

# 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

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

This Aid is intended to help pregnant women planning on vaginal delivery to make an informed decision about whether to give birth by epidural anesthesia or no epidural anesthesia.





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Anesthesia used during childbirth can be achieved 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 options for vaginal delivery, each with its own advantages and disadvantages.

This Aid is intended to help pregnant women planning on vaginal delivery to make an informed decision about whether to give birth by epidural anesthesia or no epidural anesthesia.

This Aid consists of the following steps.

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

## STEP 1

### Learning how to make an informed decision

P1 - P3

## STEP 2

### Learning the pros and cons of each option

P4 - P20

## STEP 3

### Setting clear priorities for decision-making

P21 - P22

## STEP 4

### Making your decision

P23 - P25

## STEP 1

### 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 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 sure about epidural anesthesia

This Aid is not for women with the following conditions

#### Women requiring in-person consultation 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.)



\* 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 advantages and disadvantages.

## 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 in 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 a) and/or b) above. 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 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.

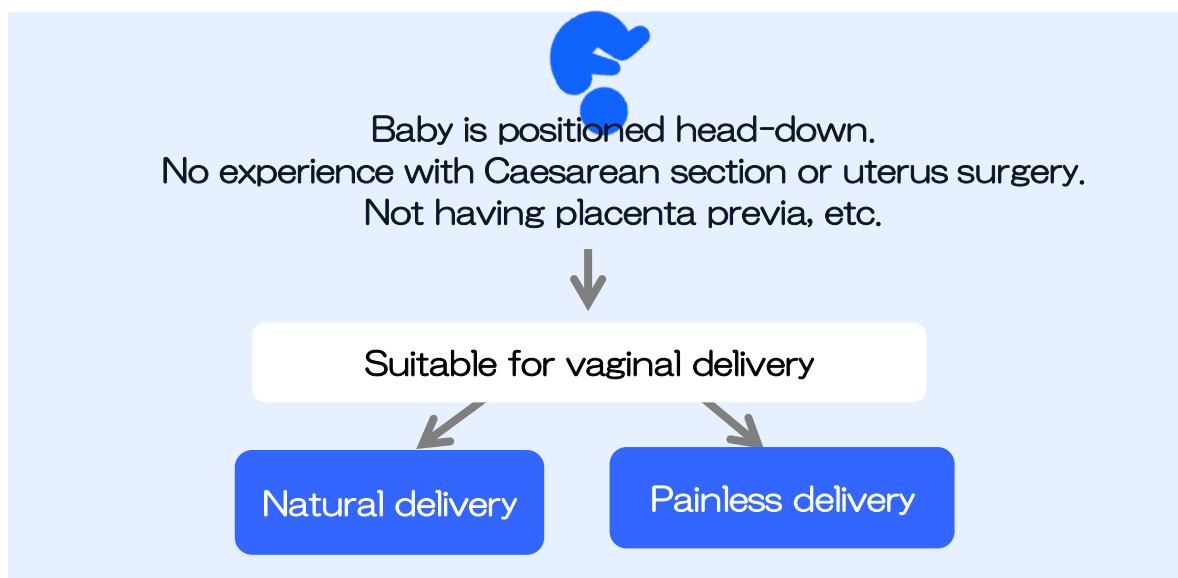


## STEP 2

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 in epidural anesthesia and no epidural anesthesia.

#### • How do you manage pain during natural delivery?

Natural delivery is a spontaneous delivery method without the use of anesthetics during delivery. 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 by gently acting on the neural circuits for pain.

- **How do you manage pain during 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 first-time women 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 maximum level after labor starts. It is generally known that this step takes first-time women 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 maximum level, the intervals between contractions become even shorter. It is known that it takes first-time women between 1 and 2 hours, and women who have already given birth between 30 minutes and 1 hour, to give a birth after the cervix is dilated to the maximum 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 painless delivery)

#### ● Timing for starting painless delivery

- Epidural anesthesia is started when labor pains become stronger and pregnant women wish to alleviate the pain.
- Epidural anesthesia is usually started when the contractions take place 5 minutes apart and the cervix is dilated to a width of approximately 3 to 5 cm.

#### ● Steps of painless deliver treatment

- 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 induced in the part of the body where the needle is inserted. This operation causes a brief pricking sensation like getting an injection.
- c) A thick needle (epidural needle) for placing a tube is inserted. This operation 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 starting 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.

