

عنوان مقاله:

Safety and Efficacy of Casting During COVID-19 Pandemic: A Comparison of the Mechanical Properties of Polymers Used for 3D Printing to Conventional Materials Used for the Generation of Orthopaedic Orthoses

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خلاصه مقاله:

To reduce the risk of spread of the novel coronavirus (COVID-19), the emerging protocols are advising for less physician/patient contact, shortening the contact time, and keeping a safe distance. It is recommended that unnecessary casting be avoided in the events that alternative methods can be applied such as in stable ankle fractures, and hindfoot/midfoot/forefoot injuries. Fiberglass casts are suboptimal because they require a follow up for cast removal while a conventional plaster cast is amenable to self-removal by submerging in water and cutting the cotton bandages with scissors. At present, only fiberglass casts are widely available to allow waterproof casting. To reduce the contact time during casting, a custom-made 3D printed casts/splints can be ordered remotely which reduces the number of visits and shortens the contact time while it allows for self-removal by the patient. The cast is printed after the limb is 3D scanned in 5-10 seconds using the commercially available 3D scanners. In contrast to the conventional casting, a 3D printed cast/splint is washable which is an advantage during an infectious crisis such as the COVID-19 pandemic. Level of evidence: V

کلمات کلیدی:

3D printing, Coronavirus, COVID-19, Orthopaedic cast, Orthopaedic splint

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