IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Inter Partes Review of: Trial Numbers: IPR2014-00395

U.S. Patent No. 6,482,228

Filed: Nov. 14, 2000

Issued: Nov. 19, 2002 Attorney Docket Nos.: 058888/0000019

Inventor(s): Troy R. Norred

Assignee: None

Title: Percutaneous Aortic Valve Replacement

Mail Stop Patent Board Patent Trial and Appeal Board P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION OF ALEXANDER J. HILL, PhD

I, Alexander J. Hill, PhD, declare as follows:

- 1. I have been asked by my employer, Medtronic Inc. to provide my opinions in this declaration in connection with the inter partes review of U.S. Patent No. 6,482,228 (the "228 patent").
- 2. I have personal knowledge of the following facts and would and could testify competently regarding the following statements if called as a witness.
- 3. In forming my opinions, I understand that the claims should be interpreted as they would be understood by a person of ordinary skill in the art of the subject matter of the patents. I also understand that claims are ordinarily



construed based on the plain meaning of the terms used in the claims, and also with reference to the specification, the patent drawings, and the prosecution history. In addition, I understand that although the specification should be consulted to aid in the process of interpreting the claims, the specific examples disclosed in the specification generally do not limit the scope of the claims. Finally, I also understand that claim interpretation may be aided by reference to other sources of information, such as dictionaries, textbooks, and literature or other patents in related fields, in order to determine the ordinary meanings of terms used in the claims. I further understand that for the purposes of this inter partes review, the claims should be given their broadest reasonable interpretation when viewed in light of the specification. In addition, I understand that claims expressed as a "means" for performing a recited function should be interpreted as covering the corresponding structure material or acts disclosed in the specification and equivalents thereof.

BACKGROUND

4. I am 39 years of age and was born in Edina, MN.

WORK EXPERIENCE

- 5. I am currently employed by Medtronic, Inc.
- My place of employment is 8200 Coral Sea Street NE, Mounds View,
 MN 55112.



- 7. My position at Medtronic, Inc. is Sr. Research Manager.
- 8. I am recognized as a Technical Fellow at Medtronic, Inc.
- 9. I currently serve as Chair of the Medtronic Science & Technology Conference.
- 10. I am currently a Clinical Assistant Professor, Department of Surgery, at the University of Minnesota Medical School.
- 11. In my current role at Medtronic, Inc. as a Senior Research Manager in the Cardiac and Vascular Group, Coronary and Structural Heart, I manage a group that conducts research focused on percutaneous, minimally invasive, and surgical heart valve replacement and repair including anatomical characterization, device research and design, image guided therapy development, and animal model development for testing of novel products. I also lead technical projects in Structural Heart product development. Over the past eight years, I have personally designed and tested numerous percutaneous heart valves, and have implanted heart valves into both live and isolated hearts.
- 12. From August, 2012 through May, 2014, I served as a Research Manager at Medtronic, Inc. in the Cardiac and Vascular Group, Structural Heart, where I managed a group that conducts research focused on percutaneous, minimally invasive, and surgical heart valve replacement and repair including anatomical characterization, device research and design, image guided therapy



development, and animal model development for testing of novel products. I also lead technical projects in Structural Heart product development.

- 13. From July, 2008 through August, 2012, I served as a Principal Scientist at Medtronic, Inc., CardioVascular division, where I conducted research focused on percutaneous, minimally invasive, and surgical heart valve replacement and repair including anatomical characterization, device research and design, image guided therapy development, and animal model development for testing of novel products.
- 14. From May, 2007 through July, 2008, I served as a Senior Scientist at Medtronic, Inc., CardioVascular division, where I conducted research focused on percutaneous, minimally invasive, and surgical heart valve replacement and repair including device research and design, image guided therapy development, and animal model development for testing of novel products.
- 15. From May, 2006 through May, 2007, I served as a Senior Scientist at Medtronic, Inc., Cardiac Surgery division, where I conducted research focused on percutaneous, minimally invasive, and surgical heart valve replacement and repair including device research and design, image guided therapy development, and animal model development for testing of novel products.
- 16. From January, 2006 through May, 2006, I served as a Senior Scientist at Medtronic, Inc., Vascular division. Where I conducted research focused on



percutaneous, minimally invasive, and surgical heart valve replacement and repair including device research and design, image guided therapy development, and animal model development for testing of novel products.

- 17. From December, 2003 through January of 2006, I served as a Senior Scientist at Medtronic, Inc., Cardiac Rhythm Management Physiological Research Laboratory division, where I conducted research focused on advanced cardiac MRI applications and analysis, comparative cardiac anatomy, improved histopathology techniques, and animal model development.
- 18. From September, 2003 through December, 2003, I served as a Scientist at Medtronic, Inc. Cardiac Rhythm Management Physiological Research Laboratory, where I conducted research focused on comparative cardiac anatomy, improved histopathology techniques, and animal model development.
- 19. From April, 2000 through September, 2003, I served as a Biomedical Engineering Intern at Medtronic, Inc. Cardiac Rhythm Management Therapy Delivery, where I was involved in research of pacemaker mechanics using numerical modeling and product testing utilizing The Visible Heart Methodologies.
- 20. From September, 1999 through May, 2000, I participated in the New Product Design and Business Development class, with University of Minnesota and Medtronic, Inc. This was a year-long class offering industry experience in



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