SCCM Use of Steroids Guidelines 2024

Septic shock

"suggest" administering corticosteroids to adult patients with septic shock.

- This represents a change compared to 2017 guidelines:
    - They suggested using corticosteroids in patients with septic shock that is not responsive to fluid and moderate to high-dose vasopressor therapy.
- Did not provide dose but mentioned that the most common doses used is:
    - IV hydrocortisone 200–300mg/d, in divided doses or as a continuous infusion, for 5–7 days, with or without a taper.
- No specific recommendations on use of adding fludrocortisone 50 µg enterally daily were made.

ARDS

"suggest" administering corticosteroids to patients with ARDS.

- Compared to previous guidelines they removed the qualifier based on Pao2 /Fio2 ratio from the most recent recommendation.
    - In the previous they suggested the use of corticosteroids in patients with early moderate to severe acute respiratory distress syndrome (Pao2/Fio2 of < 200 and within 14 d of onset).
- Did not provide dose but mentioned different doses used with specific choices left to clinician discretion (see table below).
    - Dosing regimens range from 40mg/d to 2mg/kg/d IV methylprednisolone equivalent with a common duration ranging from 7 to 30 days.
    - Methylprednisolone, dexamethasone, and hydrocortisone with or without fludrocortisone are the most common corticosteroid molecules included in RCTs.

CAP

"recommend" administering corticosteroids to adult patients hospitalized with severe bacterial community-acquired pneumonia (see table below).

- Again, multiple dosing strategies are acceptable for severe CAP and left to clinician discretion.
    - Typical doses range from 40 to 80mg/d IV methylprednisolone equivalent for a duration of 5–7 days with one study guided by clinical criteria for 8 or 14 days duration.

Disease State	Common Corticosteroid Regimens
Septic shock	Hydrocortisone 200 mg IV per day (continuous infusion or divided every 6 hr) with or without fludrocortisone 50 µg enteral daily for 7 d or until ICU discharge[a]
ARDS	Early ARDS (within 24 hr) Dexamethasone 20 mg IV daily for 5 d, then 10 mg IV daily for 5 d until extubation (64) Early ARDS (within 72 hr) (65) Methylprednisolone 1 mg/kg IV bolus, then • Days 1–14: 1 mg/kg/d continuous infusion • Days 15–21: 0.5 mg/kg/d • Days 22–25: 0.25 mg/kg/d • Days 26–28: 0.125 mg/kg/d • If extubated between days 1 and 15 then advance to day 15 of regimen Unresolving ARDS (7–21 d) (26) Methylprednisolone 2 mg/kg IV bolus, then • Days 1–14: 2 mg/kg/d divided every 6 hr • Days 15–21: 1 mg/kg/d • Days 22–28: 0.5 mg/kg/d • Days 29–30: 0.25 mg/kg/d • Days 31–32: 0.125 mg/kg/d • If extubated before day 14, then advance to day 15 of regimen drug therapy
Severe community-acquired bacterial pneumonia	Hydrocortisone 200 mg IV once, then 10 mg/hr IV infusion for 7 d (14, 66) Hydrocortisone 200 mg IV daily (for 4 or 8 d based on clinical improvement), then taper (for a total duration of 8 or 14 d duration) (67) • Hydrocortisone discontinued on ICU discharge Methylprednisolone 0.5 mg/kg IV every 12 hr for 7 d (within 36 hr of hospital admission, C-reactive protein >150 mg/L) (46) Methylprednisolone 40 mg IV bolus, then • Days 1–7: 40 mg/d • Days 8–14: 20 mg/d • Days 15–17: 12 mg/d • Days 18–20: 4 mg/d • Administered via continuous infusion in ICU, then changed two divided bid, via IV or enteral, after ICU discharge (68)

Severe Community-Acquired Pneumonia Definitions

Source	Definition
American Thoracic Society/ Infectious Diseases Society of America Criteria 2007[a] (92)	Either one major criterion or three or more minor criteria: Major criteria • Septic shock with need for vasopressors • Respiratory failure requiring mechanical ventilation Minor criteria • Respiratory rate ≥ 30 breaths/min[b] • Pao_2/Fio_2 ratio ≤ 250[b] • Multilobar infiltrates • Confusion/disorientation • Uremia (blood urea nitrogen level ≥ 20 mg/dL) • Leukopenia (WBC count < 4000 cells/µL)[c] • Thrombocytopenia (platelet count < 100,000/µL) • Hypothermia (core temperature < 36°C) • Hypotension requiring aggressive fluid resuscitation
Community-Acquired Pneumonia: Evaluation of Corticosteroids (CAPE COD) (67)	One of four criterion: • Initiation of mechanical ventilation (invasive or noninvasive) with a positive end-expiratory pressure level of at least 5 cm of water • Administration of oxygen through a high-flow nasal cannula with a Pao_2/Fio_2 ratio of < 300, with a Fio_2 of ≥ 50% • Nonbreathing mask with estimated Pao_2/Fio_2 of < 300, according to prespecified charts • Pulmonary Severity Index score of > 130 (group V) Inclusion in study required ICU admission
Risk Stratification Scores	• Pneumonia severity index class IV or V (93) • Confusion, urea nitrogen, respiratory rate, blood pressure-65 score of ≥ 3 (94) • Confusion, oxygenation, respiratory and blood pressure score of ≥ 2 (95) • Systolic blood pressure, multilobar chest radiography, albumin, respiratory rate, tachycardia, confusion, oxygenation, arterial pH score ≥ 3 (96)