

# Information and Consent Form about Labor Epidural Analgesia in Aiiku Hospital

Aiiku Hospital may provide pain relief (labor epidural analgesia) at any time during 24 hours if expectant mother wants it. In order to deepen your understanding of labor epidural, and to ensure that the delivery can be carried out at ease, those who are considering labor epidural are required to take the labor epidural class. Please understand the flow, method, advantages and disadvantages of labor epidural before deciding.

The expense of anesthesia delivery is at your own expense. If you have any questions about expenses, please contact the Admission and Discharge Support desk on the 1st floor.

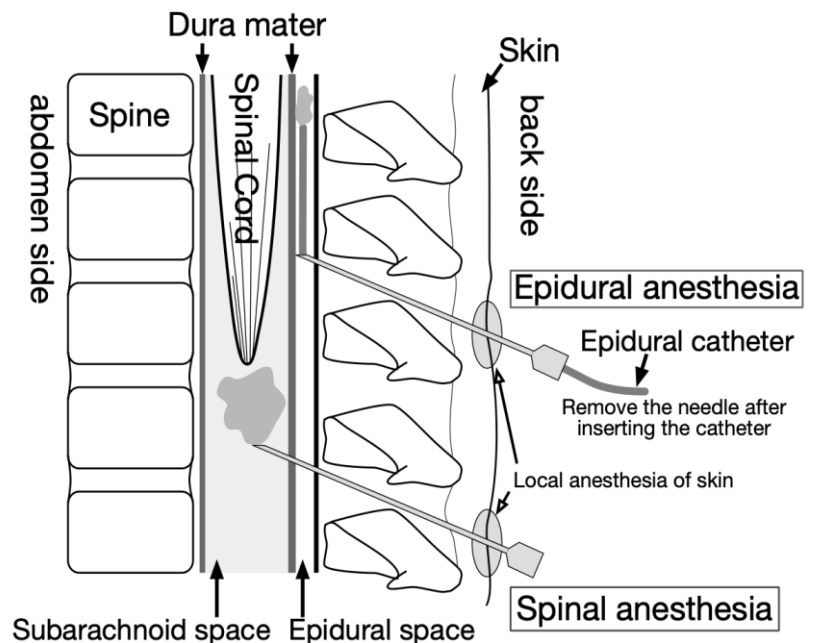
## \* Pain relief treatments

Analgesia (pain relief) is performed by combining epidural anesthesia and spinal anesthesia. In each case, the lower back is injected during the procedure. The procedure for anesthesia will be selected according to the situation, but please let us know if you have any requests.

- There is a bundle of nerves called spinal cord in the spine. The area around the spinal cord is filled with fluid called spinal fluid, and the surrounding area is covered by a membrane called "dura mater."

A method of inserting a needle into the back, inserting a thin tube (epidural catheter) into the space of the epidural space outside the dura, and inserting anesthetics through the tube is called epidural anesthesia. The method of inserting anesthetics into the subarachnoid space inside the dura is called spinal anesthesia. (Lower right figure)

- During the injection, your back should be rounded and your knees should be close to your stomach (Take a posture that spreads between the spines). This posture is important for safe anesthesia, so we need your cooperation. Your anesthetist touches the back to check the position and disinfect the skin. Next, a local anesthetic injection is applied to the skin. When local anesthesia is effective, your anesthetist will pierce the epidural needle. If you feel pain, numbness, or running electricity, please let us know. Please note that it is very dangerous to move your body during the injection.



- When anesthesia is started, not only the pain of delivery, but also the sensation from the navel to the buttocks and toes become dull, making it hard to feel pain. It makes your legs feel numb due to dullness, but this is not unusual. It is possible to move the legs, but it may be difficult to apply power, so we will restrict walking for safety.

If you remain in the same position for a long time, parts of the body (skin, nerves, etc.) that are under pressure in that position can be damaged by compression, just like bedsores. During labor epidural, the sensation becomes dull and pain is less likely to be felt, so it is difficult to notice that. In order to prevent such injuries due to compression, it is necessary to consciously change posture during labor epidural so as not to keep the same posture for a long time.

### \* Advantages of labor epidural analgesia

- The biggest advantage is that the pain of delivery is relieved. The start of anesthesia may smooth the birth.
- It is said to be useful for the management of blood pressure during delivery for patient with hypertensive disorders of pregnancy.
- The treatment of perineal suturing and bleeding after delivery is painful, but the high analgesic effect is another advantage of delivery under analgesia.

A catheter placed on the back during delivery under analgesia can also be used for anesthesia in the event of an emergency cesarean section. This is said to be useful for some parturients who are expected to have difficulty in anesthesia during an emergency cesarean section, so that they can give birth with confidence.

### \* Effect on delivery process

- Labor pain (uterine contractions) often weakens with labor epidural, in which case the labor augmentation drugs is used. The medicine for labor augmentation increases the contraction of the uterus. It does not mean that they increase pain. labor augmentation drugs are also used for delivery without anesthesia, but the proportion of patient who use labor augmentation drugs increases in the case of labor epidural.
- The rate of forceps and vacuum extraction increases in the case of labor epidural because the progress of childbirth tends to stagnate near the exit of the birth canal.
- Labor epidural tends to make the time of labor longer, but does not increase the rate of resulting in Cesarean section.
- With regard to the timing of starting anesthesia, it was thought that childbirth could proceed smoothly if anesthesia was started after the cervix was opened 4–5 cm. Recently, it is said that it is better to start when an expectant mother wants to start anesthesia.

In our hospital, the start time is decided by consulting with the parturient, midwife, and obstetrician

- Anesthesia (labor epidural) is started 24 hours a day, so you can start anesthesia at any time of labor.

