

When is Perioperative 'Steroid Coverage' Necessary?

The physiologic rationale for steroid coverage is that long-term corticosteroid therapy for chronic autoimmune or inflammatory diseases (such as rheumatoid arthritis, ulcerative colitis, or asthma) suppresses the hypothalamic-pituitary-adrenal (HPA) axis. In normal patients, severe illness, trauma, stress, and surgery are accompanied by activation of the HPA axis. Patients with HPA axis suppression from long-term corticosteroid therapy may be unable to produce this physiologic response to stress.

Patients with a history of steroid use

Some patients previously treated with glucocorticoids should also receive steroid coverage. The literature suggests that, in some patients, the HPA axis may not recover for up to a year after glucocorticoid therapy is stopped, so it would be reasonable to prescribe supplements for patients who have stopped long-term glucocorticoid use within the past year.

On the other hand, stress doses are not required for patients who have recently received short bursts of corticosteroids (therapy lasting 1 week or less), because in these patients, HPA function recovers within 1 week.

Consensus recommendations on doses

Traditionally, the dosage used for steroid coverage has been 100 mg of hydrocortisone every 8 hours, sometimes with a prolonged taper. This dose is far higher than the physiologic cortisol increase, which peaks at 150 mg/day after major surgery and returns quickly to baseline. There is no evidence to suggest that steroid supplementation needs to be tapered over a prolonged period. A taper over 1 to 3 days is adequate in uncomplicated situations, and this helps to minimize any adverse effects of high-dose steroids.

TABLE 1

Recommended perioperative hydrocortisone dosage for patients on long-term steroid therapy

SURGERY TYPE	STRESS DOSE	DURATION*
Minor (eg, inguinal herniorrhaphy)	25 mg/day	1 day
Moderate (eg, total joint replacement)	50–75 mg/day	1–2 days
Major (eg, cardiopulmonary bypass)	100–150 mg/day	2–3 days

*In the absence of complications