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Abstract

Corticosteroids are among the most potent anti-inflammatory drugs in the acute-care armamentarium, and they are also among the most casually prescribed. In emergency departments, urgent-care centres and out-of-hours clinics around the world, short courses of prednisone, dexamethasone or methylprednisolone are routinely dispensed for sore throats, acute bronchitis, nonspecific back pain and undifferentiated respiratory symptoms, conditions for which the evidence of benefit is weak, absent or outright negative. This narrative article examines the phenomenon that clinicians increasingly call the 'default-to-steroids' pitfall: the reflexive reach for a steroid prescription when a patient is uncomfortable, a diagnosis is uncertain, and time is short. The article traces the clinical and psychological roots of the reflex, reviews the evidence base for steroids across the most common acute indications, catalogues the harms that accumulate in populations exposed to repeated short courses, and proposes practical strategies for safer, more deliberate prescribing. The central argument is not that corticosteroids lack value; conditions such as asthma exacerbation, anaphylaxis, adrenal crisis, croup and acute COPD exacerbation are unequivocal indications. The argument is that the reflex has quietly outgrown the evidence, and that each apparently harmless prescription erodes both patient safety and the culture of careful prescribing. A framework of five questions for the acute-care clinician is offered as a practical antidote.

Keywords: corticosteroids; glucocorticoids; prednisone; dexamethasone; prescribing cascade; antimicrobial stewardship; emergency medicine; urgent care; medical overuse; deprescribing

1. Introduction

Every emergency physician knows the moment. A patient sits on the gurney with a scratchy throat and a miserable expression, or a persistent cough after a cold, or a back that seized up that morning. The examination is unremarkable. There is no bacterial infection to treat, no fracture to splint, no procedure to perform. Time pressure hums in the background: the waiting room is full, the next patient is on the tracker board, and

the current one looks up hopefully. In that moment, the path of least resistance is a small, white, familiar prescription slip: prednisone 40 milligrams for five days. It feels like doing something. It often is also doing harm.

Corticosteroids occupy a peculiar place in acute medicine. They are genuinely lifesaving in a short, well-defined list of emergencies, anaphylaxis, severe asthma, adrenal crisis, raised intracranial pressure, spinal cord compression, and their anti-inflammatory power is unmatched at the bedside. Yet the same pharmacologic potency that makes them valuable makes them hazardous when applied indiscriminately. Over the past two decades, observational studies from North America, Europe and Australasia have documented rising rates of short-course systemic steroid prescriptions issued in ambulatory and acute-care settings, including for conditions with no supporting evidence. Critics have coined a term for the underlying habit: the 'default-to-steroids' pitfall, the reflexive prescribing of a steroid course where the indication is absent, dubious or unexamined.

This article offers a narrative exploration of that pitfall: where it comes from, what it costs, and how acute-care clinicians can keep steroids where they belong, powerful tools in a short list of diseases, rather than a placebo-grade reflex for human misery.



Figure 1. Prednisone remains one of the most dispensed prescriptions in acute and ambulatory care worldwide.

