

Informational decision aid
about childbirth with or without
epidural anesthesia

Finding a Way
to Relieve Labor Delivery Pain
That is Right for You

2nd edition, 2022

There are several ways to relieve labor pain during childbirth, each with its own advantages and disadvantages.

This informational aid is intended to help pregnant women planning on having a natural vaginal delivery make an informed decision about whether to give birth using epidural anesthesia.

※ An “Aid” is a tool related to decision-making that can be used in cases where there are multiple options for treatments or examination, each with their own benefits and risks.



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Anesthesia use during childbirth can be administered by using several methods, which may include the use of epidural anesthesia, spinal anesthesia, or both. Epidural anesthesia is a popular choice in Japan.



STEP 1

Learning how to make an informed decision

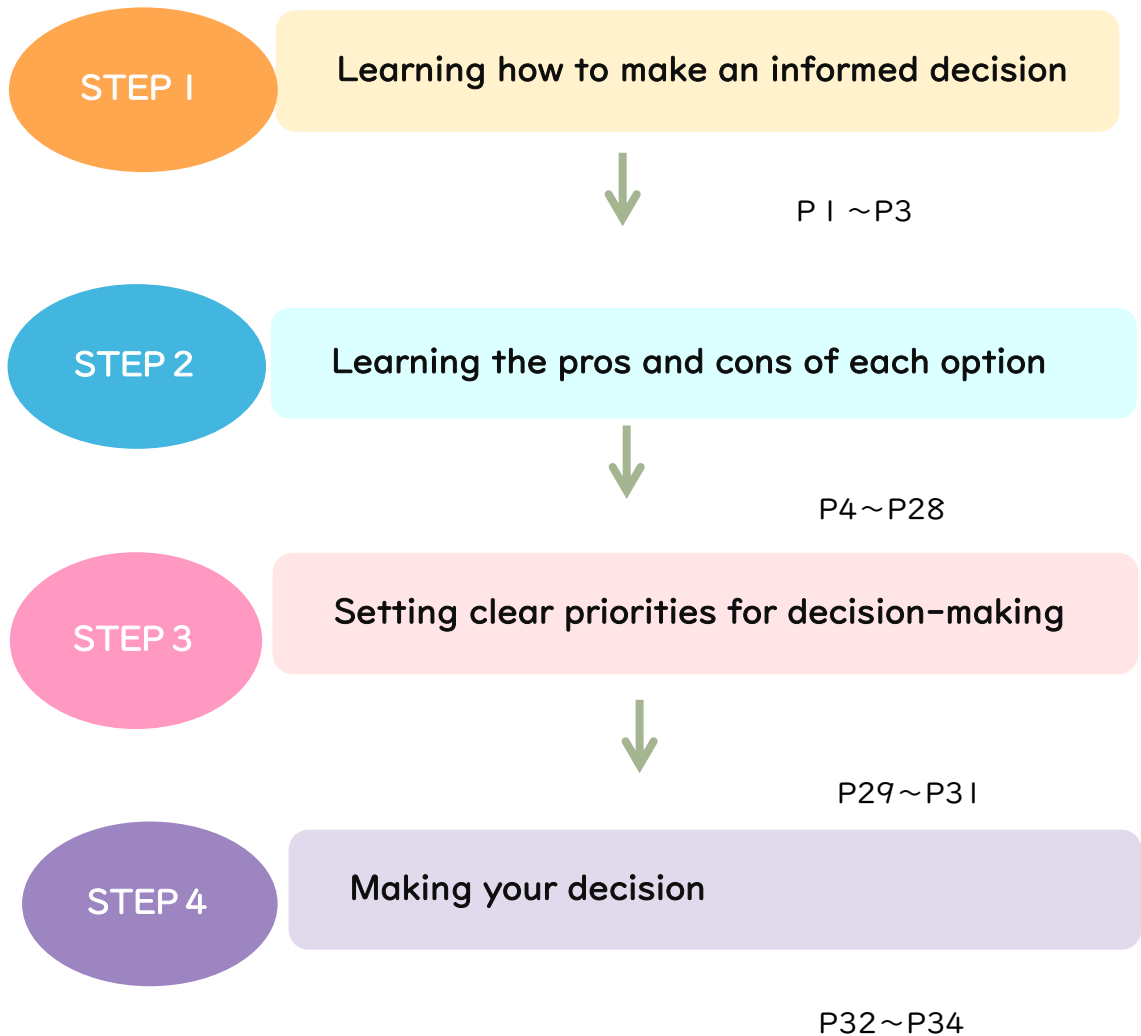
● How is this Aid used for making an informed decision?

There are different options for vaginal delivery during childbirth, each with its own advantages and disadvantages.

This Aid is intended to help pregnant women planning on having a vaginal delivery make an informed decision about whether to give birth using epidural anesthesia.

This Aid consists of the following steps.

When reading this Aid for the first time, please read the steps in order.



STEP I

Learning how to make an informed decision

● How to use this Aid for making an informed decision

★ Let's find out if this Aid is helpful for you.

This Aid is not intended to promote one option over another. This Aid was created for the purpose of helping you to choose the method of relieving labor pain during childbirth that is right for you. Reading the contents of this Aid will help you to gain a more correct understanding and think about your priorities for making a decision, thereby facilitating communication with doctors, midwives, family, colleagues and friends, and women who have already experienced childbirth.

This Aid was created for the following women.

Who this Aid is for:

- Women planning on having a vaginal delivery (Women not planning to have a Caesarean section)
- Women not sure about epidural anesthesia



This Aid is not for women with the following conditions:

- Women requiring in-person consultations with a doctor
- Women who have been recommended to have a Caesarean section by doctors
- Women who have been recommended to have an epidural anesthesia by doctors (those with heart disease, pregnancy-induced hypertension, etc.)

STEP 1

Learning how to make an informed decision

★ Let's find out how you want to be involved in choosing a childbirth delivery method.

What is most important is “how you go about making a decision” .

There are 3 approaches you can take when making a decision.

Let's find out which approach you want to take when making your decision.

- (a) Like to make my own decisions based on sufficient information
- (b) Like to make decisions together with health professionals and my family
- (c) Like to have someone else, such as a doctor, a midwife, or a family member make decisions for me

This Aid will be helpful to those who choose option (a) and/or (b). Please continue onto the next page.

If you wish to have someone such as a doctor, a midwife, or a family member make decisions for you, as in option (c), you may find information in this Aid less useful.

If you choose option (c), you can still use this Aid by reading it together with your family to check if the method chosen by your doctor is right for you.

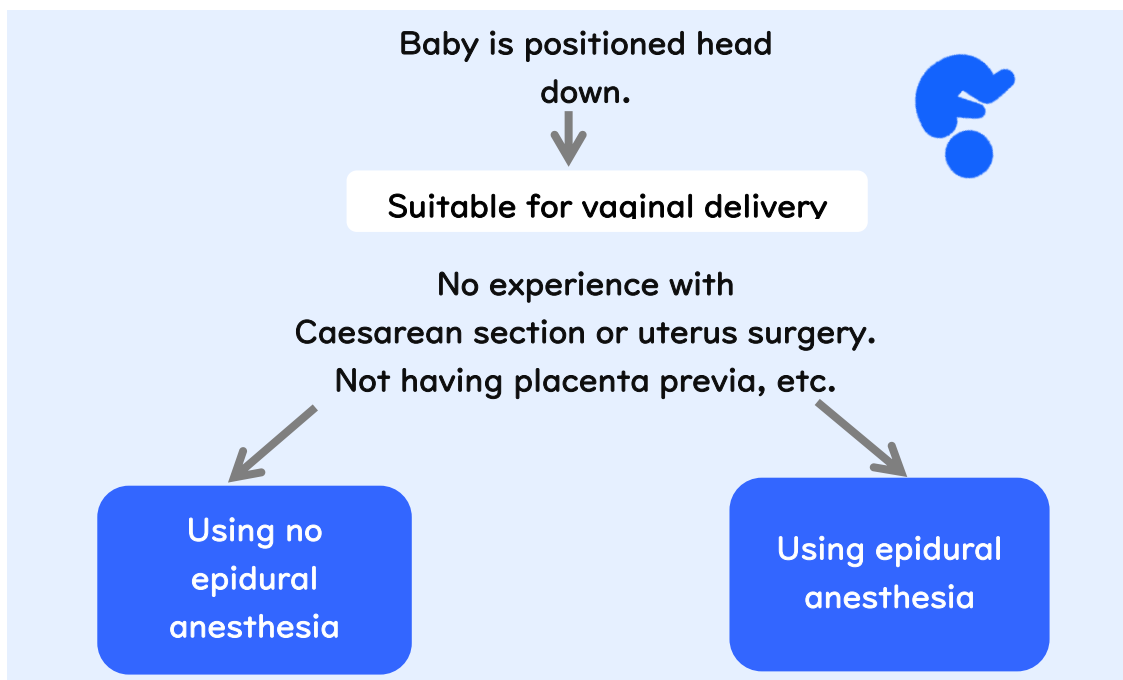


STEP 2

Learning the pros and cons of each option (basic knowledge of vaginal delivery)

● General process of vaginal delivery

This Aid is particularly focused on making the decision between “epidural anesthesia” and “no epidural anesthesia” in the general process of vaginal delivery.



During vaginal delivery, when labor starts, the uterus receives commands from the brain that causes periodic tightening and relaxing of the uterine muscles, thereby opening the cervix to push the baby downward through the birth canal.

This process is common both during epidural anesthesia and no epidural anesthesia.

- How do you manage pain when no epidural anesthesia is used?

Spontaneous delivery is a method without the use of anesthetics. Methods of relieving labor pain include applying a hot pack or ice pillow to the back, applying pressure around the back and anus, and rubbing or patting. These methods are considered effective in relieving labor pain as they gently act on the neural circuits for pain.

- How do you manage pain during the use of epidural anesthesia?

Epidural anesthesia is a method of relieving labor pain that requires the insertion of a thin tube called a catheter into the epidural space near the spinal cord of the back and injecting local anesthetics upon request by the pregnant women who is experiencing increasing labor pain. Injected medicines act on nerves around the epidural space and prevent pain by blocking the nerves that transmit pain from the uterus, the vagina, the vulva, and the perineum.

STEP 2

Learning the pros and cons of each option (basic knowledge of vaginal delivery)

● What is labor?

The smooth delivery of a baby requires uterine contraction to push the baby out. This uterine contraction is also known as labor.

Labor causes the cervix to gradually dilate, which helps the baby to gradually descend into the canal. Labor pain occurs regularly and becomes gradually stronger. When the cervix is fully dilated, the baby can pass through the cervix and move into the birth canal.

Although there is variation in the periods and durations of labor among individuals, it is generally known that it takes women who are giving birth for the first time between 11 and 15 hours on average and women who have already given birth between 6 and 8 hours on average to give birth after experiencing regular labor.

