Instrumented spinal arthrodesis using rigid rods is currently the most widely used treatment for degenerative diseases of the lumbar spine, particularly if unresponsive to conservative care. However, the elastic modulus of titanium, the main metallic material used in lumbar fusion procedures, is much greater than that of bone, which may significantly change the physiological distribution of the load at the instrumented vertebral segments [1) 2) 3)]

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