

**Table S1. Fine and Gray regression analysis for the number of regions with fractures in the spine, pelvis, and lower extremity and the length of hospital stay**

	<b>HR (95% CI)</b>	<b>p-value</b>
NRF*	0.64 (0.60–0.68)	<0.001
Age, years	0.994 (0.991–0.997)	<0.001
Sex, male	0.99 (0.89–1.1)	0.85
Transferred from other hospitals	0.99 (0.83–1.17)	0.88
Admission to trauma-specialized hospitals <sup>†</sup>	0.97 (0.88–1.07)	0.59
Intubation at the ED	0.47 (0.39–0.56)	<0.001
Medical history		
Psychiatric diseases	1.04 (0.94–1.15)	0.47
COPD	0.77 (0.07–8.14)	0.83
Chronic heart failure	5.7 (1.58–20.4)	0.008
Cerebrovascular diseases	0.68 (0.39–1.19)	0.18
CKD on HD	0.67 (0.14–3.37)	0.63
Vital signs at the ED		
Systolic BP	0.977 (0.971–0.98)	<0.001
Respiratory rate	1.16 (1.01–1.32)	0.034
Heart rate	1.003 (1.001–1.005)	<0.001
Body temperature	1.005 (0.999–1.012)	0.12
GCS score	0.996 (0.994–0.998)	0.001
ISS	1.01 (0.97–1.06)	0.57
Admission to non-ICU wards	1.00 (0.98–1.02)	0.69

NRF, The number of regions with fractures in the three regions (spine, pelvis, and lower extremity); ED, emergency department; COPD, chronic obstructive pulmonary disease; CKD,

Chronic kidney dysfunction; HD, hemodialysis; BP, blood pressure; GCS, Glasgow Coma Scale; ISS, Injury Severity Score; ICU, intensive care unit; HR, hazard ratio; CI, confidence interval.

\* NRF ranges from 0 to 3.

†Trauma-specialized hospitals were defined by the number of severe trauma patients with ISS of  $\geq 16$  registered in the JTDB since January 1, 2004, for each participating hospital. Hospitals with a number of trauma patients in the top half of all participating hospitals were defined as trauma-specialized hospitals.