● Steps and progression of childbirth

The longest period is when the cervix is dilating to the complete level after labor starts. It is generally known that this step takes women who are giving birth for the first time between 10 and 12 hours and women who have already given birth between 5 and 6 hours.

As the childbirth progresses, each contraction becomes longer and more intense and the intervals between contractions become shorter.

When the cervix is dilated to the complete level, the intervals between contractions become even shorter. It is known that it takes women who are giving birth for the first time between 1 and 2 hours and women who have already given birth between 30 minutes and 1 hour to give birth after the cervix is dilated to the complete level.

While the uterus contracts, the midwife tells the mother to "push" and the mother pushes to bring the baby out on that cue. The contractions and pushing force cause the baby to gradually descend through the birth canal.

When the baby's head is almost out, the mother stops pushing and starts taking quick shallow breaths. After a short period, the baby is born.

Mild contractions begin 5 to 20 minutes after the baby is born and the placenta is delivered to complete childbirth.

STEP 2

Learning the pros and cons of each option (basic knowledge of epidural anesthesia)

● Timing of epidural anesthesia use

- Epidural anesthesia is administered when labor pains become stronger. A midwife predicts the progress of labor when the pregnant woman wishes to alleviate the pain. The timing of administering epidural anesthesia may differ depending on whether the woman has given birth before. Birth centers may have their own standard timing of when they administer epidural anesthesia.

● Steps for providing epidural anesthesia

- a) The pregnant woman lies on her side or takes a sitting position, and arches her back on a delivery bed.
- b) A disinfectant is applied to the back and local anesthesia is applied to the part of the body where the needle will be inserted. This operation causes a brief pricking sensation such as when one receives an injection.
- c) A thick needle (the epidural needle) for placing a tube inside, called a catheter, is inserted into the woman's back. This action causes a pressure sensation, but almost no pain due to effects of the local anesthesia.
- d) When the needle tip reaches the epidural space, a thin tube (catheter), which is inserted through the needle, is threaded through into the epidural space. The needle is then removed so that only the catheter stays in the epidural space.
- e) Anesthetics are injected through the catheter.
- f) It takes approximately 20 to 30 minutes to relieve labor pain after the epidural injection.
- g) After the catheter is inserted, a certain amount of anesthetic is continuously injected using an injection pump.



Epidural anesthesia relieves labor pain by numbing body parts below the belly button without making you sleep, thus allowing you to be fully conscious during childbirth.

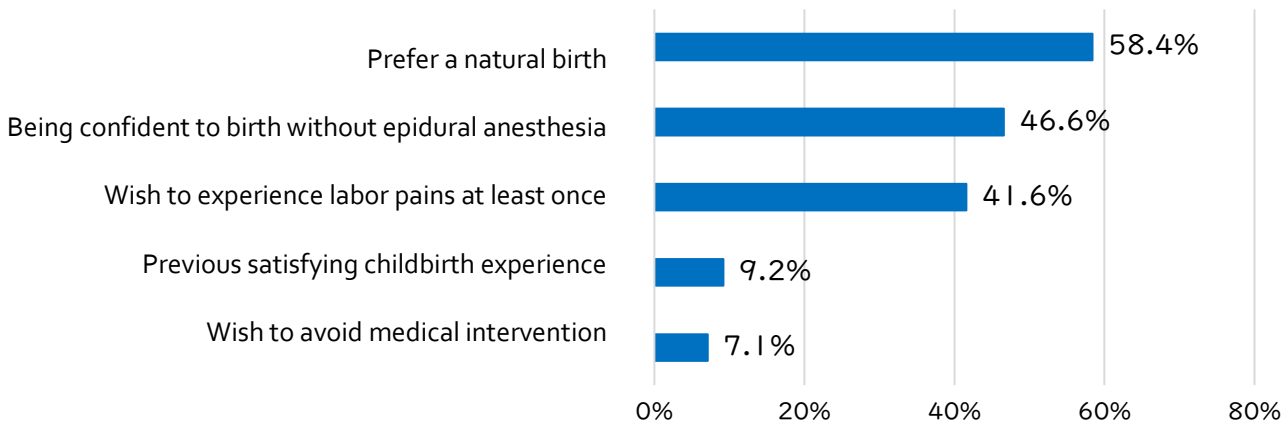
When pain before the administration of anesthesia is rated as 10/10, labor pain is reduced to approximately 1 to 3. You may feel some tightness in your stomach, but this varies from individual to individual. Using low doses of anesthetic does not make you feel completely numb. You may still feel the pressure of contractions around the buttocks as childbirth progresses.

STEP 2

Learning the pros and cons of each option

- How are delivery methods chosen by women who have already given birth?

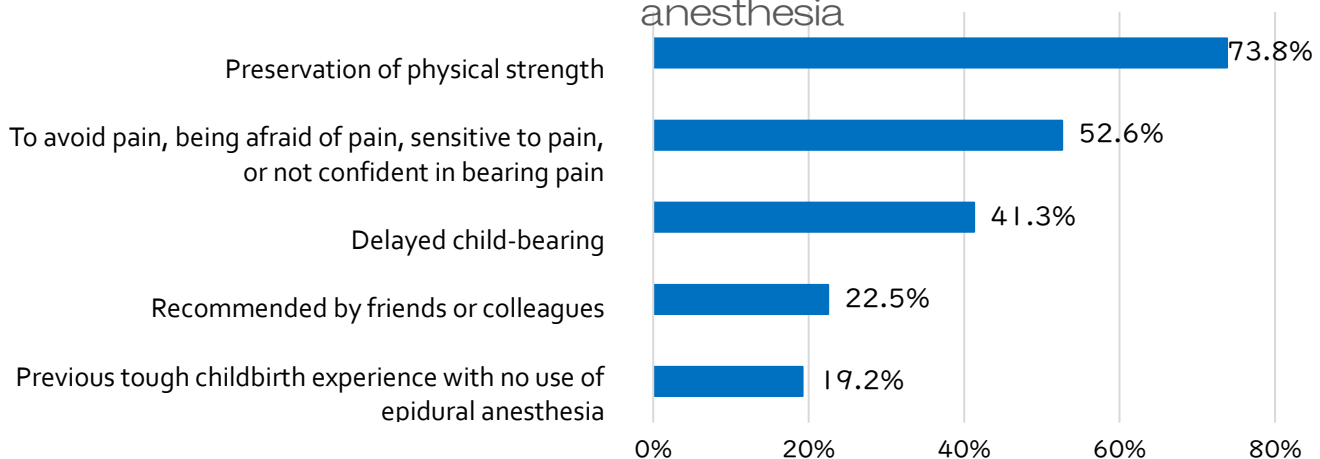
Reasons for choosing no epidural anesthesia



"Other reasons" to choose not to have epidural anesthesia include:

- High costs of epidural anesthesia
- Short delivery time in a previous childbirth experience
- Recommended by family members
- Disliked previous childbirth using epidural anesthesia

Reasons for choosing the use of epidural anesthesia



"Other reasons" to choose using the epidural anesthesia option include:

- Recommended by family and doctor
- Used epidural anesthesia in previous childbirth
- Being told that there will be a quicker recovery from childbirth
- Simply thought using epidural anesthesia will be good.

Reference: Shishido, E., & Horiuchi, S. (2018). Hope of delivery using epidural anesthesia during labor compared with no anesthesia and delivery outcome. *Maternal Health*. 59(1), 112–120.

STEP 2

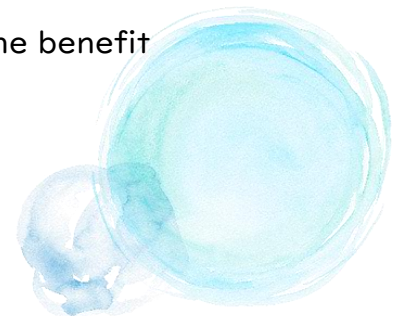
Learning the pros and cons of each option

● Comparison of the benefits and risks between epidural anesthesia and no epidural anesthesia

Let's compare the benefits (advantages) and risks of each option

Points	No epidural anesthesia	Epidural anesthesia
Labor pain-relieving effects	Limited effects	Highly effective
What to expect during delivery	<ul style="list-style-type: none"> You will be able to walk around freely. You will be able to eat and drink freely. You will be able to go to the bathroom. 	<ul style="list-style-type: none"> You have to remain on a delivery bed. Eating and drinking are restricted. You cannot go to the bathroom and will need to urinate through a tube (catheter). <p>※ Depending on the sensation and movement of the lower limbs, the response may differ depending on the facility, such as walking, moving to the toilet by using a wheelchair, or inserting an indwelling bladder catheter.</p>
Analgesic side-effects	_____	Local anesthetic, intoxication anaphylactic shock, postdural puncture headache, low blood pressure, fever, itchy skin, etc.
Impact on labor	_____	<ul style="list-style-type: none"> More chance of instrumental labor More blood loss at labor
Caesarean section	No substantial difference in possibility of having a Caesarean section	
Additional treatments for Caesarean section	Requires additional anesthetic treatments	Applied anesthetics can be used for Caesarean section
Impact on newborns	None	Some * See Pages 23-25
Costs	Regular delivery fee	Regular delivery fee + Epidural anesthesia delivery fee

The side-by-side comparison makes it easy to understand the benefit (advantages) and risks of each method.



STEP 2

Learning the pros and cons of each option
(medical knowledge about delivery methods)

● Side-effects of epidural anesthesia

If you choose epidural anesthesia as compared with no epidural anesthesia or other methods using painkillers, these are the possible side-effects:

- Possibility of additionally requiring labor induction increases by 1.1-fold.
- Risk of causing fever during delivery increases by 2.5-fold.
- Risk of causing hypotension during delivery increases by 1.1-fold.
- Risk of causing nausea and vomiting during delivery increases somewhat.
- Anesthetics may cause itching around the chest during delivery.
- Risk of causing difficulty in urination after delivery increases by 4.72-fold.
- Severe headache may occur after delivery in 1 to 3 out of 100 pregnant women.

Reference: Anim-Somuah, M., Smyth, R. M., Cyna, A. M., & Cuthbert, A. (2018). Epidural versus non-epidural or no analgesia for pain management in labour. Cochrane Database of Systematic Reviews.

Reference: Kawasoe, I., & Kataoka, Y. (2020). Prevalence and risk factors for postpartum urinary retention after vaginal delivery in Japan: A case-control study. *Japan Journal of Nursing Science*, 17(2). doi:10.1111/jjns.12293

The following side-effects occur on rare occasions:

- Temporary loss of feeling or strength in parts of your lower body may occur in 1 out of 550 pregnant women.
- Life-threatening complications may occur.
- Death may be caused by anesthetics.

Reference : Paech, M. J., Godkin, R., Webster, S. (1998). Complications of obstetric epidural analgesia and anaesthesia: A prospective analysis of 10995 cases. *International Journal of Obstetric Anesthesia*, 7(1), 5-11.

