Supplementary data

Table 2. Surgical treatment. Values are n (%) unless otherwise specified

Factor	Entire cohort (n = 1,709)	Survivors at 90 days (n = 1,459)	Deceased at 90 days (n = 250)	No SSI (n = 1,664)	SSI (n = 45)
Hours from fracture to surgery					
0–6	11 (0.6)	9 (0.6)	2 (0.8)	11 (0.7)	–
>6–12	115 (6.7)	105 (7.2)	10 (4.0)	113 (6.8)	2 (4.4)
>12–24	514 (30)	449 (31)	65 (26)	504 (30)	10 (22)
>24–48	698 (41)	590 (40)	108 (43)	678 (41)	20 (44)
>48	302 (18)	248 (17)	54 (22)	290 (17)	12 (27)
Not reported	69 (4.0)	58 (4.0)	11 (4.4)	68 (4.1)	1 (2.2)
Type of anesthesia					
Spinal	1,476 (86)	1,258 (86)	218 (87)	1,435 (86)	41 (91)
General	152 (8.9)	131 (9.0)	21 (8.4)	149 (9.0)	3 (6.7)
Other	59 (3.5)	51 (3.5)	8 (3.2)	58 (3.5)	1 (2.2)
Not reported	22 (1.3)	19 (1.3)	3 (1.2)	22 (1.3)	–
Type of procedure					
Hemiarthroplasty	884 (52)	753 (52)	131 (52)	856 (51)	28 (62)
Sliding hip screw	825 (48)	706 (48)	119 (48)	808 (49)	17 (38)
Surgeon's experience					
≤ 3 years	209 (12)	176 (12)	33 (13)	203 (12)	6 (13)
> 3 years	1427 (84)	1219 (84)	208 (83)	1,388 (83)	39 (87)
Not reported	73 (4.3)	64 (4.4)	9 (3.6)	73 (4.4)	–
Intraoperative complication					
No	1,524 (89)	1,305 (89)	219 (88)	1,487 (89)	37 (82)
Yes	126 (7.4)	103 (7.1)	23 (9.2)	119 (7.2)	7 (16)
Not reported	59 (3.5)	51 (3.5)	8 (3.2)	58 (3.5)	1 (2.2)
Duration of surgery [a]					
median	64	65	60	64	65
range	16–241	16–241	19–144	16–209	30–241

Percentages are column percentages; SSI: early (sliding hip screws) and early and delayed (hemiarthroplasties) deep surgical site infection;
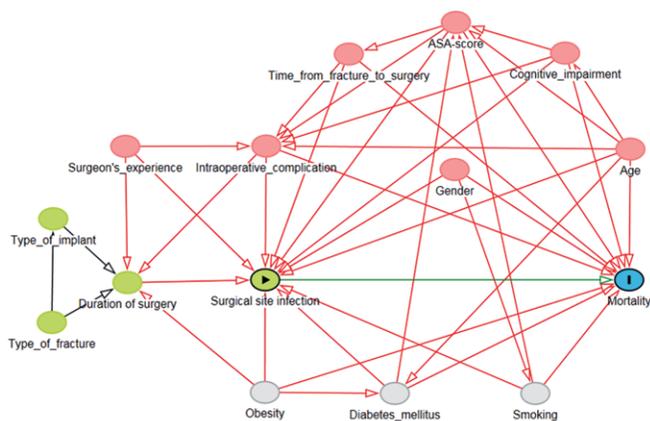[a] Time from incision to skin closure in minutes.

Figure 3a. Directed acyclic graph depicting a causal model for the association between early deep surgical site infection and mortality. ▶ exposure; ● outcome; ● ancestor of exposure; ● ancestor of exposure *and* outcome (confounder); ○ unobserved; — causal path; — biasing path.
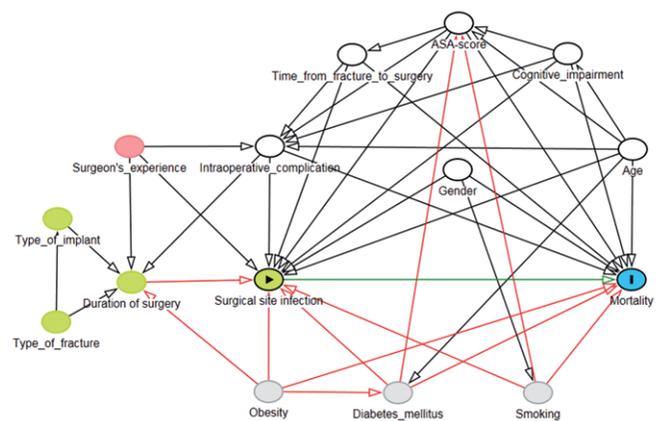
Figure 3b. Directed acyclic graph depicting the adjustment for observed confounding of the association between early deep surgical site infection and mortality. For symbols, see Figure 3a and ◯ adjusted variable.
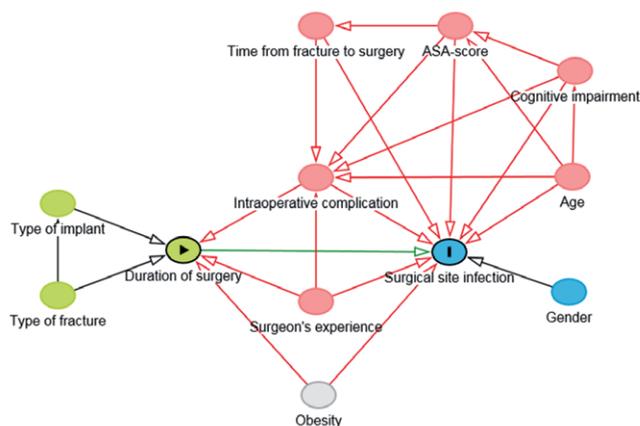
Figure 4a. Directed acyclic graph depicting a causal model for the association between duration of surgery and early and delayed deep surgical site infection. ▶ exposure; Ⓘ outcome; ● ancestor of exposure; ● ancestor of outcome; ● ancestor of exposure *and* outcome (confounder); ● unobserved; — causal path; — biasing path.

Table 5. Univariable binary logistic regression analysis of risk factors for early and delayed deep surgical site infection

| Factor | Early and delayed deep SSI [a] | | Missing (%) |
	Odds ratio (CI)	p-value	
Cognitive impairment		0.05	2.6
uncertain	2.6 (1.2–5.8)	0.02	
yes	1.6 (0.8–3.4)	0.2	
Intraoperative complication	2.4 (1.03–5.4)	0.04	3.5
Duration of surgery (hours)	1.9 (1.1–3.5)	0.04	–
ASA score ≥ 3	2.2 (0.98–5.0)	0.06	2.1

[a] Early (sliding hip screws) and early and delayed (hemiarthroplasties) deep surgical site infection.
ASA: American Society of Anesthesiologists.

Table 6. Multivariable binary logistic regression analysis of the association between duration of surgery and early and delayed deep surgical site infection

| Factor | Early and delayed deep SSI [a] | |
	Odds ratio (CI)	p-value
Duration of surgery (hours)	1.5 (0.8–2.9)	0.2
Intraoperative complication	2.1 (0.9–4.9)	0.1
Surgeon's experience [b]	0.9 (0.4–2.2)	0.9

[a] Early (sliding hip screws) and early and delayed (hemiarthroplasties) deep surgical site infection.
[b] At least 1 surgeon with more than 3 years of experience in hip fracture surgery; 7.1% missing.