3D Printed Skeletal Fixation

Modern warfighters are both at high risk for CBRNE (Chemical, Biological, Radiological, Nuclear, and high yield Explosives) and are more prone than civilians to use and age-related skeletal injury and work-related joint degeneration. Today’s overly-stiff skeletal reconstruction devices often allow healing but prevent restoration of normal loading patterns, often leading to bone resorption, device failure, and follow-on surgeries. RegenFix’s approach is to personalize the shape and stiffness of these devices, primarily through the novel use of 3D printed nickel-titanium. This approach is expected to restore normal loading patterns which will lead to more rapid healing and restoration of full power and function of the reconstructed anatomy. RegenFix devices are expected to allow the warfighter to return to duty more quickly, have a longer use-life, reduce the need for surgical reintervention, and provide a longer period of health.

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