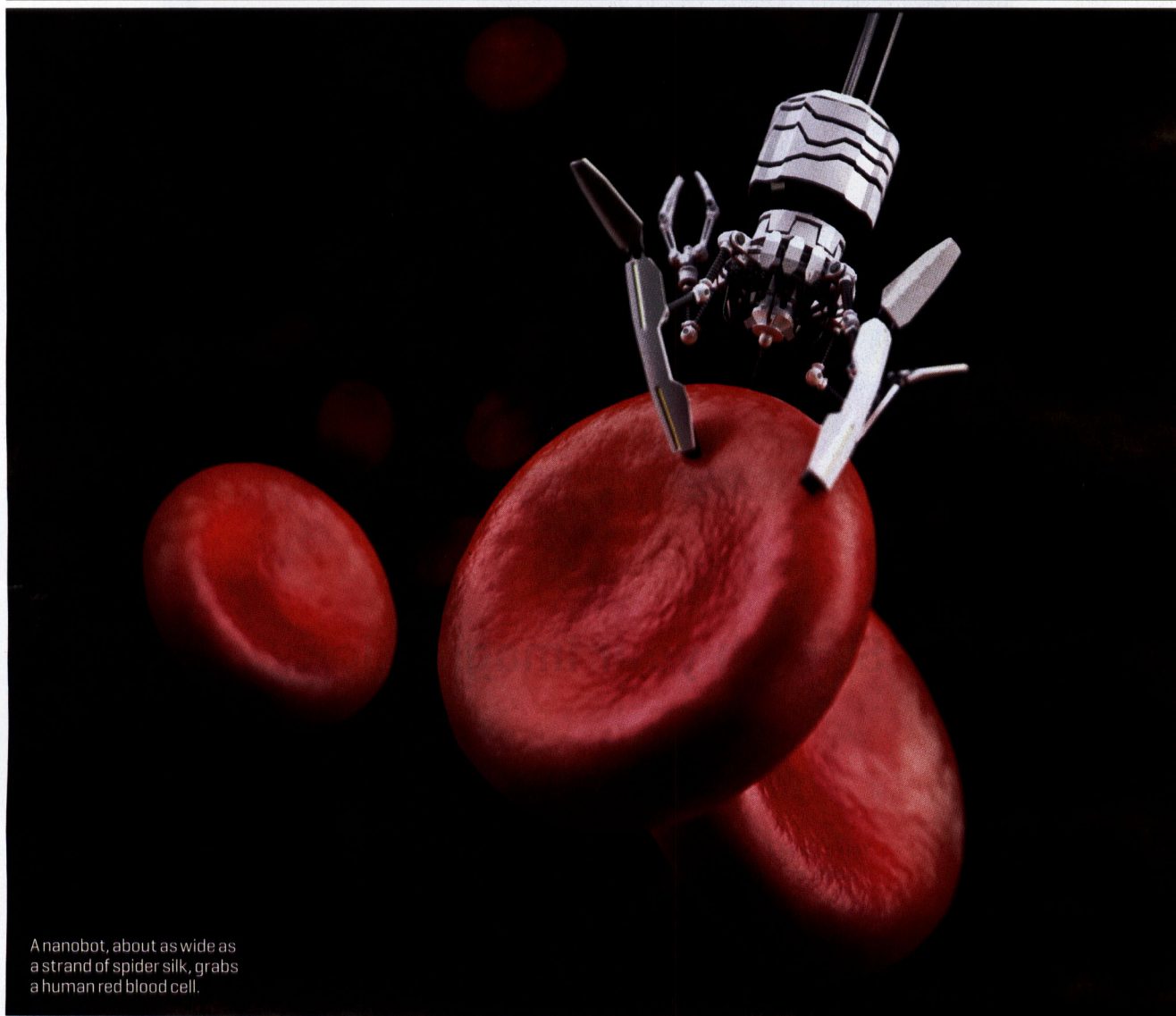


TECH

THE FUTURE IS NOW FANTASTIC VOYAGE

Science fiction has nothing on new medical devices: miniature robots that explore and repair patients' bodies from within. The first generation of camera-equipped pills actually appeared more than a decade ago but were passive—you swallowed, waited, and hoped the digestive process did the rest. Today tiny tools are helping surgeons pull off mind-blowing procedures. Within a decade these three devices could even seek out maladies and stop them in their tracks. —Ryan Bradley



A nanobot, about as wide as a strand of spider silk, grabs a human red blood cell.

NANOBOTS

The ultimate in-body robot is smaller than a blood cell. After being injected into a patient's bloodstream, nanoparticles made out of human genetic material seek out harmful cells—cancer, for example—and deliver drugs.

PINCHERS AND CLINCHERS

Skinny, millimeter-long tools made up of extremely small gears and pulleys navigate through blood vessels, grabbing and fusing together bits of tissue. Why? To make delicate repairs—on a live, beating pig heart in one recent trial.

MINI-ASSISTANTS

Carrying cameras, scissors, forceps—even chemical-detecting sensors—these worm-like robots squirm through the body, assisting with surgeries or diagnoses. The newest models from Carnegie Mellon University have a diameter smaller than a dime's.