



## CiBOR brings aerospace tech to the medical field

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WICHITA — A battlefield injury stabilization device that rapidly transforms from a flexible sheet to a body-conforming shell, with nanotechnology that allows the device to actually begin treating the injury before a soldier ever reaches a hospital.

A composite bone graft substitute that can enhance bone regrowth and enable the preservation of severely damaged limbs.

Cutting-edge hip, knee and spine prostheses ... created using aerospace technology.

Though this may sound like the stuff of science fiction, CiBOR's research soon could make these technologies a reality.

The Wichita-based National Center of Innovation for Biomaterials in Orthopaedic Research, or CiBOR, is seeking to manufacture medical devices using composites, the same material used to build aircraft.

"These could be game changers," said Rich Sullivan, CiBOR CEO.

The Harvey County Economic Development Council now has a contract with CiBOR, creating a strategic partnership to look at the opportunity to bring potential new jobs and new investment to Newton and Harvey County.

"It's main mission is to create jobs in Kansas," Sullivan said of the company. CiBOR has a goal of creating 2,000 to 2,500 new jobs in a 10-year period.

### Technology of the future

The company was founded based on the idea of adapting technologies originally found in the aircraft industry and using those technologies to create orthopaedic implants.

A major breakthrough came during an experiment with composites and bone growth.

According to the company's 2010 annual report, CiBOR scientists removed a centimeter of bone from a rat's femur and then inserted a rod to hold the two ends together. They wrapped the rod in a composite scaffold through which bone tissue and blood vessels grew, eventually closing the gap in the bone. The bone regrowth was completed in six weeks.

Now the company is continuing to research ways to use composites in a variety of medical applications.

This includes creating composite replacements for stainless steel surgical instruments. The composite instruments are lighter, stronger and won't show up in X-rays. Sullivan said the composite tools offer an advantage over stainless steel instruments, which have to be taken out of the body during X-rays so they don't obscure the results.

"Once the (composite) instrument has been placed in the body ... you don't have to take it out," Sullivan said.

Sullivan said the company is excited about exploring its relationship with the Harvey County Economic Development Council, and he praised city and county officials for their cooperation with CiBOR.

"First, they seem to be really nice people to deal with, and, second, visionaries," he said. "We're looking forward to the relationship."

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