

# Practical experiences with Nursing Activities Score

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# To day

- How do we organize critical care for our patients?
- NAS development, bases, and principles of application





LOVISENBERG DIAKONALE HØGSKOLE

# Education /Critical care nurse



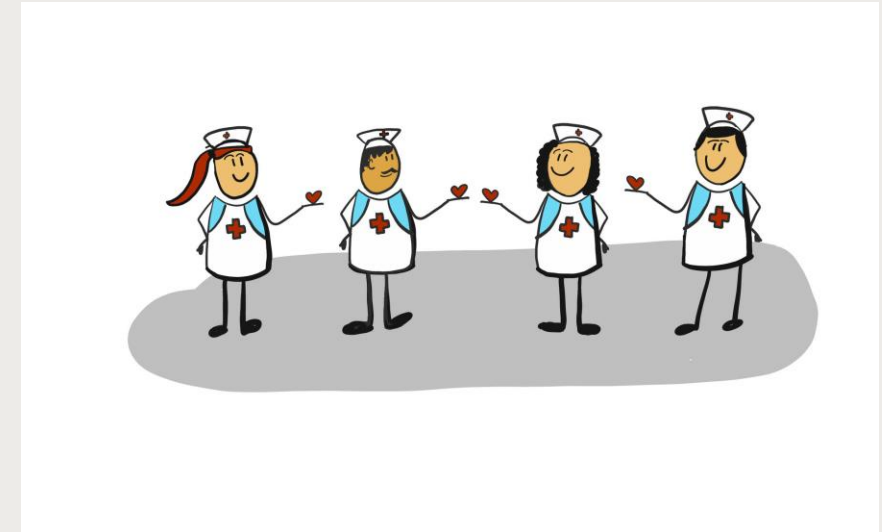
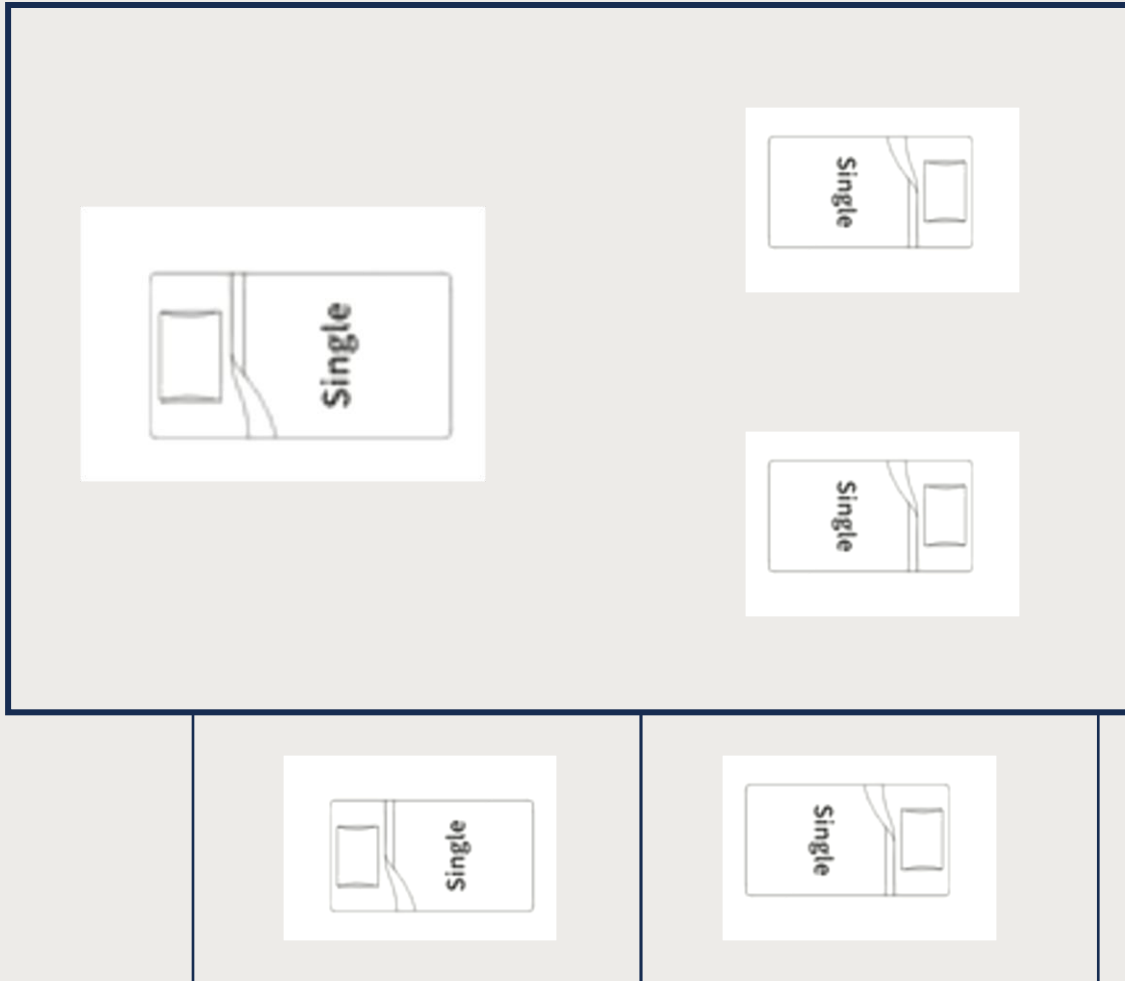
# Oslo university hospital (15 ICUs)