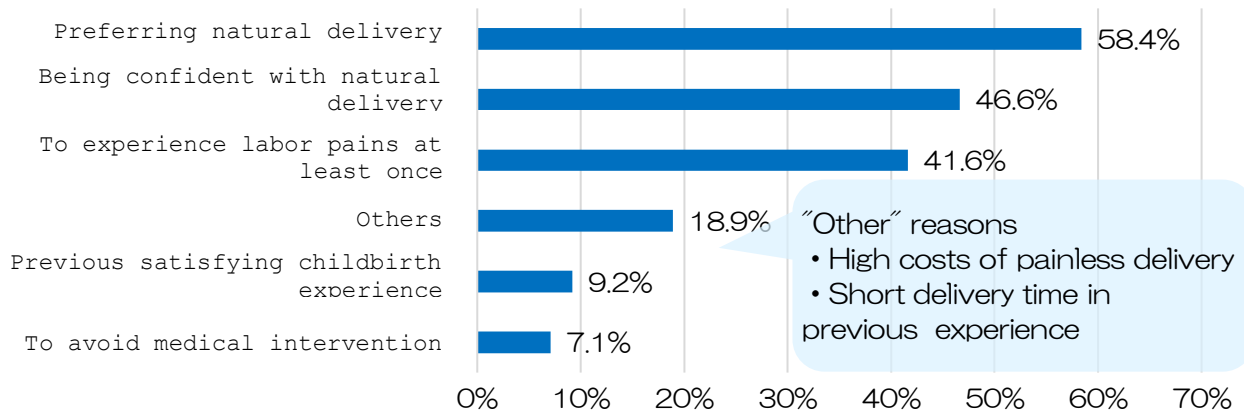
STEP 2

Learning the pros and cons of each option

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

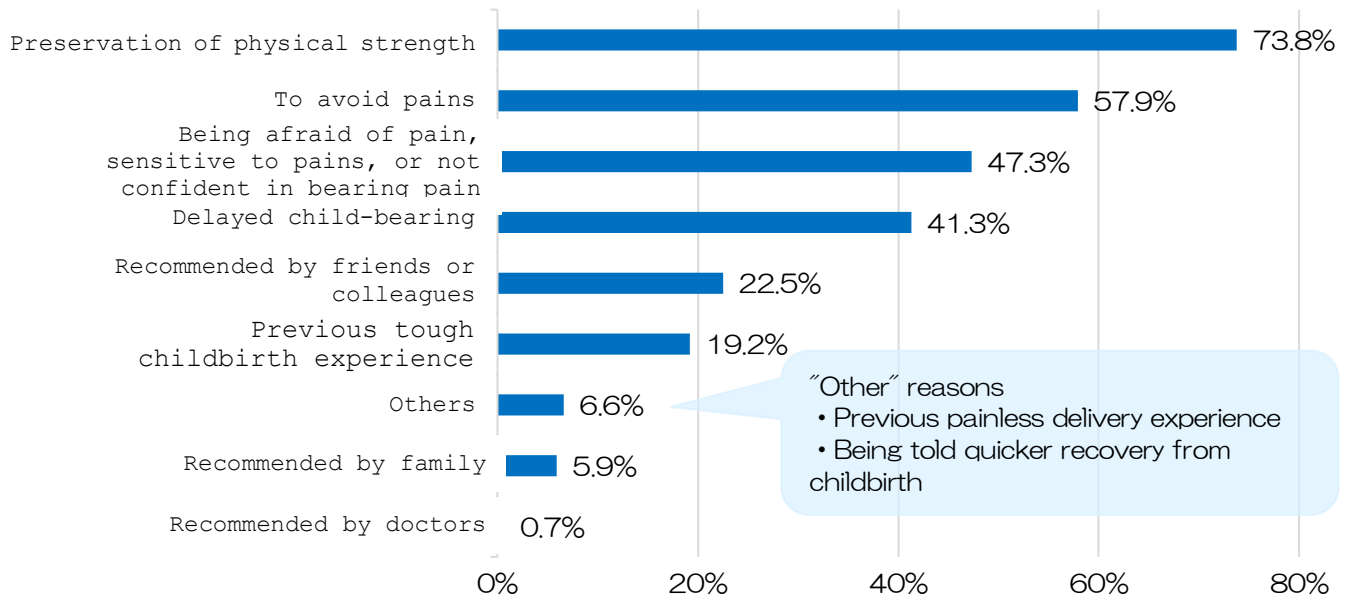
< No epidural anesthesia >

Reasons for choosing no epidural anesthesia



<Painless delivery>

Reasons for choosing epidural anesthesia



Data were obtained from patients at the National Center for Child Health and Development from 2016 to 2017.

