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Students learn about stem-cell research from peers

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WARREN -- Hoping to make the Garden State the stem-cell research capital of the nation, the New Jersey Stem Cell Research and Education Foundation took its message about the healing potential of stem cells on the road with a presentation Wednesday to the senior class at Watchung Hills Regional High School.

At the event, which the foundation said it hopes will be the first of many at the state's high schools, Rob Margolin, a Watchung Regional 1999 alumnus and now a graduate student in regenerative medicine, led a presentation on the science of stem-cell research in which students acted out the roles of stem cell, guard cell and stimulus.

The presentation included testimony about the potential of stem cell research for the treatment of spinal cord injuries from quadriplegics Carl Riccio, a 2004 Watchung Hills graduate and student at Villanova University in Pennsylvania, and former kung fu practitioner Richard Gaskin of Montclair, now known as the rap artist Professir X.

Gaskin, who has been paralyzed since 1987 from a gunshot wound to his neck, concluded the event with a rap performance presented with his cousin Prince Jahid of a song titled "Forever Superman." The song was dedicated to the late actor Christopher Reeve, who is Gaskin's hero.

Reeve was perhaps best known for his film portrayal of Superman and his advocacy for stem-cell research after a horse-riding accident left him a quadriplegic.

The students rocked to Gaskin's hip-hop message in which he spoke about "making the wheelchair a thing of the past."

Comments by Riccio and Gaskin, as well as those of Drew Weinstein of Parsippany, a freshman at Barnstable Academy in Oakland who has juvenile diabetes, brought the importance of stem-cell research home to the students in a powerful way, participants said.

"I'm keeping my body in shape for a potential cure," said Riccio, a former star athlete who was paralyzed from the neck down in 2003 during a wrestling match for Watchung Hills. "My number one hope is stem cells."

The idea for the presentation grew from a series of roundtable discussions that the 18-month-old foundation has been holding for the last six months among institutions involved in stem-cell research, such as the University of Medicine and Dentistry of New Jersey in Newark, where Margolin is a graduate student.

The state's wealth of scientific institutions and pharmaceutical companies as well as its public commitment to stem-cell research -- last year the state announced a \$380 million stem-cell initiative -- puts it in a position to be a world leader in stem-cell research, foundation officials said.

"New Jersey is the perfect state for this to flourish," said Dr. Michael D. LaSalle, a Florham Park urological microsurgeon who is the foundation's president and chief executive officer.

But that effort is hampered by a lack of public understanding about the nature and promise of stem cell research, which the foundation is trying to address by educating a future generation of leaders, he said.

"Many of you could be affected," said Riccio, citing illnesses such as Parkinson's and Alzheimer's that he said could be helped through stem cell research. "By supporting stem cell research today, you can really make a difference for the future."

The stakes are high. New Jersey stands to benefit economically and in terms of scientific prestige from research and development in the stem cell field, and its residents could be the beneficiaries of "translational medicine" that translates basic research into clinical applications, LaSalle said.

But New Jersey faces competition from California, which has committed \$3 billion to a stem cell initiative, and from overseas, where stem cell research does not face the same political impediments as in the United States, said Gabriel B. Milton, executive director of the New Jersey Commission on Spinal Cord Research.

Stem cells are natural cells that scientists hope may one day be directed to grow in laboratories into replacement organs and tissues to treat a wide variety of diseases and conditions, including spinal cord injuries and diabetes.

The research is controversial because in order to harvest embryonic stem cells, the most promising type of stem cell, researchers must destroy days-old embryos -- a procedure that has been condemned by the Roman Catholic Church, abortion foes and others who believe that it is tantamount to destroying a human life.

President George W. Bush, citing ethical considerations, has limited federal funding for embryonic stem cell research to existing lines of cells, but many stem cell researchers say the administration's policy severely restricts research that could ultimately benefit millions of patients.

Because of the controversy, the foundation was careful to frame Wednesday's presentation in a scientific, rather than a political, context. Though some New Jersey residents support stem cell research in opinion polls, principals such as Watchung Regional's Thomas DiGanci are wary of arousing parental opposition.

"This is something for seniors going forward into the real world," he said. "They will have to contend with the issue. This is a good opportunity for the kids to learn about it. They're not proselytizing; it's just science."

But the comments on surveys returned by seniors who attended showed that although they overwhelmingly support stem cell research, they want to know more about the political controversy, indicating that the foundation may have to address the politics in future presentations.

Among the students' comments were questions such as: "Why is it so controversial?", "Why is there such a debate?", "Why are so many against it?" and "Does stem cell research kill babies?"

"It's the hardest thing to get into the schools because of the controversy on the topic," Amy Boyce of East Hanover, the foundation's director of research and compliance, said after the presentation. "Today we were trying to make it neutral. But as you can see from the questionnaires, it's hard to give a presentation that way."

The Associated Press contributed to this report.

On the Web:

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What are stem cells?

Stem cells are naturally occurring "master cells" that have the potential to develop into many different cell types. They serve as a natural repair system for the body, with each new cell having the potential to remain a stem cell or become a specialized cell type, such as a muscle, skin, blood or kidney cell.

Are there different types of stem cells?

Adult and nonembryonic stem cells are naturally found throughout the body, and include bone marrow stem cells, blood stem cells, umbilical cord stem cells, cardiac stem cells and neural stem cells. Embryonic stem cells come from embryonic tissue and from a five-day-old embryo that is scientifically known as a blastocyst.

What diseases could stem cells help?

Among the diseases and conditions that could be helped by stem cells are AIDS, Alzheimer's, autism, birth defects, cancer, diabetes, heart disease, immune disorders, kidney disorders, muscular dystrophy, muscle repair, paralysis, Parkinson's, spinal cord injuries and stroke.

Source: New Jersey Stem Cell Research and Education Foundation