VA Puget Sound Health Care System’s VA Ventures is bringing its recipe for 3-dimensional bioprinting of vascularized bone tissue to the point of care through a partnership with Advanced Solutions Life Sciences.

“Dr. Beth Ripley and the VA Puget Sound VA Ventures team are fearless and focused on delivering the very best health care innovation. The partnership has empowered, encouraged and supported our medical, engineering and scientific teams to collaborate in a way that uses the latest technologies to develop breakthrough patient solutions,” said Advanced Solutions President and CEO Michael Golway. “BioBone is a great example of the innovative work product the teams are creating. BioBone was designed and developed with VA surgeons to meet their requirements for an implantable bone that is non-synthetic, vascularized and 3D bio printable.”

According to the Institutes of Health, a couple of million bone grafts are performed every year across the world to address bone defects, non-healing fractures, osteodegenerative and tumor diseases. In 2020, VA performed nearly 400 mandible (mouth/jaw) tumor resection, craniofacial reconstruction and bone harvesting surgeries for cancer patients and Veterans with chronic facial injuries or infections that could have benefited from 3D printing innovations—a market predicted to be $4 billion in the U.S. by 2028.

Historically, autografts—or the bone harvesting from one part of the body and grafted onto another part of the body to replace the damaged tissues—has been the gold standard. Unfortunately, the surgeries usually

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3D printed living bone  *(continued from page 1)*

take 10 hours or more, taking a heavy toll on the patient. Other drawbacks include donor site availability and donor-site morbidity. As such, there is a growing interest in bone graft substitutes to reduce those challenges and meet the increased demand.

For VA Ventures, the future of using 3D printing to build constructs from each patient’s own cells, matched to their anatomy and defect geometry will soon be a reality, offering customized bone tissue grafts at the point of care.

“The use of bioprinting to address health care needs is very exciting for patients around the world and the teams delivering their care. And what sets us apart from others is we are doing this in the clinical setting, not just in a lab,” said VA Ventures Director Dr. Beth Ripley. “From the very start, we sit down with our surgeons, cardiologists, radiologists, engineers, designers and industry players to better understand unique requirements. And every step of the way the needs of our Veterans continue to be front and center.”

The 3D printed bone construct requires subsequent conditioning to form a bony, mechanically sound graft for use in a reconstruction procedure. Most reconstruction procedures also require relevant soft tissue components, such as muscle, skin, and vasculature, to fully reconstruct the face; the VA team is planning to leverage tissue banking to address these requirements, establishing a more useful bone graft that could be employed as a leashed or vascularized free flap—depending on the site of banking.

Perhaps most exciting, the fabrication strategy for the 3D printed grafts is designed to be done at the point of care in every hospital, removing challenges of shipping and transport, and maximizing the ability to incorporate autologous cells (collected from the patient’s blood) into the graft.

For patients, this means less time under anesthesiology, less surgeries, higher bone healing ability and enhanced health outcomes.

“While we are still working on our 3D printed bone tissue recipe, results have been extremely promising,” said Dr. Ripley. “Now, we are focused on how to accelerate the time it takes to grow the bone, ensure vascularization to support successful implantation and optimize our rigorous quality checks so we are able to bring the recipe successfully through the regulatory process.”

In just three years, the VA has been able to grow its 3D printing efforts from three facilities—VA Puget Sound is the flagship—to more than 40. The VA Ventures team continues to work with a diverse network of partners in the academic and private sectors to identify, develop, and promote rapid commercialization of innovative solutions, such as bioprinting, artificial intelligence and machine learning, robotics, augmented and virtual reality, and rural access.

**Did you know?** VA Puget Sound has the largest Women’s Health Program in VA’s Northwest Network with over 17,000 women Veterans enrolled for care. Our Women’s Health Team brings together more than 60 women’s health primary care providers deliver comprehensive, collaborative, and trauma-informed care at all our primary care locations.
Tell Us About Your Burn Pit Exposure

Open air combustion of trash and other waste in burn pits was a common military operations practice in Iraq, Afghanistan, and other areas of Southwest Asia. Veterans exposed to burn pits are encouraged to join the registry (https://veteran.mobilehealth.va.gov/AHBurnPitRegistry/#page/home) help VA better understand the long-term effects of burn pit exposures. If you have an illness or condition related to in-service exposure, file a claim (www.va.gov/disability/how-to-file-claim/).

