

**Resilient Drug Supply Project:
Critical Acute Drug List & Critical COVID-19 Drug List
Drug Shortages Reported by ASHP & FDA**

Shortages as of
6/6/2022

| Drug # | Critical Acute Drugs Generic Name | Drug Category | UMN RDSP | UMN RDSP | ASHP | FDA |
|--------|--------------------------------------|---------------------|--|---|--------------------------|--------------------------|
| | | | List of 156 Critical Acute Drugs | List of 40 Critical COVID-19 Drugs | Drug Shortage List | Drug Shortage List |
| 1 | Cisatracurium | Paralytic | X | X | Yes | |
| 2 | Rocuronium | Paralytic | X | X | Yes | |
| 3 | Vecuronium | Paralytic | X | X | Yes | Yes |
| 4 | Succinylcholine | Paralytic | X | X | | |
| 5 | Atracurium | Paralytic | X | | Yes | |
| 6 | Propofol | Sedation | X | X | Yes | Yes |
| 7 | Midazolam | Sedation | X | X | Yes | Yes |
| 8 | Lorazepam | Sedation | X | X | Yes | Yes |
| 9 | Dexmedetomidine | Sedation/Anesthesia | X | X | | Yes |
| 10 | Phenobarbital | Sedation | X | | Yes | |
| 11 | Ketamine | Sedation/Anesthesia | X | X | Yes | Yes |
| 12 | Diazepam | Sedation | X | | | |
| 13 | Lidocaine | Local Anesthetic | X | | Yes | Yes |
| 14 | Bupivacaine | Local Anesthetic | X | | Yes | Yes |
| 15 | Fentanyl | Pain | X | X | Yes | Yes |
| 16 | Hydromorphone | Pain | X | X | Yes | Yes |
| 17 | Morphine | Pain | X | X | Yes | Yes |
| 18 | Oxycodone | Pain | X | X | | |
| 19 | Acetaminophen | Pain & Fever | X | | | |
| 20 | Ketorolac | Pain | X | | Yes | Yes |
| 21 | Anakinra | Pain | X | | | |
| 22 | Oxygen | Medical Gas | X | X | | |
| 23 | Nitric Oxide | Medical Gas | X | | | |
| 24 | Sevoflurane | Medical Gas | X | | | |
| 25 | Albuterol | Bronchodilator | X | X | Yes | |
| 26 | Ipratropium (Inhaler) | Bronchodilator | X | | | |
| 27 | Azithromycin | Anti-infective | X | X | | |
| 28 | Piperacillin-Tazobactam | Anti-infective | X | X | | |
| 29 | Cefepime | Anti-infective | X | X | Yes | |
| 30 | Ceftriaxone | Anti-infective | X | | | |
| 31 | Vancomycin | Anti-infective | X | X | Yes | |
| 32 | Doxycycline | Anti-infective | X | | Yes | |
| 33 | Meropenem | Anti-infective | X | X | | |
| 34 | Cefazolin | Anti-infective | X | X | Yes | Yes |
| 35 | Levofloxacin | Anti-infective | X | | | |
| 36 | Linezolid | Anti-infective | X | | | |
| 37 | Ampicillin-Sulbactam | Anti-infective | X | | Yes | |
| 38 | Sulfamethoxazole-Trimethoprim | Anti-infective | X | | | |
| 39 | Ceftazidime | Anti-infective | X | X | Yes | |
| 40 | Ciprofloxacin | Anti-infective | X | | | |
| 41 | Clindamycin | Anti-infective | X | | Yes | |
| 42 | Gentamicin | Anti-infective | X | | Yes | Yes |
| 43 | Imipenem | Anti-infective | X | | | |
| 44 | Metronidazole | Anti-infective | X | | Yes | Yes |
| 45 | Ampicillin | Anti-infective | X | | | |
| 46 | Nafcillin | Anti-infective | X | | | |
| 47 | Oxacillin | Anti-infective | X | | | |
| 48 | Penicillin G | Anti-infective | X | | | |
| 49 | Tobramycin | Anti-infective | X | | | |
| 50 | Amphotericin B | Anti-infective | X | | | |
| 51 | Posaconazole | Antifungal | X | | | |

