

February 03. 2013 6:20AM

Tantasqua Regional student to compete in National Brain Bee

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WORCESTER ♦ A Sturbridge student will represent Central Massachusetts in the National Brain Bee next month after winning the regional title Saturday at a mind-bending competition at the University of Massachusetts Medical School.

Elliot S. Davis, 16, a junior at Tantasqua Regional High School, clinched the seventh annual Central Massachusetts Regional Brain Bee in the ninth round of questioning by correctly stating that the protein-based medical treatment tissue plasminogen activator is used to treat stroke.

“It was a little nerve-wracking,” Mr. Davis said after the competition ended.

The Brain Bee, organized by the medical school's psychiatry department, was open to any interested student from about 14 area schools and attracted about 45 youths in Grades 9-12. The contestants first took a written test, and the 12 highest scorers advanced to the finals.

Dressed in jeans or leggings and casual shirts, the nine girls and three boys who were finalists sat at the front of an amphitheater usually used by medical students and fielded questions posed by Dr. Sheldon Benjamin, vice chairman of education in psychiatry at the medical school and director of neuropsychiatry for the UMass Memorial Health Care system. In the last row of the amphitheater sat young doctors training in psychiatry, including one who won a Brain Bee in New York state in 2001.

Dr. Benjamin started the finalists with relatively simple anatomy questions on the number of neurons the brain is estimated to contain and the largest part of the human brain. Answers: 100 billion and the cerebrum.

But the difficulty level soon increased with questions about brain activity during sleep, the receptors on brain cells that interact with specific chemicals, procedures used to diagnose or treat brain disease, and degenerative diseases such as amyotrophic lateral sclerosis, also known as Lou Gehrig's disease.

After seven rounds of questioning, the field was winnowed to Mr. Davis, Urvya Iyer of Westboro High School, Nick Rivelli of Oxford High School and Rachel Stickles of Tahanto Regional High School in Boylston. All four incorrectly answered questions in the eighth round, locking them in a tie.

“I think at this point, any one of you could compete in the National Brain Bee,” Dr. Benjamin

told the four students.

Yet Mr. Davis was the only one to answer a question correctly in the ninth round, with the others stumbling over subjects touching on experimental gene therapy for Parkinson's disease, chemicals injected into patients to diagnose the neuromuscular disease myasthenia gravis, and hormones released by the body's pituitary gland.

Mr. Davis said he spent about 10 hours preparing for the competition and studied anatomy, looked through college textbooks and read a book distributed ahead of time to all contestants.

“I took notes on all the important points,” he said.

Tantasqua science teacher Mary E. Duane said Mr. Davis has been part of a group of students who work together on their own to explore an interest in neuroscience.

“He's a very disciplined and bright young man, and we're lucky to have him at Tantasqua,” she said.

UMass Medical will pick up the bill for Mr. Davis and an adult to attend the National Brain Bee in March in Baltimore and connect him to psychiatry residents who will help prepare him for the competition. In addition, he received the Andrew M. Sheridan Young Neuroscientist Award.
