

# Dr. K R Balakrishnan



**Qualification :** MS, M.Ch (Cardio Thoracic)

**Designation :** Director - Cardiac Sciences | Chief Cardiothoracic & Transplant Surgeon

**Speciality :** Cardiothoracic Surgery

Dr. K R Balakrishnan is an acknowledged expert in the management of end-stage heart failure and credited with India's First LVAD pump implant as destination therapy. He is instrumental in starting India's First Comprehensive Centre for Heart Failure Management at Fortis Malar Hospital, Chennai. He is also actively engaged with various institutions to develop Pulsatile and continuous flow LVADs (Left Ventricular Assist Device) and molecular biology of ventricular hypertrophy.

Apart from this, he has an extensive expertise in treating complex Congenital Heart Disease like switches in infancy, repair of TAPVR, common AV Canal and in use of homograft conduits arterial. He also performs other routine cardiac surgeries such as Valvular Heart procedures including repair & replacement, aortic root replacement and Ross procedure.

## Total experience

Over 45 years

## Medical Education, Certifications and fellowships/Research Papers.

M.Ch (Cardiothoracic Surgery) – KEM Hospital, University of Bombay | 1982  
MS (General Surgery) – AIIMS, New Delhi | 1980  
MBBS – JIPMER, Pondicherry | 1976

## Clinical Interests/ Specialised Treatments /Area of Expertise

End-stage heart failure management (Heart Transplant & VAD implant)  
Pediatric Cardiac Surgery  
Lung Transplant

## Awards & Honors

Awarded a distinction in M.Ch which was first ever awarded by Bombay University in Cardio Thoracic Speciality  
Hiralal gold medal in surgery, AIIMS, New Delhi, 1980

## Research and Publications

Images in cardiovascular medicine. Role of inflammation in atherosclerosis: immunohistochemical and electron microscopic images of a coronary endarterectomy specimen. Balakrishnan KR, Kuruvilla S. Circulation. 2006 Jan 24;113(3):e41-3. PMID: 16432060 [PubMed - indexed for MEDLINE]

Modified septosuperior approach for the repair of supracardiac total anomalous pulmonary venous return in infants, Balakrishnan KR, Parvathy U. Ann Thorac Surg. 2005 Sep;80(3):1140-2. PMID: 16122518 [PubMed - indexed for MEDLINE]

Influence of lumen shape and vessel geometry on plaque stresses: possible role in the increased vulnerability of a remodelled vessel and the "shoulder" of a plaque. Kumar RK, Balakrishnan KR. Heart. 2005 Nov;91(11):1459-65. Epub 2005 Mar 17. PMID: 15774611 [PubMed - indexed for MEDLINE]

Pseudoaneurysm of the popliteal artery. Surgical management of 3 cases. Parvathy U, Saldanha R, Balakrishnan KR. J Cardiovasc Surg (Torino). 2005 Feb;46(1):43-6. PMID: 15758876 [PubMed - indexed for MEDLINE]

Severe coronary artery disease with coarctation of the aorta: role of off-pump coronary artery bypass grafting. Balakrishnan KR, Thanikachalam S, Murthy JS, Saldanha R, Jayarajah M. Ann Thorac Surg. 2005 Jan;79(1):343-5. PMID: 15620979 [PubMed - indexed for MEDLINE]

Surgical closure of atrial septal defect in children under two years of age. Parvathy U, Balakrishnan KR, Ranjith MS, Saldanha R, Vakamudi M. Asian Cardiovasc Thorac Ann. 2004 Dec;12(4):296-9. PMID: 15585696 [PubMed - indexed for MEDLINE]

Further insights into normal aortic valve function: role of a compliant aortic root on leaflet opening and valve orifice area. Sripathi VC, Kumar RK, Balakrishnan KR, Ann Thorac Surg. 2004 Mar;77(3):844-51. Blunt abdominal trauma resulting in urin thorax from a missed uretero-pelvic junction avulsion: case report. Parvathy

U, Saldanha R, Balakrishnan KR. J Trauma. 2003 Jan;54(1):187-9. PMID: 12544917 [PubMed - indexed for MEDLINE]

Dynamic analysis of the aortic valve using a finite element model. Gnyaneshwar R, Kumar RK, Balakrishnan KR, Ann Thorac Surg. 2002 Apr;73(4):1122-9. PMID: 11996252 [PubMed - indexed for MEDLINE]

False aneurysm following modified Blalock-Taussig shunt. Parvathy U, Balakrishnan KR, Ranjith MS, Moorthy JS. Pediatr Cardiol. 2002 Mar-Apr;23(2):178-81. Epub 2002 Feb 19. PMID: 11889530 [PubMed - indexed for MEDLINE]

