

Biology students present research to Clinic docs

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Special to Sun News

High school isn't what it used to be: It's a lot more challenging.

A class of Mayfield High School freshman learned that firsthand Tuesday when, as part of their biological medicine class, they made presentations based on their research on the subjects of curing diabetes and making the affliction easier to manage.

What's more, their audience wasn't limited to their fellow students and teacher, Kristy Palmeri. The audience in the Innovation Center also included Dr. Brian Hart, president of Hillcrest Hospital, Cleveland Clinic endocrinologist Dr. Leila Khan, and schools Superintendent Keith Kelly.

"Yes, the students were a little nervous when they heard doctors were going to be watching their presentations," Palmeri said. "But we have this space [a large, open presentation area in the recently opened Innovation Center], and I told them they don't just want to keep on telling me what they've learned."

The students are taking the first in the STEM (Science, Technology, Engineering, Mathematics) pathway of classes for students interested in pursuing medicine as a career.

"I'm really passionate about this," Kelly said.

On Tuesday, two classes of students presented before doctors. During the second session, the seven presentations featured students defining diabetes, then explaining their ideas about how to limit its effects.

Hannah Schmidt gave a solo presentation about how a high quality, 3-D printer, using silicon as its material, could produce a new pancreas for those with diabetes. The pancreas is a gland behind the stomach and next to the small intestine that releases digestive enzymes that aid in the digestion of food.

The pancreas, in people with Type 2 diabetes, produces needed insulin, but the body is unable to use it.

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A team of presenters proposed a pancreas patch be created to allow insulin to get into one's body without use of a syringe.

Others spoke about smart phone apps that monitor glucose levels, the insertion of a second, small, man-made pancreas to aid in the production of insulin, and the use of stem cells to produce working body parts to aid those with diabetes.

The students, in their presentations, also spoke of the convenience of their proposals for the diabetic user, and of keeping the costs of treatment low.

Khan commended the youngsters for thinking of things such as cost.

"Do you know how much a tester strip costs?" she asked the students. "It's about a dollar a strip, and when you don't have insurance, it can add up. Typically, people will use 10 a day."

Khan praised each of the presentations and told the students after the final one, "Keep up the hard work. You have great ideas. You're only 14."

"There's a lot of opportunities to do research. Diabetes is quite prevalent in this country and worldwide. Keep up the good work and take care of your bodies."

Hart said he was impressed by the students' ideas that incorporate self-monitoring, and the use of mobile devices to help people make the proper decisions.

"At the Cleveland Clinic, we have been supportive and sponsors of the STEM cur-

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Keith Kelly, Mayfield Heights superintendent

riculum," Hart said. The high school has a relationship with Hillcrest Hospital through which students can get valuable hospital work experience.

"What really excites me is that this type of learning is meaningful," Kelly said. "Not only are the students thinking in innovate ways, they are thinking to try and solve real-world problems."

"The skills of working collaboratively and of presenting are so valuable."

While congratulating Palmeri for the quality of her students' presentations, Kelly said to her, "Just think, in 10 years, one of these students could come up with a cure for diabetes. You never know, that's how it happens."

Mayfield

Disorderly conduct, SOM Center Road: Officers responded to the University Hospitals medical building around 4:15 p.m. Dec. 7 for the report of a man screaming in the lobby. The suspect threatened and swore at them. He was combative and told them to take him to jail. He was released on a medical furlough to Hillcrest Hospital for psychiatric and medical evaluations. Officers noted he appeared drunk and may have been on drugs or been mentally unstable. Disorderly conduct charges are pending against the 64-year-old Cleveland man.

Property damage, Interstate-271: A woman reported Dec. 2 her vehicle's windshield was cracked when it was struck by debris that came from a truck driven by a woman. She obtained the license plate number and officers are attempting to contact the owner of the truck in an effort to have restitution made through insurance.

Fraud, Wilson Mills Road: A California woman reported Dec. 4 her credit card was used fraudulently to pay a Progressive Insurance policy in the village. Officers are working through the court system to track down the owner of the policy. More than \$800 was charged to the credit card.

Impaired driving, Wilson Mills Road: A Maple Heights man, 26, was arrested for operating a vehicle while impaired at 4:15 a.m. Dec. 5 after he was found asleep or passed out in his vehicle at the Interstate-271 entrance ramp. Open beer and liquor bottles were located inside his vehicle. He was also cited for full time and attention, OVI refusal, driving under suspension and open container.

Police Blotter

Property damage, Wilson Mills Road: A vehicle, believed to be occupied by four boys, hit a sign in the Mayfield High School parking lot around 3:45 p.m. Dec. 5. Officers did not locate the vehicle but did eventually speak to the mother of the boy who was driving it. She said he admitted to accidentally hitting the sign and said he tried to push it back into place. The head of maintenance at the school said the sign is going to be replaced in the spring and did request any further action or restitution.

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