



## *“Evaluation and Endovascular Management of Aortic Dissection: Past, Present and Future Challenges”*



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 7:30 AM - 8:30 AM  
 Li Ka Shing Center - Room LK120*

### *Global Learning Objectives*

- Critically analyze research, guidelines and appropriate use criteria to develop best-practice diagnosis and treatment strategies
- Evaluate latest innovations in imaging to assess safety and effectiveness

### *Session Learning Objectives*

- Evaluate traditional aortic dissection classification systems and their limitations in the current era of endovascular options
- Examine the basic rationale and goals of endovascular management of acute and chronic type B aortic dissection
- Compare the range of endovascular therapies available to manage complicated aortic dissection
- Analyze the patient factors, lesion characteristics and clinical features that are evaluated in the management of aortic dissection
- Distinguish the anatomic outcomes and clinical results of medical therapy, open surgery, and endografts for a variety of dissection sub-groups
- Stay awake

### **Accreditation**

The Stanford University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

### **Credit Designation**

The Stanford University School of Medicine designates this live activity for a maximum of 1.00 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### **Cultural and Linguistic Competency**

California Assembly Bill 1195 requires continuing medical education activities with patient care components to include curriculum in the subjects of cultural and linguistic competency. The planners and speakers of this CME activity have been encouraged to address cultural issues relevant to their topic area. The Stanford University School of Medicine Multicultural Health Portal also contains many useful cultural and linguistic competency tools including culture guides, language access information and pertinent state and federal laws. You are encouraged to visit the portal: <http://lane.stanford.edu/portals/cultural.html>

**Course Directors: Sanjiv Sam Gambhir, MD, PhD  
 Andrei Iagaru, MD**

## **ABSTRACT**

Classification systems for aortic dissection provide important guides to clinical decision-making, but the relevance of traditional categorization schemes is being questioned in an era when endovascular techniques are assuming a growing role in the management of this frequently complex and catastrophic event. In recognition of the expanding range of interventional therapies now used as alternatives to conventional treatment approaches, the Working Group on Aortic Diseases of the DEFINE Project developed a categorization system that features the specific anatomic and clinical manifestations of the disease process that are most relevant to contemporary decision-making.

The DISSECT classification system is a mnemonic-based approach to the evaluation of aortic dissection. It guides clinicians through an assessment of 6 critical characteristics that facilitate optimal communication of the most salient details that currently influence the selection of a therapeutic option, including those findings that are key when considering an endovascular procedure, but are not taken into account by the DeBakey or Stanford categorization schemes. The 6 features of aortic dissection include: Duration of disease; Intimal tear location; Size of the dissected aorta; Segmental Extent of aortic involvement; Complications of the dissection, and Thrombus within the aortic false lumen.

In current clinical practice, endovascular therapy is increasingly considered as an alternative to medical management or open surgical repair of aortic dissection. The use of a new system for categorization of aortic dissection, DISSECT, addresses the shortcomings of well-known established schemes devised over 40 years ago before the introduction of endovascular techniques. It will serve as a guide to support a critical analysis of contemporary therapeutic options and inform management decisions based on specific features of the disease pro

Stanford type A aortic dissection is the most common form of thoracic aortic dissection, accounting for approximately 60% of all cases. Untreated, this condition has a high mortality, which emphasizes the need for emergency repair. Classic therapy is direct surgical replacement of the ascending aorta with a prosthetic graft and maybe combined aortic valve replacement, reconstruction of the aortic arch and its branches, or both, as clinically indicated. Morbidity and mortality for direct surgical repair both have improved substantially in recent years. Unfortunately, the International Registry of Acute Aortic Dissection showed that approximately 28% of patients with acute type A aortic dissections were considered unfit for open surgery and received only medical management. Survival of these medically managed patients is compromised significantly in both acute and chronic circumstances compared with those who receive direct surgical repair.

Recent improvements in endograft technology raised the consideration that these new shorter, larger-diameter endografts may be useful as a novel endovascular treatment for patients with acute ascending aortic dissection who were considered poor candidates for direct surgical repair. Zimpfer et al. conducted an ex vivo study demonstrating that stent-graft placement for ascending aortic dissection was feasible and could achieve complete exclusion of the false lumen. Isolated case reports describing endovascular repair of ascending aortic dissection have been published, but patient follow-up was extremely limited. Some of these reports identified major complications, including procedural-related cerebral ischemia and progressive aortic valvular insufficiency, and therefore raised serious questions regarding the value of endovascular repair of ascending aortic dissection. On the basis of our previous experience with endovascular repair of aortic dissections, we combined newly designed stent grafts with our endovascular techniques for managing aortic dissection to offer treatment to a select group of patients with ascending aortic dissection.