Ex.10 ICU-beds in 3-beds x2  
and 5 single/isolate

- 97 CCN / 6 RN (tot 103)
- Open workplan in 12-weeks
- Normal week 35.5 hours



Ex: 5 patients on nightshift = 6 CCNs



Creative commons



# International experiences



# Workload scoring systems in the Intensive Care and their ability to quantify the need for nursing time: A systematic literature review

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REVIEW ARTICLE

 WIL

## Nursing workload and patient-focused outcomes in intensive care: A systematic review

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# Patient classification system-to describe workload

- Therapeutic Intervention Scoring System, **TISS-76** (Cullen et al., 1974)
  - **TISS-28** (Miranda, Moreno & lapichino, 1996) appr. 35% of nursing time
- **Nursing Activities Score, NAS** (Miranda et al., 2003) appr. 81% of nursing time.

## Nursing activities score

Dinis Reis Miranda, MD, PhD, FCCM; Raoul Nap, MSc, Biostat; Angelique de Rijk, MA, PhD; Wilmar Schaufeli, MA, PhD; Gaetano lapichino, MD; and the members of the TISS Working Group

# Nursing Activities Score -NAS

- per patient
- day or shift
- 23 items
- max 177.7%



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ORIGINAL ARTICLE

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## Nursing Activities Score: an updated guideline for its application in the Intensive Care Unit

Nursing activities score: manual atualizado para aplicação em Unidade de Terapia Intensiva

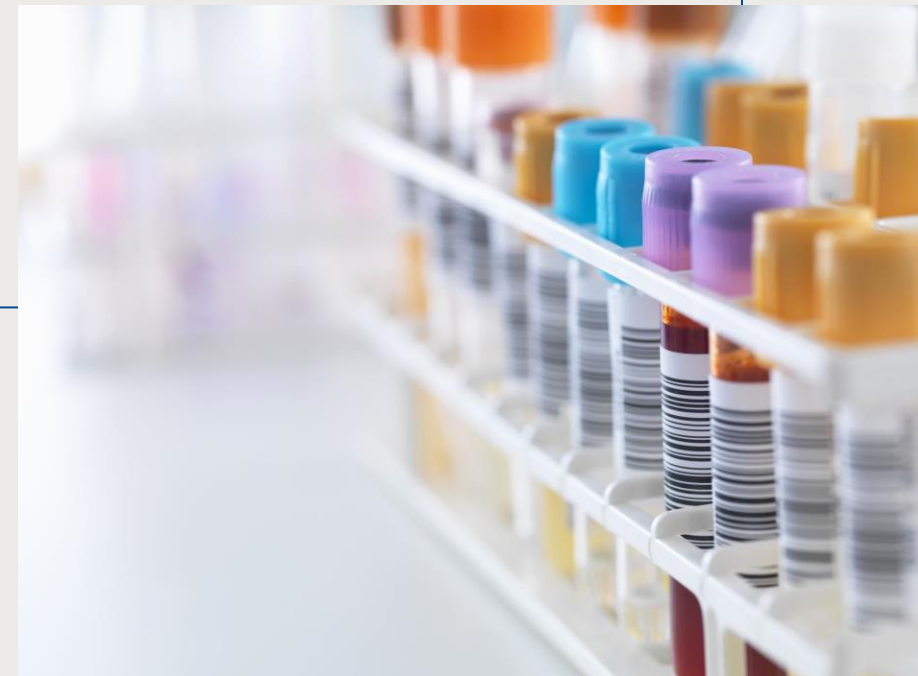
Nursing activities score: manual actualizado para su aplicación en la Unidad de Cuidados Críticos

