Development Of A Patient Decision Aid For Induction Of Labor: A Quality Improvement Project

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Abstract

Objective: To create and distribute a Patient Decision Aid (PDA) for use with induction of labor (IOL).

Design: Quality improvement initiative.

Setting/Local problem: Midwifery practice at a university hospital serving an urban and suburban population in the Pacific Northwest. PDAs have been shown to improve outcomes, costs and patient satisfaction, and though several exist for pregnancy and birth, none exist for IOL.

Intervention/Measurements: The PDA was created using international standards and included a diagram, key words, plain language descriptions, a Paling Palette©, a pro and con list for induction vs. spontaneous labor, a comparison table for IOL vs. spontaneous labor, direct quotes from parents who were induced, and a series of clarifying questions about patient values surrounding birth using a Likert-like scale to record preference. It was distributed either in paper form or electronically to qualifying patients during their 38-week prenatal appointment. Use was tabulated and compared with the number of qualifying patients; midwives were surveyed at the beginning of the project for what they would like included with the PDA and after the project to share their impressions of the PDA content and ease of use.

Results: Specific aims for training timelines of midwifery practice staff were met. The project goal of 90% of qualified patients receiving the PDA at the designated appointment was not met; the total receipt rate for the project was 85%. Response rate for the post-project survey was 33%, well below the 80% goal. However, of these responses, unanimous support was given for the continued use of the PDA with patients desiring information on IOL outside of the project.

Conclusion: A patient decision aid for induction of labor was created following International Patient Decision Aid Standards and distributed to qualifying patients with 85% accuracy rate by clinic midwives. The follow-up survey response rate for the practice was very low at 33%, but all responses were positive regarding the language, utility and work flow surrounding the PDA and its implementation. Post completion of the project, findings were discussed by the midwifery practice and the PDA was opted to be included in a patient education packet for distribution to all future patients at the beginning of their third trimester of pregnancy.

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Problem description

Induction of labor is a now-common practice that, in combination with cervical ripening, is used to begin contractions for people that are not yet in labor. In 1990, induction rates in the US accounted for 9.6% of all deliveries and by 2018, 25.7% of labors were induced including 31.7% of first-time births (Declerq et.al, 2020). Recently, the ARRIVE trial, a high-impact study, examined elective induction of labor among nulliparous women at 39 weeks and 0 to 4 days gestation versus expectant management and found that neonates had no increased adverse events and rates of cesarean delivery were lower in the induction group (Grobman et. al, 2018). In subsequent years, the consequences of allowance or encouragement of induction of labor at 39 weeks of gestation have been examined including analyses of bias and economic impact (Dahlen et. al, 2021).

When considering how elective induction of labor fits into the midwifery model of care, it is important to consider patient education and decision-making. Berger et. al (2015), detailed a lack of decision aids that met international standards and called for an increase of available materials to be used in shared decision making around care options for the last weeks of pregnancy. They recommended that those aids include alternative treatments and are presented in a patient's native language.

Patients require a better understanding of their options for term, late-term and post-term management and the risks and benefits of induction of labor. To incorporate emerging evidence and weigh patient values and preferences, a decision aid for induction of labor was created for use in this quality improvement project.

Available Knowledge

"Induction of labor" (IOL) describes the process of introducing medications to produce uterine contractions to achieve a vaginal birth (Mayo Clinic, 2021). Varney's Midwifery describes reasons for induction as being maternal or fetal health conditions or passing 42 weeks of gestation (King et. al, 2019). The ARRIVE trial challenges the concept of waiting until 42 weeks of gestation unless there is a medical indication to intervene (citation). Other authors question the external validity and possible selection bias of the Grobman trial (Carmichael & Snowden, 2019; Hersh, Skeith, Sargent & Caughey, 2019; Souter, Nethery, Levy, Mclean & Sitcov, 2022).

Gallagher, Liveright and Mercier (2020), found 46% of pregnant people in the third trimester were interested in induction of labor in the absence of maternal or fetal indications. This same study found strong patient knowledge base around induction methods – more than half of participants were aware of amniotomy and medications for cervical ripening and initiation of contractions - a mixed amount of patient knowledge about length of typical labor inductions and risks of cesarean birth (Gallagher, Liveright, & Mercier, 2020). Though women report themes of being concerned about the well-being of their baby, trust in their clinicians, and relief from the discomforts of pregnancy as reasons to regard labor induction as positive, (Moore et. al, 2014), women who have gone through a labor induction are likely to report negative feelings about the process (Jay, Thomas & Brooks, 2018). They recount feeling like they were pressured into an IOL by their provider, that the risks of IOL were not communicated to them, that they were not involved in choices surrounding IOL, and that being induced was a "nondecision" (Lou et. al, 2019; Akuamoah-Boateng & Spencer, 2018; Declercq et. al, 2018).

