

**BIOGRAPHICAL SKETCH**

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NAME: Thadhani, Ravi I., MD, MPH

eRA COMMONS USER NAME (credential, e.g., agency login): rthadhani

POSITION TITLE: Vice Dean of Research and Graduate Research Education, Cedars Sinai Medical Center

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Notre Dame, South Bend, IN	B.S.	06/1987	Liberal Arts
University of Pennsylvania, Philadelphia, PA	M.D.	06/1991	Medicine
Harvard School of Public Health, Boston, MA	M.P.H	06/1997	Epidemiology

**A. Personal Statement**

Dr. Thadhani has two major areas of interest: medical complications of pregnancy (preeclampsia and gestational diabetes) and vitamin D metabolism. His goals are to translate biological discoveries into novel diagnostics and therapies for humans. In the area of preeclampsia, his collaborations with basic scientists have led to novel diagnostic tests now available in Europe and are being tested in the U.S., and of late, first-in-human clinical trials to prolong pregnancy in women with severe preterm preeclampsia. In the area of vitamin D metabolism, he has performed observational studies, collaborated with basic scientists in animal experimental studies, and translated these findings to multinational randomized trials to test several hypotheses in humans. More recently, he and collaborators put forward another paradigm-changing concept related to bioavailable vitamin D, potentially changing our view of who truly is vitamin D deficient. Dr. Thadhani has mentored several fellows and junior faculty members, all of whom have had a strong track record of publications and grant support, and many of whom are on faculty at leading institutions around the country. Dr. Thadhani has served as a reviewer for and has published in several journals including *New Engl J Med*, *J Am Med Assoc*, *Lancet*, *Proc Natl Acad Sci*, *Circulation*, *J Am Soc Nephrol*, and *Kidney Int*. He is an inducted member into the *American Society of Clinical Investigation*, the *American Epidemiology Society* and the *Association of American Physicians*.

**B. Positions and Honors****Positions and Employment**

1991-1992 Intern in Medicine, Massachusetts General Hospital  
 1992-1994 Assistant Resident in Medicine, Massachusetts General Hospital  
 1996 Chief Resident in Medicine, Massachusetts General Hospital  
 1994-1996 Clinical and Research Fellow in Medicine (Nephrology), Massachusetts General Hospital  
 1994-1996 Research Fellow in Medicine, Harvard Medical School  
 1997-2018 Associate Physician, Massachusetts General Hospital  
 1998-2001 Instructor of Medicine, Harvard Medical School  
 2001-2004 Associate Program Director, Massachusetts Institute of Technology Clinical Research Center  
 2001-2018 Senior Scientist, Department of Obstetrics, Massachusetts General Hospital  
 2002-2004 Assistant Professor of Medicine, Harvard Medical School  
 2002-2013 Director of Clinical Research in Nephrology, Massachusetts General Hospital  
 2005-2012 Associate Professor of Medicine, Harvard Medical School  
 2005-2010 Co-Director, Massachusetts Institute of Technology Clinical Research Center  
 2010-2012 Senior Clinical Research Advisor to the Chief Scientific Officer at Partners Healthcare

2011-2013 Co-Chair, Partners Research IT Committee at Partners Healthcare  
 2012 Co Chair, Partners Bio-repository Implementation Committee on Education, Partners Healthcare  
 2012-2017 Associate Director of Research, reporting to the Chief Academic Officer, Partners Healthcare  
 2012- Professor of Medicine, Harvard Medical School  
 2013-2017 Chief of Nephrology, Massachusetts General Hospital  
 2013-2014 Search Committee, Chief of Nephrology, Newton Wellesley Hospital  
 2013-2014 Search Committee, Chief of Cardiology, Massachusetts General Hospital  
 2015-2017 Executive Director, Clinical Trials Office, Partners Healthcare  
 2017 Clinical Consultant, Center for Environmental Health Sciences, Massachusetts Institute of Technology  
 2017 Adjunct Member, Search Committee Chief of Infectious Disease Massachusetts General Hospital  
 2017- Vice Dean for Research and Education, Cedars Sinai Medical Center  
 2018- Research Staff, Department of Medicine, Massachusetts General Hospital (eff. 2/2018)

