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### All About Comfort!

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## Background/Significance

- Patients are sedated in the intensive care unit (ICU) to decrease anxiety, keep them safe, protect their airway, and allow for proper healing (Elsevier Healthcare Hub, 2020).
- A comprehensive patient assessment in the ICU includes a measure of sedation and pain.
- Children's Health System of Texas (CHST) measures sedation in intubated patients with the State Behavioral Scale (SBS) and pain using an appropriate pain scale based on age and developmental factors.
- There is a variation of nursing practice when managing sedation for patients in the ICU setting.

## PICO Question

In the acutely-ill sedated pediatric patient, how does the COMFORT-B Scale with FLACC guide nursing decision-making for pain or sedation compared to the State Behavioral Scale with FLACC?

## Methods

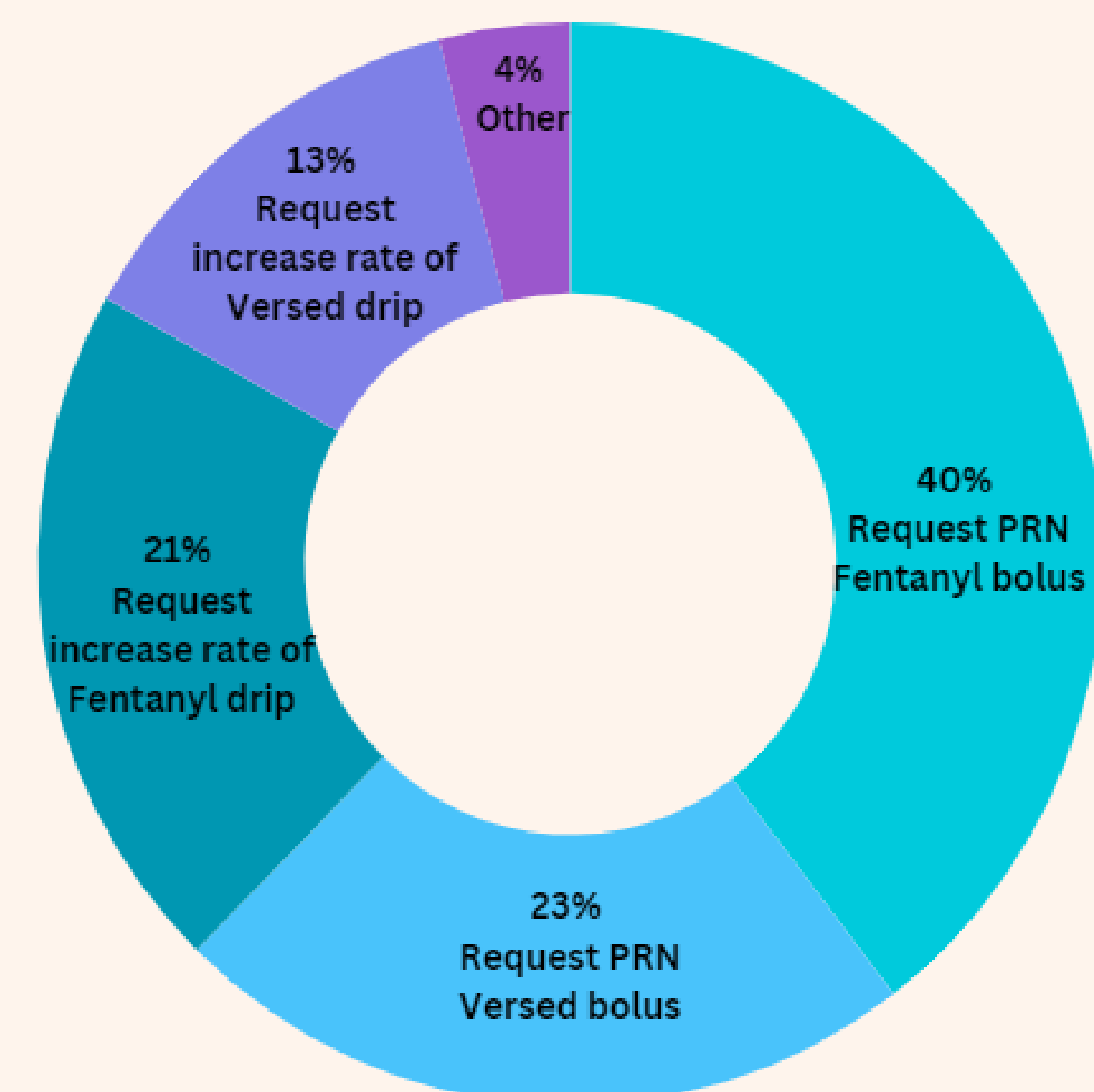
Case Study utilizing a standardized patient scenario was utilized for this project.