| Drug # | Critical Acute Drugs Generic Name | Drug Category | UMN RDSP List of 156 Critical Acute Drugs | UMN RDSP List of 40 Critical COVID-19 Drugs | ASHP Drug Shortage List | FDA Drug Shortage List |
|--------|--|-------------------------|--|---|----------------------------------|---------------------------------|
| 52 | Ganciclovir (IV) | Antiviral | X | | | |
| 53 | Highly Active Anti-Retroviral Therapies** | Antiviral | X | | | |
| 54 | Hydroxychloroquine | Antiviral (Lupus, RA) | X | X | Yes | |
| 55 | Chlorhexidine | Antiseptic | X | X | | |
| 56 | Betadine | Antiseptic | X | | | |
| 57 | Ethanol | Antiseptic | X | | | |
| 58 | Norepinephrine | Vasopressor | X | X | Yes | |
| 59 | Epinephrine | Vasopressor | X | X | Yes | Yes |
| 60 | Vasopressin | Vasopressor | X | X | | |
| 61 | Phenylephrine | Vasopressor | X | | | |
| 62 | Amiodarone | Cardiovascular | X | X | Yes | |
| 63 | Hydralazine | Cardiovascular | X | | Yes | |
| 64 | Nicardipine | Cardiovascular | X | | | |
| 65 | Labetalol | Cardiovascular | X | | Yes | |
| 66 | Metoprolol | Cardiovascular | X | | Yes | |
| 67 | Esmolol | Cardiovascular | X | | Yes | |
| 68 | Verapamil | Cardiovascular | X | | Yes | |
| 69 | Diltiazem | Cardiovascular | X | | Yes | Yes |
| 70 | Atropine | Cardiovascular | X | | Yes | Yes |
| 71 | Adenosine | Cardiovascular | X | | | |
| 72 | Epoprostenol | Pulmonary Vasodilator | X | | Yes | |
| 73 | Bosentan | Pulmonary Vasodilator | X | | | |
| 74 | Milrinone | Pulmonary Vasodilator | X | | | |
| 75 | Dexamethasone | Corticosteroids | X | | Yes | Yes |
| 76 | Methylprednisolone | Corticosteroids | X | | Yes | Yes |
| 77 | Hydrocortisone | Corticosteroids | X | | | Yes |
| 78 | Betamethasone | Corticosteroids | X | | Yes | |
| 79 | Prednisone | Corticosteroids | X | | Yes | |
| 80 | Furosemide | Diuretic | X | | Yes | Yes |
| 81 | Potassium chloride (IV) | Electrolyte Replacement | X | | Yes | Yes |
| 82 | Magnesium (IV) | Electrolyte Replacement | X | | Yes | |
| 83 | Calcium chloride | Electrolyte Replacement | X | X | Yes | |
| 84 | Calcium gluconate | Electrolyte Replacement | X | | Yes | Yes |
| 85 | Calcium carbonate | Electrolyte Replacement | X | | | |
| 86 | Sevelamer carbonate | Electrolyte Replacement | X | | | |
| 87 | Sodium bicarbonate | Electrolyte Replacement | X | | Yes | Yes |
| 88 | Phosphorous | Electrolyte Replacement | X | | | |
| 89 | Zinc | Electrolyte Replacement | X | | | |
| 90 | Sodium chloride (0.9%, 3%, 5%) | Electrolyte & Fluids | X | | Yes | Yes |
| 91 | Lactated Ringers | Electrolyte & Fluids | X | | Yes | |
| 92 | Dextrose (50%) | Electrolyte & Fluids | X | | Yes | Yes |
| 93 | Anticoagulant Citrate Dextrose Solution A | Electrolyte & Fluids | X | | | |
| 94 | Hemodialysis, Intermittent (IHD) Solution | Electrolyte & Fluids | X | | | |
| 95 | Peritoneal Dialysis (PD) Solution | Electrolyte & Fluids | X | | | |
| 96 | Renal Replacement Therapy, Continuous (CRRT) | Electrolyte & Fluids | X | | | Yes |
| 97 | Organ Preservation Solution | Electrolyte & Fluids | X | | | |
| 98 | Enoxaparin | Anticoagulant | X | X | | |
| 99 | Heparin | Anticoagulant | X | X | Yes | Yes |
| 100 | Argatroban | Anticoagulant | X | X | Yes | |
| 101 | Tissue Plasminogen Activator (TPA) | Anticoagulant | X | | | |
| 102 | Warfarin | Anticoagulant | X | | | |
| 103 | Prothrombin complex conc. (Kcentra) | Warfarin Reversal | X | | | |
| 104 | Vitamin K (phytonadione) | Warfarin Reversal | X | | | |
| 105 | Insulin, Short acting- Regular (aspart) | Insulin & Endocrine | X | | | |
| 106 | Insulin, Long acting (Lantus, Levemir, NPH) | Insulin & Endocrine | X | | | |

