

CLEANING VESSELS WITH LASER

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ANNOTATION: *At present Vascular diseases have become one of the most common problems in medicine. They can lead to serious complications, such as thromboembolism, heart attack, stroke and others. Laser cleaning of blood vessels is one of the modern methods of treating vascular diseases , which allows you to avoid surgery and reduce the risk of complications . Laser cleaning of blood vessels can be used to treat various vascular diseases . The laser cleaning of blood vessels procedure is minimally invasive and is performed under local anesthesia. In general, laser cleaning of blood vessels is a safe and effective procedure for removing accumulated deposits on the walls of blood vessels.*

Key words: *Laser, vessel, artery cleaning, angiography, thromboembolism, stroke, heart attack, platelet.*

Currently, vascular diseases have become one of the most common problems in medicine. They can lead to serious complications, such as thromboembolism, heart attack, stroke and others. Laser cleaning of blood vessels is one of the modern methods of treating vascular diseases, which allows avoiding surgical intervention and reducing the risk of complications. For example, lasers are increasingly used to clean human arteries from platelet plaques. Platelet plaques are hard, fatty substances that can build up on the inside walls of arteries. Over time, the vessels can become so clogged that blood can no longer flow normally, causing a heart attack or stroke, which is very dangerous and can be fatal. The traditional method of removing plaques , which involves opening the chest and making several incisions, is a long and sometimes risky operation. It is also expensive and requires several weeks of recovery / 1-3 /. An effective alternative is to use a laser beam to burn away the plaque. The key to this work is the doctor's ability to see inside the artery and direct the beam. This is another

area where the combination of fiber optics and lasers is a modern miracle tool. An optical fiber attached to a small camera can be inserted into the artery. This tiny sensor allows the doctor and nurses to watch a second fiber as it is inserted into the artery to burn away plaque with flashes of light. The procedure involves inserting a fiber optic array into a blood vessel in the arm or leg and slowly moving toward the heart and the clogged artery. When the array reaches its destination, a laser emits light and destroys the plaque. The resulting vapor is sucked out through a small hollow tube inserted along with the optical fibers. Once the artery is clear, the doctor removes the fibers and tube—the procedure is complete. This medical procedure is known as laser angioplasty . It has several obvious advantages. First, no tissue cutting is required (except for a small cut in the vessel to insert the fibers). In addition, there is little or no blood loss, and the patient recovers fully in 1-2 days /4 /. Laser Angioplasty has a number of potential risks that must be considered. First, when the laser beam hits the plaque, it must be aimed very precisely because even a small miss can cut through the artery wall and cause serious bleeding. In this case, the patient's chest will still have to be opened. The second problem is related to small particles of material remaining after the plaque is burned away.

The laser vascular cleaning procedure is minimally invasive and is performed under local anesthesia. The patient can return to their normal life the next day after the procedure. Laser vascular cleaning is an effective method for treating vascular diseases such as atherosclerosis, thromboembolism, varicose veins and others/5/. Laser vascular cleaning can be used to treat various vascular diseases, including: Atherosclerosis is a disease in which the inner wall of the arteries becomes hard and narrow due to the formation of cholesterol plaques. Laser vascular cleaning can be used to remove cholesterol deposits inside the arteries. Thrombosis is the formation of a blood clot inside a blood vessel, which can lead to impaired blood flow and serious complications. Laser vascular cleaning can be used to remove a blood clot from inside the vessel. Varicose veins are a condition in which veins become widened and tortuous due to abnormal functioning of the valves inside the veins . Laser vascular cleaning can be used to

treat varicose veins by removing unhealthy sections of the vein wall. Fibrosis is a condition in which the inner wall of a blood vessel becomes hard and dense due to the buildup of fibrous material. Laser vascular cleaning can be used to remove buildup of fibrous material inside the vessel. Embolism is a condition in which a blood clot or other material blocks a blood vessel, preventing normal blood flow. Laser vessel cleaning can be used to remove embolic material from inside the vessel. Table of diseases that can be treated with laser vessel cleaning:

Disease	Description
Atherosclerosis	Formation of cholesterol plaques inside the arteries
Thrombosis	Formation of a blood clot inside a blood vessel
Dilated veins	Widening and tortuous veins due to improper functioning of the valves inside the veins
Fibrosis	Formation of fibrous material on the inner wall of the vessel
Embolism	Blockage of a blood vessel by a blood clot or other material.

Laser vascular cleaning is an effective method of treating a number of vascular diseases and may be recommended by a doctor depending on the specific case. Laser vascular cleaning has a number of advantages over other methods of treating vascular diseases. Below are some of the main advantages: Safety: laser vascular cleaning is a minimally invasive procedure that does not require general anesthesia and is not associated with a high risk of complications. Efficiency: laser Vessel cleaning is a highly effective procedure that can be used to treat various vascular diseases . Fast recovery: Most patients who have undergone laser vascular cleaning can return to their normal lives the day after the procedure. Overall, laser vascular cleaning is a safe and effective procedure for removing accumulated deposits on the walls of blood vessels. However, like any medical procedure, it has its contraindications and can cause some side effects. Patients need to carefully prepare for the procedure, discuss all their diseases and medical contraindications with their doctor, and follow all doctor's recommendations after the procedure to achieve the best results and avoid complications.

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