GUIDELINES FOR PERIOPERATIVE STEROIDS

OBJECTIVES

- Prevention of perioperative adrenal crises in patients known to be, or at risk of adrenal insufficiency.
- Avoidance of unnecessary or excessive steroid administration by careful patient selection.

GUIDELINES [1,2]

For patients currently or previously taking therapeutic steroids for chronic diseases such as Asthma, RA & Lupus for > 3weeks [6]

Patient Currently taking Steroids (for ≥ 3week)	≤ 10mg prednisolone/d	Assume normal HPA axis	Take routine dose steroids pre-op No additional steroid cover required
	> 10mg prednisolone/d for more than 1 week	Minor Surgery *Eg: hernias, hands*	Take routine dose of steroids pre-op OR 25mg Hydrocortisone IV at induction Resume normal medications post-op
		Moderate Surgery *Eg: hysterectomy, cholecystectomy, hemicolectomy, THR*	Usual pre-op steroids +25mg Hydrocortisone at induction +100mg/day in divided doses for 24h
		Major Surgery *Eg: major trauma, cardiothoracic, Whipple's Procedure, liver resection*	Usual pre-op steroids +25mg Hydrocortisone at induction +100mg/day in divided doses for 48-72h
Very high dose Immunosuppression	Continue usual immunosuppressive dose parenterally until able to revert to normal oral intake, eg 60mg prednisolone/24h = 240mg hydrocortisone/24h		
Patient formerly taking regular steroids (for ≥ 3week)	< 3 months since stopped steroids treat as if on steroids		
	> 3 months since stopped steroids no perioperative steroid required		

EQUIVALENCY: Prednisone 10mg is equivalent to:
Betamethasone 1.5mg; Cortisone Acetate 50mg; Dexamethasone 1.5mg; Hydrocortisone 40mg; Methylprednisolone 8mg.
For Inhaled steroids: ≥750mcg Fluticasone or 1500mcg Beclomethasone/day, treat as ≥ 10mg prednisolone / day.

RATIONALE

- Patients taking therapeutic steroids (via any route) *may* have an inadequate stress response to surgery due to suppression of their hypothalamic-pituitary-adrenocorticosteroid (HPA) axis.
- This *may* manifest as critical hypotension, hypothermia, hypoglycaemia and confusion
- Patients thought to be at risk of HPA axis suppression should receive extra steroids during surgery in addition to their usual daily dose.
- Higher than clinically indicated doses of corticosteroids risk impaired wound healing, infection and delayed recovery and should thus be avoided [5]

EXCEPTIONS / ISSUES

- There is controversy in the literature about the need for steroid supplementation beyond basal requirements at the time of surgery, with mounting evidence that it may be unnecessary. More RCTs are required.[3,4,5]
- ***Patients with *Primary Adrenal Insufficiency* are a special group requiring physiologic replacement of glucocorticoids and mineralocorticoids, as well as supplementation in response to stress.[4] Consult patient's endocrinologist.***

REFERENCES

1.Oxford Handbook of Anaesthesia. Second Edition 2006
2. Nicholson G. Perioperative steroid supplementation. *Anaesthesia* 1998; 53:1091-104
3. Yong SL. Supplemental perioperative steroids for surgical patients with adrenal insufficiency (review). The Cochrane Database of Systematic Reviews 2012, Issue 12
4. Marik P. Requirement of Perioperative Stress Doses of Corticosteroids. *Arch Surg.* 2008; 143(12):1222-1226
5. DeLange DW. Perioperative glucocorticoid supplementation is not supported by evidence. *Eur J Internal Medicine*. 2008;19: 461-467
6. Jung C. Management of adrenal insufficiency during the stress of medical illness and surgery. *MJA* 2008; 188: 409-413