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|--------|--|------------------------------|--|---|----------------------------------|---------------------------------|
| 107 | Desmopressin Acetate (DDAVP) | Insulin & Endocrine | X | | Yes | Yes |
| 108 | Glucagon | Insulin & Endocrine | X | | | |
| 109 | Valproate sodium | Anti-epileptic | X | | Yes | Yes |
| 110 | Carbamazepine | Anti-epileptic | X | | | |
| 111 | Fosphenytoin | Anti-epileptic | X | | Yes | |
| 112 | Levetiracetam | Anti-epileptic | X | | Yes | |
| 113 | Phenytoin | Anti-epileptic | X | | | |
| 114 | Antivenom, Snake (CroFab) | Antidote | X | | | |
| 115 | Antivenom, Spider | Antidote | X | | Yes | |
| 116 | Dantrolene | Antidote | X | | Yes | |
| 117 | Diphenhydramine | Antidote | X | | Yes | |
| 118 | Epinephrine (EpiPen, auto-injector) | Antidote | X | | Yes | Yes |
| 119 | Levocarnitine | Antidote | X | | | |
| 120 | Lipid emulsion (IV) | Antidote | X | | Yes | Yes |
| 121 | Methylene Blue | Antidote | X | | | |
| 122 | N-acetylcysteine | Antidote | X | | Yes | |
| 123 | Naloxone | Antidote | X | | | |
| 124 | Neostigmine | Antidote | X | | | |
| 125 | Protamine | Antidote | X | | Yes | Yes |
| 126 | Rabies Vaccine IG | Antidote | X | | | |
| 127 | Sugammadex | Antidote | X | | | |
| 128 | Tetanus toxoid | Antidote | X | | | |
| 129 | Vitamin B12 (hydroxocobalamin) | Antidote | X | | | |
| 130 | Immune globulin (IV) | Immunodeficiency | X | | | |
| 131 | Epoetin | Blood Modifier | X | | | |
| 132 | Granulocyte-Colony Stimulating Factor (GSCF) | Blood Modifier | X | | | |
| 133 | Granulocyte-Macrophage Colony- Stimulating Factor | Blood Modifier | X | | | |
| 134 | NPEG-Granulocyte-Colony Stimulating Factor (NPEG-GSCF) | Blood Modifier | X | | | |
| 135 | Blood Factor IX | Hemophilia | X | | | |
| 136 | Blood Factor VII | Hemophilia | X | | | |
| 137 | Blood Factor VIII | Hemophilia | X | | | |
| 138 | Anti-inhibitor coagulant complex (FEIBA) | Hemophilia | X | | | |
| 139 | Tranexamic Acid | Hemophilia | X | | | |
| 140 | Mycophenolate Mofetil (MMF) | Immunosuppressant | X | | | |
| 141 | Tacrolimus | Immunosuppressant | X | | | |
| 142 | Cyclophosphamide (CHOP regimen) | Lymphoma / Leukemia | X | | | |
| 143 | Doxorubicin (CHOP regimen) | Lymphoma / Leukemia | X | | Yes | |
| 144 | Mechlorethamine (MOPP regimen) | Lymphoma / Leukemia | X | | | |
| 145 | Procarbazine (MOPP regimen) | Lymphoma / Leukemia | X | | | |
| 146 | Vincristine (CHOP, MOPP regimen) | Lymphoma / Leukemia | X | | | |
| 147 | Ondansetron (oral & inj) | Anti-emetics | X | | Yes | |
| 148 | Prochlorperazine | Anti-emetics | X | | Yes | |
| 149 | Metoclopramide | Anti-emetics | X | | | |
| 150 | Methylergonovine | Pregnancy-related Medication | X | | | |
| 151 | Oxytocin | Pregnancy-related Medication | X | | | |
| 152 | Surfactants | Pregnancy-related Medication | X | | | |
| 153 | Terbutaline | Pregnancy-related Medication | X | | | |
| 154 | Fluoxetine | Anti-psychotic | X | | | |
| 155 | Haloperidol | Anti-psychotic | X | | Yes | |
| 156 | Olanzapine | Anti-psychotic | X | | Yes | |

