**HEMODYNAMICS RECOMMENDATIONS TABLE**

**FLUID THERAPY**

<table>
<thead>
<tr>
<th>RECOMMENDATION #8</th>
<th>STRENGTH &amp; QUALITY OF EVIDENCE</th>
</tr>
</thead>
</table>
| 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 |

<table>
<thead>
<tr>
<th>RECOMMENDATION #9</th>
<th>STRENGTH &amp; QUALITY OF EVIDENCE</th>
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</table>
| 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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<tr>
<th>RECOMMENDATION #10</th>
<th>STRENGTH &amp; QUALITY OF EVIDENCE</th>
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</table>
| 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
<table>
<thead>
<tr>
<th>RECOMMENDATION #17</th>
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</table>
| 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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<th>RECOMMENDATION #21</th>
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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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<th>RECOMMENDATION #22</th>
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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 |