

HOW IS IT MANAGED?

- The severity and location of the dissection will guide the surgeon's decision on how to approach each case
- Antihypertensive therapy or "blood pressure control" seeks to reduce the force of the blood leaving the heart and the pressure on the aortic wall
- Computed tomography (CT), echocardiography, or magnetic resonance imaging (MRI) to monitor the dissection

HOW IS IT REPAIRED?

When surgical repair is required the surgeon has two options. The open repair requires going through the breastbone or the side and manually grafting the aorta. Endovascular repair involves inserting a stent graft through a puncture in the groin and permanently positioning it inside the dissected aorta.

HOW IS IT PREVENTED?

Treatment and control of risk factors (i.e. atherosclerosis) and high blood pressure may reduce the risk.

REFERENCES

LeMaire, S. A. & Russell, L. 2007. Epidemiology of Thoracic Aortic Dissection, *Nature Review. Cardiology*. advance online publication 21 December 2010; pg:1-7

Loren F. Hiratzka, et al "2010 ACCF/AHA Guidelines for the Diagnosis and Management of Patients With Thoracic Aortic Diseases." Pg. e58-64

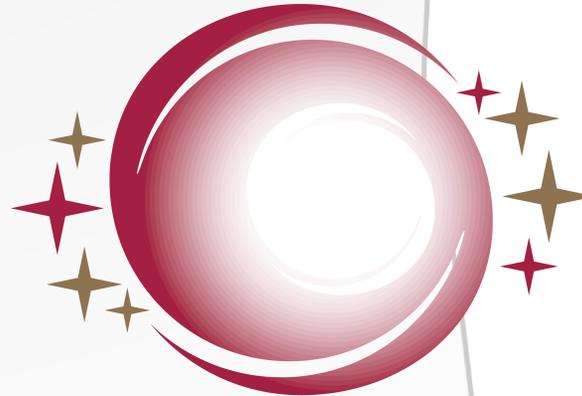


HEADQUARTERS

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National Organization
for **Aortic Awareness**



THORACIC AORTIC DISSECTION

OUR MISSION

To raise public awareness of cardiovascular disease through education and screening while providing hope for the affected and funding for genetic research.

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WHAT IS THE AORTA?

The aorta is the largest artery in your body. It is shaped like a candy cane and is about the size of a garden hose with the heart attached to the short end. It has *three* sections in the chest: ascending—upward from the heart, the arch—branches to the arms and head arteries extend from here, and descending—downward through the chest and abdomen. (Figure 1)

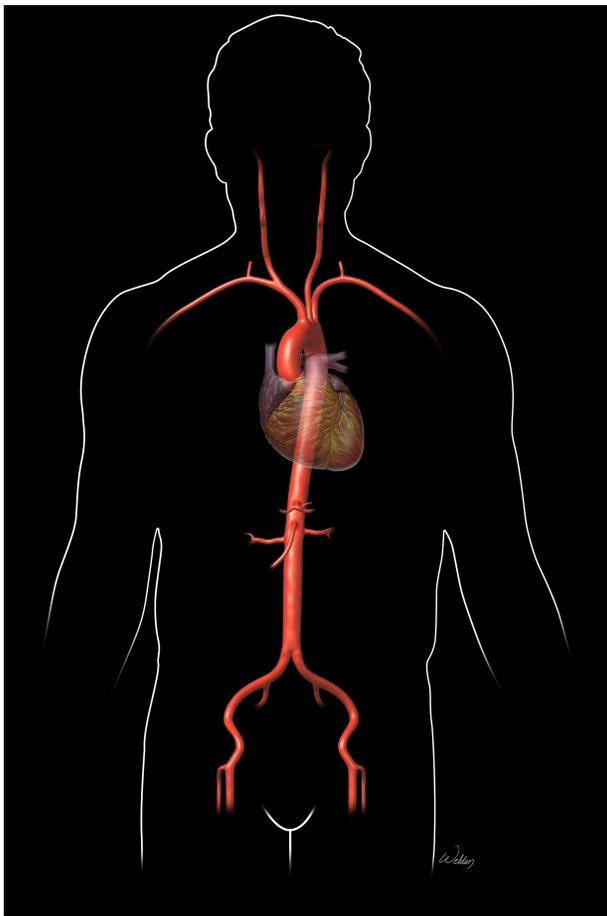


Figure 1

WHAT IS AORTIC DISSECTION?