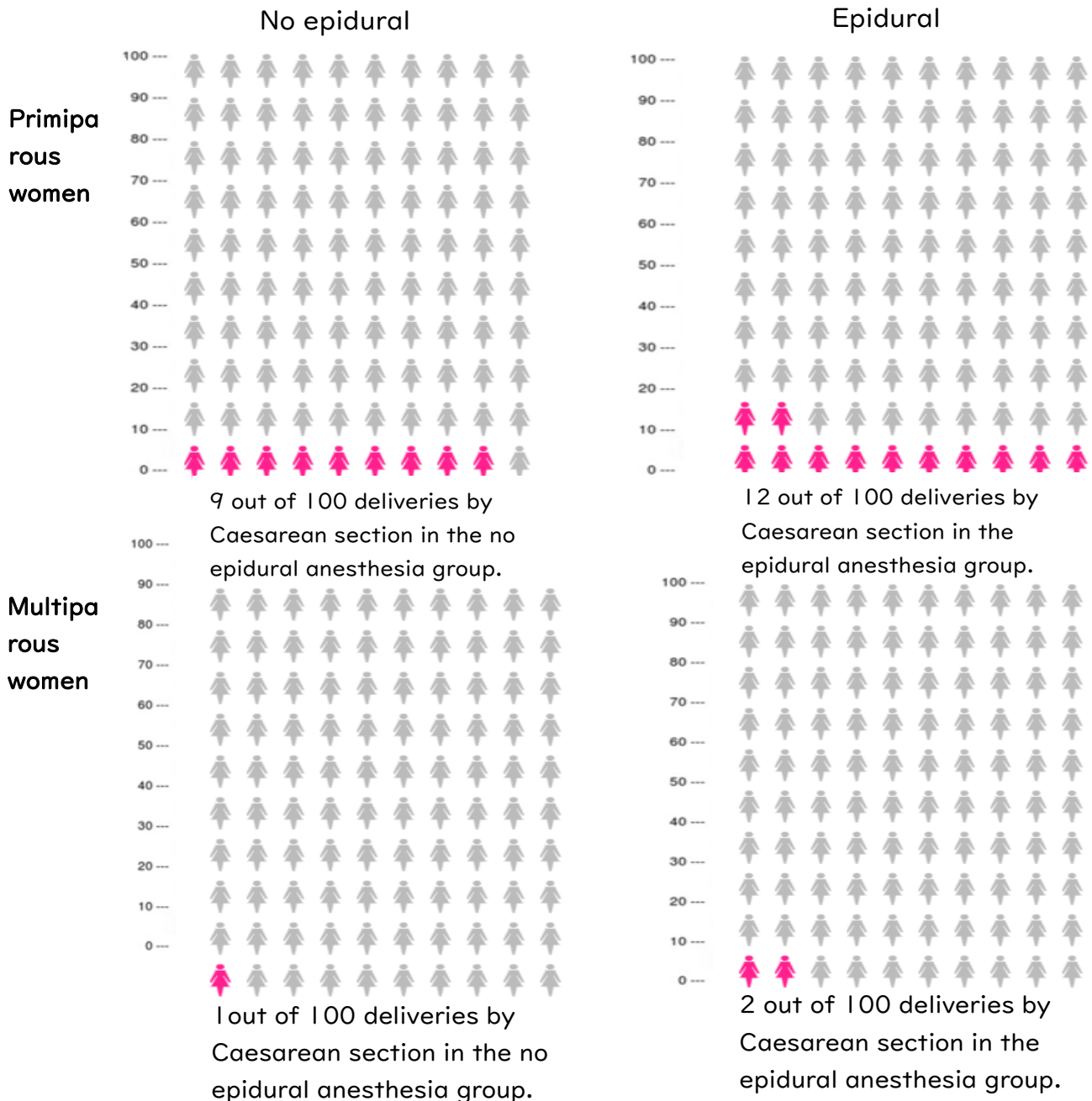
Reference: Unno, N., & Itakura, A. (2017). Examination of the safety of labor analgesia. 2017 Ministry of Health, Labour and Welfare Promotion of Special Research Project "Study of the actual situation of labor analgesia and building a safety management system."

STEP 2

Learning the pros and cons of each option

★ Caesarean section

The number of Caesarean sections did not differ between the no epidural anesthesia group and the epidural anesthesia group.



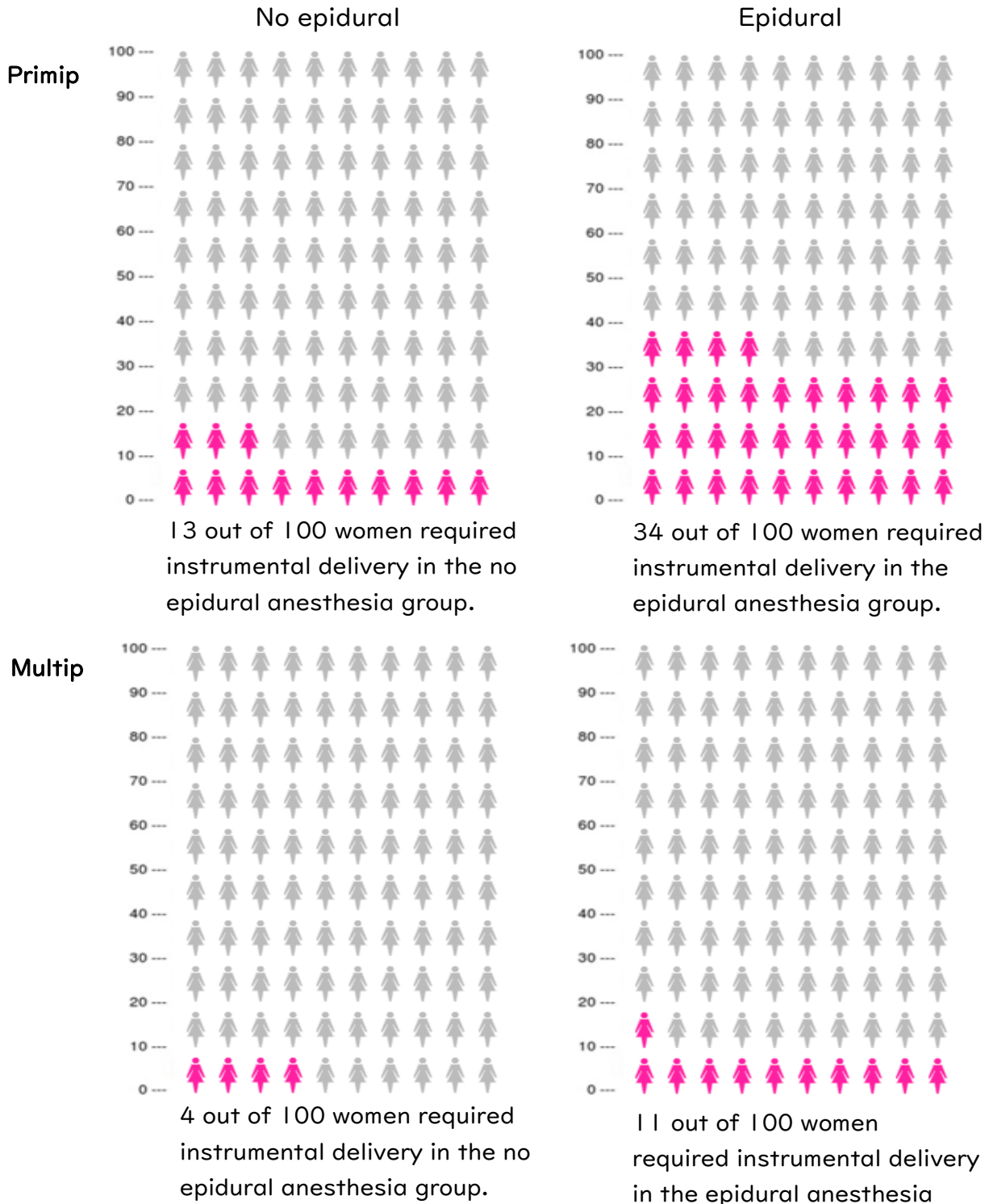
Reference : Kurakazu, M., Umehara, N., Nagata, C., Yamashita, Y., Sato, M., Sago, H. (2020). Delivery mode and maternal and neonatal outcomes of combined spinal-epidural analgesia compared with no analgesia in spontaneous labor: A single-center observational study in Japan. *Japan Society of Obstetrics and Gynecology*, 46(3), 425-433.

STEP 2

Learning the pros and cons of each option

★ Instrumental delivery

Instrumental delivery is more commonly used for the epidural anesthesia delivery group than the no epidural anesthesia delivery group



***Instrumental delivery is:**

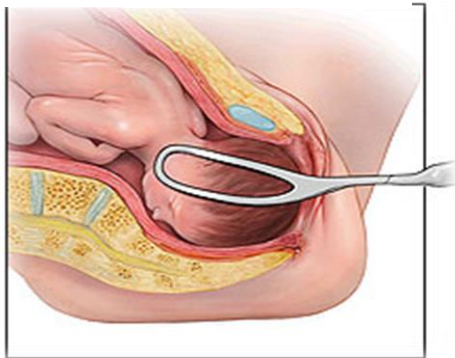
a method for hastening delivery that is performed by using a tool such as a suction cup or forceps when childbirth fails to progress smoothly. Instrumental delivery provides greater benefits for the mother and baby than letting natural delivery continue.

“Vacuum assisted delivery” is a method in which a suction cup is attached to the baby's head and delivery of the baby is vacuum assisted by applying negative pressure.

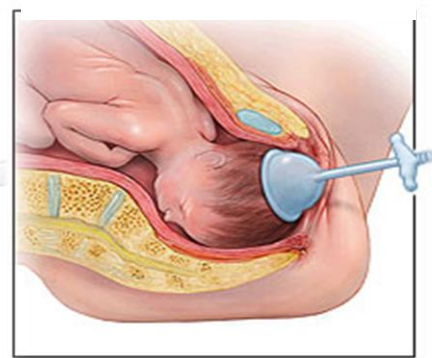
“Forceps assisted delivery” is a method in which the forceps are used to hold the baby's head and pull out the baby. Performing instrumental delivery sometimes requires episiotomy (a method in which the perineum is excised by scissors for enlarging the

opening). Further, possible risks of instrumental delivery to the baby include cephalohematoma, which is a hemorrhage found between the skull and periosteum, and facial and scalp injuries occurring during the delivery. Other risks to mothers are known to be larger wounds and increased risk of wound infections and 3rd and 4th degree lacerations.

Forceps-assisted delivery



Vacuum-assisted delivery



Reference : Shishido, E., & Horiuchi, S. (2018). Hope of delivery using epidural anesthesia during labor compared with no anesthesia and delivery outcome. *Maternal Health*. 59(1), 112–120.