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

## STEP 2

### Learning the pros and cons of each option

#### ● Comparison of advantages and disadvantages between epidural anesthesia and no epidural anesthesia

Let us compare the advantages and disadvantages 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"> <li>You will be able to walk around freely.</li> <li>You will be able to eat and drink freely.</li> <li>You will be able to go to the bathroom.</li> </ul>	<ul style="list-style-type: none"> <li>You have to remain on a delivery bed.</li> <li>Eating and drinking are restricted.</li> <li>You cannot go to the bathroom and will need to urinate through a tube (catheter).</li> </ul>
Analgesic side-effects	—————	local anesthetic, intoxication, anaphylactic shock, postdural puncture headache, low blood pressure, fever, itchy skin, etc.
Impact on newborns	None	Some * See page 11
Additional treatments for Caesarean section	Requires additional anesthetic treatments.	Applied anesthetics can be used for Caesarean section.
Costs	Regular delivery fee	Regular delivery fee + Painless delivery fee

The side-by-side comparison makes it easy to understand the advantages and disadvantages 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 11-fold.
- Risk of causing nausea and vomiting during delivery increases by 0.6-fold.
- Anesthetics may cause itching around the chest during delivery.
- Risk of causing difficulty in urination after delivery increases by 14-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*.

#### 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 in 1 out of 4000 pregnant women.
- Death may be caused due to anesthetics on very rare occasions.

Literature: 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.

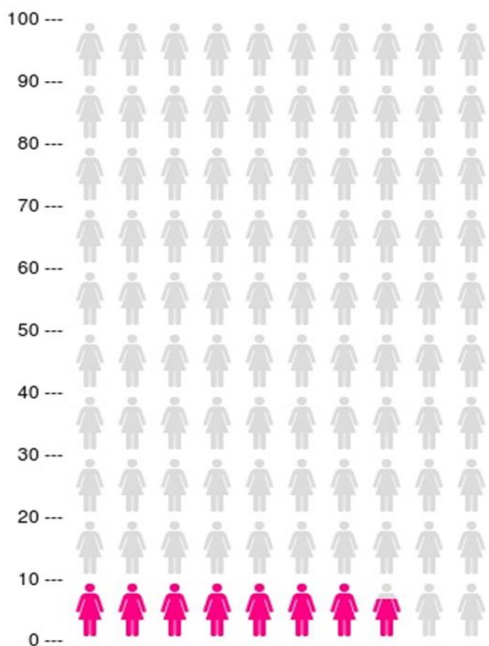
STEP 2

Learning the pros and cons of each options

★ Instrumental delivery

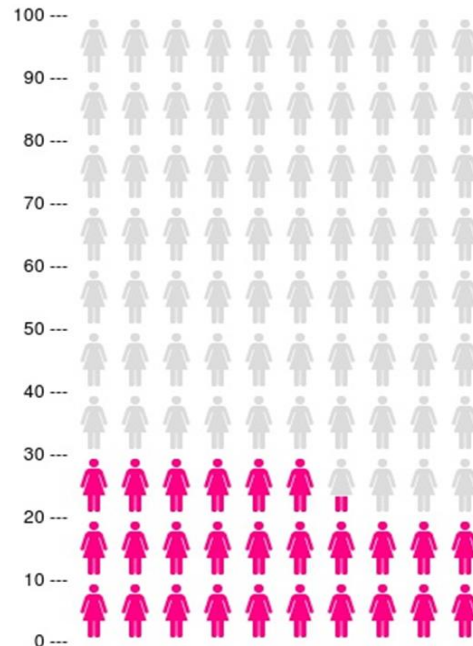
Instrumental delivery is more commonly used for the painless delivery group than the natural delivery group.

No epidural anesthesia  
Primiparous women



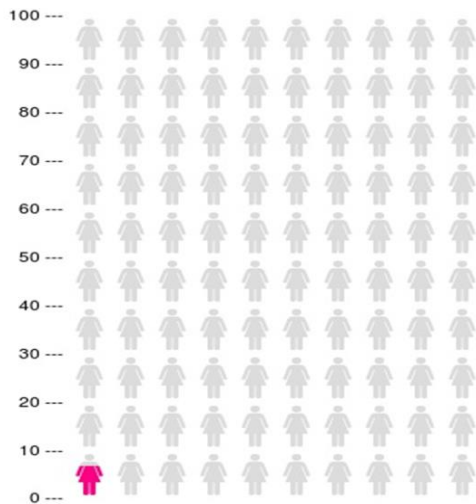
7.7 out of 100 women required instrumental delivery in the no epidural group.

