



CEDARS-SINAI MEDICAL CENTER.

**NEWS**

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**HIGHLIGHTS:**

Over three decades, Cedars-Sinai Medical Center has developed one of the nation's most advanced programs to repair or replace segments of the aorta within the chest cavity. Its surgeons have compiled 30 years of statistics showing that innovative procedures can dramatically reduce risk of death and serious complications. Now, with the support of a group of volunteers, the Thoracic Aortic Surgery program has created a comprehensive Web site to provide information on aortic aneurysm, aortic dissection and related conditions that can claim a life with little or no warning. The new Web site (<http://www.cedars-sinai.edu/3885.html>) is part of the Thoracic Aortic Surgery program's emphasis on communication and continuing care.

**SPECIALISTS LAUNCH "MOST COMPREHENSIVE" WEB SITE ON THORACIC AORTIC ANEURYSM, DISSECTION**

**LOS ANGELES (September 15, 2003)** – One of the nation's most respected treatment centers for thoracic aortic disorders has launched a Web site that provides information on virtually every aspect of the subject, including aortic aneurysm and aortic dissection, the catastrophic bleeding that reportedly took the life of actor John Ritter last week.

"I have been told by patients that this is the most helpful site on the Web. I hope we will be able to help many patients who have been unable to find reliable information on the Internet and in their communities," said Sharo Raissi, M.D., director of Thoracic Aortic Surgery at Cedars-Sinai Medical Center.

"The site includes what we think is the most comprehensive collection of frequently asked questions (FAQs) from patients," Dr. Raissi said. "Because many of the volunteers helping with the Web site are patients and family members, they know from first-hand experience what is important and they are in touch with newly diagnosed patients who have many questions and concerns of their own. We have made a point to include difficult issues that are major decision-making factors for anyone who may need to consider this type of surgery. While we don't claim to have all the answers, we do try to have the best answers that are available today."

Dr. Raissi and his colleagues and predecessors at Cedars-Sinai have developed one of the most respected and innovative programs for the surgical treatment of thoracic aorta conditions. The cardiothoracic surgeons have seen a steady increase in the number of patients referred from other institutions across the country, and at professional conferences in recent years Dr. Raissi has presented 30-year statistics that document excellent and always-improving success rates brought about by advances in surgical techniques.

But the new Web site does not focus solely on surgical intervention. Using lay terminology and easy-to-understand graphics, it explains diseases and injuries that can affect the aorta, describes medications and lifestyle modifications such as diet and exercise, and provides information to help patients find appropriate specialists.

The major artery carrying blood from the heart to blood vessels throughout the body, the aorta is about one inch in diameter. From the heart, the thoracic aorta extends upward (ascending aorta) before arching (aortic arch) and extending downward through the chest (descending aorta). Along the way, arteries branching from the thoracic aorta supply oxygen-

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rich blood to the heart muscle, head and neck, arms, and chest.

Thoracic surgeons such as Dr. Raissi specialize in repair and replacement techniques for the ascending aorta, aortic arch and descending aorta – those within the chest cavity. When the aorta passes through the diaphragm and into the abdomen, it becomes known as the abdominal aorta and its arteries supply blood to the abdomen and lower extremities.

A localized weakness or bulge in the aorta – an aneurysm – can become life-threatening if it ruptures, and victims often have few, if any, noticeable warning signs. Although prolonged high blood pressure and arterial plaque buildup are among common predisposing factors, aneurysms may be congenital malformations or they may result from physical injuries.

Also, such inherited conditions as the connective tissue disorder Marfan syndrome can increase the risk of aortic dissection in which the interior layers of the aorta's wall rips. Massive amounts of blood pour into the wall and out of the normal circulation, leading to chest pain and other symptoms that may resemble those of a heart attack. Although the heart muscle itself is unaffected, the rapid blood loss from the artery feeding the body's organs can quickly become catastrophic.

According to Dr. Raissi, one of the more dramatic breakthroughs of the past 10 years has significantly dropped the mortality and long-term disability risks for patients undergoing surgery to replace a damaged section of the descending aortic aneurysm.

“Patients with descending thoracic aneurysm and thoraco-abdominal aneurysm are probably the highest-risk group of patients with aneurysms,” Dr. Raissi said. “The mortality rate in the past was as high as 20 percent, but with an approach that was introduced in 1994, we’ve seen mortality drop below 5 percent. Kidney failure, which had been a major concern after surgery, has been almost completely eliminated. And the third thing we’ve found is that the paraplegia rate has decreased to 2.5 percent when we use the new technique. This compares to 5 to 15 percent nationally, depending on where the surgery is done.”

