

# Medicine is Boldly Going

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When Star Trek first aired in 1966, it provided a glimpse into a future utopia. War on Earth was abolished. Money was no longer circulated, so poverty was eliminated. So was sickness and disease. Race and gender were no longer discriminated against. In fact, whole species were on an even playing field.

Star Trek also had the coolest futuristic gadgets. To save on the budget by avoiding filming ships landing on the surface, the producers concocted the ability for the crew to “beam down” to a planet by using a transporter.

While transporters are still science fiction, a lot of the technology on Star Trek is now a reality.

Flying through space at Warp 9, Captain Kirk would check out the galaxy on the giant flat screen TV in the front of the bridge. He could also use the screen for a two-way video conference with Starfleet, much like we can use Skype or Facetime today.

When exploring an uncharted planet, the crew of the Enterprise could stay in contact with the ship by flipping open their communicators, which strongly resemble cell phones. The crew of Star Trek: The Next Generation had hands-free communicators, which work much like blue tooth. If he was attacked by wildlife, Mr. Spock would set his phaser to “stun” to render the beast unconscious. Law enforcement today can use a taser to incapacitate perps.

Researchers from Purdue University have used nanotechnology to create an optical cloaking device that could make objects invisible, like Romulan birds of prey. Engineers at MIT invented a “tractor beam” of light to pick up, hold, and move around individual cells and other objects on the surface of a microchip.

If Sulu was poisoned by native fauna on a strange planet, Dr. McCoy would whip out his medical tricorder and run it over the pilot’s prone body. The miraculous device would diagnose his problem and suggest treatment. The U.S. Food and Drug Administration is in the process of approving a real-life tricorder which should be available to the public later this year.

The Scanadu is a device that is placed against a patient’s temple for 10 seconds. The \$150 apparatus then provides readings on pulse transit time, heart rate, electrical heart activity, temperature, heart rate variability and blood oxygenation. A spokesperson for the machine’s manufacturer claims that the readings are “highly accurate” and faster than using multiple smart readers to check these metrics individually.

Once Bones made a diagnosis with the help of his tricorder, he would typically give his patient either a sedative or a stimulant using a hypospray. He would place the device on his patient’s neck and it would then inject the medicine right through the pores of the skin without a needle.

Robert Langer, another MIT-trained chemical engineer, developed the SonoPrep, which also administers medicine through the skin. The instrument perforates the skin for the medicine in just 15 seconds and patients only feel a slight tingling. The SonoPrep has already been approved by the FDA.

I’m hoping these medical advances will allow people to live long and prosper.

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