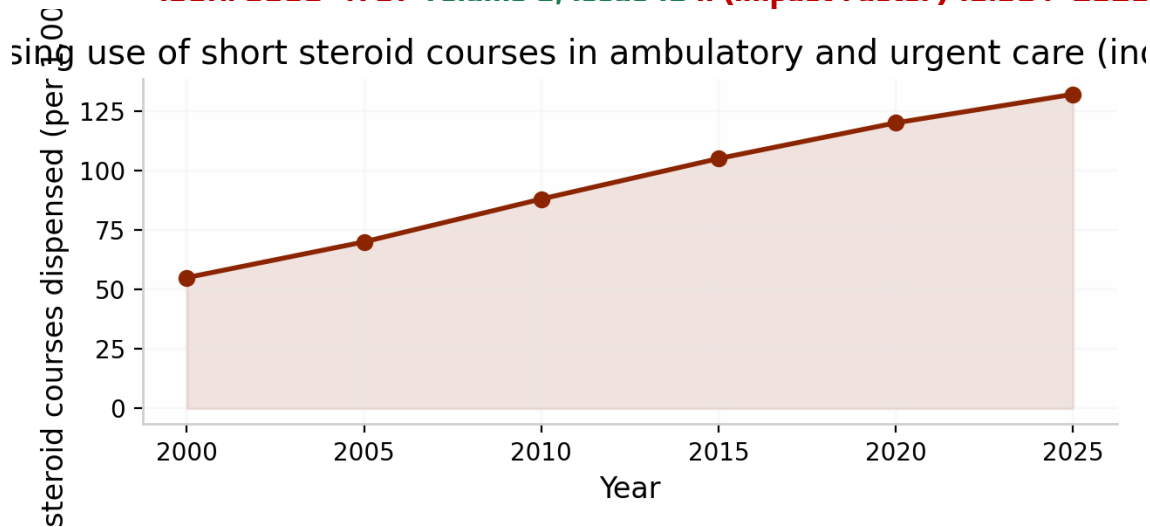


Figure 2. Indicative trend of short-course systemic steroid dispensing in ambulatory and urgent-care settings.

2. The Anatomy of a Reflex

2.1 The tyranny of time and the pressure to act

Acute care runs on minutes. The median emergency-department encounter in many health systems lasts well under an hour, and urgent-care consultations are shorter still. Within that window the clinician must assess, diagnose, reassure, treat and document. A steroid prescription offers a seductively efficient package: it is cheap, familiar, perceived as safe, and it gives the patient a tangible token of medical attention. When the alternative is a careful explanation that most sore throats and coughs simply need time, the prescription can feel like the more compassionate option, even when the evidence says otherwise.

2.2 Diagnostic uncertainty and prescribing as punctuation

A steroid course also functions psychologically as punctuation: it closes an ambiguous encounter. Nonspecific symptoms, a cough, fatigue, low-grade fever, vague chest discomfort, resist precise diagnosis. Prescribing converts uncertainty into action, giving both clinician and patient the sense that the visit has produced something. Research on 'treatment as diagnosis' shows that clinicians often prescribe partly to hedge, reasoning that if the steroid helps, the inflammation was 'real'; if it does not, the illness was self-limiting either way. The patient, meanwhile, learns a lesson that will shape future encounters: severe symptoms merit a steroid, and clinicians who withhold one are withholding care.

2.3 Cultural momentum and learned habits

The reflex is taught. Trainees watch seniors prescribe dexamethasone for every sore throat and prednisone for every wheeze; the habit replicates across generations of clinicians with little explicit scrutiny. Marketing has played a role as well: single-dose dexamethasone was long promoted for pharyngitis, and a wave of small positive trials in the 2000s, later tempered by larger and better-controlled studies, embedded the practice before the evidence matured. Once established, such habits resist revision because each individual prescription appears trivially small.



Figure 3. Busy emergency and acute-care environments, where time pressure and diagnostic uncertainty make reflexive prescribing especially tempting.

3. The Evidence: Where Steroids Help, and Where They Do Not

3.1 The unequivocal indications

Certain acute conditions demand corticosteroids, and withholding them is a genuine error. In acute asthma exacerbation, systemic steroids shorten recovery and prevent relapse; in anaphylaxis, intramuscular adrenaline remains first-line but steroids are standard adjuncts; in acute exacerbations of COPD, steroids shorten recovery in patients with respiratory acidosis or requiring hospitalisation; in croup, a single dose of dexamethasone is one of the most evidence-supported treatments in all of paediatrics; and in adrenal crisis, septic shock refractory to fluids, and selected

neurological emergencies, steroids are simply non-negotiable. The pitfall lies not in these indications but in the long tail of conditions where steroids have drifted into routine use without supporting evidence.

3.2 Sore throat

Pharyngitis is perhaps the purest example of the pitfall. Early trials suggested a single dose of dexamethasone reduced pain at 24 to 48 hours; however, the largest and most rigorous trial to date, a multicentre study of adults with moderate-to-severe sore throat, found no meaningful benefit and no reduction in antibiotic prescribing, while guidelines from the American College of Physicians and the Infectious Diseases Society of America recommend against routine steroid use. For most patients, an analgesic, a warm drink and time outperform a prescription, yet steroids for sore throat remain among the most common prescriptions in urgent care.

