

Prior Authorization DRUG Guidelines

CRIXIVAN (Indinavir)

Effective Date: 1/28/14

Date Developed: 1/28/14 by Catherine Sanders, MD

Last Approval Date: 1/26/16, 1/24/17, 1/23/18, 1/22/19, 2/18/20

Crixivan is an Antiretroviral Agent, Protease Inhibitor used in the treatment of HIV-1 infection. Crixivan binds to the site of HIV-1 protease activity and inhibits cleavage of viral Gag-Pol polyprotein precursors into individual functional proteins required for infectious HIV. This results in the formation of immature, noninfectious viral particles.

Pre-Authorization Criteria: treatment of HIV infection

Note: should always be used as part of a multidrug regimen (at least three antiretroviral agents)

Note: VCHCP requires that Crixivan be prescribed by an Immunology Clinic physician with current American Academy of HIV Medicine (AAHIVM) Certification or a physician boarded in Infectious Disease.

Note: Crixivan use in pediatric patients is investigational and therefore an excluded benefit.

Dosing: Adult:

HIV infection: Oral:

Unboosted regimen: 800 mg every 8 hours

Ritonavir-boosted regimen: Ritonavir 100-200 mg twice daily plus indinavir 800 mg twice daily

Dosage adjustments for indinavir when administered in combination therapy:

Delavirdine, itraconazole, or ketoconazole: Reduce indinavir dose to 600 mg every 8 hours

Efavirenz: Increase indinavir dose to 1000 mg every 8 hours

Lopinavir and ritonavir (Kaletra™): Indinavir 600 mg twice daily

Nelfinavir: Increase indinavir dose to 1200 mg twice daily

Nevirapine: Increase indinavir dose to 1000 mg every 8 hours

Rifabutin: Reduce rifabutin to $\frac{1}{2}$ the standard dose plus increase indinavir to 1000 mg every 8 hours

Dosing: Pediatric:

HIV: Children 4-15 years (investigational): 500 mg/m² every 8 hours

Dosing: Geriatric:

Refer to adult dosing.

Dosing: Renal Impairment:

No dosage adjustment provided in manufacturer's labeling (has not been studied).

Dosing: Hepatic Impairment:

Mild-moderate impairment due to cirrhosis, monotherapy: 600 mg every 8 hours
Severe impairment: No dosage adjustment provided in the manufacturer's labeling (has not been studied).

Dosage Forms: U.S.:

Excipient information presented when available (limited, particularly for generics); consult specific product labeling.

Capsule, Oral:

Crixivan: 200 mg, 400 mg

Generic Equivalent Available: U.S.-No

Administration:

Drink at least 48 oz of water daily. Administer with water, 1 hour before or 2 hours after a meal. May also be administered with other liquids (eg, skim milk, juice, coffee, tea) or a light meal (eg, toast, corn flakes). Administer around-the-clock to avoid significant fluctuation in serum levels. May be taken with food when administered in combination with ritonavir.

Contraindications:

Hypersensitivity to indinavir or any component of the formulation; concurrent use of alfuzosin, alprazolam, amiodarone, cisapride, ergot alkaloids, lovastatin, midazolam (oral), pimozide, simvastatin, St. John's wort, or triazolam; sildenafil (when used for pulmonary artery hypertension [eg, Revatio®]).

Exclusions:

Pediatric use is investigational and therefore an excluded benefit (see EOC).

Adverse Reactions:

>10%-Abdominal pain, nausea, hyperbilirubinemia, nephrolithiasis/urolithiasis, including flank pain with/without hematuria.

Other Severe Less Common Reactions: interstitial nephritis, hyperglycemia, diabetes mellitus, hypercholesterolemia, hypertriglyceridemia, pancreatitis, hepatotoxicity, Stevens-Johnson syndrome, erythema multiforme, hemolytic anemia, thrombocytopenia, immune reconstitution syndrome, autoimmune disorders. Fat redistribution, hyperbilirubinemia.

