# Spinal epidural abscess etiology

## Risk factors

Spinal epidural abscess risk factors.

### Organisms

see Methicillin resistant Staphylococcus aureus epidural spinal abscess.

see Streptococcus epidural spinal abscess.

Staphylococcus aureus is the most common organism identified, and the infectious source in SEA emanates from skin and soft tissue infections in about 20 % of instances. The thoracic spine is most often involved followed by the lumbar spine.

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Operative cultures are most useful in identifying the responsible organism, these cultures may be negative (possibly more common in patients previously on antibiotics) and in these cases blood cultures may be positive. No organism may be identified in 29–50% of cases.

1. Staph. a ureus: the most common organism (cultured in >50%) possibly due to its propensity to form abscesses, its ubiquity, and its ability to infect normal and immunocompromised hosts (these facts help explain why many SEA arise from skin foci)

2. aerobic & anaerobic streptococcus: second most common

3. E.coli

4. Pseudomonas aeruginosa

5. Diplococcus pneumoniae

6. Serratia marcescens

7. Enterobacter

8. chronic infections:

a) TB is the most common of these, and although it has become less widespread in the U.S. it is still responsible for 25% of cases of SEA,74 it is usually associated with vertebral osteomyelitis, see Pott’s disease

b) fungal: cryptococcosis, aspergillosis, brucellosis

c) parasitic: Echinococcus

9. multiple organisms in ≈ 10%

10. anaerobes cultured in ≈ 8%

## Source site of infection

1. hematogenous spread is the most common source (26–50% of cases) either to the epidural space or to the vertebra with extension to epidural space. Reported foci include:

a) skin infect ions (most common): furuncle may be found in 15% of cases

b) parenteral injections, especially with IV drug abuse [1].

c) bacterial endocarditis

d) UTI

e) respiratory infection (including otitis media, sinusitis, or pneumonia)

f) pharyngeal or dental abscess

2. direct extension from:

a) decubitus ulcer

b) psoas abscess:

c) penetrating trauma, including: abdominal wounds, neck wounds, GSW

d) pharyngeal infections

e) mediastinitis

f) pyelonephritis with perinephric abscess

g) dermal sinus

3. following spinal procedures (3 of 8 of these patients had readily identified perioperative infections of periodonta, UTI, or AV-fistula [2])

a) open procedures: especially lumbar discectomy (incidence64 ≈ 0.67%)

b) closed procedures: e.g. epidural catheter insertion for spinal epidural anesthesia, [3] [4] [5] lumbar puncture [6]

4. a history of recent back trauma is common (in up to 30%)

5. no source can be identified in up to 50% of patients in some series [7].

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