Does the Use of a Wireless Monitor Decrease the Time From Admission to Complete Dilation?

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Published In/Presented At

Bozilesky, L. Cleffi, J. Soto, S. Trexler, C. (2018, March 9). *Does the Use of a Wireless Monitor Decrease the Time From Admission to Complete Dilation?* Poster presented at: LVHN Vizient/AACN Nurse Residency Program Graduation, Lehigh Valley Health Network, Allentown, PA

Does the Use of a Wireless Monitor Decrease the Time From Admission to Complete Dilation?

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Background

- Due to a limited number of wireless electronic fetal monitoring (EFM), many patients are not provided the opportunity to ambulate during labor.
- Traditionally a bedside or wired EFM is used.
  - Lehigh Valley Health Network has two wireless EFM devices, one at Cedar Crest and the other at Muhlenberg.
- Ambulation during first stage of labor (Lawrence A, Lewis L, Hofmeyr GJ, Styles C).
  - Decreases labor time
  - Provides for better maternal and fetal outcomes
  - Improves patient satisfaction

PICO

Women have a decrease in the first stage of labor when using the wireless monitors versus when they use the wired monitors.

- P – primagravid, unruptured, in first stage of labor, required continuous monitoring
- I – wireless (Monica) monitors
- C – wired bedside monitors
- O – decrease time from admission to complete dilation

Evidence

- "The duration of first stage was approximately one hour and thirteen minutes shorter for nulliparous women randomized to upright positions compared with supine and recumbent positions" (Lawrence A, Lewis L, Hofmeyr GJ, Styles C).
- "Ambulation seemed to have beneficial effects: labor was shorter, the need for analgesia was less, and the condition of the fetus during labor and of the baby at birth were better" (Flynn, AM, Kelly, J., Hollins, G., Lynch, P F.).

Implementation

- Retrospective auditing of twenty charts total
  - 10 charts from patients who met the inclusion criteria, (primagravid, unruptured, in first stage of labor) and who used the wireless Monica Novi monitoring
  - 10 charts of patients who met the inclusion criteria, (primagravid, unruptured, in first stage of labor) who used the wired bedside monitoring.

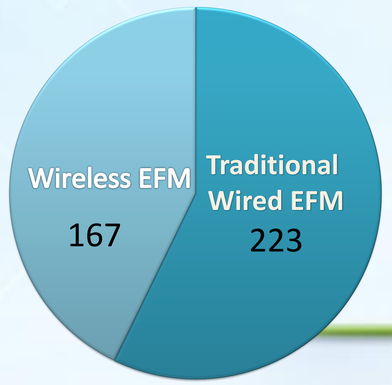
Results

Hours from admission to complete dilation*

Wired Monitor	Wireless Monitor
31	27
26	25
40	23
38	19
35	30
29	33
24	10
Total: 223	Total: 167

*Excludes six charts. 3 wired and 3 wireless, that did not reach complete dilation and resulted in a cesarean section

Total hours from admission to complete dilation



Discussion

- Those patients who utilized the wireless EFM appeared to have a shorter duration from admission to complete dilation.
- Wireless monitoring
  - Allows for ambulation during labor
  - Improves patient satisfaction
  - Promotes faster labor time

Conclusion

- Wireless EFM can shorten a patient's length of stay by decreasing the labor time.
- The wireless monitor allowed a patient in labor to ambulate thus helping the baby into position through gravity.
- The purchase of more wireless EFM monitors on the Labor and Delivery unit may allow for improved patient satisfaction by allowing patients more opportunity to ambulate in order to decrease labor time.

REFERENCES

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The Journal of Perinatal & Neonatal Nursing Issue: Volume 14(3), December 2000, p 1–18 Copyright: Copyright © 2000 by Aspen Publishers, Inc.

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