発防止策を考えることができる
	451	安全で効果的な書面、口頭、電話、電子機器によるコミュニケーション戦略ができる
	452	患者の安全性、環境の安全性、医療機器のメンテナンスなどの臨床監査を理解し、それに参加できる
感染予防・有毒物質暴露への意	453	汚染された物質、生物学的物質、化学物質、毒性物質の安全な取り扱いや廃棄を、地域や国の方針やプロトコルに沿って行うことができる
	454	部署でのディスポーザブルアイテムの適切な使用が促進できる

識	455	患者、家族、および医療者に、環境衛生上のリスクと曝露低減策を伝えることができる
複雑な医療機器の取り扱い	456	安全な医療環境が維持できる（ベッドスペースの整理、緊急用機器の設置など）
	457	クリティカルケアに必要な医療機器が安全に使用できる
	458	医療機器操作に必要な高度で複雑な手順を、安全に、支援または実行できる
安全な投薬・服薬管理	459	クリティカルケア環境で投与される薬剤に関する知識を維持し、更新できる
	460	適切な患者、適切な時間、適切な経路、適切な薬剤、適切な量、適切なラベル、正しい計算、および関連する内容を把握することにより、投薬ミスを確実に防止できる
	461	重症患者への投薬に関するユニット、病院、国のガイドラインを遵守し、推進できる
5.4. 院内・院外患者搬送		
院内・院外患者搬送の適応評価	462	チームで協力して包括的なリスクアセスメントを行い、患者が搬送に適しているかどうかを確認できる
	463	重症患者の搬送に関連する潜在的なリスクについて説明できる
	464	搬送に際して患者に起こりうる出来事について説明できる
	465	緊急性および時間的に重要な搬送か否かが判断できる
	466	患者の優先事項やニーズを見直し、患者の移送を実行するためのプロセスが調整できる
	467	搬送前の安全・リスク要因の再評価ができる
院内・院外患者搬送の準備	468	重症患者の院内/院外搬送を行うための準備プロセスがわかる
	469	病院内および病院間の搬送を手配・実施する際のチームメンバーの役割がわかる
	470	搬送前に、患者のニーズが評価できる
	471	ICU から転出する前に、患者の臨床状態が評価できる
	472	搬送に関する潜在的な問題を予測し、リスクを低減するための計画を立てることができる
	473	故障に備えた予備のバッテリーパックや代替機器の準備ができる
	474	搬送前に医療記録、放射線検査結果、最近の血液検査結果などが準備できる
	475	搬送用モニタリング機器が準備できる
	476	搬送中に責任をもって実施すべきケアについて説明できる
	477	搬送担当者の能力およびスキルを評価できる
	478	不測の事態に対する計画／バックアップの検討ができる
	479	搬送先の受入病院とのコミュニケーションが図れる
	480	利用可能な搬送の種類と利点を説明できる（院外：救急車・ヘリ搬送、院内：ストレッチャー、車椅子など）
	481	搬送書類、経過表、看護計画など必要な書類の作成と準備ができる
	482	患者、家族、多職種チームと協力して、ケアの場を超えた効果的かつ安全な搬送を促進できる
搬送時の実践と評価	483	搬送中の患者の生理的指標の変化に関するモニタリングとアセスメントができる
	484	搬送中の患者に必要な薬剤投与ができる
	485	重症患者の移送の質と安全性に影響を与えうる状況を適切に認識できる
	486	搬送中に改善可能な課題や問題を特定できる
	487	搬送経験を振り返ることができる

