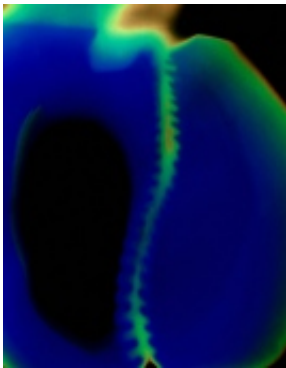


# Study finds posterior C1 fixation to be safe, accurate

April 6 2012

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Posterior C1 screw fixation can be performed safely and accurately, without significant hemorrhaging, according to a study published in the March issue of *The Spine Journal*.

(HealthDay) -- Posterior C1 screw fixation can be performed safely and accurately, without significant hemorrhaging, according to a study published in the March issue of *The Spine Journal*.

Richard J. Bransford, M.D., of the University of Washington School of Medicine in Seattle, and colleagues retrospectively reviewed a tertiary care spine database to identify 176 patients (97 males and 79 females) with posterior C1 screw fixation (216 lateral mass [LM] screws and 128 transarticular screws). Postoperative CT scans were used to assess the accuracy of placement of C1 instrumentation in 147 patients (286 screws). Screws were graded using the following definitions: Type I,

screw threads completely within the bone; Type II, less than half the diameter of the screw violating the surrounding [cortex](#); and Type III, clear violation of transverse foramen or [spinal canal](#).

The researchers found that 86 percent of screws were rated as being ideal (Type I), 96 percent were rated as "safe" (Type I or II), and 4 percent were rated as unacceptable (Type III). No neurologic or vertebral artery injuries were reported; one patient required revision surgery for a medially placed screw. Across all patients, the mean C1 LM width was 10.5 mm and [blood loss](#) was estimated to be an average of 331 mL.

"Our findings demonstrate a low incidence of complications associated with posterior screw instrumentation of the C1 LM," the authors write.

Several authors disclosed [financial relationships](#) with [medical device manufacturers](#).

**More information:** [Abstract](#)  
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