3.3 Acute bronchitis and the common cold

Acute bronchitis is almost always viral, and evidence is consistent: steroids do not reduce cough duration or severity in non-asthmatic adults. Nevertheless, emergency and urgent-care studies report steroids dispensed to substantial minorities, in some series more than a third, of bronchitis patients, driven by the feeling that the cough 'sounds inflammatory.' For undifferentiated upper respiratory infection, the evidence is similarly negative, and for acute rhinosinusitis trials show at most marginal, clinically insignificant benefit.

3.4 Low back pain and musculoskeletal complaints

For acute nonspecific low back pain, systematic reviews have repeatedly found no clinically meaningful benefit of systemic steroids over placebo, and one well-known emergency-department randomised trial showed no improvement in function or pain at one week or one month. Yet back pain is one of the leading drivers of steroid prescriptions in acute care, often in combination with an opioid, compounding two problematic prescribing cascades in a single visit.

3.5 COVID-19: a case study in indication-discipline

The pandemic offered a natural experiment in the cost of default-to-steroids thinking. When early observational enthusiasm met rigorous randomised trials, the message crystallised with unusual clarity: dexamethasone saves lives in hospitalised patients

requiring oxygen, but offers no benefit, and possible harm, in mild disease. The contrast between the two populations became a teaching moment about why a steroid that is heroic in one context can be useless or harmful in another.

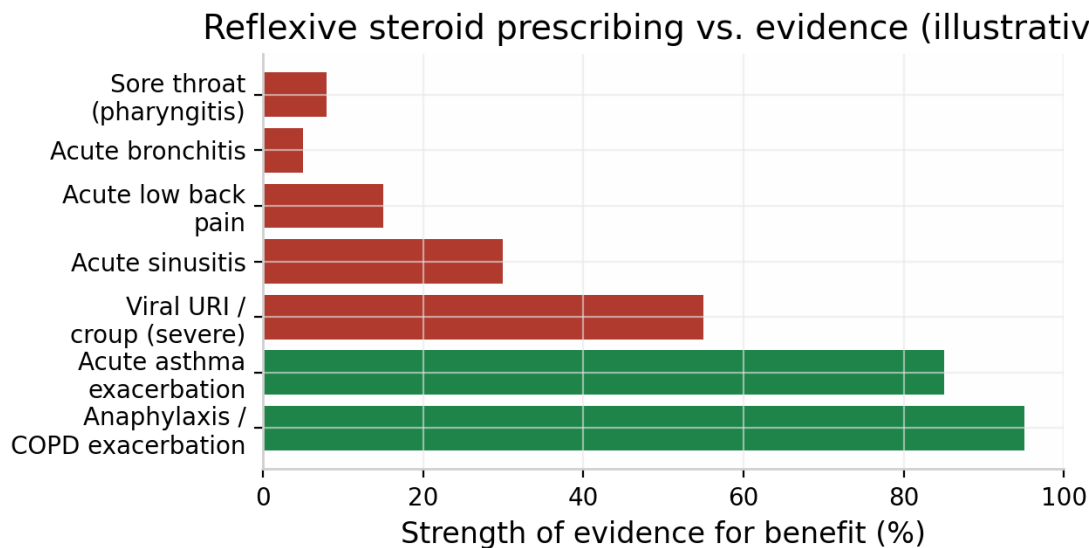


Figure 4. Strength of evidence for steroid benefit across common acute-care presentations (illustrative synthesis).

