

incubating new bones

At the University of Michigan in Ann Arbor, MI, a research team is planning to recreate jawbones using the human body as an incubator. The 3-D scaffolding for the new bones, designed from a CT scan and printed directly using a laser system, is filled with cells from bone marrow or fat taken from the patient to prevent immune-system reactions. "Then we will let the patient's body naturally heal and reconstruct the tissue as the implant is absorbed by the body," says Scott Hollister, a professor at U-M and a co-founder of Tissue Regeneration Systems, a university spin-off company working to commercialize this skeletal reconstruction technology for the face, spine and extremities. Recently, Wisconsin-based Venture Investors L.L.C. agreed to invest \$2 million in the company.

The new technique could eliminate the need for painful bone grafts or the use of materials such as titanium, which are not completely biocompatible with host bones.



medical-device makers: more than product function

As healthcare technology advances and new patient care models are instituted, medical-device manufacturers should note the facility itself plays a significant role in the usability of new technology. According to Southfield, MI-based Plante Moran CRESA — which serves as an owner's representative for hospital and senior living construction/renovation projects as well as a commercial real estate advisor — manufacturers should be aware of the following:

- There are limitations to the kind of equipment a facility can support. When developing a product, considerations regarding ceiling height, weight, power and air quality effects are critical. For example, newer hospitals typically feature larger operating rooms and wider corridors.
- Healthcare facilities are moving toward patient-centered care, which requires equipment to be mobile and easily stored to allow for more efficient space and equipment use while reducing patient movement.
- Devices that focus on increasing staff efficiency, which can positively affect return on investment, is a key factor in healthcare administration decision-making.

So what's ahead? According to Plante Moran CRESA Vice President Dave Benetau and Senior Project Manager Ken Mason, medical staff efficiencies and budget management will remain a high priority for healthcare administrators, so manufacturers of medical devices need to take into account many more aspects than the function of their products.

weight loss breakthrough ¶ Researchers at Wayne

State University in Detroit, MI, are behind a scientific study that has confirmed significant weight loss using the pill Mirafit FBCx. Mirafit FBCx was developed by Dr. Joseph Artiss, associate professor of pathology in WSU's School of Medicine, and Dr. K-L Catherine Jen, chair of nutrition and food science in WSU's College of Liberal Arts and Sciences. Artiss and Jen formed ArtJen Complexus USA, LLC, to commercialize the Mirafit FBCx technology and acquired the rights to the technology from WSU to bring the product to market. Mirafit FBCx is a naturally occurring, soluble fiber that forms a stable complex or emulsion with fat. Research shows this stable complex appears to prevent the digestive enzyme lipase from breaking down dietary fat in the small intestine, thus preventing it from being absorbed into the blood stream. This, in turn, reduces the number of calories that are absorbed and lowers blood lipid (fat) levels. In contrast to some pharmaceutical therapies, the natural fiber of FBCx shows no undesirable side effects because the undigested fat remains bound as it passes through the intestines. According to Dr. Jen, "Mirafit FBCx binds and eliminates nine times its own weight in dietary fat — triglycerides. One gram (one tablet) of FBCx binds 9 grams (81 calories) of fat, thus preventing absorption of a significant portion of fat consumed."