Epidural anesthesia

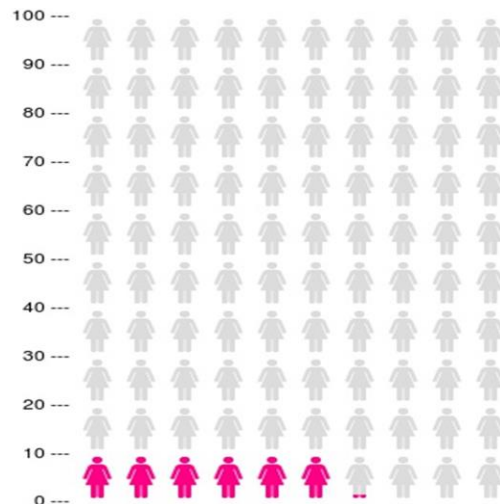


26.2 out of 100 women required instrumental delivery in the epidural group

Multiparous women



0.7 out of 100 women required instrumental delivery in the no epidural group



6.1 out of 100 women required instrumental delivery in the epidural group

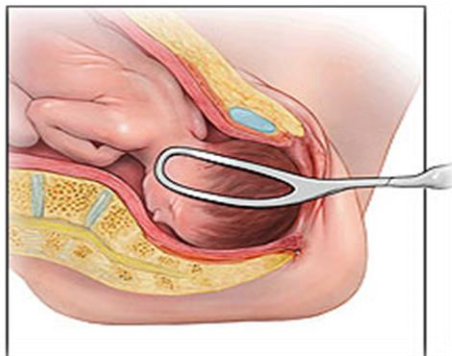
**\* Instrumental delivery is:**

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.

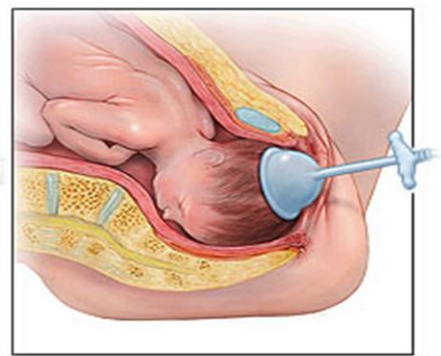
“**Vacuum-assisted delivery**” is a method in which a suction cup is attached to the baby’s head and delivery of the baby is vacuum-assisted by applying negative pressure.

“**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

**Forceps-assisted delivery**



**Vacuum-assisted delivery**



Reference: Shishido E. & Horiuchi S. Hope of delivery using epidural anesthesia during labor compared with no anesthesia and delivery outcomes. Japanese Journal of Maternal Health 59(1), 112-120.

