

VENTRICULO-PERITONEAL (VP) SHUNT

Informed Consent Document

Form No: AOF-014

Rev. No / Date: 2026 v09 / 10.07.2026

PATIENT PROTOCOL NO		DATE	
TURKISH ID / PASSPORT NO		DATE OF BIRTH	
PATIENT'S FULL NAME		SEX	
DIAGNOSIS			

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1. Dear Patient,

It is your most natural right to be informed about your medical condition and about all medical / surgical treatments and diagnostic procedures recommended to you for the treatment of your illness. After learning the benefits and possible risks of medical treatments and surgical interventions, it is again your own decision to consent or not to consent to the procedure to be performed. The purpose of this explanation is not to frighten or worry you, but to involve you more consciously in the decisions to be made about matters concerning your health. If you wish, all information and documents concerning your health can be given to you or to a relative you deem appropriate. Although this form has been designed to meet the needs of most patients under many circumstances, it should not be considered a document containing the risks of all forms of treatment. Depending on your personal health condition, your physician may give you different or additional information. After learning the benefits and possible risks of diagnosis, medical treatment and surgical interventions, it is your own decision to accept or not to accept the procedures to be performed. Except in situations of legal and medical necessity, you may refuse to be informed or may withdraw your consent at any time. This form has been prepared to inform you about the risks of the surgery and about alternative treatment methods. Please read this form completely and carefully, and sign this consent form only after you have read it and all your doubts regarding the procedure in question have been resolved by the physician.

2. General Information About the Disease and Its Treatment

Cerebrospinal fluid (CSF) is like a natural protective cushion that circulates freely inside and around the brain and spinal cord. This fluid circulates in the channels within the brain and spinal cord and is reabsorbed. When there is an obstruction in the CSF circulation pathway, when an excessive amount of CSF is secreted, or when there is a problem with CSF absorption, complaints such as headache, vomiting, dizziness, urinary incontinence, difficulty walking, an increase in head circumference and impaired consciousness may occur due to the pressure that the accumulated fluid exerts on the brain and/or spinal cord.

This form covers the following types of procedure; your doctor will explain before the surgery which one will be applied to you:

Insertion of a Ventriculoperitoneal (V/P) Shunt: In this situation, ventriculo-peritoneal shunt surgery may be required in order to remove this fluid that is pressing on the brain. The shunt system contains a valve and transfers the accumulated fluid to the abdomen where it is absorbed. During this procedure, a flexible tube (ventricular catheter) is inserted through a small hole opened in the skull toward the fluid space inside the brain. Another tube (peritoneal catheter) is passed under the skin of the neck, chest and abdomen and placed into the abdominal cavity, and these two tubes are joined by means of a valve. The aim of this surgery is to remove the excessive amount of CSF within the head from the brain and to reduce the pressure formed on the brain. In the event of an unseen or unexpected situation, the physician may also perform an intervention different from what is described above.

Revision of a Ventriculoperitoneal (V/P) Shunt: This is the surgery of replacing all or certain parts of a V/P shunt system already present in the patient. The reason for this may be infection, disconnection, breakage or obstruction. In addition to the radiological and examination findings before the surgery, if a problem is also seen in the system during surgery, interventions beyond those planned may be performed.

Removal of a Ventriculoperitoneal (V/P) Shunt and Placement of an External Ventricular Drain (EVD): This is the surgery performed to remove the entire V/P shunt system already present in the patient, to advance an external ventricular drainage system catheter into the brain ventricle (cavity), and to connect this to the external environment by means of a system to allow drainage of the cerebrospinal fluid. The reason for this may be infection or bleeding into the brain ventricle. In addition to the radiological and examination findings before the surgery, if a problem is also seen in the system during surgery, interventions beyond those planned may be performed.

The surgery may not always result in the desired way. In the event of an unforeseen or unexpected situation, it is possible that the surgeon and his assistants will perform an intervention different from what is described above.

3. Alternatives to the Surgery, If Any

As alternatives to the surgery, I have considered the following options:

- As explained to me verbally by my doctor, accepting all risks and not having this surgery,
- Accepting all risks and follow-up with computed tomography, magnetic resonance imaging or other examinations,
- Trying to treat the increased intracranial pressure with medication,
- Other surgical methods besides this procedure, such as third ventriculostomy and ventriculoatrial shunt surgery,
- Other possible treatment options...

I have also considered the other treatment methods explained to me by my doctor. The advantages and disadvantages of these alternative methods have also been explained to me by my doctor.

