A novel pyrolytic carbon implant for hallux rigidus: a cadaveric study

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Mots-clés	Cadaver [5], Carbon [6], Hallux Rigidus [7], Humans [8], Prostheses and Implants [9], Prosthesis Design [10]
Résumé en anglais	**BACKGROUND:** The aim of this cadaveric study was to assess the technical feasibility of inserting a novel interpositional pyrolytic carbon coated implant in the first MTP joint, determine the best surgical procedure for the implantation, and evaluate the dynamic behavior of the joint after surgery. **METHODS:** The marble implant was inserted in the first metatarsophalangeal joint of five pairs of cadaveric feet using two different surgical approaches, dorsal and medial, for each pair. The stability and mobility of the feet before and after implantation, as well as the relationship between the implant and the sesamoids, were assessed by static and dynamic fluoroscopy. **RESULTS:** After implantation, the stability was perfect in all positions and the mobility was conserved. There were no conflicts between the sesamoids and the implant during the movement of the first metatarsophalangeal joint. Both the dorsal and the medial surgical approaches led to similar findings. **CONCLUSION:** To our knowledge, this is the first anatomic evaluation of this type of implant. Whereas the results of the technique obtained on cadaveric feet were satisfactory, caution has to be applied to trying to apply this procedure to the living patient.
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