- Critical care Registered Nurses on the Plano campus were provided an educational handout on the COMFORT-B scale.
- Nurses read a patient scenario, including pain and sedation measurements and were asked to make a medication administration decision based on each tool.
- The first survey section evaluated nurse decision-making with FLACC and SBS, and the second section asked nurses to apply the Comfort-B scale to the same scenario.
- 45 RNs completed the survey questions in Microsoft Forms and data was analyzed for comparison between the two sections.

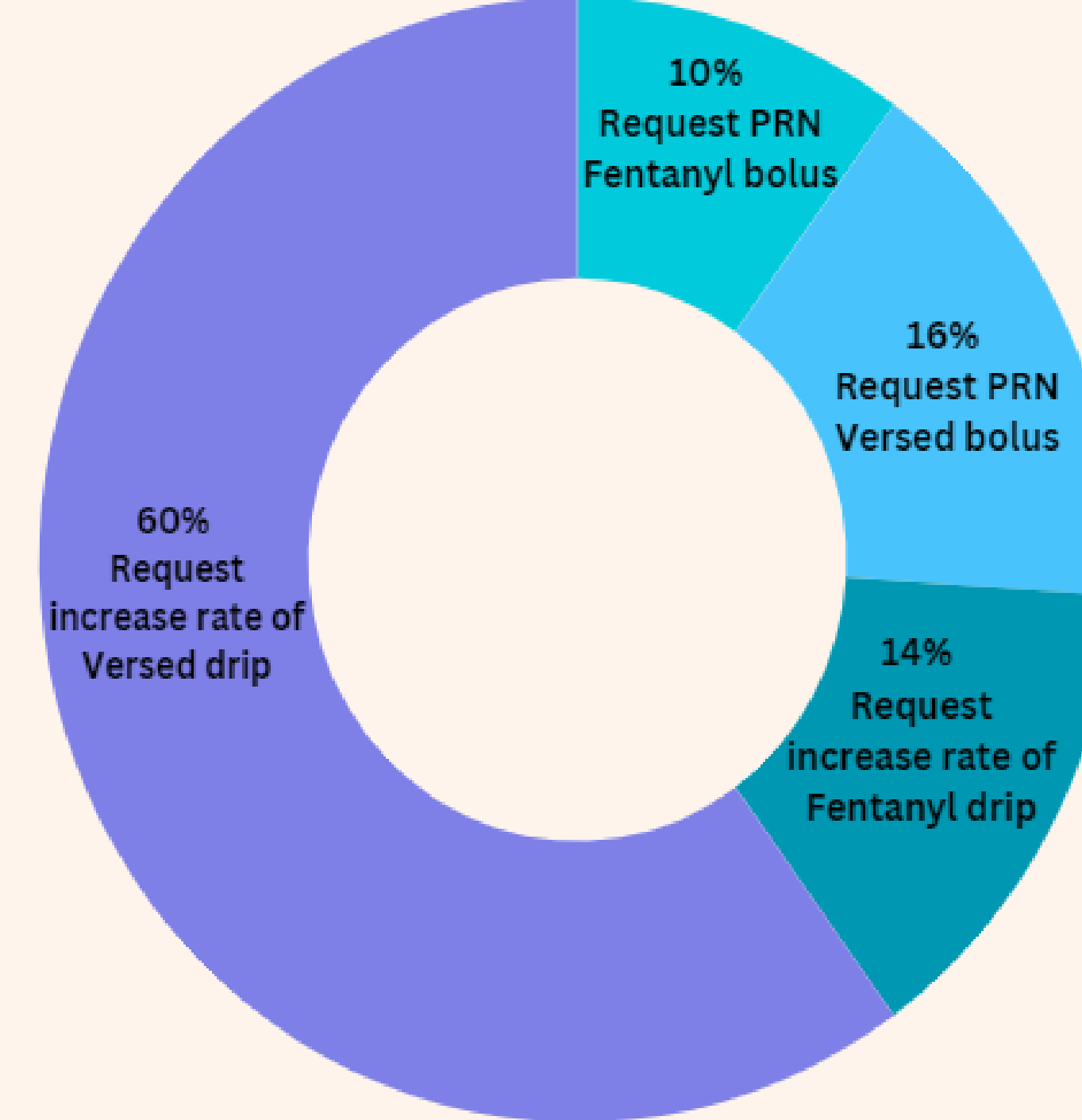
## Results

**Scenario:** You are caring for Roger, a 2-year-old who is intubated and sedated. He is on the following drips: Fentanyl at 1 mcg/kg/hr and Versed at 0.1 mg/kg/hr.

What interventions would you perform or request from the provider based on the patient's FLACC of 3 and SBS +1?



What interventions would you perform or request from the provider based on the patient's FLACC of 3 and COMFORT-B of 18?



