Summary: Indications and Harms of Intravenous Albumin

Table 1: Indications for **25% albumin** preparations

Indication	Benefits	Dose[†]
Liver cirrhosis		
Large volume (>5L) paracentesis	Prevention of paracentesis induced circulatory dysfunction	6–8 g per liter of fluid removed
Spontaneous bacterial peritonitis	Reduced rate of kidney impairment and mortality	Day 1: 1.5 g/kg Day 3: 1 g/kg
Suspected or confirmed hepatorenal syndrome type 1[‡]	No data available comparing albumin vs. alternative strategy	Day 1: 1 g/kg Days 2–14: 25–50g (100–200mL) per day

[†]*Suggested maximum dose, consider adjusting the dose and/or spreading dose over additional days in patients at risk of fluid overload*
[‡]*Administered with vasoactive agents (e.g. terlipressin or midodrine and octreotide)*

Table 2: Indications for **5% albumin** preparations

Indication	Benefits
Plasma exchange	Replacement fluid for plasma exchange (**except** patients with thrombotic thrombocytopenic purpura, coagulopathy, or bleeding)
Thermal injury >25% total body surface area[†]	May reduce total volume of resuscitation fluids and improve urine output when used in the first 24 hours for resuscitation

[†] *American Burn Association Clinical practice guidelines recommend clinicians **consider** use of albumin, especially in patients with larger burns*

Table 3: Harms of intravenous albumin observed in randomized, controlled trials

Patient Population	Comparison	Risk(s) in albumin group
Cardiac surgery		
On-pump cardiac surgery	4% albumin vs. Ringer acetate	Increased risk of bleeding, resternotomy, and infection
High-risk cardiac surgery, postoperative	20% albumin vs. Usual care	Increased risk of acute kidney injury, blood transfusion
Pediatric cardiac surgery	5% albumin vs. Crystalloid	Increased fluid intake, ICU length of stay
Cirrhosis		
Decompensated cirrhosis (inpatient) and albumin <30g/L	20% albumin vs. Standard of care	Increased risk of pulmonary edema, fluid overload
Cirrhosis and extraperitoneal infections	20% albumin vs. Control	Increased risk of pulmonary edema
Critically ill patients		
Traumatic brain injury	4% albumin vs. Normal saline	Increased risk of mortality
Pediatric sepsis (malaria)	5% albumin vs. Crystalloid	Increased risk of mortality

References: *References in source document: Relke, N .& Callum, M. (2025). Albumin. In A. Khandelwal & K. Brooks (Eds.), Clinical guide to transfusion (Chap. 3). Canadian Blood Services. https://professionaleducation.blood.ca/en/transfusion/clinical-guide/albumin*
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