

EKOS: A game changer in treating blood clots

A blood clot can be dangerous. When a clot blocks blood flow to the lungs, it can become a life-threatening emergency.

For some people with large or complicated blood clots, there's another treatment option: the Ekosonic Endovascular System (EKOS). EKOS is a minimally invasive procedure using ultrasound waves and a clot-dissolving medication breaking down blood clots. The treatment can be used for certain people with pulmonary embolisms, deep vein thrombosis (DVT) and other serious blood clots.

"If we care for someone with a blood clot that is big enough in the lungs, or a bigger clot in the legs, we insert EKOS," says [Monther El Bzour, MD](#), a cardiologist with OSF HealthCare. "It has a technology that emits ultrasound waves to break the clot into smaller pieces. We also infuse a clot-buster medication called tPA [tissue plasminogen activator]. These two together can help to dissolve the clot in a very fast way, and that helps the patient to feel much better within minutes or hours."

During the procedure, a physician guides a small catheter through a blood vessel and positions it near the clot. Ultrasound waves are then delivered through the catheter while a clot-dissolving medication is infused directly into the area. According to Dr. El Bzour, the drug is infused for six to 12 hours. Those treated usually go home within 24 hours if there are no complications.

Knowing the warning signs

Pulmonary embolisms and DVTs can cause different symptoms. A pulmonary embolism occurs when a blood clot travels to the lungs. Symptoms can include sudden shortness of breath, chest pain that may become worse with a deep breath, rapid heartbeat or coughing.

A DVT typically occurs in a deep vein, often in the leg. Symptoms can include swelling, pain or tenderness, warmth or discoloration in the affected leg.

Not every blood clot requires EKOS. The size, location and severity of the clot, along with the patient's overall condition, help determine the appropriate treatment, says Dr. El Bzour. "If you have a blood clot in small veins below the knee, we don't use this technology. If you have smaller blood clots in the lungs and they are in very small arteries, we don't use this technology," Dr. El Bzour says. "It's only meant to tackle the complicated, the massive blood clots, either in the lung or the leg."

EKOS doesn't prevent future clots

While EKOS can help treat an existing blood clot, it does not prevent future clots from forming. Many patients will still need blood-thinning medication after treatment, depending on the cause of the clot and their individual medical circumstances. "If I can offer you something to feel better quickly, I think we're all for it," Dr. El Bzour says. "And I can say [EKOS] is a game changer for the management of blood clots."

Most importantly, Dr. El Bzour says people should not ignore symptoms that could indicate a dangerous blood clot. "It is a very serious problem, and the quicker you can make it to the emergency room and to a hospital that offer this technology the better outcome and the chance to be alive and feeling better," he says.

For more information on cardiovascular services, visit the OSF HealthCare Cardiovascular Institute [website](#).