A patient decision aid (PDA) is a resource used during shared decision-making between a patient and a provider (Ottawa Hospital, 2020). Typically, information about an intervention is displayed in a variety of formats including Paling Palettes©, percentage of risk associated with the intervention, graphs, or questions for the patient to clarify values surrounding a medical intervention (Elwyn et. al, 2006; IPDAS, 2017; Kennedy et. al, 2020). The International Patient Decision Aid Standards (IPDAS) Collaboration accepts that the following should be present in an adequate patient decision aid: a systematic development process, balanced options information in plain language, using relevant evidence, sharing probabilities, clarifying and expressing values, using patient testimony, and divulging conflicts of interest (2006). Using a decision aid significantly increases patient knowledge and decreases feelings of decisional conflict in the areas of epidural use, trial of labor after cesarean, use of amniocentesis, use of antidepressants during pregnancy, and choosing a model of pregnancy care (Kennedy et. al, 2020). The Ottawa Hospital has more than 200 vetted PDAs on their website, 6 concerning birth, but none addressing induction of labor ("Alphabetical List of Decision Aids By Topic", March 12, 2021).

Rationale

The project goal was to create a streamlined and standardized tool that increases patient knowledge and clarifies patient preferences and values around IOL. Shared decision-making with use of a PDA has been shown to reduce patient anxiety, reduce decisional conflict, expand patient knowledge of procedural risks and benefits, increase patient satisfaction and decrease medical costs (Say, Robson & Tomson, 2011; Pope, 2017; Stacey et. al, 2017). Patient decision aids accomplish this via a three-pronged approach: increasing patient understanding, helping patients clarify and communicate their preferences and facilitating shared decision-making that is

based on evidence, options and circumstances (Pope, 2017). Stacey et. al, found that the use of PDAs had no adverse effect on health outcomes or satisfaction (2017); Scalia et. al, add that though the use of PDAs increases the number of patient questions in a visit, they do not significantly increase the length of clinic visits (2018).

The IHI Model of Improvement framework serves as a guide for changes in a healthcare setting. Via 3 Plan-Do-Study-Act (PDSA) cycles, the implementation of a new PDA was examined in a midwifery practice in an urban setting serving both urban and suburban areas that is part of an academic medical center in the Pacific Northwest.

Specific Aims

To complete the project in a timely fashion, the student project manager and supervising faculty created a series of targets for project material to be finished and distributed. A survey (see Appendix A) was created to gauge midwife interest and needs surrounding a PDA. The PDA was then constructed and was reviewed by the practice manager and supervising faculty in August, 2021, based on survey results; revisions and adjustments were made during the month of September, 2021; a presentation about the use of the PDA and documentation was made at a practice meeting with 9 of the 11 clinic midwives at the end of that month; a written version of instructions was forwarded to all clinic midwives. The first PDSA cycle began on October 4, 2021.

- By October 4, 2021, 90% of clinic midwives will be trained in the work flow for distribution of the PDA to patients >38 weeks of gestation.
- By December, 2021, 90% of patients meeting criteria for PDA distribution will receive the PDA at their 38 week visit.

- By January, 2022, 80% of midwives will answer a survey to gauge the utility of the PDA in framing patient discussions about IOL.

Context

The midwifery practice is administered through a women's health center and has 11 midwives currently providing outpatient care in the clinic. In fiscal year 2020, hospital records indicate a total of 1,061 midwifery patients were seen in the outpatient clinic and 481 of those patients delivered with the midwifery practice. Eighty-nine percent of outpatients identified as white, non-Hispanic, compared to 85.03% of midwifery intrapartum patients; Hispanic-identified patients made up 8.67% of clinic patients and 12.47% of those who delivered with the midwifery practice in the hospital setting. Twenty-four percent of outpatients were Oregon Health Plan (OHP) and Citizen Alien Waived Emergent Medical (CAWEM) program recipients, compared to 27% inpatients. Thirty-two and a half percent of outpatients were 35 years of age or older.

Interventions

The development and implementation of a patient decision aid for induction of labor required many steps. An initial survey (see Appendix A) was created to gauge beliefs of the practice midwives about induction of labor (both medically indicated and elective), the preferred gestational age at which IOL is discussed with patients, the content of the discussion, preferences for key points of a PDA, and the likelihood that the midwife would use one during visits. From the results of the survey, a PDA was developed using the best evidence and tailored to the patient population the practice serves. The PDA was revised and adjusted by the project coordinator, the practice manager and project faculty advisor. For a streamlined approach, the handout was instructed to be given at the 38 week gestational age appointment. Initially, the project was devised to limit participation to patients of 35 years of age or older, sometimes labeled

"advanced maternal age" (AMA). These parameters were thought to make the sample size more manageable for the midwives participating in the study, to allow for the lowest number of staff trainings and to coordinate with other projects being conducted within the practice at the time. The focus on AMA patients was agreed upon with the practice manager.

A dot phrase, or standardized documentation template for the electronic medical record, was created and distributed to clinic midwives to include in the progress note for the patient visit; a dot phrase was also developed to be added into the patient's post-visit health summary and educational materials, called an AVS or "after visit summary", in the electronic health record and included a link to an electronic version of the PDA. Practice midwives had a short education training about how to use the PDA and office workflow prior to the first Plan-Study-Do-Act (PDSA) cycle that began on October 4, 2021.