References:

1. Deeks SG, Smith M, Holodniy M, et al, "HIV-1 Protease Inhibitors. A Review for Clinicians," *JAMA*, 1997, 277(2):145-53. [PubMed 8990341]
2. DHHS Panel on Antiretroviral Guidelines for Adults and Adolescents, "Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, Department of Health and Human Services," February 12, 2013;1-267. Available at <http://www.aidsinfo.nih.gov>
3. DHHS Panel on Opportunistic Infections (OI) in HIV-Infected Adults and Adolescents, "Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents: Recommendations from the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and the HIV Medicine Association (HIVMA) of the Infectious Diseases Society of America (IDSA)," May 7, 2013. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/adult_oi.pdf

5. Hiltz AE and Fish DN, "Dosage Adjustment of Antiretroviral Agents in Patients With Organ Dysfunction," *Am J Health Syst Pharm*, 1998, 55:2528-33. [PubMed 9853641]
6. Kakuda TN, Struble KA, and Piscitelli SC, "Protease Inhibitors for the Treatment of Human Immunodeficiency Virus Infection," *Am J Health Syst Pharm*, 1998, 55(3):233-54. [PubMed 9492254]
7. Kaul DR, Cinti SK, Carver PL, et al, "HIV Protease Inhibitors: Advances in Therapy and Adverse Reactions, Including Metabolic Complications," *Pharmacotherapy*, 1999, 19(3):281-98. [PubMed 10221367]
8. McDonald CK and Kuritzkes DR, "Human Immunodeficiency Virus Type 1 Protease Inhibitors," *Arch Intern Med*, 1997, 157(9):951-9. [PubMed 9140265]
9. Mueller BU, Smith S, Sleasman J, et al, "A Phase I/II Study of the Protease Inhibitor Indinavir (MK-0639) in Children With HIV Infection," *Int Conf AIDS*, 1996, 11:37.
10. Rana KZ and Dudley MN, "Human Immunodeficiency Virus Protease Inhibitors," *Pharmacotherapy*, 1999, 19(1):35-59. [PubMed 9917077]
11. Stein DS, Fish DG, Bilello JA, et al, "A 24-Week Open-Label Phase I/II Evaluation of the HIV Protease Inhibitor MK-639 (Indinavir)," *AIDS*, 1996, 10(5):485-92.
12. Working Group on Antiretroviral Therapy and Medical Management of HIV-Infected Children, "Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection," August 16, 2010. Available at <http://www.aidsinfo.nih.gov>
13. www.uptodate.com: Indinavir: Drug information
14. www.epocrates.com: Crixivan (indinavir) Drug information

REVISION HISTORY:

Date Reviewed/No Updates: 1/13/15 by C. Sanders, MD

Date Approved by P&T Committee: 1/27/15

Date Reviewed/Updated: 2/17/15 by C. Sanders, MD; R. Sterling, MD

Date Approved by P&T Committee: 1/26/16

Date Reviewed/No Updates: 1/24/17 by C. Sanders, MD; R. Sterling, MD

Date Approved by P&T Committee: 1/24/17

Date Reviewed/No Updates: 1/23/18 by C. Sanders, MD; R. Sterling, MD

Date Approved by P&T Committee: 1/23/18

Date Reviewed/No Updates: 1/22/19 by J C. Sanders, MD; R. Sterling, MD

Date Approved by P&T Committee: 1/22/19

Date Reviewed/No Updates: 2/18/20 by H. Taekman, MD; R. Sterling, MD

Date Approved by P&T Committee: 2/18/20

Revision Date	Content Revised (Yes/No)	Contributors	Review/Revision Notes
1/24/17	No	Catherine Sanders, MD; Robert Sterling, MD	Annual review

1/23/18	No	Catherine Sanders, MD; Robert Sterling, MD	Annual review
1/22/19	No	Catherine Sanders, MD; Robert Sterling, MD	Annual review
2/18/20	No	Howard Taekman, MD; Robert Sterling, MD	Annual review