

## New cardiac revascularization program aimed at high-risk patients



**The UCLA CHIP program**, (Complete Revascularization in High-risk Indicated Patients) focuses on treating patients with complex coronary artery disease (CAD) and heart failure who are considered high risk for surgical revascularization procedures, such as vascular bypass. The UCLA CHIP team — which includes experts in cardiothoracic surgery, interventional cardiology, electrophysiology, heart failure and mechanical circulatory support — specializes in caring for high-risk patients, offering multi-disciplinary patient evaluations aimed at determining the most appropriate and safest interventions and therapies. The program uses advanced technologies, such as percutaneous hemodynamic support devices during revascularization procedures, to support high-risk patients during these procedures.

The program was developed to serve the growing number of patients with high-risk CAD who require interventions that can best be provided at a tertiary center with the appropriate expertise. CAD is the most common type of heart disease, resulting in more than 370,000 deaths in the United States annually. The disease is characterized by plaque buildup that constricts the arteries supplying blood to the heart. Today, CAD patients are typically living longer despite risk factors that include advanced age, diabetes, previous cardiac surgeries and peripheral vascular disease. These patients typically experience poor quality of life due to angina, shortness of breath and restricted activity and are at increased risk of heart attack.

### Managing symptoms and improving quality of life

In the past, patients with complex cardiovascular disease or heart failure may have been denied treatment due to the risks of intervention. In the UCLA CHIP program, these patients are evaluated and offered treatments that may dramatically impact longevity and quality of life, says Ali Nsair, MD, assistant professor in residence at UCLA.

“This is a one-stop shop where these complex patients get assessed by the team,” he says. “Then, working with the patient, their family and the team, we ask, ‘What is the best option for this patient?’”

Recent advances, such as a percutaneous ventricular assist device, provide high-risk patients with treatment options that can significantly improve their lives.

“These patients often experience intractable chest pain and are incapacitated by their symptoms,” Dr. Nsair says. “Our objective is to offer the best treatment to improve the quality of life of these patients so they can live longer and healthier lives.”

## Complete evaluation and discussion of treatment options

Patients referred to the UCLA CHIP program undergo a comprehensive evaluation by interventional cardiology, cardiothoracic surgery and heart-failure specialists who work together to formulate an optimal treatment plan for each individual.

UCLA offers a broad range of treatments including medical therapies, surgery and percutaneous coronary revascularization as well as heart transplantation and left-ventricular assist devices. The priority is to optimize medical therapies and, when possible, offer revascularization with temporary mechanical support devices or treatment for other cardiac conditions such as arrhythmias and valvular diseases.

## Solutions for high-risk patients

Patients in the CHIP program have access to specialists with broad expertise in state-of-the-art therapies and technologies that provide full revascularization of complex coronary blockages, including chronic total occlusions (CTO). More than 100 cases of CTO have been treated at UCLA. State-of-the-art interventions and services for high-risk CAD and heart-failure patients include:

- Rotablation, orbital atherectomy and laser systems for calcified coronary arteries
- Minimally invasive valvular therapies for select patients who have aortic stenosis, mitral regurgitation and congenital structural interventions
- Hybrid interventional and surgical approaches
- Hemodynamic support with percutaneous ventricular assist devices for indicated patients with heart failure and weak heart function
- Extracorporeal membrane oxygenation (ECMO) for patients who require temporary support during a procedure
- Heart transplantation or left-ventricular assist devices as a bridge to transplantation or destination therapy for appropriate candidates

## Advancing treatment strategies

The CHIP program relies on a team approach and a collaborative system aimed at exploring a full range of options for safe and effective treatment. The CHIP program works in conjunction with one of the most successful heart transplant/advanced cardiac support programs in the world, with expertise in managing end-stage heart-failure patients. For patients who remain too frail for revascularization or other cardiac procedures, physicians work to maximize medical therapies and improve quality of life.

In addition to providing tertiary care for advanced heart failure and end-stage heart disease, UCLA physicians actively pursue research into complex coronary disease and hemodynamic support. CHIP program leaders are developing an educational module to become a national training site for other programs on complex patients with ischemic heart disease.

Emerging research suggests this comprehensive approach to high-risk CAD and heart-failure patients results in financial savings due to shorter length of hospitalizations while providing robust improvements in patient quality of life.

## Participating Physicians

### **Olcay Aksoy, MD**

Assistant Clinical Professor, Cardiology

### **Peyman Benharash, MD**

Assistant Professor-in-Residence,  
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### **Marcella Calfon-Press, MD, PhD**

Assistant Clinical Professor, Cardiology

### **Ravi Dave, MD**

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### **Michael S. Lee, MD**

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### **Gopi Manthripragada, MD**

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### **Ali Nsair, MD**

Assistant Professor-in-Residence, Cardiology  
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### **Behi Rabbani, MD**

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### **Richard Shemin, MD**

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