

Letter to the Editor

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1 To the Editor:

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3 We were interested to read the timely study by Greenberg et al that compared
4 length of stay (LOS) for hip fracture patients admitted to orthopaedics and
5 medicine¹. The authors acknowledge a selection bias of complex cases to the
6 medicine service and adjusted for patient differences using negative binomial
7 and Poisson regression models. Although the paper claims to have controlled for
8 “all” confounding, this is not possible using regression techniques within an
9 observational study design. In addition to variables that were not included (e.g.
10 dementia), there may be considerable variation in the characteristics for which
11 adjustments *were* made. For example, “diabetes” could be simple and managed
12 by diet alone or poorly controlled with a myriad of complications. It seems likely
13 that the second patient would be preferentially admitted to medicine and require
14 a longer inpatient stay.

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16 Similarly, the authors interpreted their findings to mean that the “same patient”
17 would be admitted for two days under orthopaedics but three under medicine.
18 This suggests a causal relationship between admitting service and LOS that is not
19 justified by the data presented.

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21 To fully appreciate these findings, it would be helpful to know whether mortality
22 varied between the groups. Although it is important to reduce LOS, this should
23 clearly not be at the expense of worse clinical outcomes. Importantly, it is
24 unclear whether the LOS and readmission analyses excluded patients that died in
25 hospital. Without this information, the study findings are consistent with a

26 greater proportion of deaths amongst patients admitted to orthopaedics. This
27 could explain both the shorter LOS (cut short by in-hospital death) and fewer
28 readmissions (deceased patients being ineligible for readmission). Clarification
29 that adjusted mortality did not differ between the groups, or that this was taken
30 into account by the statistical analyses, are necessary to gain the full benefit of
31 this important study.

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34 **Reference**

- 35 1. Greenberg SE, VanHouten JP, Lakomkin N, Ehrenfeld J, Jahangit AA, Boyce R,
36 Obremksey WT, Sethi MK. Does admission to medicine or orthopaedics
37 impact a geriatric hip patient's hospital length of stay? *J Ortho Trauma*. In
38 press.