

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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MEDTRONIC, INC., MEDTRONIC VASCULAR, INC.,  
and MEDTRONIC COREVALVE, LLC  
Petitioner

v.

TROY R. NORRED, M.D.  
Patent Owner

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Cases IPR2014-00110, -00111  
Patent 6,482,228

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DECLARATION OF TIMOTHY CATCHINGS, M.D.

**NORRED EXHIBIT 2195 - Page 1**  
**Medtronic, Inc., Medtronic Vascular, Inc.,**  
**& Medtronic Corevalve, LLC**  
**v. Troy R. Norred, M.D.**

I, Timothy T. Catchings, M.D., declare as follows:

1. I have been asked by Troy R. Norred, M.D. to provide my opinions in this declaration in connection with the *inter partes* review of United States Patent No. 6,482,228 (the “228 patent”). In preparing this declaration, I have reviewed the ‘228 patent, the prosecution history of the ‘228 patent, the prior art cited by the Patent Trial and Appeal Board in instituting these proceedings, and other prior art that is or may be pertinent to the patentability of Dr. Norred’s invention. I have personal knowledge of the following facts and would and could testify competently regarding the following statements if called as a witness.

2. 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 patents. I also understand that they 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.

3. In my opinion, a person of ordinary skill in the art would possess a Doctor of Medicine from an accredited medical school plus at least three years of residency in internal medicine or the equivalent in surgical residency, plus three years of cardiology fellowship or the equivalent in cardiovascular surgery.

4. All of the opinions expressed in this declaration are my own, formed upon analysis of the materials listed above.

### *Professional Background*

5. I am a citizen of the United States and a resident of Waycross, Georgia. My post office address is 1610 Screven Avenue, Waycross, Georgia 31501.

6. I currently am in private practice in Waycross, Georgia as a board certified interventional cardiologist.

7. As part of my practice, I see and treat patients suffering from valvular heart disease, including aortic stenosis.

8. I attended college at Albany State College in Albany, Georgia from 1974 to 1978, earning a Bachelor of Arts in Chemistry. I attended medical school at Emory University School of Medicine in Atlanta, Georgia from 1974 to 1978, earning a Doctor of Medicine. Following graduation from medical school, from 1978 to 1979, I worked as an Intern at Medical College of Georgia Affiliated Hospitals in Augusta, Georgia. Following my internship, from 1980 to 1982, I served as a Resident at the Naval Regional Medical Center in Portsmouth, Virginia.

Following my residency, from 1982 to 1984, I was a Fellow in Pulmonary Diseases at the Naval Hospital in Portsmouth, Virginia. After that, from July 1995 to May 1998, I was a Fellow in Cardiovascular Diseases at the National Naval Medical Center in Bethesda, Maryland. Then, from July 1999 to July 2000, I was a Fellow in Cardiovascular Diseases at the University Hospital of the University of Missouri. I was an Assistant Professor of Medicine and the Director of the Coronary Care Unit at the University Hospital at the University of Missouri from August 2000 until August 2006. After that, I worked in private practice in Williamsburg, Virginia until October 2008, when I moved to my present position.

9. I am a Retired Captain in the Medical Corps of the U.S. Navy Reserve. As part of my military service, I served on the USS Sylvania from 1979 to 1980; at the Naval Regional Medical Center in Portsmouth, Virginia from 1980 to 1982; at the Naval Hospital in Portsmouth, Virginia from 1982 through 1987; at the Naval Reserve Centers in Macon and Atlanta, Georgia from 1987 to 1995; and at the National Naval Medical Center in Bethesda, Maryland from 1995 to 1999. In addition, from 1990 to 1992, I was the Director of Medical Services at the Fleet Hospital 14 Headquarters in Jacksonville, Florida.

10. I am or have been a member of several professional organizations, including the American College of Chest Physicians, the Society of



Critical Care Medicine, the American Medical Association, the Bibb County Medical Society, the National Medical Association and the Virginia Thoracic Society.

11. I hold a license to practice medicine in Georgia, and have previously held licenses in Virginia, Missouri and Oklahoma.

12. I am at least a person of ordinary skill in the art as it pertains to the prosthetic aortic valve invented by Dr. Norred and described in the '228 Patent.

*The Native Aortic Valve*

13. The aortic valve is located between the left ventricle and the aorta.

14. The function of the aortic valve is to allow blood to flow in one direction, from the left ventricle to the aorta.

15. The aortic valve opens to allow blood to flow into the aorta, and closes to prevent back flow into the left ventricle. It does this approximately 103,000 times per day, and approximately 3.7 billion times in its lifespan.

16. The aortic valve consists of three membranous leaflets and three aortic sinuses.

17. The leaflets are the parts of the valve that most directly control blood flow. It once was thought that the leaflets were pushed open by the ejection of blood from the left ventricle. We know now that this view was overly simplistic and somewhat inaccurate. The leaflets are attached to the aortic wall through commissures. The commissures move outwardly during systole and inwardly during

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