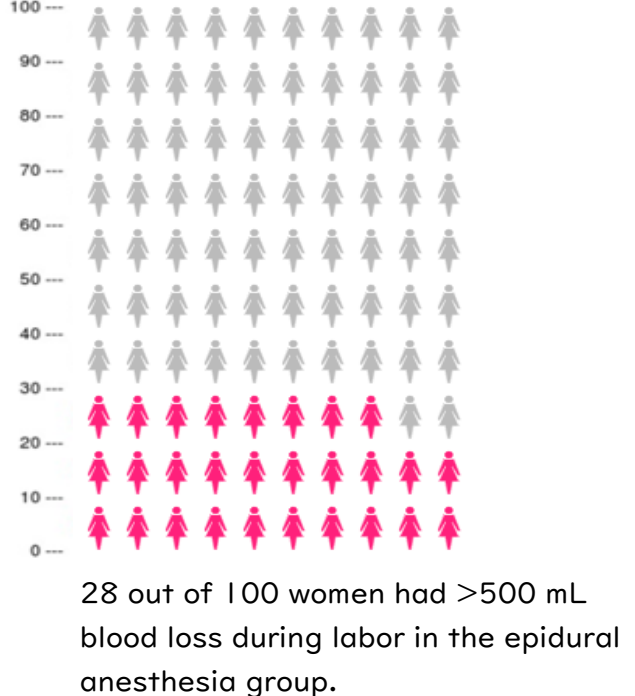
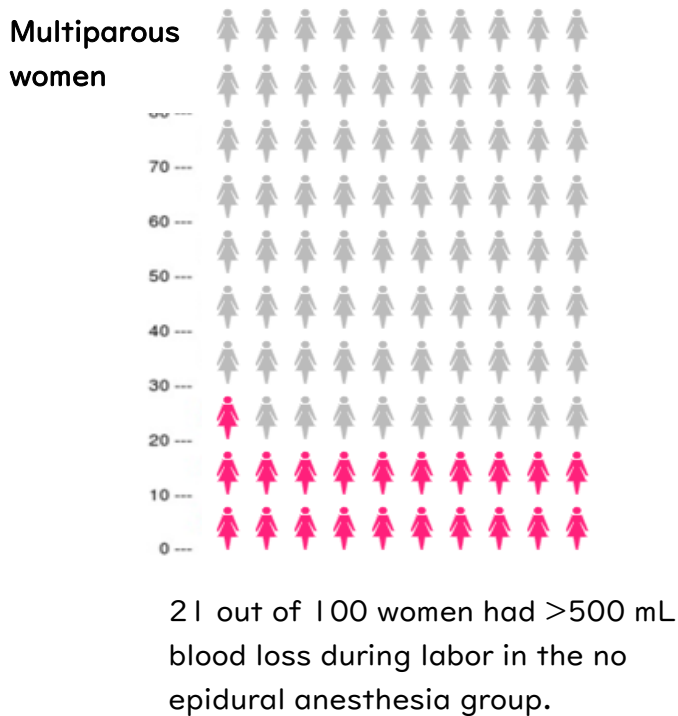
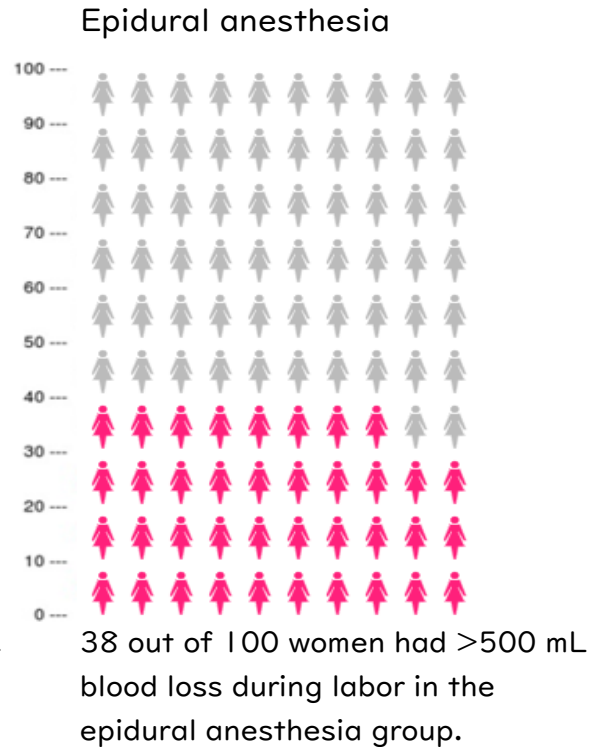
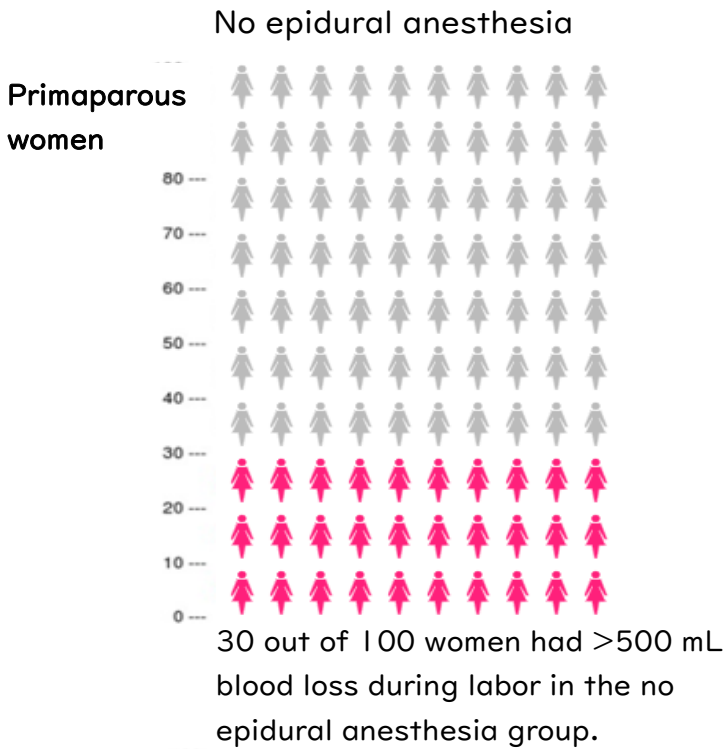
Reference : Kurakazu, M., Umehara, N., Nagata, C., Yamashita, Y., Sato, M., Sago, H. (2020). Delivery mode and maternal and neonatal outcomes of combined spinal-epidural analgesia compared with no analgesia in spontaneous labor: A single-center observational study in Japan. *Japan Society of Obstetrics and Gynecology*, 46(3), 425-433.

STEP 2

Learning the pros and cons of each option

★ Blood loss

Blood loss is more common in the epidural group than in the no epidural group. The amount of bleeding during labor could be more than 500 mL in the no epidural anesthesia group.



Blood loss during labor is the total amount of blood loss until two hours postpartum. In general, >500 mL of blood loss is considered a large amount of bleeding.

Reference: Kurakazu, M., Umehara, N., Nagata, C., Yamashita, Y., Sato, M., Sago, H. (2020). Delivery mode and maternal and neonatal outcomes of combined spinal-epidural analgesia compared with no analgesia in spontaneous labor: A single-center observational study in Japan. *Japan Society of Obstetrics and Gynecology*, 46(3), 425-433.

Q&A Corner

Q. Why is instrumental delivery common during no epidural anesthesia labor?

Answer

- ① When no epidural anesthesia is used during labor, labor pain may be lessened after administration of anesthetic. When the labor slows down, it takes time for the baby to be born, so it is said that there will be more cases where a labor-promoting agent is used to progress the labor, or if the baby's head does not come down, support by instrument delivery is required.
- ② Epidural anesthetic can loosen the muscles that support the pelvis, causing the baby to turn in the wrong direction when it is born. Even in such cases, instrumental delivery may be performed because the delivery time may be longer.



Q. Why does epidural anesthesia during labor cause more bleeding?

Answer

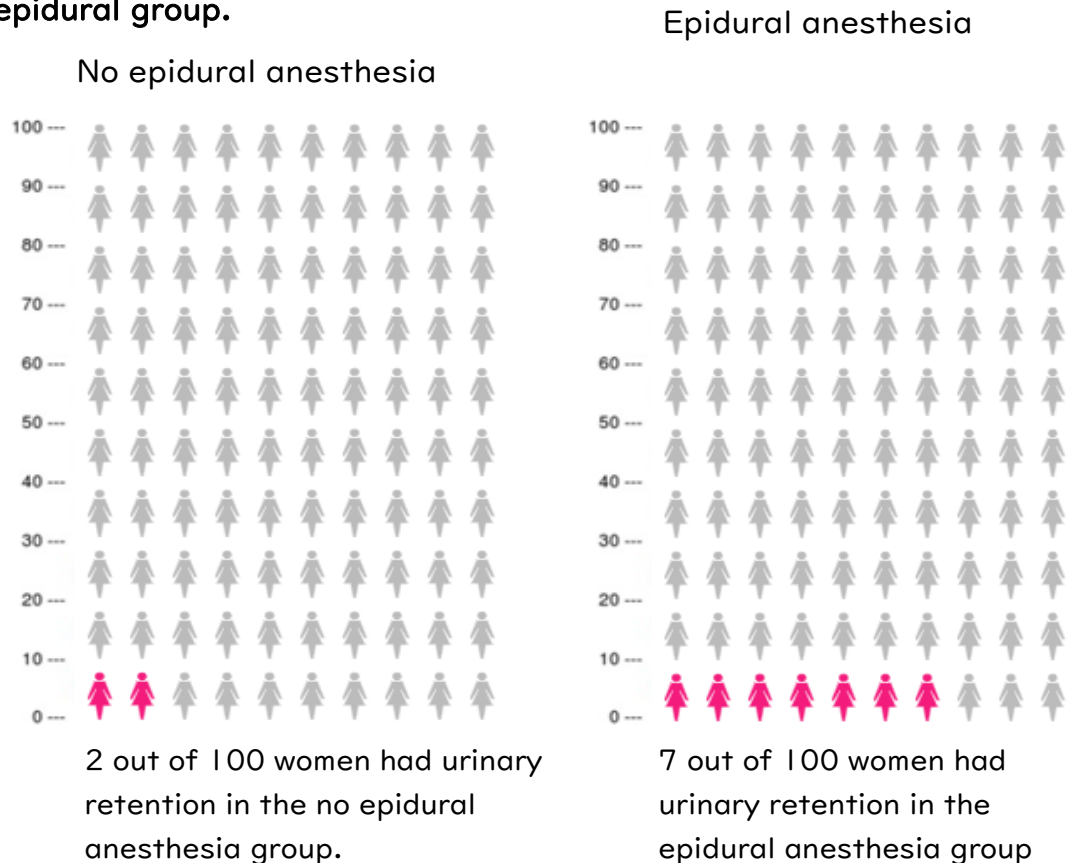
Epidural anesthesia administration during labor often results in longer delivery times, which can lead to tired uterine muscles and poor postpartum uterine return. Therefore, it is said that the amount of bleeding increases. A no epidural anesthesia labor may also increase delivery time and bleeding, depending on labor conditions.