Serving Women Veterans

Do you receive all VA benefits you’re eligible for? Women Veterans often underutilize VA care and services, despite being eligible for the same benefits as male Veterans. From benefits like pension or support for small businesses, to VA health care and mental health services, learn more about benefits available to you (www.va.gov/womenvet/).
VA Puget Sound Veteran artists continue winning streak

This year’s National Veterans Creative Arts Festival drew more than 1,400 Veteran artists from 118 VA health care facilities across the country. The categories focused on art, writing, dance, drama and music. Of the 2,050 submissions, seven VA Puget Sound Health Care System Veterans received top awards—five gold medals, one silver and one bronze.

Jim Anderson, a 46-year-old U.S. Army retiree, took the gold in the woodworking category for the second year with his “No. 2 Celestial Compass.” He used 12 different species of domestic and exotic hardwoods and constructed over 35 custom jigs, forms, molds and fixtures to build his second award-winning creation.

“Art can be a very healing output for Veterans,” Anderson said, while encouraging all budding Veterans artists to “give it a shot” and participate in the annual competition.

Creative Forces is the name for a group of four Veteran artists who also took a gold this year for their collaborative sculpture “Walden Pond” that combines leather, wire, glass and metal. One of the most influential and compelling books in American literature was the inspiration.

“We wanted to create a piece that reflected the beauty of American landscape,” said U.S. Navy Veteran Sean Connolly, who brought together Creative Forces while eating pizza with his long-time friend of 22-years, U.S. Army Veteran Mark Lubich.

U.S. Navy Veteran Sean Connolly and his dad, U.S. Army Veteran Kenneth Bicha, did the leather work (turtle and leaves) and the wire dragon flies. U.S. Navy Veteran Boyd Raub did the metal work to create the base and the branches. U.S. Army Veteran Mark Lubich did the blown glass rocks, pond grass, and the fused glass sand base under the rocks as well as the fused glass surface water. Lubich—the only one to see the finished piece prior to submission—brought it all together at the end, assembling the final form using glass, metal and leather adhesives.

National silver medalist for his collage entry, “Blue Vulnerability,” Connolly was also the winner of VA Puget Sound’s first-ever People Choice Award.

Along with Creative Forces and Anderson scoring gold medals this year, 20-year U.S. Army Veteran Charles Burt earned a bronze medal in the Special Recognition Physical Disability category for his oil painting, “Duty.” Burt was one of only eight Veterans across the nation to earn two gold medals at the VA 2020 National Veterans Creative Art Competition.

The National Veterans Creative Arts Festival is the culmination of talent competitions in art, creative writing, dance, drama and music for Veterans treated in the VA health system. For more information on how to participate or get involved visit www.creativeartsfestival.va.gov or contact VA Puget Sound’s local director at jeanne.hopkins@va.gov.
AIR Commission recommendations positive for Veterans who call Western Washington home

The Department of Veterans Affairs released its Asset and Infrastructure Review report (AIR report - www.va.gov/aircommissionreport/), March 14, that includes recommendations by the VA Secretary to cement the department as the primary, world-class provider and coordinator of Veterans health care for generations to come.

The AIR Commission will conduct public hearings as part of its review of VA’s recommendations before submitting its own recommendations to the president for further review in 2023.

The recommendations center around improving access to and quality of care for Veterans by ensuring the department’s infrastructure in the decades ahead reflects Veterans’ needs and 21st century design standards. VA is investing heavily in its number one asset—its employees, strengthening its public/private strategic partnerships and elevating its role as the leading health care research entity and the leading health care workforce training institution in the country.

The AIR Commission findings is very positive for VA Puget Sound and the Veterans we care for across Western Washington. The recommendations validate our ongoing primary care expansion plans to better serve Veterans by making getting care easier.

