

1 **Supplementary Table 2.** Detailed types of the 74 injuries categorized as substandard surgery
 2 in patient injuries after THA 2012–2021

Injury type	n (%)
Unintentional retained bone cement or leakage	26 (35)
Mispositioned or misaligned component	25 (34)
Incorrect implant size	9 (12)
Bleeding ^a	5 (7)
Retained foreign bodies	4 (5)
Implant breakage due to metal fatigue	2 (3)
Other ^b	1 (1)
Component mismatch	1 (1)
Surgical wound rupture	1 (1)

3 ^a Bleeding leading to further complications such as reoperations, death, and prolonged hospital
 4 stay.

5 ^b Surgical failure leading to temporary Girdlestone during primary surgery and reoperation a
 6 month later.

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8 **Supplementary Table 3.** Description of the 117 other treatment-related injuries after THA
 9 2012-2021.

Injury type	n (%)
Nerve injury ^a	31 (26)
Wound ^b	24 (21)
Others	19 (16)
Anesthesia-related	13 (11)

Inpatient falls	9 (8)
Failed medical device	9 (8)
Urological injuries	8 (7)
Thromboembolism	4 (3)

10 ^a Caused by pressure on the contralateral side during surgery

11 ^b Includes pressure ulcers

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