4. Expected Benefits of the Surgery

It is an improvement in the patient's current neurological condition and complaints. The surgery is performed with the aim of eliminating the complaints and with the expectation of preserving or improving the function of the nervous system. The aim of this surgery is to remove the excessive CSF within the head from the brain and to reduce the pressure formed on the brain; however, I am aware that no guarantee is given regarding the results of this method, and I accept this.

WITH THE SURGERY TO BE PERFORMED;

- to relieve the neural structures under compression,
- the aim is to completely resolve, or to halt the worsening of, the neurological deficits present before the surgery (paralysis-loss of strength-numbness-loss of reflexes-urinary incontinence, etc.) and your complaints such as pain-spasm, through the surgical treatment to be applied.

5. Estimated Duration of the Surgery

The duration of the procedure to be performed may vary according to the condition of the disease and of the patient, and is on average 1 - 2 hours. In addition, the procedures to be performed on patients before and after the surgery by the anesthesia doctors are not included in this duration. The procedure may take longer than the stated duration depending on the condition of the case. Your doctor will give you detailed information at the end of the procedure.

6. Risks and Complications of the Surgery

In addition to the benefits of the surgical procedure to be performed, there are also risks that may arise.

Anesthesia risk: There are risks during and after local and general anesthesia procedures (due to the position given to the patient during the surgery). In addition, in every form of anesthesia and in sedation, there are also complications and harms that may occur due to the medications. The anesthesia procedure to be applied and the related risks and complications have been explained to me, and I approve the recommended procedure in this regard.

Bleeding: Although very rare, I am aware of the existence of a risk of bleeding, which may be severe, during or after my surgery. There is a risk of bleeding that may occur inside the head and/or inside the abdomen. In case of bleeding, additional treatment or blood transfusion may be needed. In such a case, I approve the necessary blood transfusion and other treatments. Some medications that I use and/or that need to be used during my treatment may increase the risk of bleeding through drug interactions and/or side effects. In some cases, it may be necessary to use blood-thinning medications earlier than expected, and this may also increase the risk of bleeding.

Blood clot formation: Blood clots may form after any type of surgery. Clots forming in the bleeding area may obstruct blood flow and lead to complications such as pain, edema, inflammation or tissue damage. If the use of blood thinners is discontinued, the risk of clotting may increase.

Postoperative Neurological Deterioration: Nervous system functions may deteriorate after the surgery due to problems such as bleeding at the surgical site, brain edema (pressure on the brain as a result of fluid accumulation) or vasospasm (narrowing of the vessels).

Respiratory problems: After the surgery, respiratory distress, which is usually temporary, or pneumonia may be seen. Pulmonary embolism (obstruction of the blood vessels of the lungs) may occur. Respiratory distress may occur through brainstem damage during surgery and, after surgery, through the compressive effect of a clot on the brainstem or spinal cord; this may require additional treatment.

Cardiac complications: The surgery carries a low risk of leading to an irregular heart rhythm or a heart attack.

Death: Although very rare, there is a risk of death during or after the surgery.

Failure of the shunt to function: There is a risk that the shunt system may become obstructed and unable to perform its function. This situation may be encountered in the early postoperative period, and such a risk also exists in the long term. In this case, additional surgical treatment methods may be applied.

Failure of the surgery: After ventriculoperitoneal shunt surgery, despite the pressure on the brain being eliminated and the flow of cerebrospinal fluid being fully established, there may be no improvement at all in the clinical condition. The surgical intervention to be performed may not provide improvement of all or some of the complaints.

Abdominal complications: While placing the lower end of the shunt system into the abdomen, an injury to the small and/or large intestines may occur, and for this reason an additional surgery may be required.

Increase in the pain complaint: Although rare, the pain complaint may increase after the surgery.

Infection: Infection may occur at the skin incision site as well as in the surgical field, and even in the bone within the surgical field. Risks related to infection include meningitis (inflammation of the membranes surrounding the brain and spinal cord) and empyema-abscess formation (accumulation

of pus). Infection may be encountered at the wound site, and the placed shunt system may also become infected. This may appear immediately after the surgery, and there is also a risk of infection in the long term, which may lead to peritonitis (inflammation of the membrane in the abdomen) or meningitis. When such a situation occurs, removal of the ventriculoperitoneal shunt system and, afterwards, the application of medication treatments together with different surgery may be required.

Risk of cerebrospinal fluid leakage: After the surgery, cerebrospinal fluid may leak from the wound site to the outside. For its treatment, a spinal (spinal cord) catheter or an additional intervention to repair the same wound site again may be required.

