 Neurosurgical Errors: A Taxonomy of Failure Not all errors are technical. Some begin in the mind. Others in the system. And many — in silence.

 1. Technical Errors You cut wrong. You missed the target. You bled what you couldn’t see.

Inadequate exposure

Misjudged trajectory

Poor hemostasis

Instrument misuse

Anatomical misidentification

Wrong-level surgery

Root causes: fatigue, overconfidence, rushed workflow, lack of anatomical familiarity, poor assistance.

 2. Cognitive Errors You saw it — but didn’t understand it. You decided — but didn’t reason.

Misdiagnosis

Confirmation bias

Premature closure

Overreliance on imaging

Underestimating risk

Overestimating skill

Root causes: mental shortcuts, unchecked assumptions, ego, distraction, lack of reflective practice.

⚖ 3. Judgment Errors The surgery was flawless. The indication was a disaster.

Operating when observation was safer

Ignoring comorbidities

Chasing total resection at all cost

Overstepping informed consent

Choosing high-risk approaches for low-yield outcomes

Root causes: hubris, institutional pressure, emotional bias, patient demands, misalignment of goals.

 4. Systemic Errors You didn’t fail alone. The system helped.

Poor handoffs

Incomplete documentation

Delayed consults

Equipment unavailability

Staff miscommunication

Surgical delays or mis-scheduling

Root causes: fragmented care, bureaucracy, understaffing, inadequate protocols, turf wars.

 5. Cultural Errors You knew it was wrong. But no one said a word.

Not speaking up to seniors

Silencing residents

Punishing complication reporting

Rewarding speed over safety

Celebrating outcomes, ignoring processes

Root causes: fear, hierarchy, reputation preservation, normalized deviance, toxic leadership.

 6. Emotional Errors You were distracted, exhausted, or detached.

Operating while burned out

Letting guilt or pride dictate the plan

Avoiding second opinions

Neglecting postop care due to shame

Ignoring red flags out of frustration

Root causes: unacknowledged fatigue, unprocessed failure, loneliness, moral injury.

 Editorial Note We study errors not to shame, but to illuminate. To name what goes wrong — and why — before it happens again. In neurosurgery, precision is sacred. But so is clarity of thought, ethics of intention, and the courage to reflect.