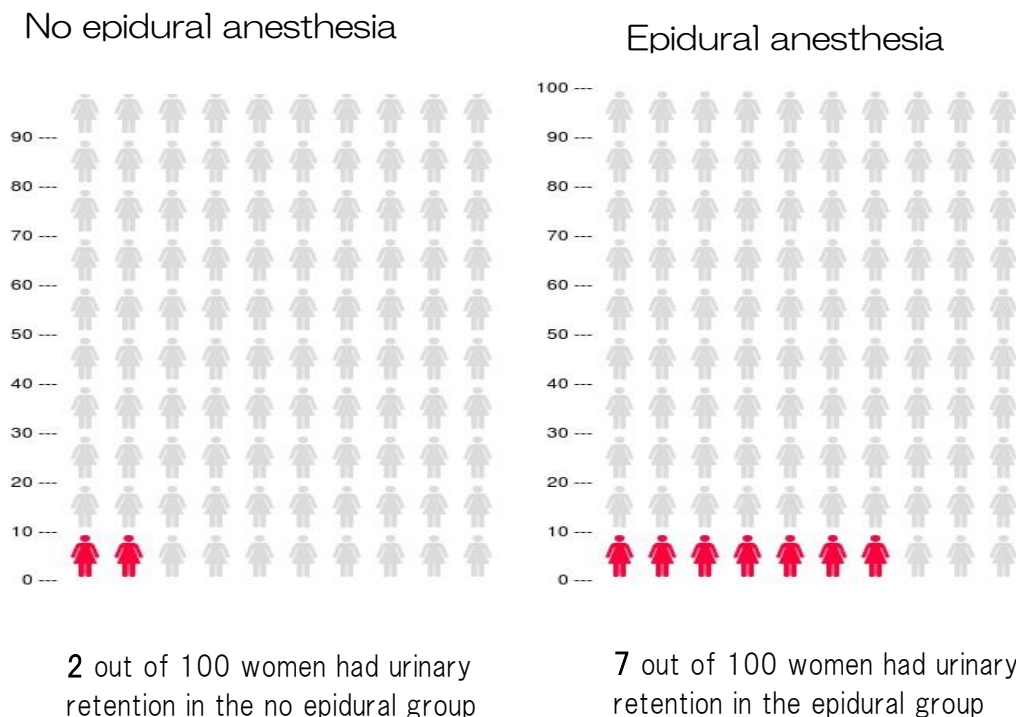


## STEP 2

### 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.



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

#### \*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).

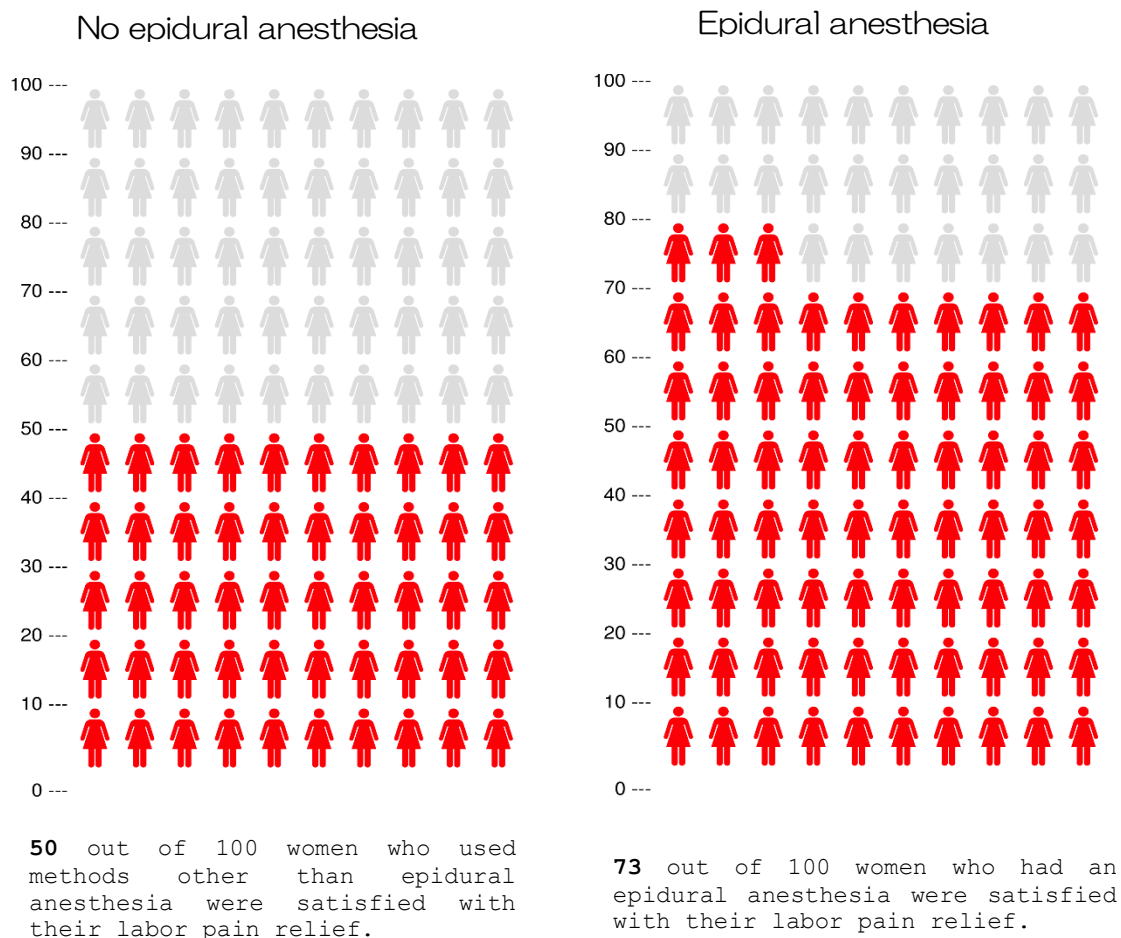
Reference: Yip, S. K., Sahota, D., Pang, M. W. & Chang, A. (2005). Postpartum Urinary Retention. Obstetrics & Gynecology. 83(10), 881–891.

