FRONTLINE FIVE EM

Plasma Exchange in Streptococcal Shock

Journal Club Guide

A step-by-step critical appraisal worksheet for emergency medicine and critical care

Ruwisch J, Buhlmann A, Wild L, et al. Intensive Care Medicine Experimental. 2026;14:142. Published October 28, 2026. doi:10.1186/s40635-026-00984-4

Study design	Multicenter retrospective cohort with propensity adjustment
Population	149 adults with microbiologically confirmed streptococcal septic shock at three German and Swiss tertiary ECMO centers; 31 received plasma exchange
Comparison	Clinician-selected rescue therapeutic plasma exchange versus standard care
Reported result	Unadjusted 90-day mortality was 29.0% versus 27.1%. Adjusted HR favored plasma exchange (0.67, 95% CI 0.50-0.90), but major baseline and time-related biases prevent a causal claim.

STEP 1 - Frame the question

Write the PICO or descriptive research question in one sentence.

STEP 2 - Test the design

Was this design appropriate for the question? Identify the strongest protection against bias and the biggest remaining threat.

STEP 3 - Examine the population

Who was included and excluded? How closely do these patients and settings resemble your ED or ICU?

STEP 4 - Interrogate the outcomes

Was the primary outcome patient-centered? Separate the prespecified primary result from secondary, subgroup, or surrogate findings.

STEP 5 - Interpret effect and uncertainty

Record the absolute risks, relative effect, confidence interval, and whether the study excluded a clinically important benefit or harm.

STEP 6 - Identify limitations

List selection bias, confounding, measurement limitations, missing data, power, and external-validity concerns.

STEP 7 - Decide what changes

What should change today, what should only prompt discussion, and what requires confirmation?

FINAL APPRAISAL

Bottom line in one sentence; evidence certainty (high/moderate/low); and whether you would teach, read, or change practice.