



Video Title: Advancing Medical Robotics at WPI

Activity Vocabulary: Define each word and then use it in a sentence.

- MRI-compatible system:
- Medical Robotics:
- Assistive Technology:

Reflection Questions:

- *Besides Robotics Engineers, what other STEM professionals do you think are involved in the creation of medical robotics?*
- *What is the purpose of Medical Robotics and what groups of people does this technology help directly and indirectly?*
- *Can you explain how one of the MRI-compatible systems that STEM professionals are working on at WPI impacts the community?*
- *Name three other medical robotics that WPI professionals are working on right now.*
- *Did you know that some of these technologies existed before watching this video? Which one surprised you the most? What other problems do you think medical robotics can help solve within the medical field?*

Answer Sheet:

Video Title: Advancing Medical Robotics at WPI

Activity Vocabulary: Define each word and then use it in a sentence.

- MRI-compatible system: **A system that can be easily integrated into current MRI models to assist with imaging**
- Medical Robotics: **a robot that is used in the medical sciences.**
- Assistive Technology: **assistive, adaptive, and rehabilitative devices for people who need extra assistance or help living independently**

Reflection Questions:

- *Besides Robotics Engineers, what other STEM professionals do you think are involved in the creation of medical robotics?*
 - **Answers may vary but can include: medical professionals, biomedical engineers, mechanical engineers, electrical and computer engineers, etc.**
- *What is the purpose of Medical Robotics and what groups of people does this technology help directly and indirectly?*
 - **Answers may vary**
- *Can you explain how one of the MRI-compatible systems that STEM professionals are working on at WPI impacts the community?*
 - **Answers may vary**
- *Name three other medical robotics that WPI professionals are working on right now.*
 - **Answers may vary but can include: MRI-compatible robots to improve cancer diagnosis and treatment, a system that improves the accuracy of prostate cancer biopsies, another MRI-compatible system that will make possible ablative treatment for deep-brain tumors, medical robotics that focus on enabling technologies for surgical robotics systems (robot control software, architecture, integration of haptic feedback, teleoperation), robotic nursing system designed to help with routine patient-care tasks, assistive technology such as robot glove to provide rehabilitation therapy for stroke victims, a robotic system that aids in upper-limb therapy for stroke victims, robotic-assisted prosthetic devices, novel soft robotic systems, robotic devices designed to enhance therapy for children with autism and other pervasive developmental disorders.**

- *Did you know that some of these technologies existed before watching this video? Which one surprised you the most? What other problems do you think medical robotics can help solve within the medical field?*
 - *Answers may vary*