## 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) with regards to relieving labor pain.



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.

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

**a) Methods with no drug use**

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

**b) Methods with drug use**

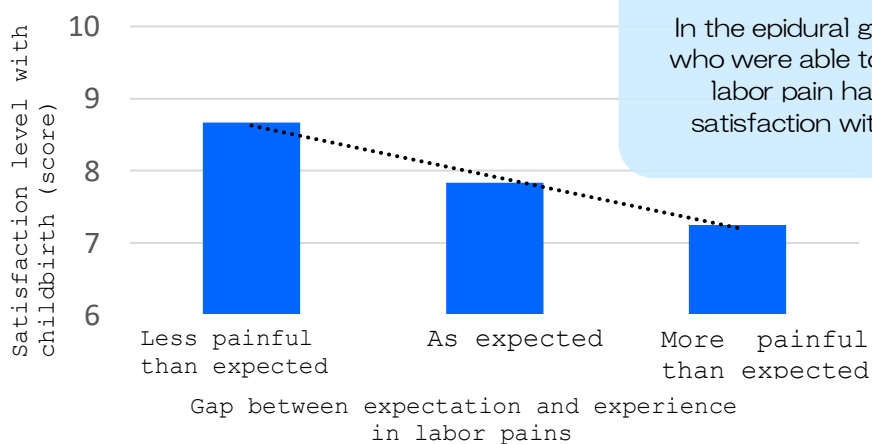
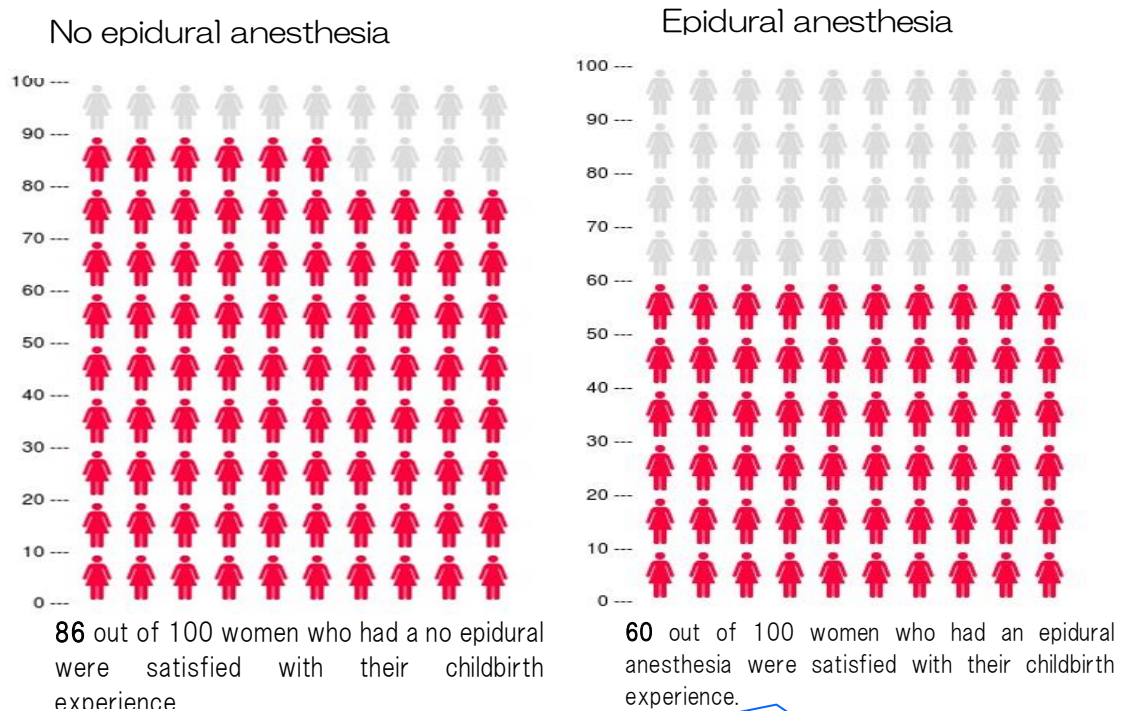
Painless delivery using epidural anesthesia, injection of opioids, inhalation of nitrous oxide, etc.