Brain and spinal cord injury: During the intervention performed, neural tissues (brain, spinal cord and nerves) may be damaged, which may lead to some functional impairments. After the surgery, fluid accumulation in the brain, or problems related to swallowing, deglutition and breathing may develop.

Paralysis: Although rare, due to tissue damage related to the application of the intracranial part of the shunt, partial or complete paralysis may develop.

Recurrence (Relapse): In the early or late period after surgery, some of the complaints or symptoms may reappear, and in this case an additional surgical intervention may be required.

Seizure activity: Abnormal electrical activity may arise in the brain and this may lead to epilepsy (epileptic) seizures; this condition may result from complications developing in the intracranial part of the surgery.

Hydrocephalus: After the surgery, the intracranial cerebrospinal fluid circulation pathways may become obstructed, and it may be necessary to replace or completely remove the device called a shunt.

Cerebral Vasospasm (narrowing of the vessels): In patients with bleeding or following bleeding that may occur during surgery, before or after the surgery there may be a decline in nervous system functions due to ischemia in the brain (impairment of the brain's blood supply).

Neuropsychological Disorders: After the surgery, there is a slight possibility of loss of intellectual (mental) capacity or depression.

Implant risks: The implants placed during the surgery may lead to conditions such as breakage, displacement, failure to perform their function, allergy and infection. For this reason, they may need to be removed or replaced.

I have also understood the possibility that, during my surgery, in the face of an unexpected situation such as bleeding, injury to an adjacent tissue or organ, etc., my doctor may perform other procedures required for my health apart from the planned procedure, and I approve this.

I have understood and accept all the risks written above that may occur during and after the surgical procedure to be performed on me.

7. Consequences to Be Faced If the Surgery Is Not Performed

The patient's current complaints and clinical condition may not improve, and there may be a worsening. If this surgery to be performed for hydrocephalus is not carried out, an increase may be observed in the patient's signs of hydrocephalus (these being: sunset-eye appearance, projectile vomiting, seizures and other similar signs). In the most severe picture, signs such as sudden respiratory and cardiac arrest may be observed in the advanced period of the disease.

8. Important Characteristics of the Medications to Be Used

If you have a previously identified drug allergy, you must inform your physician and your nurse about this. During your current treatment process, medications appropriate to the patient's medical condition (painkillers, antibiotics, medications supporting the circulation and the heart, blood products, fluid therapies, medications specific to your disease) will be given according to the reason for your admission or newly developing conditions. During the use of medications, side effects may emerge and cause damage to the heart, kidneys and other organs. New medications will be added to the treatment

to correct organ damage. **ANTIEPILEPTIC MEDICATION:** After brain surgeries, seizure-preventing medications called antiepileptics are used to prevent epileptic seizures. **PROPHYLAXIS:** Before and after your surgery, appropriate protective antibiotic therapy is applied with the aim of reducing the risk of surgical site infection. **USE OF BLOOD-THINNING MEDICATION:** If you are using anticoagulant, blood-thinning medications, different medication therapies or blood products may be given to you to counteract the effects of these medications. **HYDROCEPHALUS, BLEEDING CASES:** Medications (antiepileptic medications) may also be given to lower the pressure in the brain (intracranial pressure) and the blood pressure, and to prevent spasm (narrowing) in the vessels and seizures. In the presence of tumor-related brain edema and progressive clinical symptoms, anti-edema medications may be used. **BLED CASES-VASOSPASM:** If vascular narrowing-vasospasm develops after treatment, circulation-supporting medications may be used to keep the blood pressure high. These medications may disturb the water-salt balance and may harm the heart, kidneys and other organs. **PITUITARY INVOLVEMENT:** Due to involvement of the pituitary gland during surgery, appropriate medications may be used to maintain the body's water and salt balance. The medications used may also cause disturbances in the body's hormonal balance. **SPINAL CORD INVOLVEMENT:** After the surgery, appropriate medications to reduce spinal cord edema and to increase the nourishment of the spinal cord (anti-edema medications, medications supporting the circulation) may be used. In this case, the blood sugar balance may be disturbed. **SEVERE PAIN:** In case of severe pain after the operation, medications sold under a green (controlled-substance) prescription, which may cause dependence, may be used. After the surgery, in cases of unchanged weakness in the arms and legs, or of newly developing weakness, anti-edema medications may be used. In this case, the blood sugar balance may be disturbed. **INTENSIVE CARE-DELIRIUM:** In elderly patients and during prolonged intensive care stays, for psychological symptoms that may emerge in patients, mental health-regulating medications recommended by a psychiatrist may be used. These medications may damage the heart, kidneys and other organs. **SHUNT INFECTION, EVD:** As a result of CSF infection, appropriate antibiotics recommended by infectious diseases specialists will need to be started. Among these treatments, the method referred to as intraventricular treatment, in which medications are applied into the brain ventricles by means of an EVD, may also be used. In addition to these, medications related to anesthesia are used. The general anesthetic medications given during the surgery may have toxic (poisonous) effects / side effects on organs such as the lungs, heart, brain, kidneys and liver. For this reason, **DANGER OF DEATH** may arise. I have informed my doctor about all my known allergies. I have also informed my doctor about the prescription medications I use, over-the-counter medications, herbal medicines, dietary supplements, illegal drugs, alcohol and narcotics/intoxicants. The effects of the use of these substances before and after the surgery have been explained to me by my doctor and recommendations have been made. During my stay in the hospital, I have received information about the important characteristics of the medications to be used for diagnosis and treatment (what they are used for, their benefits, their side effects, how they are to be used).

