**Supplemental Digital Content 3. The logic underlying the extraction of cases of deep spinal infection after outpatient-based single-shot epidural injection in Figure 2**

1. **Defining the population**
2. We included patients with epidural injection codes (see below) in the outpatient pain practice between 2007 and 2015. Some of them simultaneously had inpatient codes of epidural injections during the period.
* Epidural injection (LA221), spinal nerve block (LA252) in 2007
* Cervicothoracic epidural injection (LA321), lumbosacral epidural injection (LA322), selective nerve root block (LA354), dorsal root ganglion block (LA355) between 2008 and 2015
* Epidurography (HA102) between 2008 and 2015
1. We eliminated patients who had inpatient codes for single-shot epidural injections. Therefore, only patients who had outpatient-based single-shot epidural injections remained.
2. **Finding deep spinal infection associated with outpatient-based single-shot epidural injection**
3. In the remaining population, we investigated their hospitalization events with codes of deep spinal infection in the 10th revision of International Statistical Classification of Diseases and Related Health Problems.
4. We included hospitalized patients with codes for deep spinal infection (see below).
* Intraspinal epidural/subdural abscess (G061)
* Osteomyelitis of the vertebra (M462)
* Infection of the intervertebral disc (M463), unspecified discitis (M464)
* Other infective spondylopathies (M465), other specified inflammatory spondylopathies (M468), unspecified inflammatory spondylopathy (M469)
* Enterobacterial spondylitis (M492)
* Spondylopathy in other infectious and parasitic diseases classified elsewhere (M493)
1. We reviewed hospitalized patients with site-unspecified infection codes (see below).

For including patients with site-unspecified infection codes, main events needed to be limited to the spine during hospitalization.

* Postprocedural infection (T814)
* Unspecified extradural and subdural abscesses (G062)
1. We excluded non-pyogenic deep spinal infections.
* Tuberculosis of the spine (M490, A1800)
* Brucella spondylitis (M491)
1. In the remaining population, we included “deep” spinal infections.
2. We included patients with antibacterial therapya (intravenous or oral) for at least ≥4 weeks on inpatient- or outpatient-based prescriptions.
3. We included patients with antibacterial therapy for <4 weeks but who died in the next month.
4. In the remaining population, we determined the etiology associated with deep spinal infection by reviewing individual claims within the previous 90 days.
5. Patients who did not undergo any surgery, epidural injections, other spinal injections, or acupuncture within the past 90 days were eliminated.
6. Patients who underwent spinal surgical operationsb were eliminated.
7. Finally, patients who underwent epidural injections (with or without other paraspinal injections) were included.

a Codes of antibacterial agents were used with the localized drug codes of ATC code ‘J01 Antibacterials for systemic use’ (<https://www.whocc.no/atc_ddd_index/?code=J&showdescription=yes>).

b Spinal surgical operations included discectomy, laminectomy, laminoplasty, arthrodesis of the spine, and vertebral corpectomy. Those procedure codes were not international but used only in South Korea, so we did not list them.