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Mechanical medicine

Robotic surgery reduces bleeding, healing time, pain

COEUR d'ALENE -- Try to think of it as a regular doctor, only without eyes, ears or any sympathy for your pain. Oh, and it's also dramatically more accurate, less dangerous and will reduce a week in the hospital to a one-day in-and-out procedure.

The new da Vinci robotic surgical equipment at Kootenai Medical Center is changing the face of technology in the operating room. Human doctors are still performing surgeries, but from across the room from their clients.

"At first it was a little eerie," admitted Dr. Edward Ellison, a urologist who has been using the technology since around April. "I think in some ways, yes, it's less taxing physically and you can see better. In some ways it's a little more challenging, because we're still improving our technique."

The dirty work, at least for prostate and urological surgeries, is now accomplished by four giant mechanized arms, poised above the operating table like a spider about to spin its web.

At the ends of the arms protrude tiny pivoting wrists with metal pinchers, which can wield needles and scalpels with startling dexterity. Cameras on one arm deliver a high-definition, 3-D image to an operating console several feet away, where a surgeon sits and guides the arms by operating mechanical hands.



But the benefits for the patient are unquestionable. The robotic pinchers make round 8-millimeter incisions -- about the size of a hole in a spiral notebook -- where surgeons would have to slice an eight-inch hole by hand. The robot can nudge past muscle tissue humans would have to cut through, reducing blood loss, scarring and risk of infection.

The minimally invasive procedure reduces a five-day hospital stay for a hysterectomy to a same-day release, with recovery cut from six weeks to a few days.

"People can get out quicker, which frees up beds so surgeons can serve more patients," said Jonathan Steinbach, clinical sales representative at Intuitive Surgical Inc. that designed da Vinci.

Kootenai Medical Center provided a public viewing of the technology on Friday, with passersby invited to steer the pinchers to pluck up dimes and tiny rubber rings.

Medical machine 1

The automated hands pecked at the tray of doodads gingerly, prompting memories of Edward Scissorhands carefully clamping his blades around dinner utensils.

"Look, I could be a doctor!" giggled Hayden resident Denise Levi as she guided the arms to snap a rubber band.

Her friend Ginger Grassi looked on with wide eyes and murmured she'd never seen anything like it.

"I think it's probably safer (than surgeons operating by hand)," Grassi said. "There are less germs than what people have on their hands."

The robotic limbs have been used for more than 20 surgeries so far, all successful. Although the technology is certainly useful, Ellison questioned how much further robots could contribute to operations.

"Things that we do with surgery involve so much decision making and manipulating of tissue," he said. "But (robotics) is the wave of the future. This is an evolution that allows us to do more complicated work through little incisions."