Each PDSA cycle was three weeks long, typically including 13 days of clinic use. A week was designated between each PDSA cycle for adjustments to be made to the PDA and incorporation of any feedback received from the midwives who had used the PDA. The last PDSA was conducted immediately following the second PDSA to make up for holiday clinic closures and to coincide with the end of the graduate nursing semester. Three cycles were conducted, and data gathering for the project concluded December 17, 2021. A follow-up presentation was made at the January 2022 practice meeting of the university midwives reviewing aims of the project, themes that emerged, and suggestions for future work. A survey was distributed at that time for individual, anonymous feedback on the workflow, content and satisfaction with the PDA.

Study of the Intervention

With each PDSA cycle, the PDA was adjusted according to feedback given by the midwives. Suggested areas of improvement for modification were based on midwife assessment of ease of patient understanding, midwife understanding of layout and information content, midwives' reports of barriers to patient use, and clinic flow. Patients who received the PDA were tracked by the student project coordinator for follow-up at next and following visits.

Beginning with the first 3-week PDSA cycle, a student assembled a daily checklist for each clinic provider for the day's patients. This task was split between three Doctor of Nursing Practice (DNP) students all conducting QI projects at the midwifery clinic to increase efficiency and decrease provider fatigue by decreasing project points of contact for any given clinic day. Any patients that qualified for inclusion criteria were identified in this email and after the clinic day was finished, a return email was sent by the clinic provider reporting back on whether the patients received the PDA. During this time, the midwife's report of patients' receipt of the PDA was noted and charts were reviewed to monitor the documentation of the PDA's implementation. At the end of the three PDSA cycles, the midwives were surveyed to assess their thoughts and perceptions of the PDA's utility in the clinic setting.

Measures

Baseline data collected before the intervention included 2020-2021 practice demographic data, the initial survey of midwife attitudes, and needs for the PDA. (See Appendix A for the initial survey.) Outcome measures were the percentage of midwives using the PDA with patients at the end of 3 PDSA cycles, and midwife assessment of the PDA's utility with patients. Process measures were the percentage of eligible patients who received the PDA document, had an explanation of how to use the PDA in their after visit summary, and the use of the dot phrase

relating to the PDA in their visit note. Balancing measures were assessed via feedback during the study section of each cycle and the final survey. Possible concerns were a potential increase in the length of patient visits when the PDA is used, poor understanding of the PDA by patients, or workflow inefficiencies.

Data collection was organized and executed by the doctoral student coordinators on a weekly basis. A ratio of the patients who were eligible for PDA distribution against those that received it was tracked weekly to examine trends. The perception of effectiveness of the PDAs was assessed after 3 PDSA cycles via a post-survey of midwives' impressions about patient attitudes and information level surrounding IOL (Appendix B).

Analysis

Qualitative data analysis was used to find themes in the initial midwife survey and any requests were applied to the creation of a PDA. Further qualitative analysis was done on information collected in the post-intervention survey that was distributed at the conclusion of the project. Return email ratios were examined mid-project to examine barriers to PDA distribution, implementation, and education. Data were tabulated on a weekly basis to determine trends. Variation in the data may be accounted for by adjustment and adoption of PDA workflow, changes in clinic schedules (i.e. holiday or weather closures), midwife staffing modifications, patient panel variation, professional association practice change or other unforeseen circumstances. Due to low usage rate because of the restriction to patients of advanced maternal age, this criterion was dropped prior to the 3rd PDSA cycle to include all pregnant patients in their 38th week of pregnancy. Otherwise, no major adjustments needed to be made during the project.

Ethical considerations

Stacey et. al determined PDA use had no ill effects on patient satisfaction or health outcomes (2017). Stakeholders did not express that they incurred additional costs in money or time investment. Opportunity cost could have arisen with the addition of the PDA distribution to an already established clinic workflow and could have deterred midwives from committing to the change, but that was not expressed by respondents. Time was the biggest likely opportunity cost during this project, but given the chance to suggest process improvements for workflow or simplification, the surveyed midwives expressed ease of use and had no improvement suggestions. The Institutional Review Board approved this project and determined that it was not human research (Appendix C). Patient privacy was taken into account and patients were identified only by initials in secure emails to midwives.

Results

The initial survey was integral to the creation of the PDA. The survey was sent to the 11 clinic midwives and 6 responses were recorded. In reference to the use of IOL for any purpose, one midwife commented, "the experience of the IOL process is often at odds with the expectations of the patient." The respondent went on, "It takes a lot of anticipatory guidance to make sure the patient really understands what they are signing up for." This was echoed in other responses as was an emphasis on the need for shared decision making between patient and provider in the case of an IOL. Two-thirds (4 of 6) of respondents to the initial survey said their typical practice was to include a discussion about IOL by or at the 39 week of gestation appointment; one-third (2 of 6) of surveyed midwives reported that they did not routinely address IOL with patients at any gestational age unless medically indicated. Eighty-three percent (5 of 6) of those surveyed reported they did not regularly engage patients in a risk-benefit conversation

about elective 39-week inductions with their patients; only one midwife had a designated dot phrase or documentation template for the electronic health record, for patient conversations about IOL. When asked for preferences of content of document for this project, the respondents requested the development of a PDA and mentioned that they would benefit from "high quality patient education that they [patients] could read before and after visits" and a "thorough handout." For the PDA, midwives mentioned specifically that they wanted "balanced presentation of risks/benefits and a realistic description of the process and length of time for IOL." Another mentioned the need for a document that would encourage patients to review their own preferences regarding IOL.

