Lamivudine:

Class: Antiretroviral Agent, Reverse Transcriptase Inhibitor (Nucleoside).

Indications:

Epivir®: Treatment of HIV infection when antiretroviral therapy is warranted; should always be used as part of a multidrug regimen (at least three antiretroviral agents)

Epivir-HBV®: Treatment of chronic hepatitis B associated with evidence of hepatitis B viral replication and active liver inflammation. Resistance develops rapidly in hepatitis B; consider use only if other anti-HBV antiviral agents with more favorable resistance patterns cannot be used

Available dosage form in the hospital: 100MG TAB, 150MG TAB.

Trade Names:

Dosage:

HIV: Oral (use with at least two other antiretroviral agents): 150 mg twice daily **or** 300 mg once daily

<50 kg (DHHS [pediatric], 2010): 4 mg/kg twice daily (maximum: 150 mg twice daily)

Postexposure prophylaxis for HIV exposure (unlabeled use [CDC, 2005]): Oral: 150 mg/dose twice daily or 300 mg/dose once daily (in combination with zidovudine, tenofovir, stavudine, or didanosine, with or without a protease inhibitor depending on risk)

Treatment of hepatitis B (Epivir-HBV®): Note: Use in HBV treatment is discouraged due to rapid resistance development; consider use only if other anti-HBV antiviral regimens with more favorable resistance patterns cannot be used. Oral: 100 mg/day

Treatment duration (AASLD practice guidelines):

Hepatitis Be antigen (HBeAg) positive chronic hepatitis: Treat ≥1 year until HBeAg seroconversion and undetectable serum HBV DNA; continue therapy for ≥6 months after HBeAg seroconversion

HBeAg negative chronic hepatitis: Treat >1 year until hepatitis B surface antigen (HBsAg) clearance

Note: Patients not achieving <2 log decrease in serum HBV DNA after at least 6 months of therapy should either receive additional treatment or be switched to an alternative therapy (Lok, 2009).

Treatment of hepatitis B/HIV coinfection (in patients with both infections requiring treatment): Note: The formulation and dosage of Epivir-HBV® are not appropriate for patients infected with both HBV and HIV. Tenofovir and lamivudine are a preferred NRTI backbone in a fully suppressive antiretroviral regimen for the treatment of HIV/HBV coinfection (DHHS, 2013).

Oral: 150 mg/dose twice daily or 300 mg/dose once daily, in combination with other antiretrovirals in an antiretroviral (ARV) regimen (DHHS, 2013)

Dosing: Renal Impairment

HIV:

Patients ≤16 years: Insufficient data; however, dose reduction should be considered.

Patients >16 years:

Cl_{cr} 30-49 mL/minute: Administer 150 mg once daily

Cl_{cr} 15-29 mL/minute: Administer 150 mg first dose, then 100 mg once daily

Cl_{cr} 5-14 mL/minute: Administer 150 mg first dose, then 50 mg once daily

Cl_{cr} <5 mL/minute: Administer 50 mg first dose, then 25 mg once daily

Treatment of hepatitis B patients: Adults:

Cl_{cr} 30-49 mL/minute: Administer 100 mg first dose, then 50 mg once daily.

Cl_{cr} 15-29 mL/minute: Administer 100 mg first dose, then 25 mg once daily.

Cl_{cr} 5-14 mL/minute: Administer 35 mg first dose, then 15 mg once daily.

Cl_{cr} <5 mL/minute: Administer 35 mg first dose, then 10 mg once daily.

Dialysis: Negligible amounts are removed by 4-hour hemodialysis or peritoneal dialysis. Supplemental dosing not needed; however, dosing after dialysis is recommended (DHHS, 2013).

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Common side effect:

Central nervous system: Headache , fatigue , insomnia .

Gastrointestinal: Nausea , diarrhea , abdominal ,vomiting .

Hematologic: Neutropenia .

Neuromuscular & skeletal: Myalgia , neuropathy , musculoskeletal pain .

Respiratory: Nasal signs and symptoms , cough , sore throat .

Pregnancy Risk Factor: C