	488	搬送される患者に対して、専門家による治療、観察等の継続的なケアが提供できるよう調整できる
申し送り等、搬送時に必要なコミュニケーション	489	意識のある患者への搬送に関する情報提供とインフォームド・コンセントができる
	490	搬送に際して家族とのコミュニケーションと必要に応じた継続的な状況の報告できる
	491	患者の転院、院内搬送、およびケアの移行に関連するリスクを最小限に抑えるために、多職種とのオープンなコミュニケーションができる
	492	転出の際、出発時に受入ユニットに適切に連絡できる
	493	搬送チーム／スタッフへの患者の状態と生理学的要件の伝達ができる
	494	搬送に関する安全性、リスク評価、予期しない事態に対する計画に関連する情報をチームと共有する
	495	転出の際、受入ユニットへの患者の状態の申し送りが適切にできる
6. 教育及び自己開発能力		
6.1. 自己の教育と育成		
内省的な実践	496	患者、家族、同僚、専門家から自身の実践に関するフィードバックを積極的に得ることができる
	497	内省的かつ自己認識的なアプローチで看護実践を振り返ることができる
	498	現在の活動を振り返り、今後の活動をどのように発展させていくべきかを明確にすることができる
	499	自己認識を深め、自自分自身の強みと限界を認識できる
	500	失敗を認め、それを学習の機会として扱うことができる
	501	フィードバックや反省を踏まえて、行動を変えることができる
自己育成と専門性の開発	502	クリティカルケアの教育を受ける必要性が理解できる
	503	自らの教育および専門的能力の開発に関して主体性を持って行動できる
	504	継続的な専門能力の開発を支援する学習・教育の機会・資源にアクセスする方法を知っている
	505	臨床および専門的な能力を開発・維持するために、継続的に教育プログラム、学習活動に参加できる
	506	クリティカルケア看護に関連する地域、国内、国際的な学会や委員会などを認識し、可能であればそれらに参加できる
	507	専門家や一般聴衆を対象とした執筆、出版、プレゼンテーションを通じて、情報の伝達と専門性の向上が促進できる
	508	専門能力と生涯学習の証拠となる記録や活動履歴を残すことができる
6.2. 他者の教育と育成		
学習環境の醸成	509	多職種のチームの中で、他の人の指導や学習の促進活動に参加する
	510	クリティカルケア環境の中で、個人やグループの自己啓発を支援できる
	511	専門家の教育に資する職場環境に貢献できる
同僚との教育的関わり	512	同僚に定期的なフィードバックを行い、必要に応じて成功と改善の必要性を認めることができる
	513	同僚の実践や役割遂行に関して、公式または非公式の建設的なフィードバックを提供できる
	514	後輩や学生の模範となるよう、プロフェッショナルな態度で行動できる
	515	学生、同僚、多職種のチームメンバーにとって、リソース、教育者、ロールモデル、プリセプター、支援者、メンターとしての役割を果たすことができる

	516	必要に応じて、効果的な指導者およびロールモデルとなる能力を示すことができる
	517	獲得した教育上の知識、経験、アイデアを仲間と共有できる
	518	同僚に実践を教えたり、見直したりすることができる
新人教育	519	新人のサポートができる
	520	新人の能力開発の支援ができる
	521	新人の能力開発のための動機付けと奨励ができる
	522	経験の浅い同僚が提供する看護ケアを指導、監督、評価できる
	523	タスク、目標、プロセス、パフォーマンス基準について同僚を指導できる
患者・家族への学習支援	524	必要に応じて患者と家族に対して教育ができる
	525	患者と家族が必要とする学習情報が提供できる

*略語： Acute lung injury; ALI, Acute respiratory distress syndrome; ARDS, Cannot ventilate and cannot intubate; CVCI, Stroke Volume Variation; SVV, Glasgow Coma Scale; GCS, Intracranial pressure; ICP, Cerebral perfusion pressure; CPP, ICU acquired weakness; ICU-AW, Ventilator associated event; VAE, Transfusion related acute lung injury; TRALI, Graft versus host disease; GVHD, Basic Life Support; BLS, Advanced Cardiovascular Life Support; ACLS, Intra Aortic Balloon Pumping; IABP, Venoarterial-extracorporeal membrane oxygenation; VA-ECMO, Venovenous-extracorporeal membrane oxygenation; VV-ECMO, Post intensive care syndrome/ post intensive care syndrome – family; PICS/PICS-F, Post Traumatic Stress Disorder; PTSD, Activities of Daily Living; ADL, Quality of Life; QOL, Medical Research Council; MRC, manual muscle testing; MMT

Supplement Text 4. Contributors list

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