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Postoperative Vital Signs: Traditional Versus Evidence Based

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Problem:

Post operative vital signs Did not guide the nurse to identify postoperative complications.

Purpose:

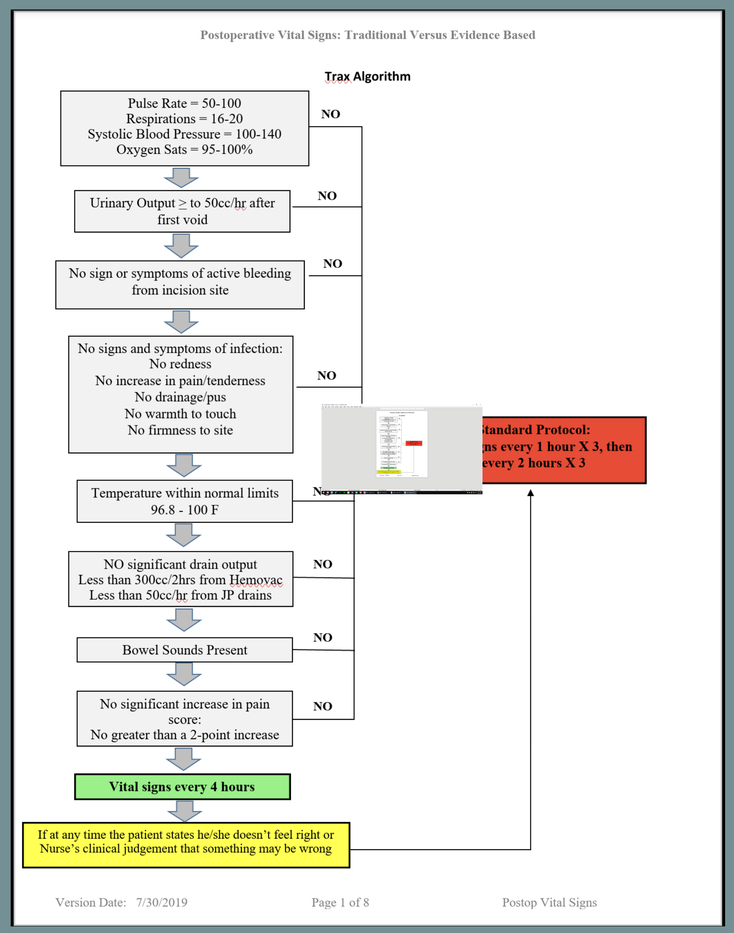
The purpose of the study is to compare the current standard post-operative nursing vital signs and assessment routine to an evidence based algorithm(TRAX) drive routine.

The Trax algorithm is initiated by nursing assessments which then determine the frequency and tye of postoperative vital signs.

Background:

There is little research on the reliability of postoperative vital signs since 2006. There was a gap in publications from 2006 to 2014. In 2006, Zietz and McCutcheon reviewed 55 patient charts and little response to abnormal vital signs. In 2014 Storm-Versloot did not provide valuable information in their 15 study systematic review. Only 3 studies were free of bias and methodological flaws. But in 2017, Smith and Reico-Saucedo examined how frequently vital sign measurements should be taken, however much of this was based on existing custom. His study reported compliance with vital signs protocols was poor and included incomplete observation.

Trax Algorithm



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Trax Algorithm

Pulse Rate = 50-100
Respirations = 16-20
Systolic Blood Pressure = 100-140
Oxygen Sats = 95-100%

NO

Urinary Output ≥ to 50cc/hr after first void

NO

No sign or symptoms of active bleeding from incision site

NO

No signs and symptoms of infection:
No redness
No increase in pain/tenderness
No drainage/pus
No warmth to touch
No firmness to site

NO

Temperature within normal limits
96.8 - 100 F

NO

NO significant drain output
Less than 300cc/2hrs from Hemovac
Less than 50cc/hr from JP drains

NO

Bowel Sounds Present

NO

No significant increase in pain score:
No greater than a 2-point increase

NO

Vital signs every 4 hours

If at any time the patient states he/she doesn't feel right or Nurse's clinical judgement that something may be wrong

tandard Protocol:
ns every 1 hour X 3, then
very 2 hours X 3

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References

Smith, G. & Recio-Saucedo, A. (2017). The measurement frequency and completeness of vital signs in general hospital wards: An evidence free zone. *International Journal of Nursing Studies,* 74, A1-A4.

Storm-Versloot, M., Verweij, L., Lucas, Cl., Ludikhuize, J., Goslings, C., Legemate, D., & Vermeulen, H. (2014). Clinical relevance of routine measured vital signs of hospitalized patients: A systematic review. *Journal of Nursing Scholarship,* 46(1), 39-49.

Zeita, K., & MCCuthceon, H. (2006). Obersations oand vital signs: Ritual or vital for the monitoring of postoperative patients. *Applied Nursing Research, 19*(4), 204-211.

Methods:

A descriptive study in which standard care vs Trax algorithm were compared. Patients that were assigned to the Trax arm were compared to patients receiving the standard protocol for vital sign frequency in gender, age, length of stay, and type of procedure.

Results:

Eighty patients participated with 28 in the Trax arm versus 52 in the control group. No patients were returned to a higher level of care, treatment or sent back to surgery. The Trax algorithm performed as expected.

Discussion/Recommendations:

The Trax algorithm was successful for a pilot study with a small sample. It started before Covid, so many of the desired post op patients were dispersed elsewhere, where staff were not trained on the use of Trax. Even though some candidates were enrolled in the Trax arm, it was recognized there was a problem with follow through on the Trax. Both groups were equivalent but unintentionally unequal in total size. More similar samples would be sought in future studies. Future studies should broaden the postoperative diagnosis to further test the Trax algorithm.