Program Purpose

- One multi-hospital system’s journey to establish an evidence-based nitrous oxide program during labor & immediate post-partum period.
- Nitrous oxide can help decrease pain and anxiety during labor and promote feelings of euphoria and relaxation.
- Minimal risk: No complications
  - Maternal
    - No impact on cardio-respiratory functioning
    - No impact on labor progress or post partum bleeding
    - Minimal/possible side effects: nausea, vomiting, drowsiness
  - Fetus
    - No change in FHTs
    - No impact on Agpars or resuscitation
    - No impact on cord pH
    - No known effects on breastfeeding
  - Efficacy
    - Pain relief: satisfactory
    - Anxiety: favorable
    - Satisfaction: favorable

Proposed Change

The aim of the program was to develop and implement a nurse-driven nitrous oxide protocol.

Implementation

- Assembled an interdisciplinary team of nurses, obstetricians, anesthesiologists, respiratory therapy, and administration to develop a nurse-driven evidence-based nitrous oxide protocol.
- Key elements of the protocol included:
  - Standardized patient education
  - Equipment use, safety and securement
  - Eligibility criteria
  - Concurrent use of opioids
  - Written consent
  - Identification of prescribing providers (obstetricians/midwives)
  - Monitoring and assessment before and during use
  - Documentation
  - Discontinuation
- Additional organizational considerations were also addressed:
  - Equipment selection
  - Occupational exposure for labor staff
- The implementation plan included multimodal strategies for nursing staff and provider education:
  - Face-to-face instruction
  - On-line educational module
  - Webpage promotion
  - Attestation for adherence to the protocol, and marketing of the program to ensure successful adoption by the patient population

Implications for Practice

- Intrapartum nurses are privileged to provide front-line support to laboring women. Once the protocol is ordered by the physician or midwife, the bedside RN is empowered to provide complete oversight to patient education, screening, use, and evaluation of the patient’s response.
- Nitrous oxide is a noninvasive modality that nurses can use to elevate practice and promote a women’s birth experience.

Outcomes/Evaluation

- Overall positive, occasional disappointment- “I didn’t like how it made me feel”
- Increased option for pain management intra- and immediate post-delivery, i.e. repairs
- Delay in epidural request
- Bridge until epidural insertion
- Direct impact on anxiety