STEP 2

Learning the pros and cons of each option

★ Postpartum urinary retention

Urinary retention is more common in the epidural group than in the no epidural group.



*Urinary retention is:

the absence of spontaneous micturition within 6 hours of vaginal delivery.

In most cases, the symptom is eased within several days. Vary rarely, the symptom continues for more than one week and requires self-catheterization (a method in which a tube is inserted into the bladder through the urethra to drain urine out).

Reference : Shishido, E., & Horiuchi, S. (2018). Hope of delivery using epidural anesthesia during labor compared with no anesthesia and delivery outcome. *Maternal Health*, 59(1), 112–120.

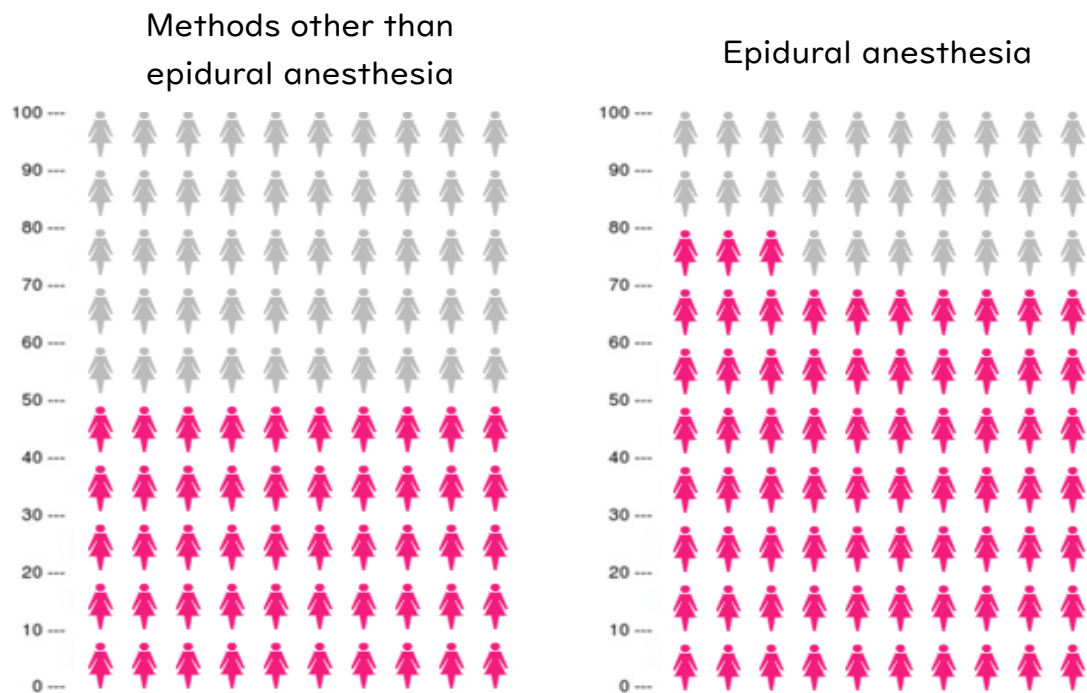
Reference: Yip, S. K., Sahota, D., Pang, M. W., Chang, A. (2005). Postpartum Urinary Retention. *Obstetrics & Gynecology*, 83(10), 881–891.

STEP 2

Learning the pros and cons of each option

★ Satisfaction level with relief of labor pain

Satisfaction level of the epidural group is higher than that of other groups using methods other than epidural (injection of opioids) anesthesia with regards to relieving labor pain.



50 out of 100 women who used methods other than epidural anesthesia were satisfied with their labor pain relief.

73 out of 100 women who had an epidural anesthesia were satisfied with their labor pain relief.

*Methods of relieving labor pain are roughly divided into two types:

a) Methods that use no drugs

Breathing techniques, massage, touching, heating the back by use of a hot pack, aromatherapy, shiatsu massage, etc.

b) Methods that use drugs

Use of epidural anesthesia, injection of opioids, inhalation of nitrous oxide, etc.

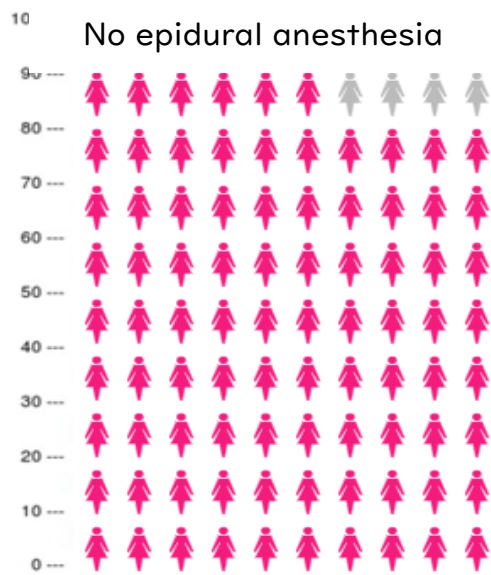
Reference: Anim-Somuah, M., Smyth, R. M., Cyna, A. M., & Cuthbert, A. (2018). Epidural versus non-epidural or no analgesia for pain management in labour. Cochrane Database of Systematic Reviews.

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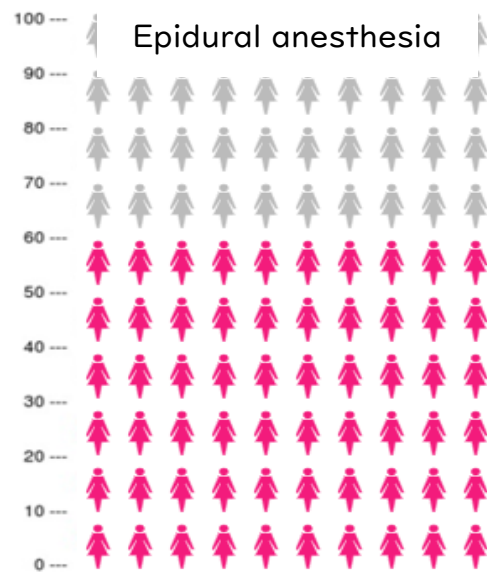
Learning the pros and cons of each option

★ Satisfaction level with childbirth experience

Satisfaction level of the no epidural group is higher than that of the epidural group regarding childbirth experience on an evaluation scale out of 10, with a score of 8 or higher indicating high satisfaction.



86 out of 100 women who had no epidural anesthesia were satisfied with their childbirth experience.



60 out of 100 women who had epidural anesthesia were satisfied with their childbirth experience.



In the no epidural anesthesia group, women who were able to control their labor pain had a higher satisfaction with childbirth.

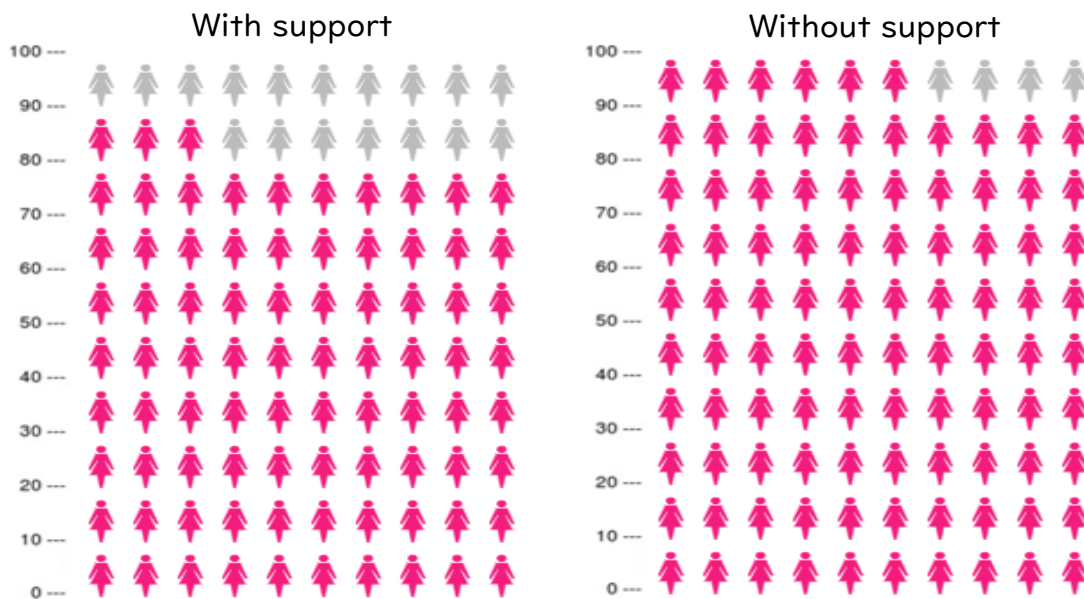
Reference: Shishido, E., Yaju Y., Horiuchi, S. (2018). The gap between expectations and realities of pain and fatigue in women receiving epidural anesthesia versus no anesthesia. *Journal of Japan Academy of Midwifery*, 32(2), 101-112.

STEP 2

Learning the pros and cons of each option

★ Continuous Support

Women who had continuous support from their husband, partner, midwife, etc. are less likely to use medications for relieving labor pain (including epidural anesthesia) as compared with women who had no support during delivery.



83 out of 100 women who had continuous support used medication for labor pain relief during delivery.

96 out of 100 women who did not have continuous support used medication for labor pain relief during delivery.

*For continuous support includes emotional support (continuously attending, reassuring, complimenting), information on relaxation and the progress of labor.

*Drug-based childbirth pain relief includes intramuscular injection of Buscopan, etc. as well as epidural anesthesia.



Reference: Bohren, M. A., Hofmeyr, G. J., Sakala, C., Fukuzawa, R. K., & Cuthbert, A. (2017). Continuous support for women during childbirth. Cochrane Database of Systematic Reviews.

STEP 2

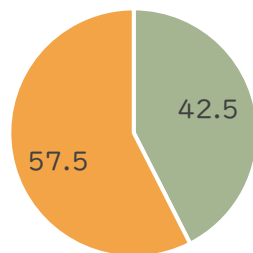
Learning the pros and cons of each option

★ Labor pain, Perineal pain, After-delivery pain

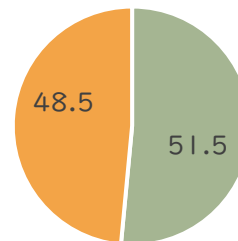
★ Labor pain

A higher percentage of responses for labor pain being more painful than expected was evident in the no epidural anesthesia group.

No epidural anesthesia



Epidural anesthesia

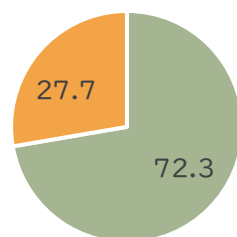


- As expected/less painful than expected
- More painful than expected

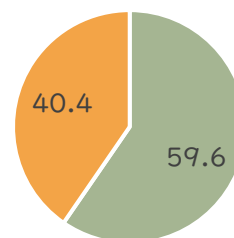
★ Perineal pain

A higher percentage of responses for perineal pain after childbirth being very strong was evident in the epidural anesthesia group.

