

<b>Supplemental Table 1. Comparison of national and local datasets</b>			
	<b>National dataset (N = 126,065)</b>	<b>Local dataset (N = 2,365)</b>	<b>ASD</b>
OFS, n (%)			0.135
0	30,135 (23.9)	618 (26.1)	
1	34,942 (27.7)	636 (26.9)	
2	33,467 (26.5)	547 (23.1)	
3	21,686 (17.2)	399 (16.9)	
4	5,396 (4.3)	144 (6.1)	
5	439 (0.3)	21 (0.9)	
Frail (OFS $\geq 2$ ), n (%)	60,988 (48.4)	1,111 (47.0)	0.028
Age, median [IQR]	84 [77.0-89.0]	84 [76.3-89.0]	0.018
Sex, n (%)			0.015
Female	85,746 (68.0)	1,601 (67.7)	
Male	40,308 (32.0)	764 (32.3)	
Missing	11 (0.0)	0 (0.0)	
CCI, n (%)			0.268
$<5$	56,159 (44.5)	748 (31.6)	
$\geq 5$	69,906 (55.5)	1,617 (68.4)	
Type of fracture, n (%)			0.032
Intracapsular fracture	67,966 (53.9)	1,258 (53.2)	
Extracapsular fracture	58,050 (46.0)	1,107 (46.8)	
Missing	49 (0.0)	0 (0.0)	
Type of surgery, n (%)			0.133
Internal fixation	84,193 (66.8)	1,721 (72.8)	
Arthroplasty	41,819 (33.2)	644 (27.2)	
Missing	53 (0.0)	0 (0.0)	
30-day mortality, n (%)	9,240 (7.3)	191 (8.1)	0.028
90-day mortality, n (%)	16,295 (12.9)	340 (14.4)	0.042

An ASD  $\geq 0.1$  is considered a clinically significant difference.

ASD, absolute standardized difference; OFS, Orthopedic Hip Frailty Score; ASA, American Society of Anesthesiologists; CCI, Charlson Comorbidity Index

<b>Supplemental Table 2. 30-day mortality distribution for all indices</b>			
	<b>Alive (N = 2,174)</b>	<b>Dead (N = 191)</b>	<b>P-value</b>
OFS, n (%)			<0.001
0	616 (99.7)	2 (0.3)	
1	607 (95.4)	29 (4.6)	
2	493 (90.1)	54 (9.9)	
3	340 (85.2)	59 (14.8)	
4	108 (75.0)	36 (25.0)	
5	10 (47.6)	11 (52.4)	
NHFS, n (%)			<0.001
0	43 (100.0)	0 (0.0)	
1	73 (100.0)	0 (0.0)	
2	22 (91.7)	2 (8.3)	
3	319 (99.1)	3 (0.9)	
4	574 (97.0)	18 (3.0)	
5	544 (92.8)	42 (7.2)	
6	386 (86.9)	58 (13.1)	
7	157 (79.7)	40 (20.3)	
8	47 (71.2)	19 (28.8)	
9	9 (56.2)	7 (43.8)	
10	0 (0.0)	2 (100.0)	
Sernbo Score, n (%)			<0.001
8	273 (79.4)	71 (20.6)	
11	362 (87.4)	52 (12.6)	
14	596 (93.3)	43 (6.7)	
17	539 (96.3)	21 (3.8)	
20	404 (99.0)	4 (1.0)	
CCI, n (%)			<0.001
0	7 (100.0)	0 (0.0)	
1	30 (100.0)	0 (0.0)	
2	95 (100.0)	0 (0.0)	
3	155 (99.4)	1 (0.6)	
4	443 (96.3)	17 (3.7)	
5	430 (92.9)	33 (7.1)	
6	399 (92.1)	34 (7.9)	
7	253 (86.9)	38 (13.1)	
8	128 (82.6)	27 (17.4)	
9	92 (83.6)	18 (16.4)	
10	64 (90.1)	7 (9.9)	
11	41 (85.4)	7 (14.6)	
12	24 (82.8)	5 (17.2)	
13	9 (81.8)	2 (18.2)	
14	2 (66.7)	1 (33.3)	
15	0 (0.0)	1 (100.0)	
16	1 (100.0)	0 (0.0)	
17	1 (100.0)	0 (0.0)	
5-mFI, n (%)			<0.001
0	444 (98.7)	6 (1.3)	
1	799 (94.2)	49 (5.8)	

