

# What's Next: The Future of Medical Technology

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## WHAT'S COVERED

In this lesson, you will consider the future of medical technology. Thinking about some of the most important advancements from the past, we may safely assume that a reductionist approach to science and medicine will still be an important way to cure disease and save lives. Consider, for example, the ways we are beginning to treat diseases using genetic manipulation. On the other hand, we may also consider the limitations of reductionism. We are beginning to see a movement in medicine to what is called whole medicine. Whole medicine is about treating the whole patient and recognizing that the parts are all interrelated. We can see this on an even larger scale by considering the growing field of public health -- the healthcare field that has become more important, or at least more visible, since the development of COVID-19. Specifically, this lesson will cover:

1. The Future of Medical Technology
2. Lessons for the Future

*"I think we'll enter a new era that I like to call stage 0 medicine. And as a cancer doctor, I'm looking forward to being out of a job."*

Dr. Daniel Kraft



## BEFORE YOU START

How has technology impacted your healthcare experience?

## 1. The Future of Medical Technology

We've explored many examples of how new technology allows us to apply research and scientific ideas to prevent and cure diseases. Technology has also made incredible strides in improving the quality of life for people who have medical conditions that limit their mobility, ability to communicate, and day-to-day health and wellness. Let's take a moment to consider the skills we've seen in these examples.

The healthcare system is constantly changing to adapt to new technology. Practitioners like doctors and nurses use **agility** when they keep up with new discoveries and treatment options. They also adapt their record-keeping and billing practices to use new electronic systems and to keep up with changing laws and insurance regulations.

Patients also need agility in a changing healthcare environment. It's important for them to know about new treatment options, for instance, and they also need to adapt to changing healthcare practices like telehealth visits. For people who are used to interacting with their doctors face-to-face, meeting over video chat is a new experience that may take some getting used to. But in times of crisis like the 2020 coronavirus pandemic, the ability to use new technology for telehealth visits is crucial.

We've seen many examples of **problem solving** this week—in fact, you might think of the whole field of healthcare as a kind of problem solving! Innovative scientists and doctors have worked for centuries to solve the overarching problem of disease, and inventions such as the microscope, vaccination, and antibiotics have all helped humanity make huge strides in that direction.

We also saw problem solving in action with healthcare technology. Electronic medical records are making healthcare more efficient and decreasing the potential for human error, and the telehealth services mentioned above are helping patients access medical care more conveniently and safely while also preventing others from being exposed to contagious illness.

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## 2. Lessons for the Future

Health and technology will always be intertwined. Understanding the impact of technology—and how we can use agility to adjust to it—will play an important role in taking care of our own health and helping the healthcare system continue to improve.

New technologies are allowing medical practitioners to find ways to replace damaged or diseased parts of patients' bodies. In fact, the President's Council of Advisors on Science and Technology reported in 2012 that "innovative medicines had played a 'profound role'" in increasing life expectancy, which has lengthened by 47 years from 1900 to today (HealthCare Institute of New Jersey, 2020). Organ transplants give people a second chance at life. Prosthetic technology allows amputee patients to function with as much mobility as they had with their natural limbs. New communication technologies will continue to support people who are immobile or who are speech- or hearing-impaired. Medical devices also allow doctors to issue treatments and monitor patients remotely, which means patients can spend more time recovering at home.



### SUMMARY

In this lesson, you learned about the **future of medical technology**. As they have in the past, healthcare workers and patients will continue to draw on the skills of agility and problem solving to adapt to the changing healthcare environment. As with military technology, medicine holds **lessons for the future** about the relationship between technology and agility.

Best of luck in your learning!

Source: Strategic Education, Inc. 2020. Learn from the Past, Prepare for the Future.

### REFERENCES

*Value of Medical Innovation*. (2020, February 13). HealthCare Institute of New Jersey. [www.hinj.org/value-of-medical-innovation](http://www.hinj.org/value-of-medical-innovation)

