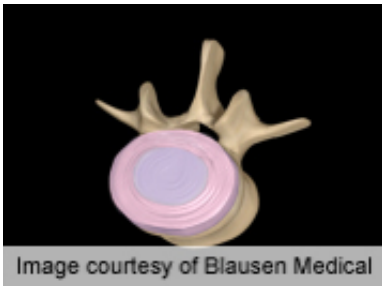


# Increased serum metal levels after lumbar disc replacement

December 22 2012

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Serum metal levels of cobalt and chromium are elevated at all postoperative time points up to 36 months following metal-on-metal lumbar disc replacement, according to research published in the November issue of the *European Spine Journal*.

(HealthDay)—Serum metal levels of cobalt and chromium are elevated at all postoperative time points up to 36 months following metal-on-metal lumbar disc replacement, according to research published in the November issue of the *European Spine Journal*.

Matthew F. Gornet, M.D., of the Spine Research Center in St. Louis, and colleagues conducted a prospective, longitudinal study to measure serum chromium and cobalt levels in 24 patients with cobalt-chromium alloy metal-on-metal lumbar disc replacements.

Using high-resolution inductively-coupled plasma-mass spectrometry, the researchers found that the medium serum cobalt levels were 0.10

ng/mL preoperatively, and 1.03, 0.96, 0.98, 0.67, and 0.52 ng/mL, respectively, at three, six, 12, 24, and 36 months postoperatively. The median preoperative chromium level was 0.06 ng/mL, and postoperative levels were 0.49, 0.65, 0.43, 0.52, and 0.50 ng/mL, respectively.

"Despite continuing concerns about the biologic consequences of metal release, there are currently no reliable threshold values for the toxicity of systemic, circulating metal debris following implantation of articulating [orthopedic implants](#). As such, the [clinical implications](#) of elevated local tissue and systemic ionic concentrations are uncertain," the authors write. "[Clinical judgment](#), after assessing the overall risk-benefit vis-a-vis indications, patient selection, and the appropriateness of a particular implant, will determine the final treatment plan for each individual patient."

Several authors disclosed financial ties to pharmaceutical and medical technology companies, including [Medtronic](#), which funded the study.

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