Veteran enrollees in the Western Washington Market are projected to increase from 156,000 to 164,000 enrollees in just the next seven years. And to support that growth, VA Puget Sound is on track to open our new $10 million, 26,000 sq. ft. outpatient clinic in Everett this year, planning for opening of a permanent, multi-service clinic in Olympia. Future changes over the next decade to best address our Veteran care needs include opening a third main campus in Everett with services like those offered at our American Lake campus (would replace the outpatient clinic there), opening of a Community Living Center in Everett, conversion of our Seattle campus Community Living Center to a Transitional Care Unit to better support inpatient needs and eventual move of dental services from our Mount Vernon clinic when the Everett care campus opens its doors. We continue to explore other outpatient clinics in other areas like Auburn or Woodinville.
April is Sexual Assault Awareness Month

During Sexual Assault Awareness Month and year-round, VA works to raise awareness of its resources for survivors of military sexual trauma, which refers to sexual assault or harassment that occurred during military service. VA believes in MST survivors, and we believe there are many paths to healing.

Healing after MST can take time. But no matter how long it’s been, VA is here to help.

Healing after military sexual trauma takes time.

To get support or learn more, visit www.MentalHealth.va.gov/SAAM

New My HealtheVet Sign In

On March 21, 2022, the way you sign in to My HealtheVet changed. The new sign in is easier and more secure. The first time you sign in, you’ll need your: (1) User ID and password and (2) your own unique email address Have questions? Learn more about the sign in changes. Need more help? Contact the My HealtheVet Help Desk at 877-327-0022 or 800-877-8339 (TTY), Monday to Friday, 4 a.m. – 4 p.m. (Pacific Time). If you experience a technical issue during the sign-in process, call the My VA 4-1-1 information line 24/7 at 800-MyVA-411 (800-698-2411).

New Beneficiary Travel Self Service System

The new Beneficiary Travel Self Service System (BTSSS) has replaced the old paper claims process. Veterans can submit and track travel claims at their convenience 24/7 using a PC, laptop, tablet or smartphone. It can save time and speed up the processing of claims to a few days instead of several weeks under the old system. Because Veterans can receive payments by electronic funds transfer, it also helps to eliminate fraud, waste and abuse in support of the Payment Integrity Information Act of 2019. To get started go to https://eauth.va.gov/accessva/ to access the portal. Paper claims can still be filed for Veterans who don’t have access to BTSSS, but must be mailed to VA Puget Sound Health Care System American Lake Division, 9600 Veterans Drive, S.W., Tacoma, WA 98493.

For assistance Veterans can access the website above or call 800-983-0937 or 206-764-2120.
Message from our Director

VA Puget Sound Veterans,

It’s hard to believe it’s been six years since I became executive director of VA Puget Sound. A lot has changed for this health care system, VHA and health care throughout the country to get us to 2022. Thanks to the incredible VA Puget Sound team, we improved our quality, business practices and implemented strong financial management practices. Today, we have more than 5,000 talented, dedicated people and are widely recognized as leading VA health care system. We have nearly 156,000 Veterans enrolled with a primary care team at one of our 10 care sites. As VA’s 4th largest research program, VA Puget Sound has research in virtually every major clinical department, including: TBI and multiple blast exposures; memory improvement and Alzheimer’s Disease; PTSD and deployment health; Parkinson’s Disease; diabetes; cancer; substance abuse; lower limb prosthetics; genomics; and Health Services. We are also home to seven nationally recognized Centers of Excellence in areas from limb-loss prevention and prosthetic engineering to primary care education and substance abuse treatment. And as VA’s flagship site for 3D printing, we launched VA Ventures last year and are quickly advancing the use of innovative technologies from bioprinting bone grafts and mobile prosthetics to artificial intelligence and robotics to support personalized care.

The organization couldn’t be better position for the future, which makes my departure bittersweet. My last day as VA Puget Sound’s executive director will be April 8, 2022. Dr. Thomas Bundt will be stepping in as acting executive director while a search for my replacement is completed. His experience both here and at the Department of Defense gives me reassurance that we have a proven leader stepping up to guide this organization to its full potential.

I take comfort in knowing the VA Puget Sound team will continue to place your health care needs in the center of each and every decision.

It’s been an honor serving you.

Sincerely,

Mike

Michael Tadych, FACHE
VA Puget Sound Health Care System Executive Director

Veterans Health Library
www.veteranshealthlibrary.va.gov/

Healthy Living Resource Guide
www.pugetsound.va.gov/docs/VAPugetSoundPatientEducationClassBrochure-508c.pdf
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Have story ideas?
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