Acute presentation	Evidence for systemic steroids	Recommendation	Safer first-line alternative
Sore throat (pharyngitis)	Large RCTs show no meaningful benefit; no effect on antibiotic use	Do not prescribe routinely	Analgesics (paracetamol/NSAID), fluids
Acute bronchitis (non-asthmatic)	Consistently negative trials	Do not prescribe	Symptomatic care; expectant management
Acute sinusitis	At most marginal benefit; not clinically significant	Not recommended	Intranasal steroids if persistent; saline, analgesia
Acute low back pain	RCTs show no improvement in pain or function	Do not prescribe	Stay active; NSAIDs; education/reassurance
Viral URI / common cold	No benefit	Do not prescribe	Symptomatic care
Croup (paediatric)	Strong benefit; single-dose dexamethasone is standard	Recommended	Dexamethasone 0.15–0.6 mg/kg
Acute asthma exacerbation	Strong benefit; reduces relapse and admission	Recommended	Prednisolone 40–50 mg adults; 1–2 mg/kg children
Acute COPD exacerbation	Benefit in hospitalised/acidotic patients	Recommended for severe exacerbations	Prednisolone 40 mg ~5 days
Anaphylaxis	Adjunct only; adrenaline is first-line	Give after adrenaline	IM adrenaline 1 mg/mL, 0.5 mg adult

Adrenal crisis / septic shock (refractory)	Life-saving	Mandatory	Hydrocortisone 100 mg IV
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Table 1. Steroid evidence and recommendations across common acute-care presentations.

4. The Costs of the Reflex

4.1 Immediate and short-term harms

Even a five-day course is not benign. Up to a quarter of patients on short courses report insomnia, agitation, mood disturbance or appetite changes; gastrointestinal upset, fluid retention and transient hyperglycaemia, clinically significant in diabetics, are common. Emergency-department studies of single-dose dexamethasone for pharyngitis documented measurable increases in adverse effects without offsetting benefit. In older adults, steroids compound confusion and falls; in people with diabetes, a 'routine' prednisone course can trigger days of difficult glucose control.

4.2 Population-level harm from repetition

The deeper danger is cumulative. Steroid courses are rarely counted across a lifetime, yet a patient who receives two or three 'short harmless' courses each winter accumulates substantial cumulative exposure. Large observational analyses link repeated short courses with increased risks of osteoporosis and fracture, cataract, glaucoma, type 2 diabetes, cardiovascular events, avascular necrosis and infection, with risks rising with cumulative dose even when no single course exceeds two weeks. Each apparently trivial prescription is a small withdrawal from an account the patient will draw on for decades.

4.3 The prescribing cascade

Steroids also seed further prescriptions. Steroid-induced hyperglycaemia generates antidiabetic treatment; insomnia generates hypnotics; gastritis symptoms generate proton-pump inhibitors; and a patient 'allergic' or intolerant to one NSAID after combination therapy may be labelled incorrectly, distorting future care. The cascade, prescriptions treating the side effects of prescriptions, is one of the most quietly expensive dynamics in acute medicine.

4.4 Erosion of diagnostic and therapeutic discipline

Finally, the reflex exacts a professional cost. When a steroid is the answer to every inflamed-sounding symptom, the discipline of diagnosis atrophies. Cough becomes 'steroid-worthy' rather than a prompt to consider asthma, reflux, heart failure or infection; a sore throat becomes 'dexamethasone-worthy' rather than an invitation to examine, test for streptococcus, or simply reassure. The default substitutes ritual for reasoning, and both patients and clinicians are poorer for it.