No epidural anesthesia



Epidural anesthesia



- As expected/less painful than expected
- More painful than expected

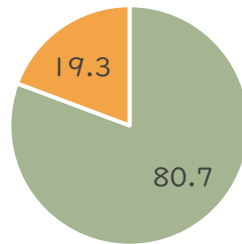
*The cause of perineal pain:

If the perineal wound created during delivery is large and deep, the pain may increase. In addition, the condition of the wound and the degree of pain vary depending on the use of instruments and the presence or absence of an episiotomy.

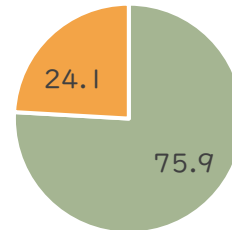
★ After-delivery pain

There is no significant difference in the level of after-delivery pain between the two delivery groups.

No epidural anesthesia



Epidural anesthesia



- As expected/less painful than expected
- More painful than expected

*After-delivery pain:

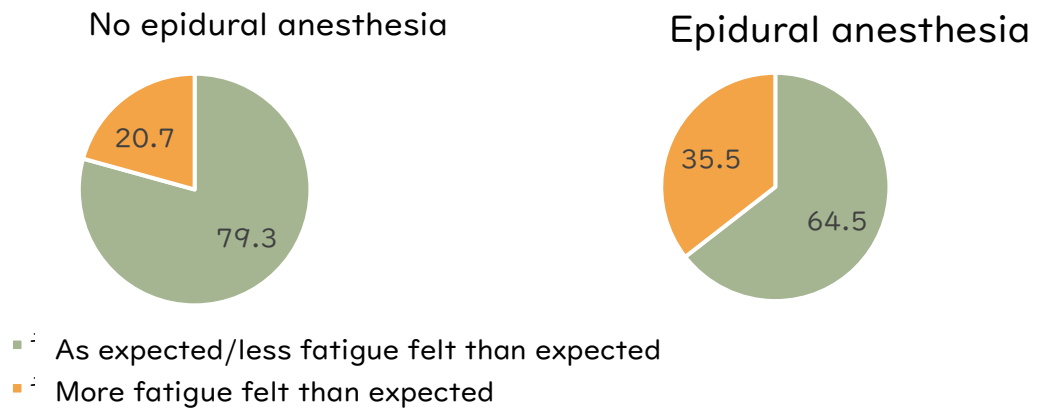
Labor pain that occurs after the placenta is expelled from the uterus is considered to be after-delivery pain. The uterus contracts to prevent blood loss by contracting the blood vessels exposed in the area where the placenta was expelled and to decrease its size to the size before pregnancy. Although after-delivery pain is irregular and weak, it can continue for approximately 3 days after delivery and it is known that women who have already given birth before experience stronger pain than women who are giving birth for the first time.

Reference : Shishido, E., & Horiuchi, S. (2018). Hope of delivery using epidural anesthesia during labor compared with no anesthesia and delivery outcome. *Maternal Health*. 59(1), 112 – 120.

★ Fatigue associated with delivery

Fatigue within 2 days after childbirth

A higher percentage of responses for fatigue being stronger than expected was evident in the epidural anesthesia group.



* Postpartum fatigue:

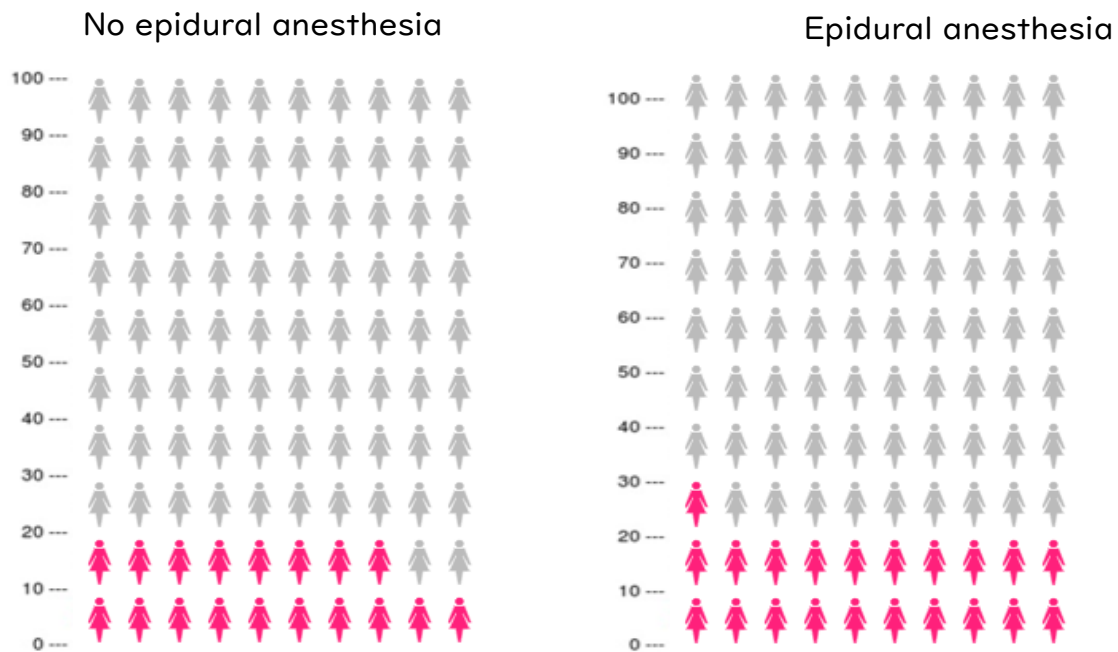
Delivery requires a lot of energy and is extremely exhausting. It is said that not only physical fatigue but also mental fatigue accumulates, and it is generally said that the longer the delivery time, the stronger the feeling

STEP 2

Learning the pros and cons of each option

★ Postpartum depression

There was no difference in the number of postpartum depressions among mothers at 1 month after giving birth between the no epidural anesthesia and epidural anesthesia groups.



18 out of 100 women in the no epidural anesthesia group experienced postpartum depression.

21 out of 100 women in the epidural anesthesia group experienced postpartum depression.

*Postpartum depression is:

a condition in which depression such as maternity blues (a mild depression that occurs transiently after delivery and is said to improve naturally) continues for several weeks, causing problems in daily life. The incidence of postpartum depression in Japanese is reported to be about 10–15%. Symptoms include extreme fatigue, mood fluctuations, sleep disorders, and eating disorders. Specialized treatment is required for recovery.

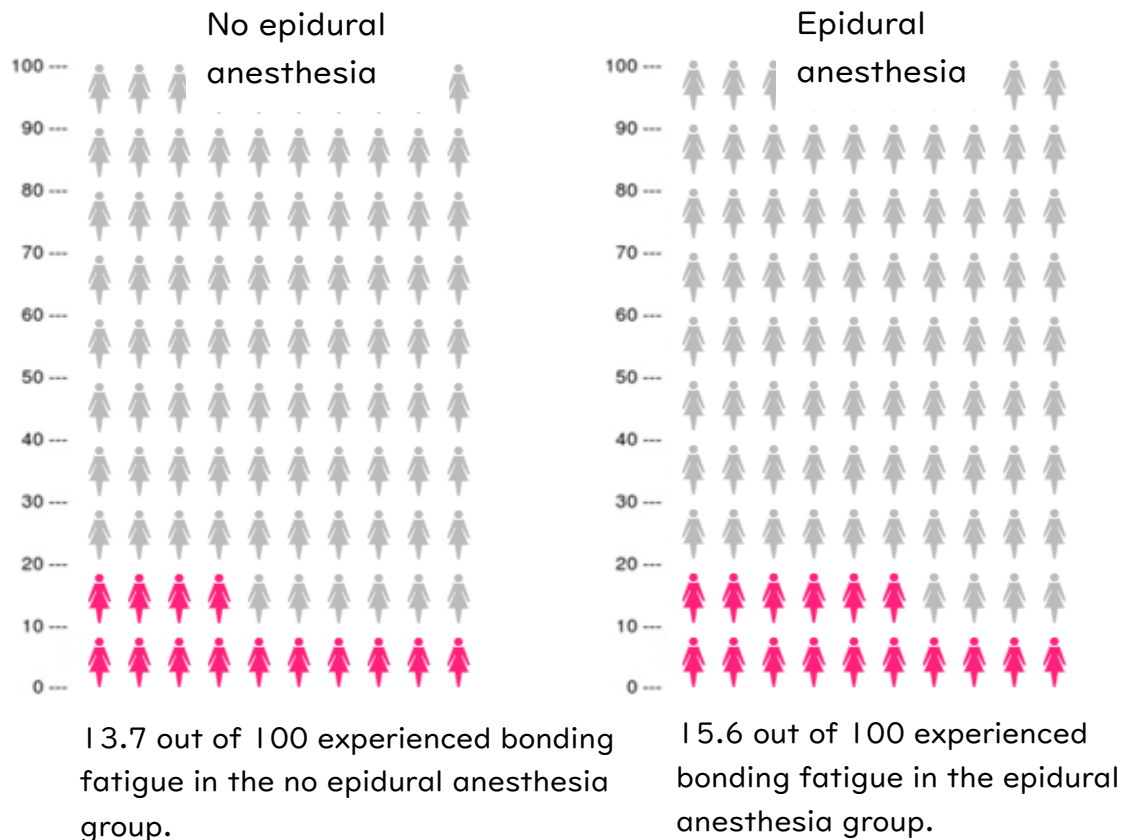
Reference Uehara K, Muradate, M.,Kano N, Kaneda K, Shishido. E., Maeda, Y. (2021). Effect of labor analgesia on postpartum depression; From analysis of perinatal center, mother-child cohort-. The 35th Congress of the Japan Academy of Midwifery.

STEP 2

Learning the pros and cons of each option

★ Bonding fatigue

There was no difference between the no epidural anesthesia and epidural anesthesia groups in terms of the number of mothers with bonding disorders at 1 month after delivery.



*Bonding fatigue is:

a state in which a parent does not have the emotions (emotional bonds) that a parent has for a child, such as adoring the baby after birth or wanting to protect it as a parent. Symptoms include indifference to the child, rejection of the child, and feelings of anger towards the child. Continued bonding disorders can lead to abandonment and abuse of children; therefore, appropriate support is required.

