

INTRO:

THERE'S A NEW HOPE FOR PEOPLE FACING AMPUTATIONS – AND IT'S A MIX OF FASCINATING... PERHAPS UNEXPECTED METHODS.

TAKE VO

DR. ERIC MARTIN – THE CHIEF OF VASCULAR SURGERY AT OSF SAINT FRANCIS MEDICAL CENTER IN PEORIA, ILLINOIS – HAS CRAFTED A CONSISTENT METHOD THAT PROVIDES RELIABLE OUTCOMES FOR SAVING PEOPLE'S LIMBS. HE DOES IT THROUGH PROCEDURES CALLED REGENERATIVE RECONSTRUCTION.

THESE SURGERIES ARE RESERVED FOR THE MOST SERIOUS OF CASES... LIKE BACTERIAL INFECTION... TRAUMATIC CRUSHED LIMBS... AND LOWER LIMB ULCERS THAT BECOME INFECTED AND SPREAD THROUGHOUT THE BODY. HOW DOES HE DO IT? WITH REGENERATIVE MEDICINE PRODUCTS LIKE FISH SKIN... PIG INTESTINE... PIG BLADDER... COW TENDON AND MORE.

TAKE SOT | DR. ERIC MARTIN | CHIEF OF VASCULAR SURGERY | OSF SAINT FRANCIS MEDICAL CENTER

"The healing capabilities of the fish skin have been quite remarkable," Dr. Martin says. "One of the big reasons is that it's very homologous (same make up) to human skin. The characteristics and composition of the fish skin are nearly identical to what you'd see with human skin. If you'd take a slice of human skin and a slice of fish skin and put it under an electron microscope and look at it, it'd almost look identical."

VO TAG

OSF SAINT FRANCIS IS THE ONLY LOCATION IN ILLINOIS PERFORMING ADVANCED REGENERATIVE RECONSTRUCTION PROCEDURES. THE FISH SKIN IS MANUFACTURED BY A COMPANY IN ICELAND – AND IT SPURS ON NEW BLOOD VESSEL GROWTH AND COLLAGEN DEPOSITION – WHICH EVENTUALLY HELPS ENCOURAGE GROWTH OF THE OUTER LAYER OF THE SKIN.

VO/SOT #2:

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"We also use pig bladder and pig intestine. One company ([Organogenesis](#)) has been able to take pig intestine and cross link it to increase its structural integrity and combine it with type 1 collagen. They then add PHMB (Polyhexamethylene biguanide) which is a very powerful antimicrobial agent. When this tissue is put into the

human body, it's very good at killing recalcitrant bacteria that are resistant to antibiotics taken by mouth or through the veins," Dr. Martin says.

VO TAG

ON ONE PATIENT – DR. MARTIN'S PROCEDURE CURED THE PATIENT'S PYODERMA GANGRENOSUM – THE FIRST OF ITS KIND IN THE WORLD OF MEDICINE. THIS IS A RARE AUTOIMMUNE DISEASE THAT DOESN'T NORMALLY RESPOND TO ANTIBIOTICS.

When Dr. Martin's patients arrive at the hospital, their wound's cross-sectional area can cover an entire lower leg or foot, depending on where the infection is. But the wounds don't start that way. Even a quarter size ulcer on the bottom of someone's foot, if left untreated, can grow substantially.

Additional soundbites/info:

"This is the first surgical cure in the history of medicine, where we were able to eradicate the ulcers that formed in his leg and were present for over a decade through the use of surgery and regenerative medicine," Dr. Martin says. "It was really the regenerative medicine that helped provide immunomodulation and benefit to him to help suppress his body's own immune system and allow him to heal and recover so nicely."

"So now by avoiding long-term use of medicine with many deleterious side effects, the surgery was curative for this patient, and he's done very, very well," Dr. Martin says.

"Others are patients who have venous stasis disease where vein valves are not working properly, and they go on to develop a venous ulcer," Dr. Martin adds. "You must first treat the reflux disease and ablate the incompetent vein, before going on to treat the ulcer. The treatment for this is either radio frequency ablation (RFA) or using glue, in the form of VenaSeal.

"I definitely think if patients are able to get to us at a much earlier stage, and not so late because now they're facing sepsis as a result from their wounds becoming infected, now they have a blood stream infection, their blood pressure is low, their heart rate is elevated, and certain organ systems are beginning to fail (kidneys, lungs, liver, heart). A lot more goes into having to resuscitate them and keeping them alive in addition to treating their wounds," Dr. Martin says. "So definitely before they get to the end stage of full-blown septic shock, it would be nice if patients could get to us at an earlier stage of their clinical presentation so we could treat them more aggressively and get them healed much quicker."

While the regenerative reconstruction is a very in-depth procedure, it actually decreases the amount of time someone is being treated and lessens long-term morbidity. Someone's life expectancy after a major amputation is normally around five years, Smith says.

While the cost of surgery can be a lot up front, Dr. Martin says by healing the wound quicker, it will decrease the cost in the long run for both patients and the hospital system. He adds the products used at OSF are all covered by the major health insurances as well.

Dr. Martin was invited to Iceland this June by Kerecis and was the 2024 grand prize winner for the most outstanding regenerative reconstruction in the United States and Europe for one of his cases. He's slowly becoming one of the country's foremost leading authorities in regenerative reconstruction, speaking to many research scientists around the country about his work.

Now his goal is to train other doctors around the world, using his techniques in regenerative reconstruction and offer patients new hope and a promise for a better tomorrow.