## Clinical Practice Implications

- The COMFORT-B scale is validated to use in the pediatric population for both intubated and self-ventilating patients.
- The structured COMFORT-B algorithm provides a more standardized approach to manage pain and sedation in critically ill children than the State Behavioral Scale.
- The majority of nurses (33) who participated in this case study determined that the COMFORT-B tool helped better guide their decision-making, compared to the SBS and pain scale.

## Recommendations

- Continue literature search for additional studies on the application of COMFORT-B scale
- Share COMFORT-B scale with the CHST Opioid/Pain Committee to discuss a pilot
- Pilot the COMFORT-B in the PICU setting

References



Evidence Table



Comfort B



Citation (author, date, title, year)	Evidence Type (i.e guideline, benchmark)	Sample size, participants, setting	Findings	Limitations	Evidence Level/Quality	Notes
Miller-Hoover, S. R. (2019). Using valid and reliable tools for pain and sedation assessment in pediatric patients. Critical Care Nurse, 39(3), 59–66. <a href="https://doi.org/10.4037/ccn2019713">https://doi.org/10.4037/ccn2019713</a>	Literature Review	N/A	This is an article that summarizes different pain/sedation scales and shows the pros/cons of each. This would come in handy when attempting to compare/contrast the SBS and COMFORT-B scales.	The two scales are mentioned but there is not a lot of detail on which would be preferable.	Level III/A	The COMFORT-B is scale that adequately represents the sedation and pain levels of pediatric patients.
Daverio, M., von Borell, F., Ramelet, A.-S., Sperotto, F., Pokorna, P., Brenner, S., Mondardini, M. C., Tibboel, D., Amigoni, A., Ista, E., Kola, E., Vittinghoff, M., Duval, E., Polić, B., Valla, F., Neunhoeffer, F., Konstantinos, T., Györgyi, Z., Tan, M. H.,...Tekgüç, H. (2022). Pain and sedation management and monitoring in pediatric intensive care units across europe: An espnic survey. Critical Care, 26(1). <a href="https://doi.org/10.1186/s13054-022-03957-7">https://doi.org/10.1186/s13054-022-03957-7</a>	Research Quantitative	357 European PICU's assessing demographic features, drug choices, and dosing for monitoring pain and sedation. Survery received 60% of surverys back, 215 PICUs	First-choice of drug combination is a benzodiaepine, fentanyl and midazolam. Starting doses from 0.1 to 5 mcg/kg/hr and 0.1 to 0.5 mg/kg/hr. Scales used the most were FLACC (54%) and COMFORT Behavior (48%)	Only 60% of PICU's responded to the survery. The surveys were only sent to European countries. Only one physican and nurse in each PICU to avoid repeated responses, which could skew the results with only one person's input. Wording in the survery could have been interpreted differently for each person reading the survey. Not all the ICU's in the survey were Pediatric ICUs. Some were adults	Level I/A	Pain and analgesia were not monitored by 5% of PICUs. In 81% of PICU's (181) pain was monitored and documented more than one time per day. Only 27% of PICUs took pain assessments before and after changes in analgesia, which can lead to over or underdosing. COMFORT B can detect changes in pain treatment.
Egbuta, C., & Mason, K. P. (2021). Current state of analgesia and sedation in the pediatric intensive care unit. Journal of Clinical Medicine, 10(9), 1847. <a href="https://doi.org/10.3390/jcm10091847">https://doi.org/10.3390/jcm10091847</a>	Literature Review	N/A	This article discusses the commonly used sedatives, pain relievers, withdrawal monitoring/treatment, and sedation protocols in the PICU. It summarizes that successful (adequate) sedation will help minimize PICU acquired complications such as: delirium, withdrawal syndrome, neuromuscular atrophy and weakness, post-traumatic stress disorder, and poor rehabilitation. It discusses the importance of having an appropriate tool to help titrate sedation and measure the sedation effects. “The State Behavioral Scale, the COMFORT scale, the COMFORT behavior scale (COMFORT-B scale), and the Richmond Agitation Sedation Scale (RASS) have been validated in PICU patients.” The SBS, intended for use along the entire pediatric age spectrum, purposely excluded descriptors which would not be met by children <6 years: ability to communicate, follow commands, and attempt to sit or climb out of bed [63]. The COMFORT scale is an observational scale that measures eight clinical parameters to determine a critically ill child’s level of distress. The COMFORT-B scale is commonly used in conjunction with other observational scales, some requiring nursing input (Nurse Interpretation of Sedation.	Only information about the specific drugs and scales used. Not a study based off of PICU patients rcieving sedation and using the scales.	Level V/A	COMFORT-B validated the level of sedation in the pediatric patient population
Mondardini, M. C.	Literature Review	N/A	Light sedation strategies- comparing clonidine vs	Pediatric patient's difficult to	Level V/A	Regular assessment of pain

## October 2023 Plano CRT/PICU

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