### **Academic and Professional Honors**

1987 University of Guam Professional Student Award  
 1987 Phi Beta Kappa and *Summa Cum Laude*, University of Notre Dame  
 1990 Alpha Omega Alpha, University of Pennsylvania  
 1991 Nathan and Paulin Pincus Prize, Outstanding Achievement as a Clinician, University of Pennsylvania  
 1991 Alfred Stengel MD Memorial Prize, Academic Excellence for Academic Medicine, University of Pennsylvania  
 2000 Harvard Medical School Class of 2000 Clinical Teaching Award  
 2000 Harvard Medical School, Daniel D. Federman Outstanding Clinical Educator Award  
 2008 American Society of Clinical Investigation, Inducted Member  
 2008 American Epidemiological Society, Inducted Member  
 2008 Honorary Degree, Distinguished Professor, Panamerican University, Mexico City, Mexico  
 2009 Appreciation Award, Guam Medical Association 2009 Annual Event  
 2009 Appreciation Award, American Society of Nephrology Annual Meeting Planning Committee Member  
 2011 Priscilla Kincaid-Smith Visiting Professor, Royal Melbourne Hospital, Australia  
 2011 Kathleen Valles Visiting Professor, St. George's Hospital, London, England  
 2011 Recognition Award, American Nephrologists of Indian Origin  
 2011 Jaime Herrera Acosta Honorary Lecture, Instituto Mexicano de Investigaciones Nefrológicas  
 2012 Shaul Massry Distinguished Lecture Award, National Kidney Foundation  
 2012 Saulo Klahr Lecture Award, Department of Medicine, Washington University of St. Louis  
 2013 Dr. KS Chugh Oration Award, Annual Conference of the International Society of Nephrology, New Delhi  
 2014 Kleeman Visiting Scholar, UCLA Annual Visiting Scholar, Los Angeles, California  
 2014 Helen Randall Dunham Cardio-Renal Lecturer, Brigham and Women's Hospital  
 2014 Alumni Award of Merit from the Harvard School of Public Health  
 2014 Outstanding Speaker Award, American Association of Clinical Chemistry  
 2015 Association of American Physicians, Inducted Member  
 2015 American Society of Nephrology, Robert W. Schrier Endowed Lectureship  
 2016 Honors for Outstanding Contributions in Nephrology Research & Education, International Society of Nephrology & American Nephrologists of Indian Origin  
 2016 Irene Tamagna Honorary Lecture in Hypertension, George Washington University, Department of Medicine, Washington, DC  
 2017 Charles Austin MD Visiting Professor Honorary Lectureship, Baylor University Medical Center, Dallas, TX  
 2017 Harold Amos Faculty Diversity Award, Harvard Medical School/Harvard School of Dental Medicine

### C. Contributions to Science

My major activities include clinical and translational research (50%), teaching and mentoring (20%), and administrative responsibilities (30%). My research efforts are divided into two main areas: Pregnancy and Dialysis.

Pregnancy studies center on human research supporting recent findings emerging from basic science collaborations in the area of angiogenic factors and preeclampsia. I have performed pilot and proof-of-concept studies, retrospective and prospective studies, and planned and performed interventional trials. This work has been funded by several federal and foundation grants. A diagnostic test we developed is currently in the clinic in Europe. My recent focus is on a therapy for preeclampsia, and I am actively performing first-in-human randomized trials based on extensive pilot studies (*Circulation* 2011). I have several grants, invited speaking events, book chapters, and publications in this area, including invited commentaries. We recently received funding (Kaneka Pharmaceuticals) to perform a pilot clinical trial to obtain safety and efficacy data prior to a registrational study.

- a. **Thadhani R**, Kisner T, Hagmann H, Bossung V, Noack S, Schaarschmidt W, Jank A, Kribs A, Cornely O, Kreyssig C, Hemphill L, Rigby AC, Khedkar S, Lindner TH, Mallmann P, Stepan H, Karumanchi SA, Benzing T. A Pilot Study of Extracorporeal Removal of Soluble Fms-like Tyrosine Kinase 1 in Preeclampsia. *Circulation* 2011;124:940-50.
- b. Palomaki GE, Haddow JE, Haddow H, Salahuddin S, Geahchan C, Cerdeira AS, Verlohren S, Perschel FH, Horowitz G, **Thadhani R**, Karumanchi SA, Rana S. [24-OR]: Modeling risk for adverse outcomes in women with suspected preterm preeclampsia using angiogenic factor measurements. *Pregnancy Hypertens.* 2015 Jan;5(1):12.

In dialysis, I examined the effect of vitamin D in the survival of chronic hemodialysis patients. These series of observational studies have included thousands of dialysis patients throughout the U.S. Our studies have been confirmed by over 25 independent investigators world-wide. Clinical practices (academic and non-academic) have implemented practice patterns aligned with this work, and national and international practice guidelines have highlighted these studies. Acknowledging the observational nature of this work, however, I pursued animal models examining the cardiac effects of vitamin D with basic science collaborators. Our series of human and animal experimental studies led to an investigator initiated (Thadhani, PI) multicenter multinational (> 60 centers world-wide) clinical trial in patients with kidney disease (e.g., PRIMO – Paricalcitol benefits in Renal Insufficiency associated cardiac Morbidity, [clinicaltrials.gov NCT00497146](http://clinicaltrials.gov/NCT00497146)). PRIMO is the first randomized trial in nephrology to test the hypothesis that active vitamin D therapy favorably affects cardiac hypertrophy and diastolic dysfunction. We coordinated the entire study and our top-line results were recently published (*JAMA* 2012). Several additional national and international studies including follow-up studies in the general population (e.g., VITAL) are ongoing.