The PDA was created using IPDAS standards and included a full-color diagram of a fetus in a uterus with anatomical parts labeled, definitions of common terms, a description of induction of labor in plain language with key words highlighted for patient understanding, a Paling Palette© for visual representation of IOL outcomes for first-time parents, a pro and con list for induction vs. spontaneous labor, a table for comparison of what to expect, benefits, risks and side effects for IOL vs. spontaneous labor, direct quotes about the induction experience from parents who were induced, and a series of clarifying questions about patient values surrounding birth using a Likert-like scale to record preference (Appendix D). The PDA concluded with the questions: Do you understand the options available to you? Are you clear about which benefits and side effects matter most to you? Do you have enough support and advice from others to make a choice? Evidence for the PDA was gathered from sources such as the Mayo Clinic, Evidence Based Birth, Journal of Midwifery and Women's Health, birth testimonials and IOL policies and procedures at the institution. The structure was based on a PDA for breast cancer chemotherapy distributed on Healthwise.net and catalogued on Ottawa Hospital's official PDA

website ("Breast Cancer: Should I Have Chemotherapy for Early-Stage Breast Cancer?, September 8, 2021). The PDA was reviewed with the midwifery practice manager and doctoral faculty for clarity, design and content.

The clinic midwives were given a tutorial on the purpose of the project, an outline of the PDA itself, and how to participate during a monthly practice-wide meeting. Nine of the 11 intended providers were in attendance at the virtual meeting and detailed emails were sent to others who were not able to see the presentation synchronously. Two dot phrases were reviewed at that time: one to be used to document the provider discussion about the PDA and another to be used in the AVS with a direct link to the online version of the PDA for patient use.

The initiation of the PDA to office workflow was smooth with few needs for reinforcement concerning location of the physical handouts or which dot phrases should be used in which context. During the first two PDSA cycles, a total of 9 of 10 of qualifying patients received the PDA at the 38 week of gestation appointment. For the final PDSA cycle, the recipient criteria were expanded to include patients below 35 years of age in order to increase the number of opportunities for distribution. Subsequently, the number of participants doubled but the receipt rate trended slightly downward to 80% (8 of 10). Cumulatively, the rate of receipt for people included in study criteria was 85% (17 of 20). See Appendix F. The most common reasons a provider did not distribute the PDA were due to inadvertent provider omission and that the patient had received the PDA at a previous visit. No specific barriers to distribution were reported during any of the PDSA cycles; no changes to the PDA itself or to the workflow needed to be made during the project.

After completion of the 3 PDSA cycles, the midwives were surveyed about their attitudes concerning the PDA and queried for suggestions about how to make the process or the PDA

better. One third (3 of 9) of current practice midwives responded. All three of the respondents had used the PDA in their visits over the course of the project. One respondent reported they saw no patient response to the PDA and there were no reports of any midwives being asked by patients to review the PDA together. Reported feedback about the PDA from patients included that it was given to them "too early in the pregnancy" and "Some said it was helpful in providing insight and that they are intervention-averse." Improvements to the workflow that were suggested included making it easier to attach to the electronic version of the after-visit summary and having easier access to physical copies for paper distribution. Though no midwives reported the PDA as making visits shorter, 100% of respondents found it to be a helpful tool. Two-thirds (2 of 3) said they would continue to use the PDA after the conclusion of the project; one respondent requested that the PDA be added to the standard packet of materials distributed to patients at the beginning of the third trimester.

Discussion

The midwives in this practice expressed a need for a PDA for IOL. The usage rate of 85% (17 of 20) of this PDA with patients reflects its usefulness and ease in being applied to the current workflow of the clinic and was close to the aim of 90% of eligible patients, even with the expanded patient pool that removed age restriction. All of the midwives who were trained on the workflow used the PDA, which exceeded the specific aim of 90%; however, just 33% (3 of 9) of the midwives returned the post-project survey, which was well below the 80% objective. Of those that responded, it was agreed that the PDA served the patients' needs well. They noted that the PDA helped patients clarify their values about interventions at the end of pregnancy and for delivery. No improvements in the PDA itself or in changes of workflow were suggested by the midwives during the project. The PDA in this case was used exactly as it was intended: not as a

replacement for patient education but as a tool for shared decision-making to be utilized by the patient to outline their thoughts and values against balanced information. The outcomes are consistent with established evidence on the benefit of PDAs in clinical practice (Say, Robson & Tomson, 2011; Pope, 2017; Stacey et. al, 2017). In their systematic review of the IOL experience, Akuamoah-Boateng & Spencer (2018), identified PDA use and shared decision making as factors for creating a positive IOL experience. Lou et. al (2019) concluded that patient-centered education from unbiased sources along with time to reflect on personal preferences were essential to positive feelings around IOL. The outcomes of this project support that research and contribute to a more well-informed, positive and patient-centered approach when discussing IOL.