## STEP 2

## 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 of 10, with a score of 8 or higher indicating high satisfaction.



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

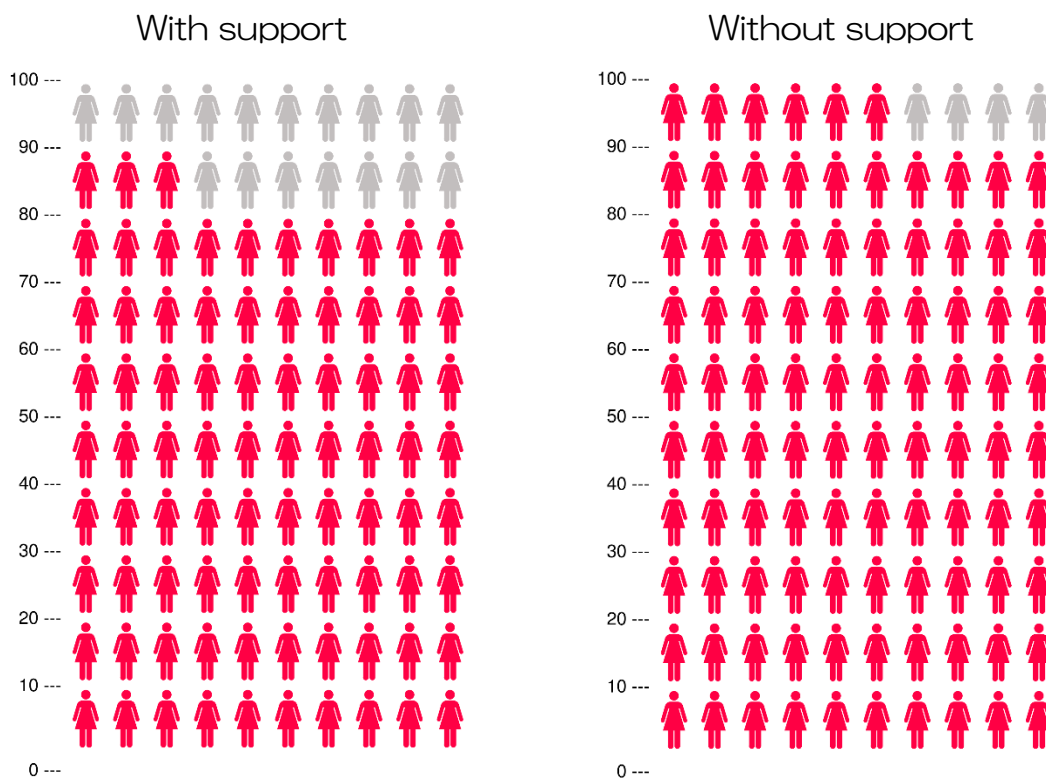
## STEP 2

### 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 painless delivery) as compared with women who had no support during delivery.

\*Continuous support includes emotional support (constant companionship, pain easing, cheering up), comfort measures, providing information on the progress of delivery, etc.



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.

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

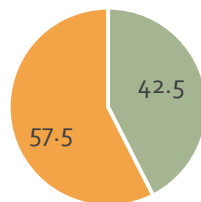
Learning the pros and cons of each option  
(pain and fatigue caused by delivery)

★ Pain associated with labor pain, perineal pain and after-delivery pain

### ★ Labor pain

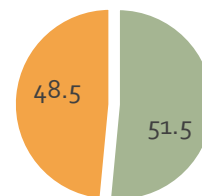
A higher percentage of responses for labor pain being more painful than expected was evident in the natural delivery group.

No epidural anesthesia



■ As expected/less painful than expected  
■ More painful than expected

Epidural anesthesia

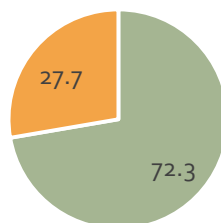


■ As expected/less painful than expected  
■ More painful than expected

### ★ Perineal pain

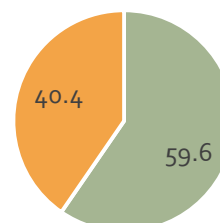
A higher percentage of responses for perineal pain after childbirth being very strong was evident in the epidural group.