- a. **Thadhani R**, Appelbaum E, Pritchett Y, Chang Y, Wenger J, Tamez H, Bhan I, Agarwal R, Zoccali C, Wanner C, Lloyd-Jones D, Cannata J, Thompson B, Andress D, Zhang W, Packham D, Singh B, Zehnder D, Shah A, Pachika A, Manning W, Solomon S. Vitamin D Therapy and Cardiac Structure and Function in Patients with Chronic Kidney Disease; The PRIMO Randomized Clinical Trial. *JAMA* 2012;307:674-84.
- b. Welles CC, Whooley MA, Karumanchi SA, Hod T, **Thadhani R**, Berg AH, Ix JH, Mukamal KJ. Vitamin D Deficiency and Cardiovascular Events in Patients With Coronary Heart Disease: Data From the Heart and Soul Study. *Am J Epidemiol.* 2014 Jun 1;179(11):1279-87. PMID: PMC4036212

We have also pursued randomized trials testing the benefit of nutritional vitamin D in dialysis patients (DIVINE, [clinicaltrials.gov NCT00892099](http://clinicaltrials.gov/NCT00892099)). Finally, we recently put forward the concept that Bio-available Vitamin D is physiologically the important metabolite to determine vitamin D status (*NEJM* 2013).

- a. Powe CE, Evans MK, Wenger J, Zonderman AB, Tamez H, Berg A, Bhan I, Karumanchi SA, Powe NR, **Thadhani R**. Vitamin D Binding Protein and Vitamin D Status in White and Black Americans. *N Eng J Med* 2013 Nov 21;369(21):1991-2000. PMID: PMC4030388
- b. Bhan I, Powe C, Berg A, Ankers E, Wenger J, Karumanchi S.A., **Thadhani R**. Bioavailable Vitamin D More Tightly Linked to Mineral Metabolism than Total Vitamin D in Dialysis. *Kidney Int* 2012;82:84-9. PMID: PMC3376220

## Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/ravi.thadhani.1/bibliograpahy/43478162/public/?sort=date&direction=ascending>

### D. Additional Information: Research Support and/or Scholastic Performance

#### Ongoing Research Support

IRO90262 (Thadhani, PI) 10/20/10-10/19/20  
University of Alberta (Canadian Institutes of Health Research)  
Clinical, Biochemical and Genetic Risk Factors for CAC and Left Ventricular Hypertrophy (LVH)  
(Longitudinal US Canadian Incident Dialysis Study: LUCID Study MPI Proposal)  
The major goal of this project is to examine genetic risk factors for CAC and left ventricular hypertrophy in end stage renal disease.  
Role: Principal Investigator

Grant (Thadhani, PI) 8/23/2017-8/22/22  
Genzyme Corporation  
Kidney Information Network for Disease Research and Education (KINDRED)  
The major goal of this project is to collect and store biological samples (DNA, plasma, serum), along with relevant medical information from adults with End Stage Renal Disease (ESRD) on dialysis.

R01 DK094486-06 (Thadhani, PI) 07/17/12-02/28/19  
NIH/NIDDK  
Redefining Vitamin D Deficiency: The Role of Bioavailable Vitamin D  
The major goal of this project is to determine how bioavailable vitamin D alters the definition of vitamin D deficiency in a large diverse US population.

R01 DK088762-06 (de Boer, PI) 02/24/16-01/31/20  
NIH/NIDDK  
Randomized trial of vitamin D and omega-3 fatty acids for diabetic kidney disease  
The major goal of this project is to evaluate the long-term effects of vitamin D and omega-3 fatty acids on DKD.  
Role: Co-Investigator

#### Completed Research Support

T32DK007540-31A (Thadhani, PI) 07/01/17–12/01/17  
NIH/NIDDK  
Training for Multidisciplinary Research in Nephrology  
The major goal of this project is to offer comprehensive multidisciplinary research training to four highly selected postdoctoral trainees in Nephrology.  
Role: Principal Investigator

K24 DK094872-05 (Thadhani, PI) 04/15/12-03/31/17  
NIH/NIDDK  
Patient Oriented Studies of Vitamin D in Chronic Kidney Disease  
The major goal of this project is to mentor Nephrology fellows interested in becoming patient oriented investigators.  
Role: Principal Investigator

Contract (Thadhani, PI) 09/29/16-12/01/17  
Kaneka Corporation  
Coordinating Center Agreement: Removal of Anti-Angiogenic Proteins in Preeclampsia before Delivery: 3<sup>rd</sup> Cohort (RAAPID-3)  
The major goal of this project is to test whether dextran sulfate apheresis removes sFlt-1 and is safe in pregnancy.  
Role: Principal Investigator

R01 HL112746-03

(Thadhani & Wang, PI)

03/01/12-02/28/16

NIH/NHLBI

Impact of Vitamin D supplementation on cardiac status and function

The major goal of this project was to perform an ancillary study of cardiac structure and function (echocardiogram) among a subset of participants in randomized trial (VITAL) of vitamin D and omega-3 fatty acids taking place throughout the U.S.

Role: Principal Investigator

R01 DK076116-08

(Wolf, PI)

09/07/13-07/31/16

NIH/NIDDK

Role of FGF23 in Mineral Metabolism Across the Spectrum of Chronic Kidney Disease

The major goal of this project was to investigate fibroblast growth factor 23 biology across the spectrum of chronic kidney disease.

Role: Co-Investigator