## Fluid Therapy

<table>
<thead>
<tr>
<th>Recommendation #8</th>
<th>Strength &amp; Quality of Evidence</th>
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| In adults with COVID-19 and shock, we suggest using dynamic parameters skin temperature, capillary refilling time, and/or serum lactate measurement over static parameters in order to assess fluid responsiveness. | • Weak  
• Low-Quality of Evidence |

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<th>Recommendation #9</th>
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| For the acute resuscitation of adults with COVID-19 and shock, we suggest using a conservative over a liberal fluid strategy. | • Weak  
• Very Low-Quality of Evidence |

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<th>Recommendation #10</th>
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| For the acute resuscitation of adults with COVID-19 and shock, we recommend using crystalloids over colloids. | • Strong  
• Moderate-Quality of Evidence |
### RECOMMENDATION #11

For the **acute resuscitation** of adults with **COVID-19 and shock**, we **suggest** using buffered/ balanced crystalloids over unbalanced crystalloids.

**Strength & Quality of Evidence**
- Weak
- Moderate-Quality of Evidence

### RECOMMENDATION #12

For the **acute resuscitation** of adults with **COVID-19 and shock**, we **recommend** against using hydroxyethyl starches.

**Strength & Quality of Evidence**
- Strong
- Moderate-Quality of Evidence

### RECOMMENDATION #13

For the **acute resuscitation** of adults with **COVID-19 and shock**, we **suggest against** using gelatins.

**Strength & Quality of Evidence**
- Weak
- Low-Quality of Evidence

### RECOMMENDATION #14

For the **acute resuscitation** of adults with **COVID-19 and shock**, we **suggest against** using dextrans.

**Strength & Quality of Evidence**
- Weak
- Low-Quality of Evidence

### RECOMMENDATION #15

For the **acute resuscitation** of adults with **COVID-19 and shock**, we **suggest against** the routine use of albumin for initial resuscitation.

**Strength & Quality of Evidence**
- Weak
- Moderate-Quality of Evidence

### VASOACTIVE AGENTS

### RECOMMENDATION #16

For adults with **COVID-19 and shock**, we **suggest** using norepinephrine as the first-line vasoactive agent, over other agents.

**Strength & Quality of Evidence**
- Weak
- Low-Quality of Evidence
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<th>Recommendation #17</th>
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| If norepinephrine is not available, we *suggest* using either vasopressin or epinephrine as the first-line vasoactive agent, over other vasoactive agents, for adults with **COVID-19 and shock**. | - Weak  
- Low-Quality of Evidence |

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<th>Recommendation #18</th>
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| For adults with **COVID-19 and shock**, we *recommend against* using dopamine if norepinephrine is available. | - Strong  
- High-Quality of Evidence |

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<th>Recommendation #19</th>
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| For adults with **COVID-19 and shock**, we *suggest* adding vasopressin as a second-line agent, over titrating norepinephrine dose, if target mean arterial pressure (MAP) cannot be achieved by norepinephrine alone. | - Weak  
- Moderate-Quality of Evidence |

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<th>Recommendation #20</th>
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| For adults with **COVID-19 and shock**, we *suggest* titrating vasoactive agents to target a MAP of 60-65 mmHg, rather than higher MAP targets. | - Weak  
- Low-Quality of Evidence |

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| For adults with **COVID-19 and shock with evidence of cardiac dysfunction and persistent hypoperfusion despite fluid resuscitation and norepinephrine**, we *suggest* adding dobutamine, over increasing norepinephrine dose. | - Weak  
- Very Low-Quality of Evidence |

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| For adults with **COVID-19 and refractory shock**, we *suggest* using low-dose corticosteroid therapy ("shock-reversal"), over no corticosteroid. **Remark:** A typical corticosteroid regimen in septic shock is intravenous hydrocortisone 200 mg per day administered either as an infusion or intermittent doses. | - Weak  
- Low-Quality of Evidence |