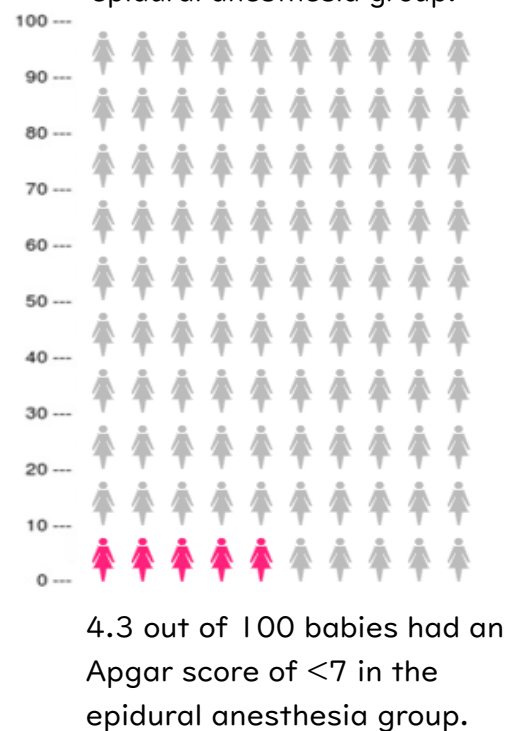
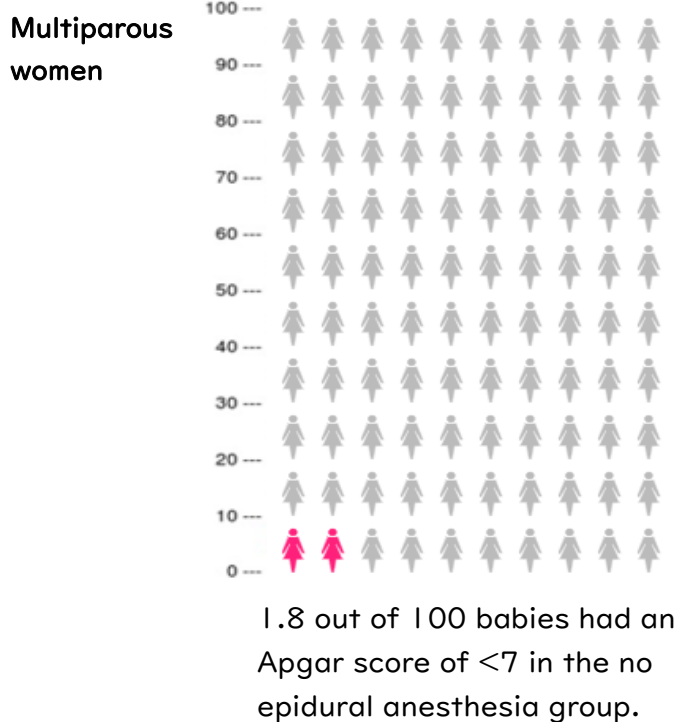
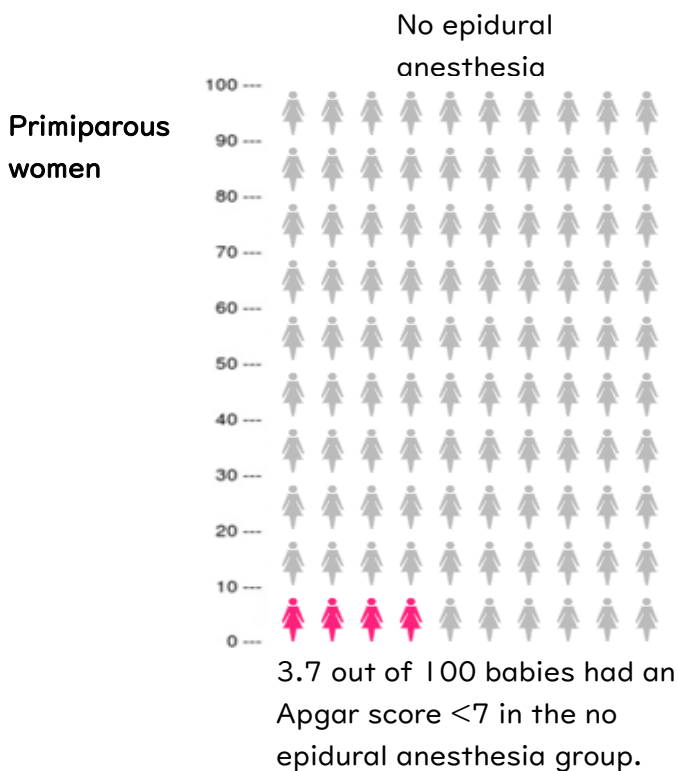
Reference: :Kano N,Kaneda K, Uehara K, Muradate, M., Shishido. E., Maeda, Y. (2021). Effect of labor analgesia on mother-child bonding one month after delivery; From analysis of perinatal center, mother-child cohort. The 35th Congress of the Japan Academy of Midwifery.

STEP 2

Learning the pros and cons of each option

★ Baby's health immediately after birth

More babies with an Apgar score of <7 were found at 1 minute after birth in the epidural anesthesia group than in the no epidural anesthesia group.



There is no significant difference between the no epidural anesthesia group and the epidural anesthesia group regarding an Apgar score for the baby at 5 minutes after birth.

Women who give birth for the first time

0.47 out of 100 babies had an Apgar score of <7 in the no epidural anesthesia group.

0.78 out of 100 babies had an Apgar score of <7 in the epidural anesthesia group.

Women who have already given birth

0.11 out of 100 babies had an Apgar score of <7 in the no epidural anesthesia group.

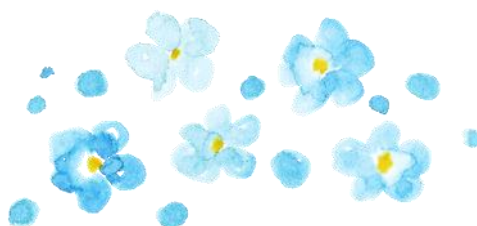
0.20 out of 100 babies had an Apgar score of <7 in the epidural anesthesia group.

***The Apgar score:**

The Apgar is a numerical value that indicates the health condition of the baby immediately after birth. Measurement of the Apgar score is made at 1 and 5 minutes after birth. 7 points or more out of 10 points is considered normal.

The target value for the Apgar score is 7 points or more at 5 minutes after birth. A score of <7 means that the baby's birth health is not what it should be and they may require treatment.

Reference: Kurakazu, M., Umehara, N., Nagata, C., Yamashita, Y., Sato, M., Sago, H. (2020). Delivery mode and maternal and neonatal outcomes of combined spinal-epidural analgesia compared with no analgesia in spontaneous labor: A single-center observational study in Japan. *Japan Society of Obstetrics and Gynecology*, 46(3), 425-433.

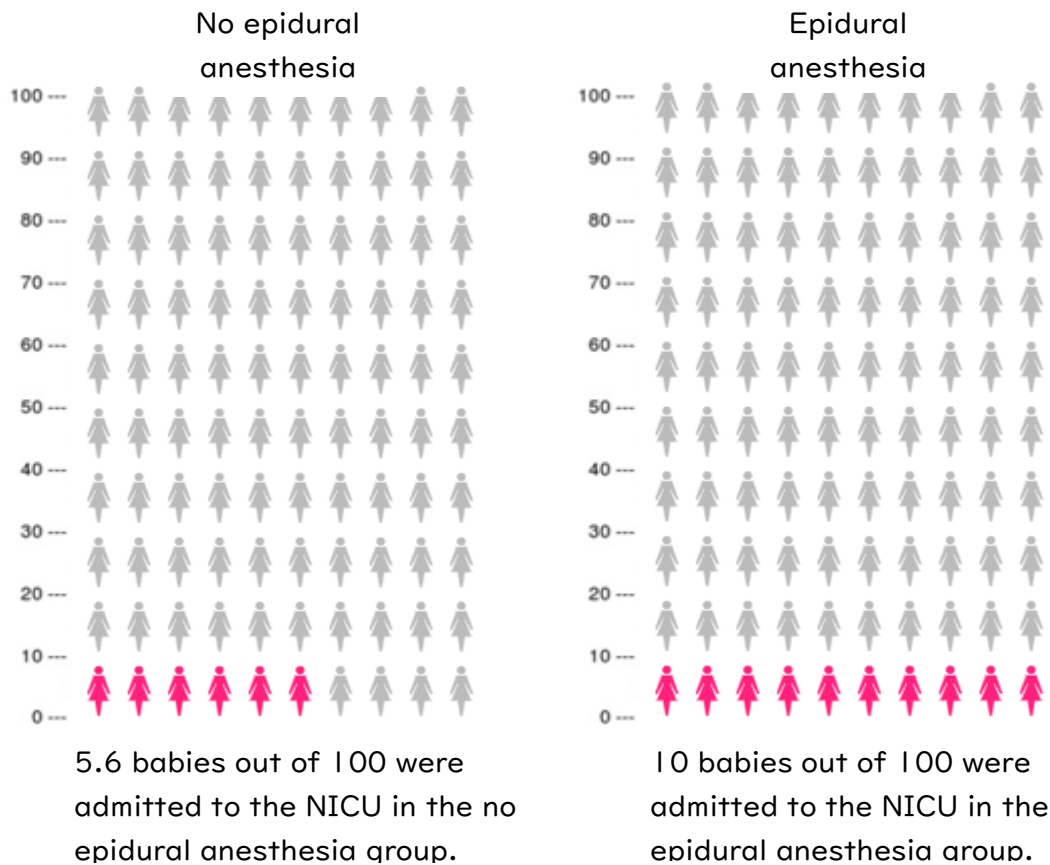


STEP 2

Learning the pros and cons of each options

★ Hospitalization in the NICU

Women who experience epidural anesthesia deliveries are more likely to have babies who are hospitalized in the NICU compared with women who experience no epidural anesthesia deliveries.



*NICU is:

a neonatal intensive care unit. It is an intensive care unit where newborn babies are treated when they need medical help.

Reference: Høftoft D., & Maimburg R. D. (2021). Epidural analgesia birth and adverse neonatal outcomes: A population-based cohort study. *Women and Birth*, 34, e286–e291.

STEP 2

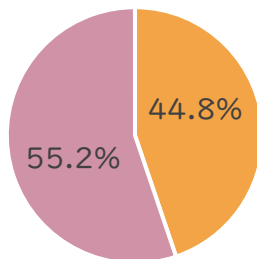
Learning the pros and cons of each option



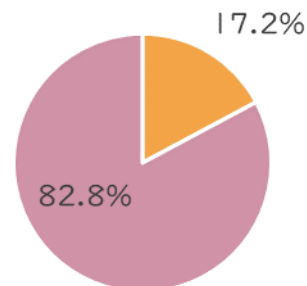
★ Breastfeeding

The percentage of mothers who have given birth for the first time who are exclusively breastfeeding on the 4th to 5th day after childbirth is 44.8% in the no epidural anesthesia group, whereas it is 17.2% in the epidural anesthesia group. Japanese research results show that more mothers in the no epidural anesthesia group are breastfeeding than mothers from the epidural anesthesia group.