Strengths of the project lie in the positive feedback of the practice midwives and their willingness to continue to use the PDA outside of the project timeline. The practice midwives plan to add the PDA to one of two educational packets distributed to all patients during the third trimester of pregnancy. The wide distribution of the PDA to the CNMs within the practice before its rollout to patients was meant to cut down on any perceived bias in the language or representation in the PDA. This PDA proved to be useful, sustainable and helpful to the midwives in this practice. It could be trialed in different practices in the institution. After use in other settings and further editing, it could be considered for submission to the IPDAS for inclusion in the Ottawa Hospital PDA directory to be distributed to a wider field of patients. This project has been successful at identifying a need for a tool, creating one, and introducing it in a viable way to both patients and providers.

Limitations are that the workflow was tailored to this particular practice; different patient populations could require more basic education needs or translations. Use at a hospital with

vastly different IOL protocols could cut down on the generalizability of the PDA. Limitations were also found in the response rate for the post-project survey. This could have been related to provider fatigue, a sense that their opinions had already been gained during meeting at the conclusion of the project, or staff turnover.

Conclusion

The project filled a gap in the patient education materials in this practice. The usefulness of the project was proven by the willingness of the midwifery staff to include the tool in their standard education packet to be distributed to all patients in the third trimester of pregnancy. This standardization of receipt will likely increase the sustainability for the practice overall; the three respondents indicated in their post-project survey that they would be continuing to use the PDA before the practice-wide meeting where standardization was raised. The PDA could be used in similar midwifery practices in the region that serve similar patient populations; obstetric practices could also benefit from the use of the PDA if their induction methods are similar. The literature surrounding PDA use shows that there is potential to improve patient decision making and satisfaction for a variety of interventions not yet included in the Ottawa Hospital repository. Suggested next steps are for continued PDA refinement and distribution and QI intervention by a Doctor of Nursing Practice student at other practice sites and eventual submission to the Ottawa Hospital directory for circulation as a high-quality patient education component.

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Appendix A

DNP project on IOL: Initial survey

Thanks for your participation in this survey! The information gathered will be used to create a patient decision aid about induction of labor.

1. My opinion on induction of labor for MEDICAL indications is:

Mark only one oval.

	1	2	3	4	5	
Positive	◯	◯	◯	◯	◯	Negative

2. Why?

3. For which conditions do you support MEDICAL induction of labor?

Check all that apply.

- [ ] Oligohydramnios
- [ ] Polyhydramnios
- [ ] Fetal growth restriction
- [ ] Suspected fetal macrosomia
- [ ] Suspected fetal growth restriction
- [ ] Single umbilical artery
- [ ] Pre-existing chronic hypertension not on meds
- [ ] Pre-existing chronic hypertension on meds
- [ ] Pregnancy induced hypertension
- [ ] Preeclampsia without severe features
- [ ] Any hypertension disorder of pregnancy
- [ ] Pre-gestational diabetes - well controlled
- [ ] Pre-gestational diabetes - poor control
- [ ] Gestational DM - controlled w diet and exercise
- [ ] Gestational DM - controlled w insulin
- [ ] Gestational DM - poor control
- [ ] Intrahepatic cholestasis of pregnancy - total bile acid level <100micromol/L
- [ ] Intrahepatic cholestasis of pregnancy - total bile acid level >100micromol/L
- [ ] Prelabor rupture of membranes - GBS negative
- [ ] Prelabor rupture of membranes - GBS positive
- [ ] Advanced maternal age
- [ ] Maternal mental health concerns

Other: ☐ _____

4. My opinion on induction of labor for ELECTIVE indications is:

Mark only one oval.

	1	2	3	4	5	
Positive	◯	◯	◯	◯	◯	Negative

5. Why?

6. For which conditions do you support ELECTIVE induction of labor?

Check all that apply.

- [ ] Maternal mental health
- [ ] Maternal discomfort
- [ ] >39w gestation
- [ ] >40w gestation
- [ ] >41w gestation
- [ ] Timing concerns (family availability, etc.)
- [ ] Suspected fetal macrosomia
- [ ] Hx of obstetric complication (shoulder dystocia, significant tear, hx PET, etc)
- [ ] Concern for unplanned out of hospital birth
- [ ] Advanced maternal age
- [ ] Patient request
- [ ] Other: _____

7. When do you start talking to your patients about IOL?

Check all that apply.

- [ ] 36w or below
- [ ] 37w
- [ ] 38w
- [ ] 39w
- [ ] 40w
- [ ] 41w +
- [ ] I do not talk to patients about IOL routinely

8. If you do not routinely talk about IOL at a specific gestational age, when do you introduce the topic?

Check all that apply.

- [ ] When medically indicated
- [ ] When the patient asks about IOL
- [ ] Other: _____

9. Do you regularly engage in risk/benefit discussion about elective 39w inductions with patients?

Mark only one oval.

- ◯ Yes
- ◯ No

10. When you discuss IOL w patients, what aspects of the process do you cover?

Check all that apply.