Padilha KG., **Stafseth SK.**, Solms D., Hogendoorn M., Miranda DR., et al. *Rev Esc Enferm USP* 2015; 49(Esp):131-137.

80% NAS = 1 Critical Care Nurse/ ICU Nurse  
(Hoogendoorn et al., 2020; Stafseth et al., 2011)

| 1. MONITORING AND TITRATION (a, b or c)                                                                                                   |      |
|-------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1a)<br>Hourly vital signs, regular registration and calculation of fluid balance (NORMAL)                                                 | 4.5  |
| 1b)<br>Present at bedside and continuous observation or active for 2 hours or more in any shift, for reasons of safety (MORE THAN NORMAL) | 12.1 |
| 1c)<br>Present at bedside and active for 4 hours or more in any shift for reasons of safety, severity or therapy (MUCH MORE THAN NORMAL)  | 19.6 |

- |                                                                                            |     |
|--------------------------------------------------------------------------------------------|-----|
| 2. LABORATORY: Biochemical and microbiological investigations.                             | 4.3 |
| 3. MEDICATION: Vasoactive drugs excluded.<br>Patients who received any type of medication. | 5.6 |



| 4. HYGIENE PROCEDURES                                                                                                                                                                                                                                                                                                                                            |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <p>4a)</p> <p>Dressing of wounds and intravascular catheters, changing linen, washing patient, incontinence, vomiting, burns, leaking wounds, complex surgical dressing with irrigation, special procedures (e.g. barrier nursing, cross-infection related, room cleaning following infections, staff hygiene) and especially obese patients, etc. (NORMAL).</p> | 4.1  |
| <p>4b)</p> <p>The performance of hygiene procedures took more than 2 hours in any shift (MORE THAN NORMAL).</p>                                                                                                                                                                                                                                                  | 16.5 |
| <p>4c)</p> <p>The performance of hygiene procedures took more than 4 hours in any shift (MUCH MORE THAN NORMAL).</p>                                                                                                                                                                                                                                             | 20.0 |

5. CARE OF DRAINS - All (except gastric tube). Patients with any type of drain or tube with the aim of draining.  
Including long-term catheter.

1.8



## 6. MOBILIZATION AND POSITIONING

Including procedures such as: turning the patient; mobilization of the patient; moving from bed to chair; team lifting

|                                                                                                              |      |
|--------------------------------------------------------------------------------------------------------------|------|
| 6a)<br>Performing procedure(s) up to 3 times per 24 hours.                                                   | 5.5  |
| 6b)<br>Performing procedures(s) more frequently than 3 times per 24 hours, or with 2 nurses – any frequency. | 12.4 |
| 6c)<br>Performing procedure with three or more nurses – any frequency.                                       | 17   |

## 7. SUPPORT AND CARE OF RELATIVES AND PATIENT

Including procedures such as telephone calls, interviews, counseling. Often, the support and care of either relatives or patient allow staff to continue with other nursing activities (e.g.: communication with patients during hygiene procedures, communication with relatives whilst present at bedside and observing patient).