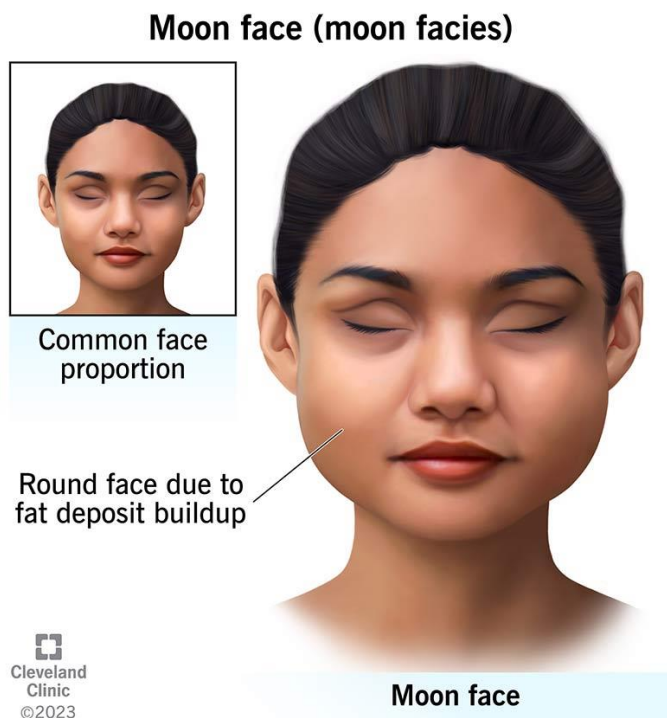


Figure 5. Cushingoid features such as moon facies signal substantial cumulative glucocorticoid exposure.

5. A Five-Question Antidote

Breaking the default does not require more knowledge; it requires a pause. The following five questions, answerable in under a minute at the bedside, separate the genuine indications from the reflexive ones.

- 1. Is this a recognised steroid-responsive condition?** If the diagnosis is not on the short evidence-based list, the burden of proof rests on the prescriber, not the disease.
- 2. Would I prescribe this if the patient were watching me reason aloud?** The reflex survives on autopilot. Articulating the rationale aloud exposes how often it reduces to "they look miserable."

3. What is the smallest dose and shortest course that could work? For true indications such as asthma, low-dose short-course regimens are often as effective as older, heavier ones.

4. What are this patient's specific risks? Diabetes, older age, osteoporosis, psychosis history, active infection and prior adverse reactions change the calculus dramatically.

5. What will I tell the patient if this does not work? If the honest answer is "come back regardless," the prescription was comfort for the clinician, not treatment for the patient.

Driver of the default-to-steroids reflex	Mechanism	Countermeasure
Time pressure	Prescriptions as efficient closure of brief encounters	Pre-visit scripts for common self-limiting conditions
Diagnostic uncertainty	Steroid as hedge against ambiguous presentations	Structured differential + explicit "treat vs. wait" decision
Patient expectation	Perceived demand for 'something strong'	Shared decision-making; explain natural history with timelines
Cultural habit	Prescribing patterns replicated from seniors	Local audit & feedback; explicit departmental guidelines
Defensive practice	Fear of appearing to withhold treatment	Document non-prescription decisions and follow-up plans
Marketing & legacy trials	Small positive studies entrenching practice	Regular evidence reviews; de-adoption campaigns

Table 2. Drivers of reflexive steroid prescribing and corresponding countermeasures.

6. Systems Solutions and Stewardship

Individual discipline matters, but the pitfall is also a system problem, and systems respond to system levers. Antimicrobial stewardship programmes have demonstrated

that audit-and-feedback, order sets and clinical decision support can shift prescribing behaviour at scale; the same infrastructure can be extended to steroids. Emergency departments that instituted indication-tagged steroid prescribing, with hard stops or warnings for non-evidence-based indications such as pharyngitis and low back pain, have reported measurable reductions in inappropriate courses without worsening patient satisfaction. Education of the public is equally important: if patients arrive expecting a steroid for every cough, clinicians will keep reaching for the prescription pad.

Deprescribing and de-adoption deserve a place in acute-care quality agendas alongside antibiotic stewardship. Just as clinicians now hesitate before prescribing antibiotics for viral illness, a parallel norm is emerging for steroids: a brief, explicit justification at the moment of prescribing, recorded in the chart, that distinguishes treatment from reflex.

7. Conclusion

The default-to-steroids pitfall is not a story of careless clinicians. It is a story of good people working under bad conditions, time pressure, diagnostic fog and human suffering, reaching for a tool that is powerful, cheap and emotionally satisfying. But corticosteroids are not a salve for uncertainty, and a prescription written to end an uncomfortable encounter is a treatment for the clinician, not the patient. The evidence is now clear enough to draw a bright line: steroids are indispensable in a short list of acute diseases and unhelpful or harmful across most of the rest. Discipline, a five-question pause, a handful of honest alternatives and systems that make the right choice the easy choice, can return these potent drugs to their rightful place: deployed with intention, counted with care, and reserved for the moments when they genuinely save.

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