

# Aviptadil (Lexi-Drugs)

## Special Alerts

### COVID-19 Important Updates August 2020

FDA has issued an emergency use IND authorization and expanded access protocol for aviptadil for the treatment of patients with COVID-19 and acute respiratory failure. The expanded access protocol allows for aviptadil to be distributed in the United States and administered intravenously by health care providers, as appropriate, to treat COVID-19 patients with acute respiratory failure (see <https://www.neurorxpharma.com/our-services/usa-licensed-physicians/>).

Further information may be found at:

FDA: <https://www.fda.gov/news-events/fda-newsroom/press-announcements>

CDC: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/therapeutic-options.html>

NIH National Library of Medicine: Clinicaltrials.gov: <https://clinicaltrials.gov/ct2/results?cond=covid-19+&term=aviptadil&cntry=&state=&city=&dist=&Search=Search>

## Pronunciation

Vm

P

(a VIP ta dill)

## Pharmacologic Category

[Synthetic Vasoactive Intestinal Peptide](#)

## Dosing: Adult

**Note:** The FDA issued an emergency use investigational new drug (IND) authorization and expanded access protocol for aviptadil for the treatment of coronavirus disease 2019 (COVID-19) patients with acute respiratory failure. The expanded access protocol allows for aviptadil to be distributed in the US and administered intravenously by health care providers, as appropriate, to treat COVID-19 patients with acute respiratory failure (<https://www.neurorxpharma.com/our-services/usa-licensed-physicians/>). In addition, other phase II/II multicenter clinical trials are currently ongoing and enrolling in medical centers across the US (see [ClinicalTrials.gov](https://clinicaltrials.gov)). Dosing will be provided after clinical trials have demonstrated efficacy.

## Dosing: Pediatric

**Note:** The FDA issued an emergency use investigational new drug (IND) authorization and approved an expanded access protocol for aviptadil for the treatment of coronavirus disease 2019 (COVID-19) patients with acute respiratory failure. The expanded access protocol allows for aviptadil to be distributed in the United States and administered intravenously by health care providers, as appropriate, to treat COVID-19 patients  $\geq 12$  years of age with acute respiratory failure

(see [ClinicalTrials.gov](#)) (NeuroRx 2020; NIH 2020b). Current manufacturer protocol should be used for specific dosing information.

#### **Use: Labeled Indications**

See Off-label uses.

#### **Use: Off-Label: Adult**

#### **Coronavirus disease 2019 (COVID-19) Level of Evidence [C]**

In vitro and animal studies demonstrate the activity of aviptadil against coronaviruses (eg, severe acute respiratory syndrome coronavirus [SARS-CoV], SARS-CoV-2, and potential decrease in pulmonary inflammation<sup>(Ref)</sup>). A case series describes clinical improvement after receiving intravenous aviptadil in patients with acute respiratory failure due to coronavirus disease 2019 (COVID-19); however, no conclusions about the safety and efficacy of aviptadil can be made until randomized, controlled clinical trials are performed<sup>(Ref)</sup>. Aviptadil is currently in phase II/III clinical trials to include patients with acute respiratory failure due to COVID-19<sup>(Ref)</sup>.

#### **Prescribing and Access Restrictions**

Aviptadil is not commercially available in the United States; however, it is currently available in other countries to treat other medical conditions. Aviptadil can be obtained through an expanded access (via several ongoing clinical trials) or compassionate use for the treatment of coronavirus disease 2019 (COVID-19) from the manufacturer. Expanded access request forms must be submitted to NeuroRx by the patient's treating physician (<https://www.neurorxpharma.com/our-services/usa-licensed-physicians/>); requests are assessed on an individual basis and require the patient to be hospitalized with confirmed infection with significant clinical manifestations (eg, respiratory failure) (NeuroRx 2020; NIH 2020b). In addition, other phase II/III multicenter clinical trials sponsored by NeuroRx are currently ongoing and enrolling in medical centers across the United States (NIH 2020a).

#### **Pregnancy Considerations**

Aviptadil is under investigation for the treatment of acute respiratory failure due to COVID-19. Pregnant patients are currently excluded from clinical trials but may be eligible for open-label treatment under compassionate use (NIH 2020a).

The risk of severe illness from COVID-19 infection is increased in pregnant patients, and pregnancy is one of the high-risk medical conditions defined by the CDC. An increased risk of adverse pregnancy outcomes may also occur in COVID-19 positive patients with symptomatic infection. These include preterm birth, preeclampsia, coagulopathy, and stillbirth. Pregnant patients with symptomatic COVID-19 infection are more likely to require ICU admission, mechanical ventilation, and ventilatory support (ECMO) compared to nonpregnant symptomatic patients. Maternal age and comorbidities may also increase the risk of severe illness in pregnant and recently pregnant patients (ACOG 2020; NIH 2021).

The American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine have developed an algorithm to aid practitioners in assessing and managing pregnant patients with suspected or confirmed COVID-19 (<https://www.acog.org/covid-19>; <https://www.smfm.org/covid19>).

Interim guidance is also available from the CDC for pregnant patients who are diagnosed with COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html>).

Data collection to monitor maternal and infant outcomes following exposure to COVID-19 during pregnancy is ongoing. Health care providers are encouraged to enroll females exposed to COVID-19 during pregnancy in the Organization of Teratology Information Specialists pregnancy registry (877-311-8972; <https://mothertobaby.org/join-study/>) or the PRIORITY (Pregnancy CoRoNaVirus Outcomes RegIsTrY) (1-415-754-3729; <https://priority.ucsf.edu/>).

### **Adverse Reactions**

Aviptadil is currently under investigation for use in the treatment of coronavirus disease 2019 (COVID-19) (see ClinicalTrials.gov). At this time, safety data are limited.

Frequency not defined:

Cardiovascular: Bigeminy (Javitt 2020), flushing (Javitt 2020), hypotension (Javitt 2020; Youssef 2020), tachycardia (Javitt 2020)

Gastrointestinal: Diarrhea (Javitt 2020; Youssef 2020)

### **Metabolism/Transport Effects**

None known.

### **Drug Interactions Open Interactions**

There are no known significant interactions.

### **Mechanism of Action**

Aviptadil is a synthetic vasoactive intestinal peptide (VIP) that binds uniquely to receptors on alveolar type II cells in the lung, the same cells that bind the severe acute respiratory syndrome coronavirus (SARS-CoV-2) via their angiotensin-converting enzyme 2 receptors. VIP protects those cells and the surrounding pulmonary epithelium by blocking cytokines, preventing apoptosis, and upregulating the production of surfactant (Javitt 2020).

### **Pharmacodynamics/Kinetics**

Distribution:  $V_d$ : 14 mL/kg.

Half-life elimination: Plasma: ~1 to 2 minutes.

Excretion: Renal (35% within 4 hours, 90% within 24 hours).

### **References**

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