No epidural anesthesia



Epidural anesthesia



- Breastfeeding only
- milk or mixed feeding

Breastfeeding only, milk or mixed feeding

Reference: Shishido, E., Shuo, T., Shinohara, K., Horiuchi, S. (2021). Effects of epidural anesthesia on postpartum maternity blues and fatigue and its relation to changes in oxytocin.

Q&A corner

Q. Why are mothers in the epidural anesthesia group less likely to breastfeed during postpartum hospitalization?

Answer:

If you experience heavy bleeding during labor or feel tired after giving birth, it may take some time for your body to move normally. Therefore, it takes time for the mother and child to be together and bond, and the timing for the start of breastfeeding is delayed. Breast milk is produced when your baby sucks on your breasts, so the later you start breastfeeding, the more delayed your milk production will be.

STEP 2

Learning the pros and cons of each option

★ Autism spectrum disorder (ASD)

Various research studies have been published on the relationship between the number of children diagnosed with autism spectrum disease in early childhood or when they are of school age and the method of birth delivery (no epidural anesthesia or epidural anesthesia), but no conclusions have yet been reached.

According to my research results, there was no difference in the number of children diagnosed with autism spectrum disorders between the no epidural anesthesia or epidural anesthesia groups.



Researcher A, B

According to my research results, the number of children diagnosed with autism spectrum disorders was a little more in the epidural anesthesia delivery group than in the no epidural anesthesia delivery group.

Research C, D



*Autism spectrum disorder:

In the International Classification of Diseases (ICD-11), ASD is characterized by "disorders of mutual social relations / communication disorders" and "repetitive and stereotyped patterns of limited behavior, interests and activities". Autism spectrum disorders are often diagnosed from early childhood to when children are of school age, and it is reported that the average age of diagnosis for children in Japan is 7.3 years.

Reference : Wall-Wieler, E., Bateman, B. T., Hanlon-Dearman, A., Roos, L. L., & Butwick, A. J. (2021). Association of Epidural Labor Analgesia with Offspring Risk of Autism Spectrum Disorders. *JAMA Pediatrics*, 175(7), 698-705.

Reference : Mikkelsen, A. P., Greiber, I. K., Scheller, N. M., Lidegaard, Ø. (2021). Association of Labor Epidural Analgesia with Autism Spectrum Disorder in Children. *JAMA*, 326(12), 1170-1177. Reference : Qiu, C., Lin, J. C., Shi, J. M., Chow, T., Desai, V. N., Nguyen, V. T., Riewerts, R. J., Feldman, R. K., Seegal, S., Xiana, A. H. (2020). Association between

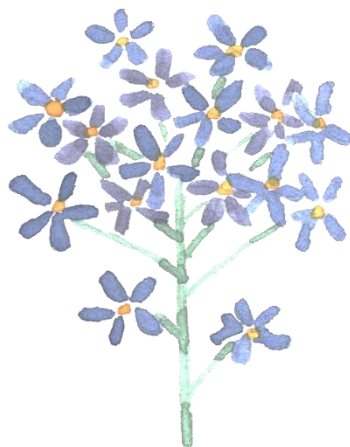
Reference : Hanley, G. E., Bickford, C., Ip, A., Lanphear, N., Lanphear, B., Weikum, W., Zwaigenbaum, L., Oberlander, T. F. (2021). Association of Epidural Analgesia During Labor and Delivery with Autism Spectrum Disorder in Offspring. *JAMA*, 326(12), 1178-1185.

STEP 2**Learning the pros and cons of each option****★ Childbirth delivery costs**

The following summary shows the cost difference between no epidural anesthesia and epidural anesthesia childbirth delivery

	No epidural anesthesia	Epidural anesthesia delivery
Costs	Delivery admission fee	Delivery admission fee +
		Epidural anesthesia fee (approximately 100,000 to 150,000 yen)

*Epidural anesthesia is not covered by private health insurance and is thus considered a private practice.
(Costs vary by birth center, hospital, etc.)



STEP 3

Setting clear priorities for decision-making

In Step 2, we reviewed the pros and cons of each option. It is important to make a decision based on correct information as well as your own priorities that you set for that decision.

Once you set clear priorities for decision-making, it becomes easier for you to ask for advice from a doctor or a midwife about your decision regarding the childbirth delivery method.

The following pages provide a tool that allows you to decide where you place your values and thus help you set clear priorities for decision-making. A blank space where you can write down other points to consider is also provided.

★ Pain associated with delivery

Let us find out how important the following points are to you. On a scale of 0 to 5, with 0 being the least important and 5 being the most important, circle the number that represents how important each item is to you.

Points	Less important					More important
Consideration for my pain tolerance level	0	1	2	3	4	5
Experiencing labor pain	0	1	2	3	4	5
Reducing labor pain	0	1	2	3	4	5
Overcoming childbirth experience with persons supporting you	0	1	2	3	4	5

★ Side-effects of epidural anesthesia

Let us find out how important the following point is to you. On a scale of 0 to 5, with 0 being the least important and 5 being the most important, circle the number that represents how important this item is to you.

Point	Less important					More important
Consideration for possible side-effects of an epidural anesthesia	0	1	2	3	4	5

★ Effect on the delivery process

Let us find out how important the following points are to you. On a scale of 0 to 5, with 0 being the least important and 5 being the most important, circle the number that represents how important each item is to you.

Points	Less important					More important
Being able to freely walk, eat and drink, or go to bathroom during delivery	0	1	2	3	4	5
Epidural anesthesia results in a longer delivery time	0	1	2	3	4	5
Epidural anesthesia more likely results in instrumental delivery of the baby	0	1	2	3	4	5

★ Effect on the baby's health

Let us find out how important the following point is to you. On a scale of 0 to 5, with 0 being the least important and 5 being the most important, circle the number that represents how important each item is to you.

Points	Less important					More important
The health of the baby immediately after birth	0	1	2	3	4	5
Increased chances of a baby being hospitalized in the NICU after birth	0	1	2	3	4	5

★ Effect on breastfeeding

Let us find out how important the following point is to you. On a scale of 0 to 5, with 0 being the least important and 5 being the most important, circle the number that represents how important this item is to you.

Points	Less important			More important		
Breastfeeding in infancy	0	1	2	3	4	5

★ Delivery costs

This section allows you to think about the costs of epidural anesthesia delivery. Let us find out how important the following point is to you. On a scale of 0 to 5, with 0 being the least important and 5 being the most important, circle the number that represents how important this item is to you.

Points	Less important			More important		
Private expense for delivery being high (or low)	0	1	2	3	4	5

★ Others

Do you have anything else to consider? Write down your own points below.

Points	Less important			More important		
●	0	1	2	3	4	5
●	0	1	2	3	4	5
●	0	1	2	3	4	5



STEP 4

Making your decision

- Let us make sure you are ready to make a decision regarding your childbirth delivery method

You have learned basic knowledge and thought about your priorities for decision-making.

Now, let us make sure you are ready to make a decision.

Check the boxes if the points are applicable to you.

*Do you know the benefits and risks of each option ?

Yes No

*Are you clear about which benefits and risks matter most to you?

Yes No

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

Yes No

*Do you feel sure about the best choice for you?

Yes No

The SURE Test © Légaré, et al.(2010)
Translation : Wakako Osaka et al. (2018)

If you answered “No” to at least one of the above four questions, you may not be ready to make a decision yet. Is there anything else you want to do before making your decision?

Let us determine what else you want to do by using the following checklist.

STEP 4

Making your decision

● Let us determine what you want to do next before taking action

You can set your priorities about what you want to do next before taking action by checking off the items on the following checklist.

- None. I am ready to make my decision.
- I need to talk to (person) _____ about my options.
- I need to be clear about which advantages and disadvantages matter most to me.
- Besides that, I need to do _____.

Many women may be figuring out what to do and how to proceed before making a decision regarding their childbirth delivery method. Clarifying what you want to do with the help of the above checklist will make it easy for you to take the next step.

If you feel that you still do not fully understand the available options, you are encouraged to read the chapter “Learning the pros and cons of each option” in this Aid again, or ask your doctor for further explanation.

If you are still uncertain about your priorities for decision-making, you are encouraged to read the chapter “Setting clear priorities for decision-making” again or talk to people such as midwives, family and friends, and women who have experienced childbirth before.

STEP 4

Making your decision

● **How do you feel now?**

Check off the items that best match your feelings now about childbirth delivery methods from the list below.

I want to have an epidural anesthesia. Reasons ()	
I would prefer epidural anesthesia if needed during delivery. Until then, I will do my best.	
I slightly favor the use of epidural anesthesia, but with minimum use. Mostly, I want to go without epidural anesthesia.	
I am not sure. I need to think more about my options.	
I do not wish to have an epidural anesthesia; however, I will accept an epidural anesthesia if the pain becomes unbearable.	
I want to avoid epidural anesthesia as much as possible; however, I will accept epidural anesthesia if delivery is delayed and it becomes difficult to proceed with vaginal delivery.	
I do not want to have an epidural anesthesia. Reasons ()	



In conclusion

★ Process of developing this Aid

This Aid was created on the basis of opinions from doctors, midwives and experts in decision-making research. Medical information described here was checked by experts in obstetrics and obstetric anesthesia. This Aid does not include all medical information, but rather basic information that you should know.

★ For making your own informed decision

No financial support of any kind was received from healthcare-related companies or other entities for creating this Aid (declaring no conflicts of interest).

There is no right or wrong decision about choosing which childbirth delivery method to use. Sharing your values and preferences with healthcare professionals and receiving professional opinions from them will allow you to make your own informed choice.

★ Update of information in the “Finding a Way to Relieve Labor Pain that is Right for You” Aid

Each option has benefit and risks. This Aid was created to help you understand the benefit and risks of each option from a medical perspective, examine which benefit and risks are important to you according to your values, and facilitate communication with doctors, midwives, family, colleagues and friends, and women who have already experienced childbirth.

The contents of this Aid are revised and updated as needed. Please check the revision date before using this Aid.

The information published in this Aid is to facilitate communication with healthcare professionals, and to help you organize the information you learn and your priorities for making decisions so that you can make up your mind about which childbirth delivery method is right for you. This information is not intended to be a substitute for the advice of healthcare professionals.

(Final revision of contents : February 20, 2022)

This Aid was created on the basis of aids for choosing epidural anesthesia delivery that have been developed abroad. The references used are listed below.

<Overseas aids used as references>

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(The University of Sydney)

www.psych.usyd.edu.au/cemped/docs/Pain_Decision_Aid.pdf [2018-04-25]

Should I Have an Epidural During Childbirth?
(Healthwise Content Development Team)

<https://www.mottchildren.org/health-library/tn9762> [2018-04-25]

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“Finding a Way to Relieve Delivery Pain that is Right for You”. Helping pregnant women make an informed decision about epidural anesthesia and no epidural anesthesia

< 1st Edition >

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"Finding a Way to Relieve Labor Delivery Pain That is Right for You" Informational decision aid about childbirth with or without epidural anesthesia.

< 2nd Edition >

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