Dissection occurs when the layers of the aorta are weakened and ripped apart by the force of the blood flowing through causing two or more channels. The intima, media and adventitia make up the layers of the aorta. (Figure 2)

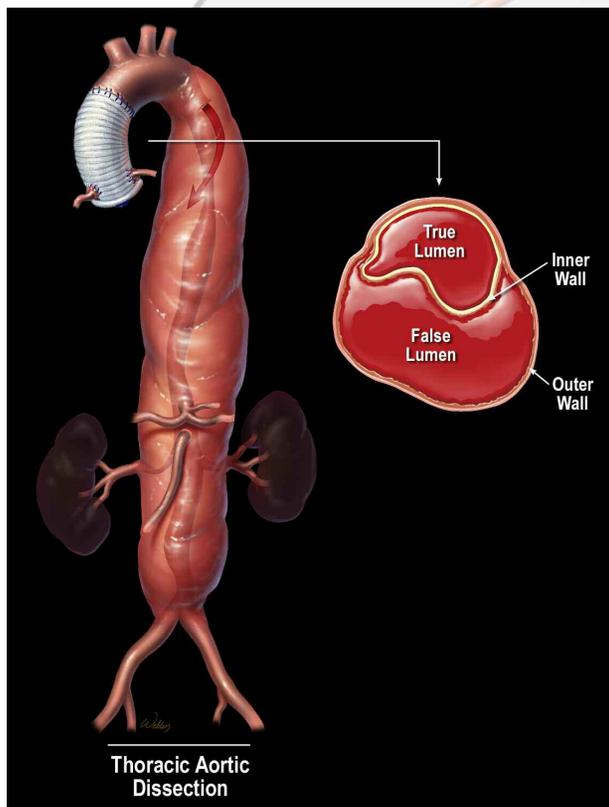


Figure 2

WHAT CAUSES AORTIC DISSECTION?

The exact cause is unknown, common risk factors include:

- Smoking
- Atherosclerosis
- Blunt trauma to the chest
- High blood pressure
- Connective tissue disorders, Marfan syndrome, Ehlers-Danlos syndrome and rare genetic disorders
- Aortic injury during cardiac catheterization or surgery
- Aortitis

- Bicuspid aortic valve
- Pre-existing thoracic aneurysm
- Pregnancy
- Cocaine abuse

WHAT ARE THE SYMPTOMS?

- Severe stabbing, tearing chest or back pain
- The location of the pain indicates the section involved
- Pain in the front of the chest suggests a tear in the ascending aorta
- Abdominal or back pain suggest a tear in the descending aorta
- Pain radiating into the left arm, neck and jaw
- Fainting or dizziness
- Heavy sweating, nausea

WHAT ARE THE COMPLICATIONS OF A TORN AORTA?

- Aortic valve insufficiency, causing murmur and shock
- Coronary malperfusion—lack of blood to the heart, causing chest pain, nausea, shock
- Lack of blood to the extremities, causing painful extremities, motor deficits, weak pulse in hands and feet
- Lack of blood to the carotid artery, causing weak neck pulse, stroke, and coma
- Spinal malperfusion—lack of blood to the spine, causing paraplegia, incontinence [inability to hold urine]
- Visceral malperfusion—lack of blood to the internal organs of the abdomen, causing pain and nausea

HOW IS IT DIAGNOSED?

- Diagnosis can be challenging due to variations in severity and the wide variety of possible causes of chest pain when arriving at the emergency room (ER)
- The ER staff must include a check for thoracic aortic dissection in its diagnostic routine