- [ ] Prostaglandin cervical ripening agents
- [ ] Pitocin for cervical ripening
- [ ] Mechanical dilation
- [ ] Pitocin for inducing contractions
- [ ] AROM
- [ ] Outpatient cervical ripening
- [ ] Average length of hospital stay from admission to delivery
- [ ] Home preparation for labor (nipple stimulation, castor oil, etc.)
- [ ] Expectation around cEFM
- [ ] Freedom of movement during early induction
- [ ] Optimal positioning in early labor (i.e. Spinning Babies techniques)
- [ ] Pain management
- [ ] Other: _____

11. Please share your dot phrase for your IOL discussion below

_____

12. What resources would be most beneficial for you of your patients for IOL discussions?

13. A patient decision aid on IOL will be created for the OHUS CNM practice for a DNP project in the fall of 2021. Will you use it?

Mark only one oval.

- Yes
- No
- Maybe

14. What specific points would you like to see included in a patient decision aid for induction of labor?

Appendix B

Wrap-up survey for IOL PDA

End of DNP survey about the use of a new patient decision aid for induction of labor

1. Did you use the PDA for IOL during this project?

   Mark only one oval.

   - ◯ Yes
   - ◯ No-----> you can just submit from here! Thanks!
   - ◯ Sometimes

2. Please click any reasons you didn't use the PDA

   Check all that apply.

   - ☐ I don't ever talk about induction with patients
   - ☐ I don't talk about it until it is medically indicated and then it is a suggestion and not patient preference
   - ☐ I don't believe that we should be giving information on IOL as a practice
   - ☐ I didn't like the PDA (please detail in below free text)
   - ☐ I didn't feel like I got enough training on how to present the PDA to patients
   - ☐ PDA was hard for patients to use or understand
   - ☐ I forgot to talk about or distribute the PDA
   - ☐ I felt like it was too suggestive or favorable to IOL vs. SOOC

3. Please detail reasons you did not use the PDA

4. Do you feel like the patients had any responses to the PDA?

   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Some did, some didn't

5. Did patients give you any feedback you can share about the PDA?

6. Did patients ever ask to review the PDA with you?

   Mark only one oval.

   - ◯ Yes
   - ◯ No

7. Do you think the PDA was helpful?

   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Sometimes

8. Did the information in the PDA make your visits go faster? (could you direct patients to the PDA rather than discuss in person)

   Mark only one oval.

   - ◯ Yes
   - ◯ No

9. What improvements would you suggest for the PDA?

Check all that apply.

- [ ] Language needs to be simpler
- [ ] More information needs to be presented
- [ ] Information should be presented in different ways (more visuals, graphs, etc)
- [ ] Easier to add to AVS
- [ ] Easier to give print copy
- [ ] More colorful
- [ ] Should be shorter

10. Please share any experience you had with using the PDA in terms of workflow.

11. Please share any feedback you have about the content of the PDA

12. Will you continue to use the PDA for patients requesting information about IOL?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

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Google Forms

Appendix C

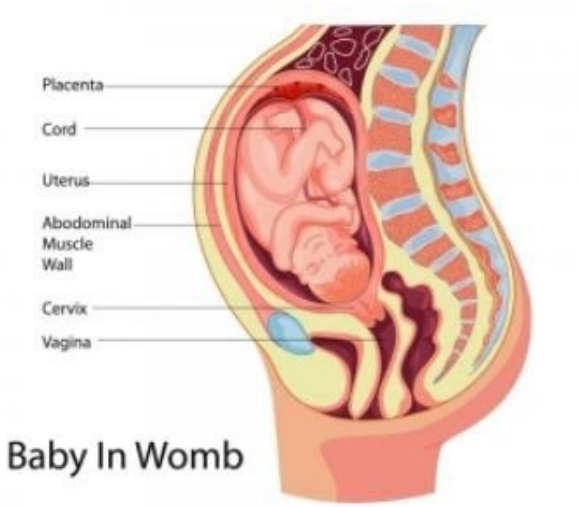
What is labor induction?

You have likely heard about "induction of labor" which is used to encourage delivery before a body goes into labor on it's own. Sometimes it is used for medical reasons and sometimes electively. This patient decision aid is designed to inform you and help you clarify your values around induction of labor.

Your options:
Have my labor induced or not have my labor induced?

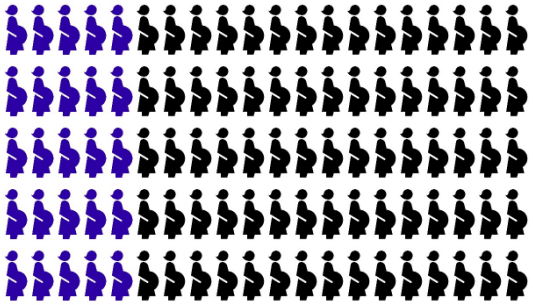
Key points:

- "Labor induction — also known as inducing labor — is the stimulation of uterine contractions during pregnancy before labor begins on its own to achieve a vaginal birth", from the Mayo Clinic website
- Induction also involves softening or "ripening" the cervix to encourage dilation with contractions.