9. Lifestyle Recommendations Critical for Patient Health

Tobacco and Tobacco Products: It has been explained to me that smoking tobacco and tobacco products (cigarettes, waterpipe, cigars, pipe, etc.) before or after my surgery may cause my recovery process to be prolonged. Anesthesia risks are higher in patients who smoke; death due to anesthesia is seen more frequently. If you smoke, you should know that the success of the treatment/surgery will be lower than the general success average.

Follow your doctor's recommendations (exercise, nutrition program, etc.) and, if applicable, do not neglect your outpatient clinic check-up on the date requested of you.

I have received information about what I need to do regarding my lifestyle after my treatment/surgery (diet, bathing, medication use, mobility status and/or restriction status).

10. Patient-Specific Section

The patient's individual specific circumstances are recorded at the end of the form under **Section 14 — Signatures**.

11. How to Access Medical Assistance on the Same Matter When Needed

Not accepting the application of the treatment/surgery is a decision you will make of your own free will. If you change your mind, you may personally reapply to our hospital/hospitals capable of performing the treatment/surgery in question.

I have received information about how to access medical assistance on the same matter when needed (my own physician, a different physician, the clinic where I was treated, and in emergencies, 112).

12. Permissions

I authorize the Head of the Surgical Team, Responsible Specialist Doctor **Dr. Özgür Akşan**, and his team to perform my surgery.

I understand that this intervention is performed with the aim of eliminating my complaints and with the intention of preserving or improving the function of the nervous system. I confirm that my doctor has explained all the information above, that I have understood this information, and that all my questions regarding this intervention have been answered. Therefore, I give my consent for **VENTRICULO-PERITONEAL SHUNT SURGERY** and for all different or additional surgeries and additional treatment interventions deemed necessary by my doctor.

Use of tissue: Any tissue not required for medical diagnosis may be used for medical research within the framework of ethical rules. I give my consent to the use of any tissue, medical device or body parts that may have been removed during the surgical procedure.

Medical research: I give my consent to the review of clinical information from my medical records for the advancement of medical study, medical research and doctor training, provided that confidentiality rules are observed.

Photography/Observers: I consent to the photographing or video recording of the surgery to be performed for scientific, medical or educational purposes, provided that the images do not reveal my identity.

13. Consent Verification

I know the alternative treatment methods and their risks.

I know the risks and side effects of the intervention.

I know the possibility of success and failure.

I know what may happen if I am not treated.

I understand that the procedure to be performed may not carry a guarantee of cure.

I have understood everything that has been told to me.

My doctor has answered all my questions.

My doctor has explained to me what is written here, item by item, in a clear, understandable and explanatory manner that I can comprehend.

I know the meaning of the Informed Consent form.

I have been informed about the approximate cost of the treatment.

I am making my decision of my own free will.

I had enough time before the intervention to obtain a second opinion within a reasonable period.

I have read and understood the content of the Informed Consent form.

All the blanks on this form were filled in before I signed it, and I have received a copy.

Signatures

A) Patient-Specific Conditions

The patient writes in their own handwriting any personal conditions (allergies, medications, previous surgeries, etc.). If there are none, writing "NONE" is sufficient.

B) Handwritten Declaration

The patient writes the following sentence in their own handwriting:

"I have read this form carefully, I have been informed about VENTRICULO-PERITONEAL (VP) SHUNT, my questions have been answered, and I consent to this procedure of my own free will."

C) Signatures

	Full Name	Signature	Date / Time
Patient			
Patient's Legal Representative / Relative (Relationship:)			
Head of Surgical Team, Responsible Specialist	Dr. Özgür Akşan		