

Title: Treatment of Total Knee Replacements with Allergies Against One or More Components

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Abstract:

Introduction: Evidence has accumulated that immune responses can occur against ions from metals, metal alloys, polyethylene, or methylmethacrylate.

Methods: 13 patients tested positive for one of the above materials; 5 were treated non-operatively and 8 were treated with knee revisions by reviewing the allergens and substituting new materials. Visual analog scales from 0-10 were scored for rest pain, activities of daily living, and sedentary work. 10 worst possible pain or function and 0 was best. Repeat testing to the allergens was done after treatment to look for tolerance.

Results: The non-operative group improved scores as follows: pain from 4.0 to 1.8 ($p > 0.5$), ADL from 5.2 to 5.4 ($p > .05$), and sedentary work 2.2 to 1.4 ($p > .05$). The operative group showed improved scores as follows: pain from 8.0 to 3.5 ($p < .05$), ADL from 7.5 to 4.0 ($p < .05$), and sedentary work from 5.75 to 2.0 ($p < .05$). In the operated group, 6 were retested: 2 cases developed tolerance (loss of immune response). In the non-operative group, 1 patient was retested and showed tolerance.

Conclusions: Preliminary evidence suggests that knee revisions for allergies will improve pain and function, while non-operative treatment has been less successful to date.