

AVM / CAVERNOMA REMOVAL

Informed Consent Document

Form No: AOF-021

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

Brain vascular malformations are abnormally developed tangles or clusters of the vessels within the brain, and they essentially present in two types. An arteriovenous malformation (AVM) is an abnormal tangle of vessels (nidus) that forms a direct connection between the arteries and the veins without a normal capillary network in between. A cavernous malformation (cavernoma) is a low-flow cluster of vessels consisting of thin- and weak-walled, dilated vascular spaces. These vascular masses may bleed over time; the resulting hemorrhage may cause stroke, seizure (epilepsy), neurological loss (paralysis, speech-vision disorders, etc.), coma and/or death.

A craniotomy is frequently performed in order to completely remove the vascular malformation. A craniotomy is the removal of a portion of bone from the skull and its repositioning at the end of the procedure. Your surgeon will make an incision in the scalp to reach the bone portion over the region of

the vascular malformation to be removed and will perform the craniotomy. The piece of bone called the bone flap is removed with special drilling and cutting instruments. The dura, the membrane covering the brain, is opened in order to expose the brain. After the vascular malformation (AVM or cavernoma) has been removed, the brain membrane is closed, the bone flap is put back in place and the skin incision is closed. However, if the brain appears excessively swollen, your surgeon may decide not to reposition the bone flap. The aim of this method is to prevent, through the removal of the vascular malformation, bleeding that may occur in the future, and to preserve or improve the function of the nervous system. Your doctor, after evaluating your condition in detail, has decided on the most appropriate surgical treatment method for you and has recommended this approach to you.

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,
Medication therapy and follow-up (monitoring) with periodic radiological examinations,
Endovascular embolization (occlusion of the malformation from within the vessel),
Stereotactic radiosurgery (Gamma Knife / radiation therapy),
Other possible treatment options...

I have also evaluated 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

The aim of the surgical treatment is to completely remove the vascular malformation (AVM or cavernoma), thereby eliminating the risk of bleeding that may occur in the future, and to preserve or improve the function of the nervous system. In patients with a complaint of seizures (epilepsy) due to the malformation, a contribution may be made to bringing the seizures under control. The existing neurological symptoms (loss of strength, numbness, speech or vision disorders, etc.) may improve after the surgery, and may also improve with additional treatments such as physical therapy and rehabilitation. Nevertheless, I am aware that no definite guarantee can be given regarding the results of this method; despite all treatment attempts, in some rare cases the neurological symptoms may persist after the surgery or may be permanent.

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 3-6 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. 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.

Brain injury: There is a risk that the surgery will cause injury to the brain tissue surrounding the malformation. The findings of the injury vary according to the location of the vascular malformation.

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 vessels of the lungs) may be seen.

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 surgery: There is a possibility that the craniotomy method performed may fail to completely remove the vascular malformation and may fail to prevent injury to the brain tissue.

Increase in the complaint of pain: Although rare, the complaint of pain 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).

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.

Nerve root injury: Nerve root injury may cause pain in the leg, weakness in the relevant muscle groups, and sensory disturbances in the relevant dermatomes (nerve areas).

Spinal cord injury: Although very rare, paralysis due to spinal cord injury may occur during the surgery.

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

Recurrence (Relapse), Residue (Remnant): After the surgery, symptoms may reappear from residual malformation or from a recurrence that develops over time, bleeding may occur later in the surgical field, and additional surgery may be required.

Seizure Activity: Abnormal electrical activity may arise in the brain, and this may lead to epileptic (seizure) attacks.

Hydrocephalus: After the surgery, the intracranial cerebrospinal fluid circulation pathways may become obstructed and the placement of a device called a shunt may be required.

Cerebral Vasospasm (narrowing of the vessels): In patients with hemorrhage, or after bleedings that may occur during surgery, before or after the surgery, a regression in nervous system functions may occur due to ischemia in the brain (impairment of the brain's nourishment).

Terson syndrome: In patients with hemorrhage, intraocular bleeding, although infrequent, may be seen.

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

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. An untreated vascular malformation may bleed over time, leading to stroke, permanent neurological loss, coma and/or death.

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. **INTRACRANIAL MASS, HYDROCEPHALUS, VASCULAR MALFORMATIONS, HYPERTENSIVE HEMORRHAGE 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 brain edema and progressive clinical symptoms, anti-edema medications may be used. **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 a CSF infection, it will be necessary to start appropriate antibiotics recommended by infectious diseases. Among these treatments, the method in which medications are applied into the brain ventricles by means of an EVD, expressed as intraventricular treatment, 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 **BRAIN VASCULAR MALFORMATION (AVM / CAVERNOMA) REMOVAL 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 AVM / CAVERNOMA REMOVAL, 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		