The process of labor induction can take several days and has two phases: **cervical ripening and causing contractions.**
Cervical ripening uses medications to ready the cervix for labor. Ripening can take 24 hours or longer. Sometimes the ripening medications are given while also using a uterine catheter, which is a balloon inserted into the cervix and inflated with saline water to make the opening of the cervix bigger. Once the cervix is dilated enough, your body will push the balloon out.
When the cervix is soft and stretchy, or **"ripe",** oxytocin is used to encourage the uterus to contract. The oxytocin, which mimics what your body produces naturally in labor, is given through an IV and is started slowly and then increased until your uterus is contracting every 2 to 3 minutes with every contraction lasting a minute long.
Your provider may also be able to open or "break" the bag of water surrounding your baby to help their head press into you cervix and open it up.
Your baby's heart rate and your contractions will be continuously monitored as long as medical staff is using interventions.

Of 100 first time parents that have their labor induced, 25 of them will deliver via a C-section. Those births are marked in blue below



Pros of Induction

- Avoid potential complications of continuing the pregnancy (like developing a high blood pressure disorder, having a large baby)
- Lower Cesarean rate with first-time mothers when an induction protocol is followed,, which may prevent unnecessary Cesareans
- May prevent potential future stillbirth (although some would consider the absolute risk to be low until 41 weeks)
- You can end an uncomfortable pregnancy or have more control around the timing of your delivery

Cons of Induction

- Potential for failed induction leading to a Cesarean
- Potential for medicalization of birth because of the induction (e.g. continuous fetal monitoring)
- Miss the hormonal benefits of spontaneous labor
- Longer time spent in labor
- Medically induced contractions may increase pain and make epidural-use more likely
- Potential for overstimulation of the uterus which could lead to possible decrease in oxygen to the baby, fetal heart rate changes, and increased risk of uterine rupture
- Increased risk of infection (with some methods)