2	636 (90.5)	67 (9.5)	
3	223 (82.0)	49 (18.0)	
4	67 (81.7)	15 (18.3)	
5	5 (50.0)	5 (50.0)	
ASA Classification, n (%)			<0.001
1	170 (98.3)	3 (1.7)	
2	927 (95.5)	44 (4.5)	
3	944 (90.7)	97 (9.3)	
4	133 (73.9)	47 (26.1)	
RCRI, n (%)			<0.001
0	1,117 (93.9)	72 (6.1)	
1	675 (91.7)	61 (8.3)	
2	268 (86.2)	43 (13.8)	
3	95 (88.0)	13 (12.0)	
4	18 (90.0)	2 (10.0)	
5	1 (100.0)	0 (0.0)	

P-values are calculated using a Chi-square test or Fisher's exact test.

*OFS, Orthopedic Hip Frailty Score; NHFS, Nottingham Hip Fracture Score; CCI, Charlson Comorbidity Index; 5-mFI, 5-factor modified Frailty Index; ASA, American Society of Anesthesiologists; RCRI, Revised Cardiac Risk Index*

**Supplemental Table 3.** Detailed description of the local dataset used for validation

	<b>Total (N = 2,365)</b>
Age, median [IQR]	84 [77-89]
Sex, n (%)	
Female	1,601 (67.7)
Male	764 (32.3)
ASA Classification, n (%)	
1	173 (7.3)
2	971 (41.1)
3	1,041 (44.0)
4	180 (7.6)
OFS, n (%)	
0	618 (26.1)
1	636 (26.9)
2	547 (23.1)
3	399 (16.9)
4	144 (6.1)
5	21 (0.9)
Age ≥85, n (%)	1,104 (46.7)
Congestive heart failure, n (%)	418 (17.7)
History of malignancy, n (%)	556 (23.5)
Institutionalized, n (%)	622 (26.3)
Non-independent functional status, n (%)	908 (38.4)
Type of fracture, n (%)	
Non-displaced cervical (garden 1-2)	308 (13.0)
Displaced cervical (garden 3-4)	841 (35.6)
Basicervical	109 (4.6)
Pertrochanteric (two fragments)	570 (24.1)
Pertrochanteric (multiple fragments)	370 (15.6)
Subtrochanteric	167 (7.1)
Type of surgery, n (%)	
Pins or screws	475 (20.1)
Pins or screws with sideplate	868 (36.7)
Intramedullary nail	378 (16.0)
Hemiarthroplasty	476 (20.1)
Total hip replacement	168 (7.1)
Previous myocardial infarction, n (%)	370 (15.6)
Peripheral vascular disease, n (%)	177 (7.5)
History of cerebrovascular disease, n (%)	579 (24.5)
Dementia, n (%)	562 (23.8)
COPD, n (%)	213 (9.0)
Connective tissue disease, n (%)	37 (1.6)
Liver disease, n (%)	30 (1.3)
Diabetes mellitus, n (%)	364 (15.4)
Chronic kidney disease, n (%)	175 (7.4)
Local cancer, n (%)	471 (19.9)
Metastatic cancer, n (%)	68 (2.9)
Leukemia, n (%)	16 (0.7)

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Lymphoma, n (%)	13 (0.5)
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*ASA, American Society of Anesthesiologists; OFS, Orthopedic Hip Frailty Score; COPD, chronic obstructive pulmonary disease*

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