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|--|-----------------------------------|-------------------------------|---|---|-------------------------|------------------------|
| Additional Critical Drugs for Treatment of COVID-19 Patients | | | | | | |
| C1 | Remdesivir* | Other Critical COVID-19 Drugs | | X | Yes | Yes |
| C2 | Lopinavir-Ritonavir | Other Critical COVID-19 Drugs | | X | | |
| C3 | Oseltamivir | Other Critical COVID-19 Drugs | | X | | |
| C4 | Chloroquine | Other Critical COVID-19 Drugs | | X | | |
| C5 | Droperidol | Other Critical COVID-19 Drugs | | X | Yes | |
| C6 | Etomidate | Other Critical COVID-19 Drugs | | X | | |
| C7 | Fluconazole | Other Critical COVID-19 Drugs | | X | | |
| C8 | Vitamin C | Other Critical COVID-19 Drugs | | X | | |
| # of Drugs on Critical List | | | 156 | 40 | | |
| # of Drugs in Shortage (ASHP) | | | 68 | 24 | 70 | |
| % of Drugs in Shortage (ASHP) | | | 43.6% | 60.0% | | |
| # of Drugs in Shortage (FDA) | | | 34 | 13 | | 35 |
| % of Drugs in Shortage (FDA) | | | 21.8% | 32.5% | | |

Resilient Drug Supply Project (RDSP)

The Resilient Drug Supply Project is a research program of the University of Minnesota's CIDRAP and the PRIME Institute. The RDSP has been funded by a generous gift from the Walton Family Foundation

UMN RDSP List of 156 Critical Acute Drugs

Critical Acute Drugs are drugs that "when medically needed in acute care must be available and used within hours or days of the need or the patient will suffer serious outcomes which may include disability or death. Absence of a Critical Acute Drug, or lack of availability of an effective substitute, may cause serious health outcomes or limited ability to provide humane care."

Source of Critical Acute Drug List: Created by an expert panel convened by the Univ. of Minnesota's RDSP on December 11 & 12, 2018.

Participating experts came from government, academia, and the private sector and represented the fields of pharmacy, medicine, nursing, public health, others in clinical health care, pharmaceutical supply chains, emergency preparedness and response, emergency medical services, and drug distribution.

UMN RDSP List of 40 Critical COVID-19 Drugs

Critical COVID-19 Drugs: drugs used in the active treatment of COVID-19 positive patients or their COVID-19 related symptoms.

Source of Critical COVID-19 Drug List: Created by the Univ. of Minnesota's Resilient Drug Supply Project staff in January of 2020.

"X" means that a drug is on the list named at the top of the column.

"Yes" means that a drug is on the active shortage list named at the top of the column (either ASHP or FDA).

* Remdesivir (Gilead) has been approved by the FDA for treatment of COVID-19 requiring hospitalization in adults and pediatric patients age 12 and older.

** Highly Active Anti-Retroviral Therapies (HAART) and particularly agents used for post-exposure prophylaxis (PEP) are included on the critical acute drug list.

() Information in parentheses after a drug name indicates a specific dosage form, strength or product name that is of interest on the Critical List.

ASHP Drug Shortage List: Drug shortages reported by the American Society of Health Systems can be found at:

<https://www.ashp.org/Drug-Shortages/Current-Shortages/Drug-Shortages-List?page=CurrentShortages&loginreturnUrl=SSOCheckOnly>

FDA Drug Shortage List: Drug shortages reported by the U.S. Food & Drug Administration can be found at:

<https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm>