sentara nurse

Simplifying Mobility in the ICU

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Background

An abundance of literature exists supporting early mobility in critically ill patients to reduce complications.

Immobility is associated with physical deconditioning, increased length of stay, more ventilator days, healthcare associated pressure injuries, VTE and delirium, among other complications.

Problem

Sentara Northern Virginia Medical Center experienced a decline in documented mobility interventions in 2017 and early 2018 as well as an increase in pressure injuries. Existing Sentara Healthcare mobility protocol is lengthy with multiple levels and sublevels. The American Association of Critical Care Nurses' (AACN) mobility protocol was perceived to be easier to use and more simplistic with a total of 4 levels and was chosen for this quality improvement initiative.

Methodology

Project structured using clinical improvement methodology Define, Design, Implement (DDI).

DDI
DEFINE DESIGN IMPLEMENT
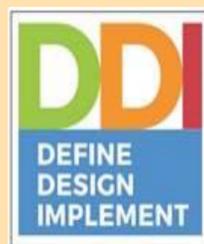
Current mobility intervention rates, barriers to early mobility, documentation and accuracy of data reports were reviewed. Baseline data was shared with staff. An educational presentation was completed by all RNs. The AACN Early Progressive Mobility Protocol was adopted which included 4 mobility levels versus 7 levels in current Sentara mobility protocol. Daily discussion of patient mobility was emphasized and monitored during daily ICU InterDisciplinary Rounds. Turn clocks were posted in each room. Early inclusion of physical and occupational therapy was ensured.

Objectives

This mobility quality improvement project aimed to:
- Increase ICU patient mobility
- Reduce HAPI incidence
- Decrease ICU length of stay
- Simplify mobility levels

Interventions

Multiple interventions were implemented:
- Formation of DDI team (RNs, Manager, Director, CNS, NCP, WOCNS, PT/OT, RCP, MD champion)
- Pre-intervention mobility knowledge assessment survey
- Development & dissemination of CC mobility self-learning based training with post test & CEUs
- Simplification of levels using AACN's Progressive Mobility tools (*below*)
- Development of mobility algorithm which included safety screening (*below*)
- Discussion of patient's current mobility level, barriers to mobility & mobility goals during daily IDRs
- Development of weekly clarity mobility report
- Use of turn teams & clocks

AACN Progressive Mobility
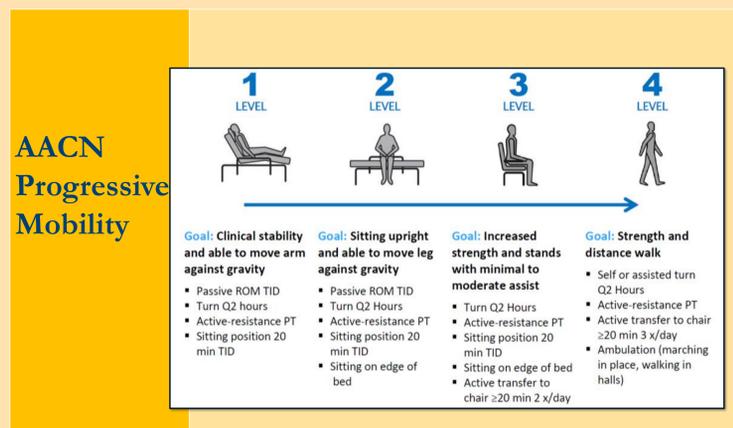
SNVMC Mobility Algorithm
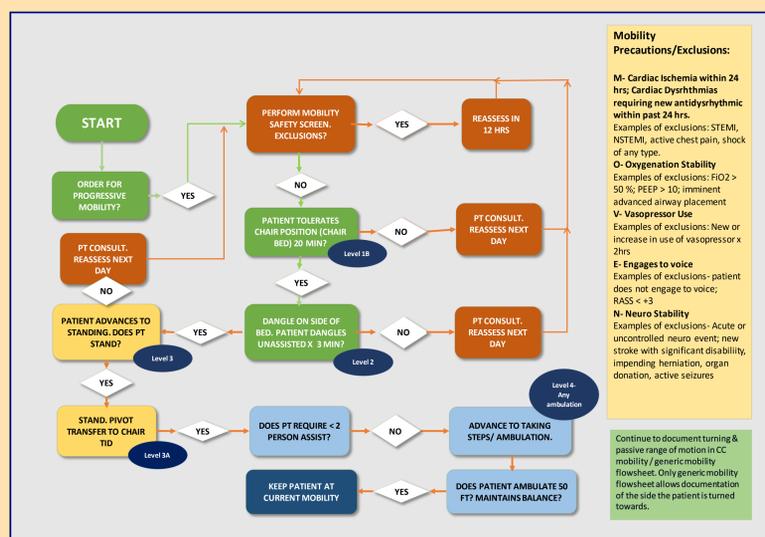
Results/ Data

2018 Pre – Critical Care Mobility Interventions

	Jan	Feb	Mar	Apr	May	Jun	Total Jan-June
Per Patient Per Month All Levels	3.39	3.34	3.31	3.7	3.83	3.42	**3.39**
Per Patient Per Month Levels 3/4	0.09	0.12	0.28	0.18	0.08	0.28	**0.17**

2018 Post – Critical Care Mobility Interventions

	July	Aug	Sept	Oct	Nov	Dec	Total July-Dec
Per Patient Per Month All Levels	3.33	3.2	4.07	3.85	4.39	4.06	**3.80**
Per Patient Per Month Levels 3/4	0.31	0.24	0.36	0.32	0.14	0.2	**0.26**

p=.085 at the .10 level of significance.
p=.053 at the .10 level of significance.

2018 Average Length of Stay Pre – Intervention

	Jan	Feb	Mar	Apr	May	Jun	Total Jan-June
ICU Admissions	106	74	86	70	101	74	511
ICU ALOS	3.8	4.8	3.7	3.5	4.5	3.9	**4.04**
Weighted Average	402.8	355.2	318.2	245	454.5	288.6	2,064.30

2018 Average Length of Stay Post – Intervention

	Jul	Aug	Sep	Oct	Nov	Dec	Total July-Dec
ICU Admissions	95	104	81	91	111	101	583
ICU ALOS	3.3	3.4	2.7	3.8	3.4	3.9	**3.44**
Weighted Average	313.5	353.6	218.7	345.8	377.4	393.9	2,002.90

ALOS Post < Pre p=.024 (.05 level of significance)

Conclusions

Increasing staff awareness & knowledge of immobility complications, simplifying mobility levels, implementation of turn teams and clocks, discussion and monitoring of mobility levels during daily interdisciplinary rounds significantly improved the number of daily mobility interventions and reduced ALOS. HAPIs decreased from 9 to 2 during the pre- & post-intervention periods, but these numbers reflect all HAPIs (device related & pressure injuries). The team continues to consider other interventions impacting results such as focused skin rounds and new intensivists.

References

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Nursing Reference Center resources
ArjoHuntleigh Mobility website