

Use of Birthing Tools to Decrease Labor Times

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Background

- It is common for nulliparous women to have significantly longer labors compared to the multiparous woman.
- One of the most common ways to progress a woman's labor is through movement and position change; however, when women decide to get epidurals this restricts the mobility and at times the positioning of labor patients.
- Epidural use in labor has shown to increase labor times due to the inability of the laboring woman to readily change positions that facilitate dilation and effacement of the cervix, as well as baby's station (Kemp, et al., 2013).
- Peanut balls were originally used in physical therapy and have only recently begun to be used with laboring women.

Objectives

- In June of 2015 our unit manager approached us regarding the peanut balls. She told us she would be ordering them for the unit and believed it would be a great opportunity for an evidence based practice project.
- She provided us with background information and we did further research on how these peanut balls would be beneficial to our unit.
- Ultimately we decided to take on this project and developed our objective
 - To show that second stage labor times for nulliparous women with epidurals can be decreased with the use of a peanut ball.

PICO Question

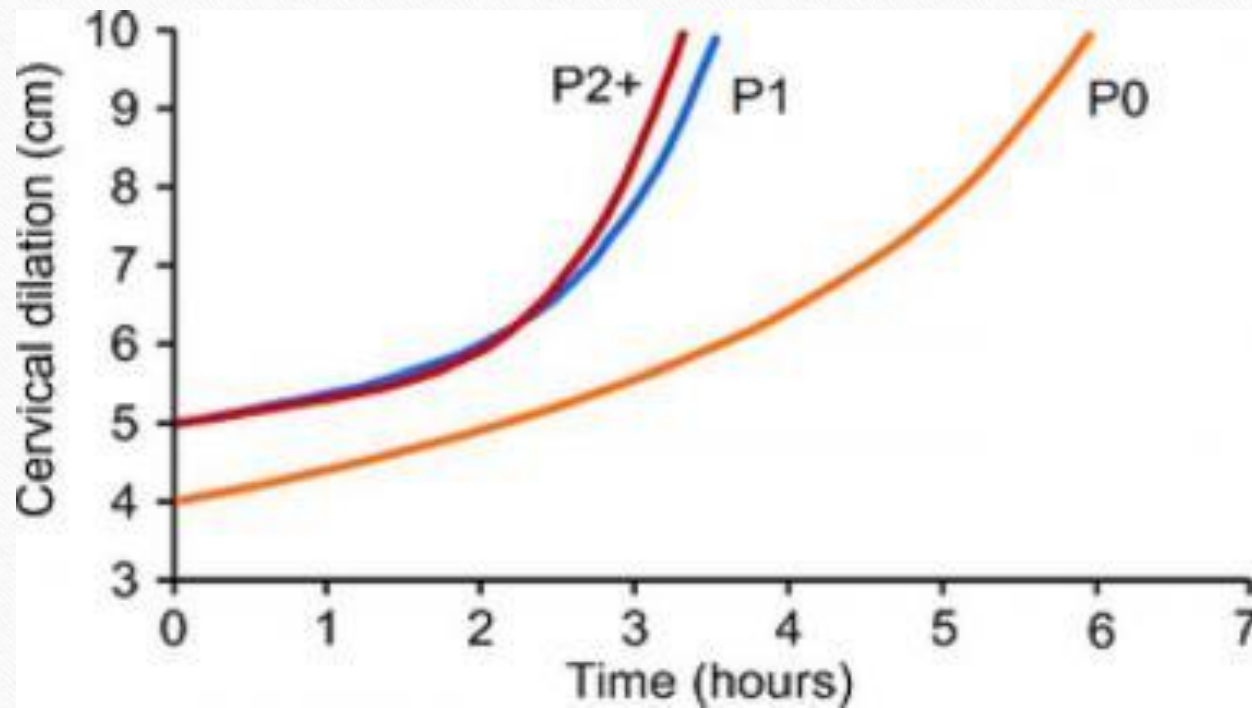
Will second stage labor times be decreased in nulliparous women arriving in labor to Houston Methodist Willowbrook while using the peanut ball, as compared to those patients that did not use a peanut ball?

Literature Review

- In one study, upright positions were compared to supine positions in the first stage of labor. It was found that upright positioning reduced the length of time of the first stage of labor (Dowswell et al., 2009).
- Researchers in 2013 did not find a significant difference in upright vs supine positions in patients with epidurals (Kemp et al., 2013).
- A second study showed that with concurrent use of the peanut ball while having an epidural, first and second stage labor times were decreased (Botsios et al., 2015).
- A third study was a capstone project that attempted to further prove the study performed by Botsios et al. in 2015 using the peanut ball to shorten labor times. The results from this study did not show reduced labor times in the first stage, but did shorten second stage times by 22 minutes with laboring down, or delayed pushing (Payton, 2015).

