While steroids (specifically corticosteroids like **dexamethasone**) are a staple in neurosurgery for reducing brain swelling, there are several critical reasons why a neurosurgeon might choose not to use them or to stop them quickly after surgery.

The decision is usually a "risk-benefit" trade-off.[1] Here are the primary reasons steroids might be avoided:

1. Diagnostic Interference (Suspected Lymphoma)

If a surgeon suspects a patient has **Primary CNS Lymphoma**, steroids are strictly avoided before a biopsy.[2]

- **The "Ghost" Tumor:** Lymphoma is uniquely sensitive to steroids; the drug can cause the tumor to shrink or even temporarily disappear on imaging within hours.
- **Biopsy Failure:** If the tumor shrinks before the surgeon can take a sample, the biopsy may come back inconclusive (a "non-diagnostic" biopsy), preventing the patient from getting the correct treatment (chemotherapy).

2. Specific Medical Contraindications

Steroids are highly effective for **vasogenic edema** (swelling caused by tumors), but they are often harmful or ineffective for other types of brain injury:

- **Traumatic Brain Injury (TBI):** Major clinical trials (like the CRASH study) found that steroids actually **increase the risk of death** in patients with head trauma.[3]
- **Ischemic Stroke:** Steroids do not help with the "cytotoxic" swelling that occurs after a stroke or a lack of oxygen (cardiac arrest).
- **Active Infections:** Because steroids suppress the immune system, they can be dangerous if the patient has an underlying systemic infection or meningitis.[4]

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3. Preventing Post-Surgical Complications

A neurosurgeon may avoid steroids to protect the patient's overall recovery, as they carry significant systemic risks:

- **Infection Risk:** Steroids inhibit the immune response.[5] This significantly increases the risk of **surgical site infections**, pneumonia, or urinary tract infections.[6]
  +1
- **Poor Wound Healing:** Steroids interfere with the body’s ability to repair tissue, which can lead to the surgical incision opening up (dehiscence) or failing to heal properly.

- **Blood Sugar Control:** Steroids cause a sharp rise in blood sugar (hyperglycemia).[7] In diabetic patients—or even non-diabetics—this can lead to "steroid-induced diabetes," which complicates recovery and increases the risk of brain damage.

- **GI Bleeding:** High doses can irritate the stomach lining, leading to **stomach ulcers** or life-threatening gastrointestinal bleeding.[8]

4. Psychological & Physical Side Effects

Surgeons often try to "taper" or stop steroids as soon as possible to avoid:

- **Steroid Psychosis:** Some patients experience severe mood swings, agitation, insomnia, or even hallucinations.[9]

- **Muscle Weakness:** Long-term use can cause **steroid myopathy**, where the patient's leg and arm muscles become too weak to help them walk or rehabilitate after surgery.

Summary Table: Why Steroids Might Be Skipped

Reason	Why it matters
Suspected Lymphoma	Steroids can mask the tumor, making diagnosis impossible.
Traumatic Brain Injury	Proven to increase mortality in trauma cases.
Diabetes / High Sugar	Makes blood sugar impossible to manage, slowing recovery.
High Infection Risk	Increases the chance of the brain or skin incision getting infected.
Healing Issues	Slows down the "knitting" of the skin and bone after surgery.

Note: If a patient is not showing signs of "mass effect" (pressure on the brain) or significant swelling on a post-op CT/MRI, the surgeon may decide that the risks of the drug outweigh any potential benefit.