7a)

Support and care of either relatives or patient requiring full dedication for about one hour in any shift such as: to explain clinical condition, dealing with pain and distress, difficult family circumstances (NORMAL)

4.0

7b)

Support and care of either relatives or patient requiring full dedication for 3 hours or more such as: to explain clinical condition, dealing with pain and distress, difficult family circumstances (MORE THAN NORMAL)

32.0

## 8. ADMINISTRATIVE AND MANAGERIAL TASKS

8a)

Performing routine tasks such as: processing of clinical data, ordering examinations, professional exchange of information (e.g.: ward rounds) (NORMAL)

4.2

8b)

Performing administrative and managerial tasks requiring full dedication for about 2 hours in any shift such as: research activities, protocols in use, admission and discharge procedures (MORE THAN NORMAL)

23.2

8c)

Performing administrative and managerial tasks requiring full dedication for about 4 hours or more of the time in any shift such as: death and organ donation procedures, co-ordination with other disciplines (MUCH MORE THAN NORMAL)

30.0

## VENTILATORY SUPPORT (Item 9-11) total of 7.6

- |                                                                                                                                                                                                                                                                                                                              |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 9. Respiratory support: Any form of mechanical ventilation/assisted ventilation with or without positive end-expiratory pressure, with or without muscle relaxants; spontaneous breathing with positive end-expiratory pressure (e.g. CPAP or BiPAP), with or without endotracheal tube; supplementary oxygen by any method. | 1.4 |
| 10. Care of artificial airways. Endotracheal tube or tracheostomy cannula.                                                                                                                                                                                                                                                   | 1.8 |
| 11. Treatment for improving lung function. Lung physiotherapy, incentive spirometry, inhalation therapy, intratracheal suctioning.                                                                                                                                                                                           | 4.4 |



## CARDIOVASCULAR SUPPORT

- |                                                                                                                                                                                                                                                                    |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 12. Vasoactive medication, irrespective of type or dose.                                                                                                                                                                                                           | 1.2 |
| 13. Intravenous replacement of large fluid losses. Fluid administration<br>>3 l/m <sup>2</sup> /day, irrespective of type of fluid administered.                                                                                                                   | 2.5 |
| 14. Left atrium monitoring. Pulmonary artery catheter with or without cardiac output measurement. Including the use of cardiac pacemaker, intra-aortic balloon pumping, cardiac output monitoring, extracorporeal life support (ECLS), ventricular assist devices. | 1.7 |
| 15. Cardiopulmonary resuscitation after arrest; in the past 24 hours (single precordial thump not included).                                                                                                                                                       | 7.1 |



## RENAL SUPPORT

|                                                                                     |     |
|-------------------------------------------------------------------------------------|-----|
| 16. Hemofiltration techniques. Dialysis techniques.                                 | 7.0 |
| 17. Quantitative urine output measurement<br>(e.g.: by indwelling urinary catheter) | 7.7 |



## Neurological and Metabolic support

|                                                                                                                        |     |
|------------------------------------------------------------------------------------------------------------------------|-----|
| 18. Measurement of intracranial pressure.                                                                              | 1.6 |
| 19. Treatment of complicated metabolic acidosis/alkalosis.                                                             | 1.3 |
| 20. Intravenous hyperalimentation. Patients who receive central or peripheral venous infusion of parenteral nutrition. | 2.8 |
| 21. Enteral feeding. Through gastric tube or other gastrointestinal route (e.g., jejunostomy).                         | 1.3 |



## SPECIFIC INTERVENTIONS

22. In the ICU; Endotracheal intubation, insertion of pacemaker, cardioversion, endoscopies, emergency surgery in the past 24 hours, gastric lavage. Routine interventions without direct consequences for the clinical condition of the patient, such as: X-rays, echography, electrocardiogram, dressing, or insertion of venous or arterial catheters, are not included. 2.8

23. Outside the ICU; Surgery or diagnostic procedures. Patient transfer to any hospitalization unit or discharge and sending the body to the morgue. 1.9



# Time for questions!