Paralysis of the lower extremities can occur because surgeons operating on the descending aorta must temporarily stop the blood feeding the lower part of the spinal cord. If blood flow is not resumed within about 30 minutes, damage to the spinal cord may be permanent.

“Paraplegia affects the breathing muscles and bladder and sphincter control. All of a patient's basic needs are very profoundly affected,” explained Dr. Raissi. “Because these patients cannot move or breathe deeply, many get pneumonia. They need an indwelling catheter in their bladder, which greatly increases the risk of infection. With these and other complications, half of these patients will not survive beyond a year. Those who do survive require a tremendous amount of resources. It is a very difficult situation to deal with and it is very expensive for society. Therefore, lowering the paraplegia rate to 2.5 percent has been a significant improvement.”

The procedure that made the difference is called the hypothermic circulatory arrest open-anastomosis (bypass) technique. It was previously found to be effective in other operations that required circulation to be interrupted.

“Since 1994, we have lowered the patient's body temperature to 11 degrees centigrade (about 52 degrees Fahrenheit) during the operation,” said Dr. Raissi. “At that temperature, nearly all of the body's neurological and organ function reaches zero percent. Therefore, for up to about 40 minutes the circulation in the body can be completely shut off without any need for oxygen or blood circulation. For the majority of patients, the most critical part of the operation to remove a section of the aorta and replace it with a Dacron graft can be accomplished in about 20 to 25 minutes – well within the safe limit of 40 minutes.

“We have been able to virtually eliminate any kidney damage, and the kidney is usually a good measure of body function,” Dr. Raissi added. “The previous technique, which kept the blood at normal temperature, did not decrease organs' demand for oxygen. If blood circulation was interrupted too long, some organs could not tolerate the oxygen deprivation and they would be injured.”

The hypothermic approach and other advances are actually changing many physicians' recommendations to patients who have diagnosed but untreated aneurysms.

“The old instruction to the patient was, ‘We will operate on your aneurysm when you’re in trouble, as a last option.’ This is because in the past, there was a very high rate of mortality and morbidity related to the surgery, especially because there were very few centers specializing in these operations,” said Dr. Raissi. “Now, with the mortality rate between one and five percent at respected centers, most of these patients should undergo prophylactic surgery. They should never get into trouble and be forced to go to the hospital in a very high-risk situation.

“Unfortunately, many patients either don’t know they have an aneurysm or they don’t seek medical attention until they’re in a crisis,” Dr. Raissi added. “If they are in trouble, it is very difficult to move them, across the country or even from one hospital to another in the same town. The average mortality rate of patients with aortic aneurysm who present to a hospital on an emergency basis can be 50 percent. At some smaller hospitals where fewer cases are treated, the mortality rate can be close to 100 percent. In contrast, mortality in patients who are not in crisis and undergo preventive surgery is less than five percent.”

A related issue appears to prevent many people with aneurysms from seeking specialty care, Dr. Raissi noted. “Many patients who live in communities that don’t have surgical expertise are told that there is nothing anybody can do – they are at the end of life. We have a number of patients who through word of mouth found out that that is not necessarily the situation. They have been thrilled to learn that their life does not need to be cut short just because there is no expertise in their community.”

The new Web site (<http://www.cedars-sinai.edu/3885.html>) is part of the Thoracic Aortic Surgery program’s emphasis on communication and continuing care. A coordinator works with each patient to schedule tests, interpret results and explain whether surgery should be scheduled immediately or medical therapy should be continued.

“From the beginning, we work with their referring physician and cardiologist, and if the patient does need to come here for surgery, the coordinator will assist with scheduling, travel and logistics,” said Dr. Raissi. “Even after they leave, we are in frequent communication because patients always have more questions. It’s not like once they’re done with surgery they go back to their hometown and have access only to their internist. All of their questions that come back to our center go on the priority list and go to the appropriate person. And they all get answered.”

Cedars-Sinai is one of the largest nonprofit academic medical centers in the Western United States. For the fifth straight two-year period, it has been named Southern California’s gold standard in health care in an independent survey. Cedars-Sinai is internationally renowned for its diagnostic and treatment capabilities and its broad spectrum of programs and services, as well as breakthroughs in biomedical research and superlative medical education. Named one of the 100 “Most Wired” hospitals, the Medical Center ranks among the top 10 non-university hospitals in the nation for its research activities.

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