Labor Curve

(Saju et al., 2015)



Data Sample and Setting

- Primigravida mothers arriving in labor to Houston Methodist Willowbrook Hospital
 - Augmented patients were included.
 - Patients with epidurals
 - Patients with pregnancy and/or labor complications were excluded
 - Those greater than 38 weeks gestation
 - Those who used the peanut ball beginning at 4-4.5cm dilated
 - A patient who pushed for over four hours was excluded from this study

Pre-Data

- When first looking at the data, we decided to look at total labor times for patients that did not use the peanut ball vs those that actively used it
- We examined the labor times of 17 women who fit our selection criteria and observed their total time in labor as well as the time spent in the second stage.

Implementation/Education

- Education given to staff RNs about use of peanut ball.
- Patient height ranges written on peanut balls in order to choose correct size.
- Yellow peanut ball designated for sitting on the floor only.



(Grant, 2014)

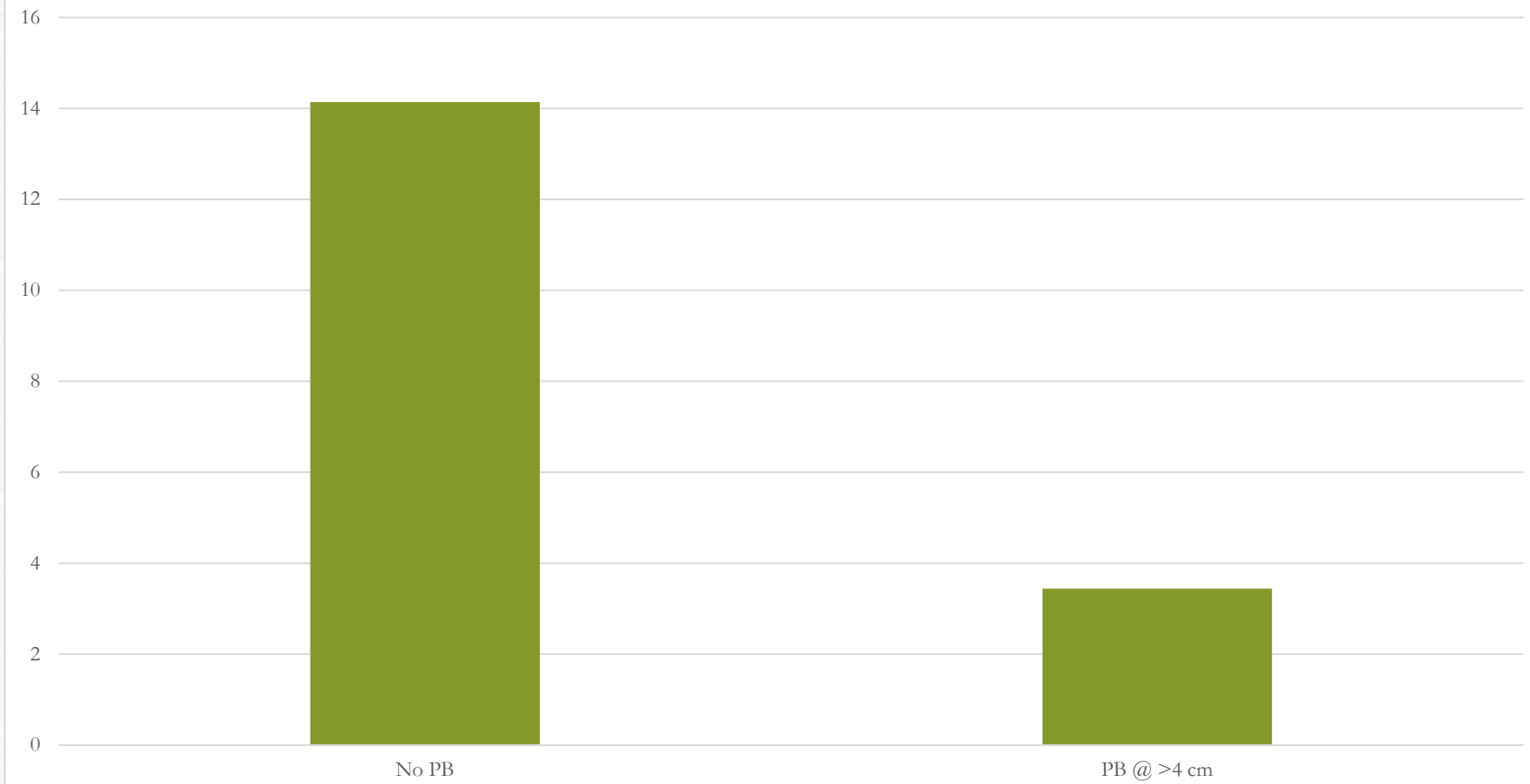
Post-Data

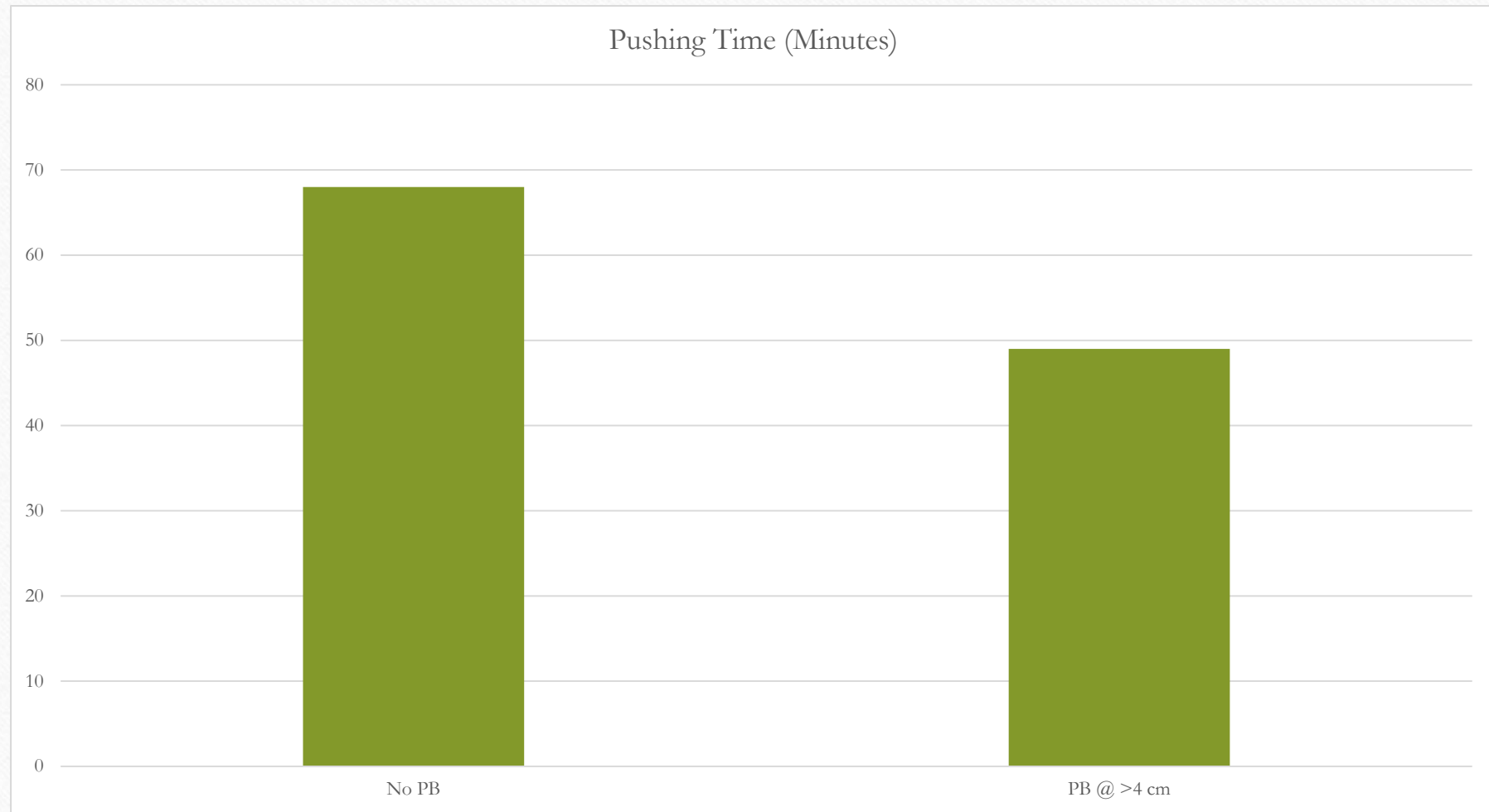
- We then examined the labor times and second stage labor times of eleven women who used the peanut ball.
- All of these women were greater than 38 weeks gestation, received epidurals and began using the peanut ball at 4-4.5cm.
- Of these eleven, one of the patients pushed for four hours and was excluded from the final results.

Results

- After examining these results, it was determined that the use of the peanut ball significantly decreased total labor times as well as second stage labor times in the patients.
- For those who did not use the peanut ball:
 - Average labor time: 14.14 hours
 - Average pushing time: 68 minutes
- For those who did use the peanut ball:
 - Average labor time: 3.44 hours
 - Average pushing time: 49 minutes

Hours in Labor





Limitations in Data Collection

- Not accurately documenting labor times.
 - Onset of labor.
 - Leaving fields blank.
- Not accurately documenting use of peanut ball.
- Typos
 - Dates
 - Times
- Peanut balls not inflated to standard size for colors.
 - Some overinflated.
 - Some underinflated.
- Peanut balls not being implemented at the correct times. Some being used before 4cm or not until the patient is 9+ cm.

Conclusion/Recommendations

- Further study of the use of the peanut ball
 - Are these sizings accurate?
 - Are these recommended positions adequate?
 - Ensuring documentation is correct.
- A second study with specific protocol for the peanut balls would be helpful for further research.
 - The protocol should be set in place using the criteria in this study as well as further standards regarding how often the patient's position should be changed with the peanut ball (i.e. turning q 30 min, 45 min, 1 hr, etc.).







References

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Thank you!