A Case of Ball Valve Thrombus. Thanikachalam S, Sengottuvel G, George S, Kumar MS, Shivakumar RV, Balakrishnan KR, Murthy JS. Echocardiography. 1999 Feb;16(2):143-145. PMID: 11175132 [PubMed - as supplied by publisher]

Surgical experience with congenital heart disease in Down's syndrome. Parvathy U, Balakrishnan KR, Ranjith MS, Saldanha R, Sai S, Vakamudi M. Indian Heart J. 2000 Jul-Aug;52(4):438-41. PMID: 11084787 [PubMed - indexed for MEDLINE]

Bi-directional Glenn with a modified Damus-Kaye-Stansel procedure—an alternative technique for transposition of great arteries, intact ventricular septum with left ventricular outflow tract obstruction. Parvathy U, Balakrishnan KR, Ranjith MS. Indian Heart J. 1998 Sep-Oct;50(5):554-6. PMID: 10052286 [PubMed - indexed for MEDLINE]

Primary intracardiac yolk sac tumor. Parvathy U, Balakrishnan KR, Ranjit MS, Kuruvilla S, Rao KR. Pediatr Cardiol. 1998 Nov-Dec;19(6):495-7. PMID: 9770582 [PubMed - indexed for MEDLINE]

Warm cardioplegia in cardiac transplantation. Balakrishnan KR, Saldanha R, Sai S, Suresh K, Parvathy U. Ann Thorac Surg. 1997 Nov;64(5):1518. PMID: 9386747 [PubMed - indexed for MEDLINE]

Noncardioplegic myocardial protection for CABG deserves a second look. Koppula AS, Jagannath BR, Balakrishnan KR, Gupta CM. Ann Thorac Surg. 1997 Mar;63(3):914-5. PMID: 9066441 [PubMed - indexed for MEDLINE]

Isolated bilateral coronary ostial stenosis with complete obstruction of the left main artery. Koppula AS, Koppalla MM, Abraham KA, Balakrishnan KR. Ann Thorac Surg. 1995 Mar;59(3):785-6. PMID: 7887742 [PubMed - indexed for MEDLINE]

Aortic root enlargement by Manouguian's technique. Bhutani AK, Dev K, Gupta CH, Abraham KA, Desai RN, Balakrishnan KR. J Thorac Cardiovasc Surg. 1994 Oct;108(4):788. PMID: 7934119 [PubMed - indexed for MEDLINE]

Inadvertent transection of anomalously arising left anterior descending artery during tetralogy of Fallot repair: bypass grafting with left internal mammary artery. Bhutani AK, Koppala MM, Abraham KA, Balakrishnan KR, Desai RN. J Thorac Cardiovasc Surg. 1994 Sep;108(3):589-90. PMID: 8078355 [PubMed - indexed for MEDLINE]

Aortocameral fistula to right atrium. Murthy JS, Balakrishnan KR, Abraham KA. Indian Heart J. 1994 Mar-Apr;46(2):113-4. PMID: 7989073 [PubMed - indexed for MEDLINE]

Ascending aortic aneurysm eroding the chest wall: repair avoiding a median sternotomy. Balakrishnan KR, Koppula A, J Thorac Cardiovasc Surg. 1994 Feb;107(2):640-1. PMID: 8302097 [PubMed - indexed for MEDLINE]

Congenital aortic stenosis and patent ductus arteriosus in the adult. Bhutani AK, Dev K, Koppala MM, Maddali MM, Abraham KA, Balakrishnan KR, Desai RN. Ann Thorac Surg. 1993 Oct;56(4):1003. PMID: 8280285 [PubMed - indexed for MEDLINE]

A new technique to simplify the Fontan procedure after a previous bidirectional Glenn shunt. Seshadri M, Jagannath BR, Koppula AS, Desai R, Balakrishnan KR, J Thorac Cardiovasc Surg. 1993 Sep;106(3):569-70. PMID: 8361208 [PubMed - indexed for MEDLINE]

Berlin Heart Implant - Patient's Journey <https://youtu.be/xLcGLEvXbPo>

The detailed story of the Berlin Heart Implant <https://youtu.be/NQ1mHAoaq-A>

11-year-old Egyptian boy undergoes life-saving heart procedure in city hospital - The Hindu <https://www.thehindu.com/news/national/tamil-nadu/11-year-old-egyptian-boy-undergoes-life-saving-heart-procedure-in-city-hospital/article31696316.ece>

## Medical Breakthroughs/ Interesting Case Studies

India's first successful LVAD implant surgery as destination therapy, 2012  
 Worked with Sir Brian Barratt-Boyes, Green Lane Hospital, New Zealand  
 Worked with Dr. Albert Starr at Oregon Health Science University and St. Vincent Hospital, Oregon, USA  
 Dual poppet heart valve : Co-inventor alongwith Dr. Albert Starr of a new model heart valve prosthesis. U.S. patent