-Adapted from Evidence Based Birth

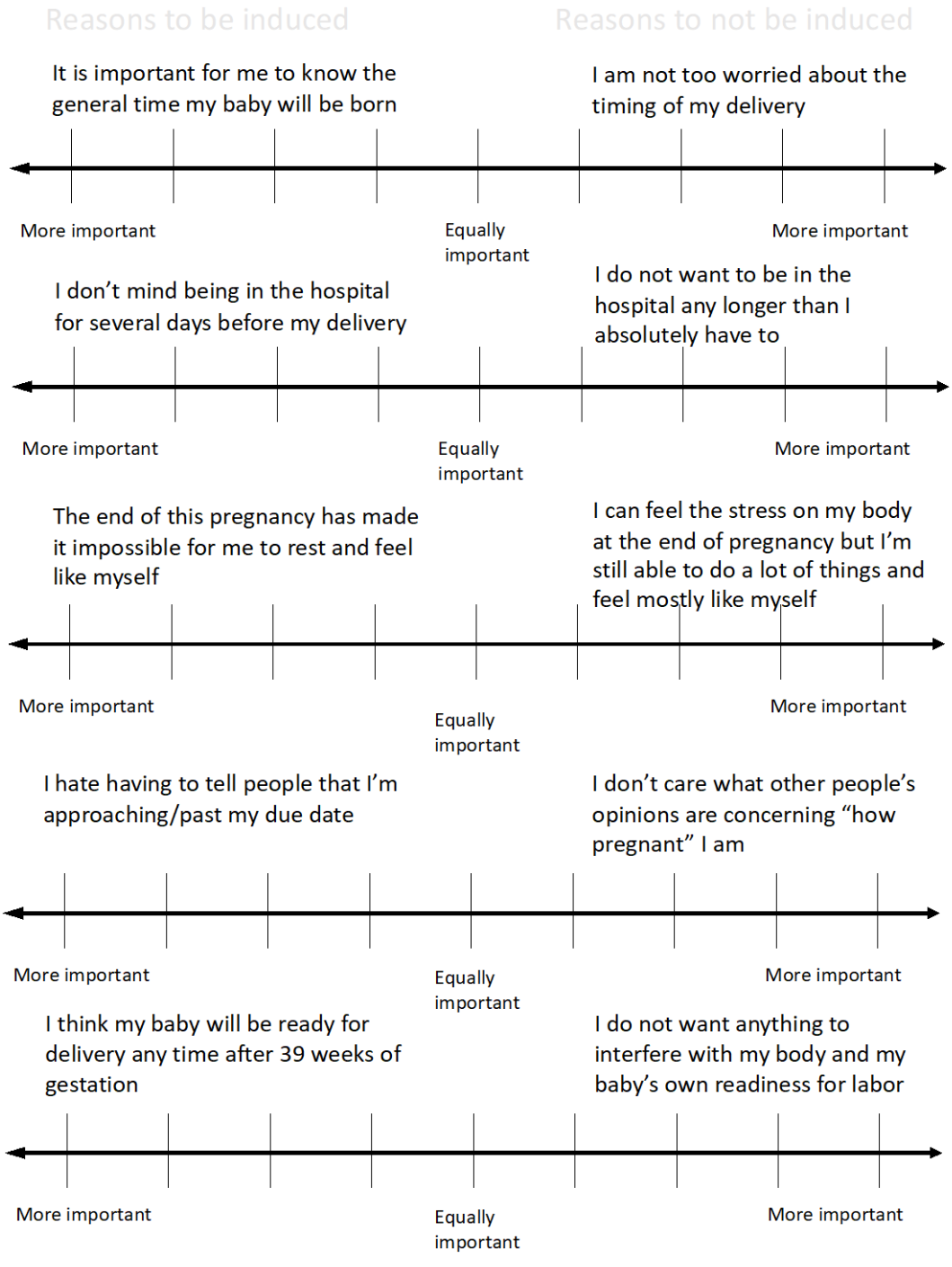
COMPARE OPTIONS

	Induction	No induction
What is involved?	Hospitalization Cervical ripening with medications Dilation with a cervical ripening catheter Oxytocin to stimulate uterine contractions Continuous fetal monitoring	Waiting at home for labor to begin naturally
Benefits	Shortened time of uncomfortable pregnancy	Less interventions Possibility of less monitoring during labor
Risks and side effects	First time moms have a larger risk for CS if they are induced without a ripe cervix	Uncertainty around when labor will begin

What parents say….

"The whole process went exactly how I had hoped even after all the worries of the induction ruining all my plans. "	"For me I didn't find induction a very positive experience as I felt out of control the entire time."
"[Induction] can be quite wonderful. Yes, it can be positive. Yes, it can be empowering. Yes, it can be done without pain relief."	"It's a really intense experience and doesn't have the slow build-up of pain like a [spontaneous] labor."
"I remember…feeling… relieved to be admitted to the hospital for induction"	"My [provider] had warned me that induction could be a long process, but I didn't really grasp how long."

What matters most to you?



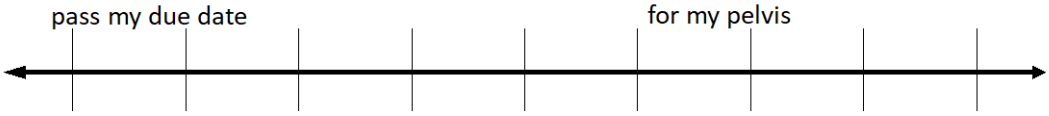
What matters most to you? (cont.)

Reasons to be induced

Reasons to not be induced

I am concerned about the growing size of my baby as I approach and pass my due date

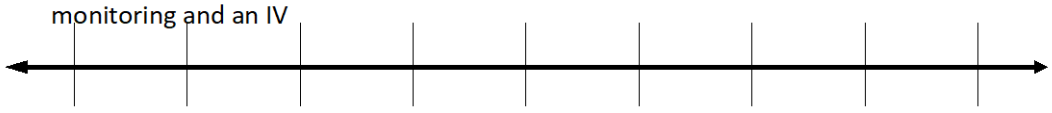
I am not worried that my body will make a baby that is too big for my pelvis



More important | Equally important | More important

I am okay with interventions that go along with IOL including continuous monitoring and an IV

I want a labor with little to no intervention



More important | Equally important | More important

I am comfortable with medications used to induce labor

Medications to induce labor give me a lot of concern

More important | Equally important | More important

Now that you've thought about the facts and your feelings, you may have a general idea of where you stand on this decision

Being induced

Not being induced

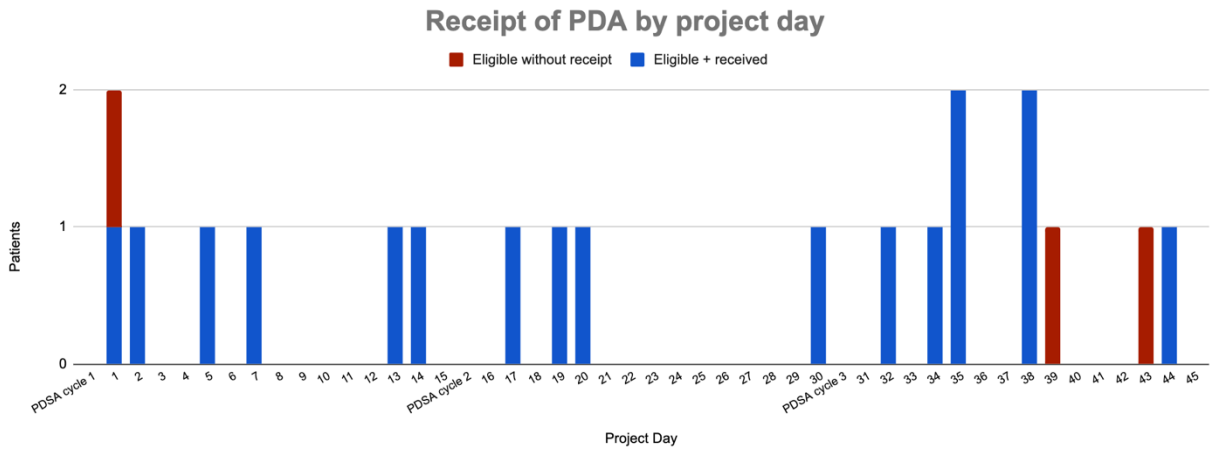
Leaning toward | Undecided | Leaning against

Do you understand the options available to you?

Do you have enough support and advice from others to make a choice?

Are you clear about which benefits and side effects matter most to you?

Appendix D


Receipt of PDA by project day
Eligible without receipt
Eligible + received
Patients
2
1
0
PDSA cycle 1
PDSA cycle 2
PDSA cycle 3
Project Day