No epidural anesthesia



■ As expected/less painful than expected  
■ More painful than expected

Epidural anesthesia



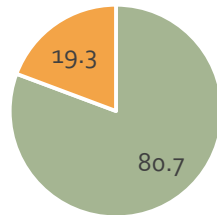
■ As expected/less painful than expected  
■ More painful than expected

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

## ★ After-delivery pain

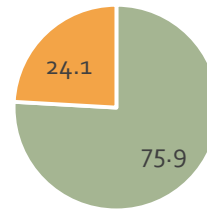
There is no significant difference in the level of after-delivery pain between the two delivery groups.

No epidural anesthesia



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

Epidural anesthesia



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

### \* After-delivery pain is:

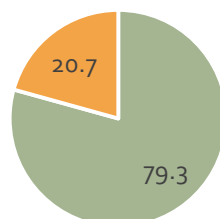
labor pain occurring after the placenta is expelled from the uterus. The uterus contracts to prevent blood loss by contracting the blood vessels exposed in the area where the placenta was expelled and to decrease its size to the size before pregnancy. Although after-delivery pain is irregular and weak, it can continue for approximately 3 days after delivery and it is known that multiparous women experience stronger pain than primiparous women.

## ★ Fatigue associated with delivery

### ★ Fatigue within 2 days after childbirth

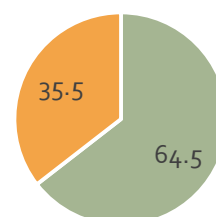
A higher percentage of responses for fatigue being stronger than expected was evident in the epidural group.

No epidural anesthesia



- As expected/less fatigue felt than expected
- More fatigue felt than expected

Epidural anesthesia



- As expected/less fatigue felt than expected
- More fatigue felt than expected

STEP 2

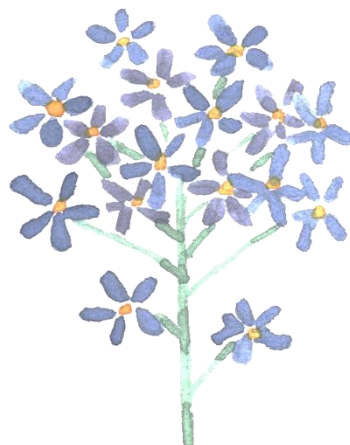
Learning the pros and cons of each option  
(Delivery costs)

★ Delivery costs

The following summary shows the cost difference between natural delivery and painless delivery.

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

\*Epidural anesthesia is not covered by health insurance and is thus considered a private practice.



### 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 feels 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 a painless 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 it feels to you.

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



### ★ How you go through 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 feels 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
Painless delivery requiring longer delivery time	0	1	2	3	4	5
Painless delivery more likely requiring instrumental delivery	0	1	2	3	4	5

### ★ Delivery costs

This section allows you to think about the costs of painless 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 it feels to you.

Point	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  if applicable.

- 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 sort out what you want to do by using the checklist on the following page.

## STEP 4

### Making your decision

#### ● Let us sort out 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?**

How do you feel about childbirth delivery methods now? Check off  the items that best matches your feelings from the list below.

I want to have an epidural anesthesia as I'm afraid of delivery and not sure if I can manage.	<input type="checkbox"/>
I prefer an epidural anesthesia if needed during delivery. Until then, I'll do my best.	<input type="checkbox"/>
I slightly favor an epidural anesthesia with minimum use of analgesics.	<input type="checkbox"/>
Not sure, need to think more.	<input type="checkbox"/>
I do not prefer an epidural anesthesia. However, I accept epidural anesthesia if the pain becomes unbearable.	<input type="checkbox"/>
I want to avoid epidural anesthesia as much as possible. However, I accept painless delivery if delivery is delayed and it becomes difficult to proceed with vaginal delivery.	<input type="checkbox"/>
I do not want to have an epidural anesthesia.	<input type="checkbox"/>



## In conclusion

### ★ Process of developing this Aid

This Aid was created on the basis of opinions from women who have experienced childbirth, doctors, nurses, 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 you should know.

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

### ★ For making your own informed decision satisfaction

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.

Each option has advantages and disadvantages. This Aid was created to help you understand the advantages and disadvantages of each option from a medical perspective, examine which advantages and disadvantages 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.

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

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: January 20, 2019)

This Aid was created on the basis of aids for choosing painless delivery that have been developed abroad and the references below.

#### <Foreign aids used as reference>

Pain Relief for Labour: For women having their first baby.  
(The University of Sydney)

[www.psych.usyd.edu.au/cemped/docs/Pain\\_Decision\\_Aid.pdf](http://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)

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

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