Regarding planned delivery (labor induction) of multipara women, please consult with the obstetrics outpatient department. We do not recommend planned delivery of primipara women.

The explanation that “ Cesarean section rate does not increase with labor epidural “ is based on findings based on the principle of induction of anesthesia after spontaneous onset of labor. This does not always apply to planned delivery (labor induction).

### \* Effects on the baby

- Anesthetics used for epidural or spinal anesthesia have been found to have little effect on the baby through the placenta. During anesthesia, the baby’s heartbeat is constantly monitored to prepare for any changes.
- After anesthesia is effective, the contractions of the uterus may temporarily become too strong, which may

temporarily decrease the baby's heart rate. This change has been shown to be temporary and has no effect on the baby's condition thereafter.

## \* Effects on the mother

After the start of anesthesia, you will be wearing a biological monitor such as a blood pressure monitor in order to prevent complications due to anesthesia and detect it early.

### ➤ Symptoms that may occur during delivery

- Itching: Mild itching may occur due to side effects of anesthetics.
- Poor leg strength: Occurs when the anesthesia is very effective or unilaterally. We respond by reducing anesthetics and adjusting the position of the epidural catheter.
- Pain may occur during labor epidural. We respond by adding an anesthetic, adjusting the position of the epidural catheter, and reinserting it.
- Low blood pressure, discomfort: If anesthesia works over a wider range than usual, blood pressure may drop, or you may feel sickness or feeling unwell. We always monitor vital signs such as blood pressure. If you feel sick during labor epidural, please let us know immediately.

### ➤ Symptoms that may occur after delivery

#### ● Urination disorder

If the progress of the birth stagnates near the exit of the birth canal and the bladder is compressed for a long period of time, it may make it difficult to feel urination or make it difficult for the urine to flow after birth. It is often relieved by the time of discharge, but self-conduction of urine may be necessary after discharge.

#### ● Sensory disorder, movement disorder, abnormal sensation

Sensory and motor deficits may remain after the time that local anesthetics have worked. It usually improves in a few days, but rarely lasts for months to years.

Although it is difficult to identify the cause, it is said that it is often caused by long-term pressure applied to peripheral nerves running near the surface of the body. In everyday life, even if nerves are subjected to stimulation such as compression, there is no problem because the pressure is relieved by unconsciously changing posture due to pain or numbness. If the sensation is paralyzed by anesthesia, you will not feel pain or numbness even if pressure is applied to the nerve. For this reason, it is possible that the state of being pressed will last for a long time and the nerves will be damaged.

On the other hand, the possibility of nerve damage associated with anesthesia procedures or side effects of local anesthetics is not zero, but it is said to be rare.

#### ● Headache; headache after dural puncture

Spinal fluid leaks from the dura mater after spinal anesthesia or if the dura is accidentally damaged during epidural anesthesia. Usually, this leak resolves spontaneously, but if it doesn't, the spinal fluid may decrease and headaches may occur. It is often a symptom that the pain increases when you raise your body and raise your head, and relieve when you lie down. Symptoms peak on the second and third days, often improve within a week, but may persist.

This headache may extend the length of hospital stay. If the headache persists, a treatment called a "epidural blood patch" may be performed, in which a needle is pierced into the back just like during anesthesia and your blood is injected into the epidural space.

Very rarely, a decrease in spinal fluid may cause bleeding in the head. This may occur not only during hospitalization but also after discharge, so if you have a headache or cramps, see your doctor immediately.

- Epidural hematoma ※very rare

After an anesthetic injection, a blood clot (hematoma) may form around the spinal cord and compress the nerves. Severe pain in the back and lower limbs and paralysis of the lower limbs can occur. Symptoms may appear after returning to the postpartum ward. Emergency surgery at a specialized facility is required. If you notice such symptoms, please tell us immediately.

- Local anesthetic poisoning or systemic toxicity ※very rare

Local anesthetic blood levels become excessively high, causing dizziness, tinnitus, and numbness around the mouth. In severe cases, loss of consciousness, convulsions, respiratory arrest, arrhythmia, and cardiac arrest may occur.

- Remaining catheter ※very rare

Very rarely, when removing a catheter, the catheter may tear and remain in the body. Surgery may be required to remove it.

## \* Precautions

- The following patients can not be applied epidural anesthesia for medical reasons.: If you have abnormal blood test results (the blood is hard to clot / there is a strong sign of infection), if you have lumbar spine disease and have neurological symptoms such as numbness, have undergone lumbar surgery, have abnormalities (eczema, lipoma, etc.) on the skin or subcutaneous area of the injection site.

- Prior to epidural anesthesia, a minimum of two hours of fasting is required. (Anesthesia can be started 2 hours after the meal.)

- You cannot eat or drink freely during anesthesia (up to 2 hours after the end of anesthesia). During that time, you can only drink water, tea, sports drinks and drinks provided by the hospital instead of meals.

- During anesthesia there is a risk of falling, so you cannot walk in principle. Since you can not go to the toilet, urine will be conducted as needed.

- Labor epidural is available 24 hours a day, but at night and on holidays (Saturdays, Sundays and holidays, etc.), the number of staff may be small, so you may have to wait until anesthesia is performed.

- Even if you wish to deliver under analgesia, childbirth may occur without analgesia.

- It may take some time for the anesthesia to work, and you may feel pain when you start anesthesia. In addition, complications due to anesthesia may occur.

We will make every possible effort to ensure a comfortable childbirth, taking safety into consideration, but we cannot guarantee reliable results because anesthesia is an advanced medical practice.

Even if the result does not meet the expectation of patient, the full labor epidural fee will be charged.

- Due to the treatment of complications, the planned hospital stay may be extended.

- Treatment for complications is all done by insurance treatment.

- The expenses of hospitalization due to complications will be borne by the patient in the same way as normal medical care.