tenofovir (Rx)

(ten-oh-foh'veer)

Viread

Func. class.: Antiretroviral

Chem. class.: Nucleoside reverse transcriptase inhibitor (NRTI)

ACTION: Inhibits replication of HIV virus by competing with the natural substrate and then incorporating into cellular DNA by viral reverse transcriptase, thereby terminating cellular DNA chain

USES: HIV-1 infection with at least 2 other antiretrovirals, hepatitis B

CONTRAINDICATIONS: Hypersensitivity

Black Box Warning: Lactic acidosis

Precautions: Pregnancy, breastfeeding, children, geriatric patients, renal disease, CCr <60 mL/min, osteoporosis, immune reconstitution syndrome

Black Box Warning: Hepatic disease, hepatitis

DOSAGE AND ROUTES

Human immunodeficiency virus (HIV) infection

- **Adult/adolescent/child weighing ≥35 kg: PO** Tablet: 300 mg once daily; Oral powder 300 mg/day (7.5 scoops) with 2-4 oz soft food
- **Adolescent/child weighing 28-34 kg: PO** Tablet: 250 mg/day
- **Child ≥2 yr and weighing 22-27 kg: PO** Tablet: 200 mg/day
- **Child ≥2 yr and weighing 17-21 kg: PO** Tablet: 150 mg/day
- **Child/adolescent ≥2 yr and weighing <35 kg: PO** Oral powder: 8 mg/kg/dose daily with 2-4 oz soft food. Round dose to nearest 20-mg increment

Renal dose (tenofovir DF)

- **Adult: PO** CCr 30-49 mL/min, 300 mg q48hr; CCr 10-29 mL/min, 300 mg q72-96hr; CCr <10 mL/min, not recommended

Renal dose (tenofovir alafenamide)

- **Adult: PO** CCr <15 mL/min: not recommended

Available forms: Tabs 150, 200, 250, 300 mg; oral powder 40 mg/scoop

Administer:

- Without regard to food
- Store at 25° C (77° F)
- **Oral powder:** use scoop provided, mix powder into 2-4 oz ($^1/_4$-$^1/_2$ cup) of applesauce, yogurt, do not mix with liquid, product will not mix, product is bitter, use immediately after mixing, clean scoop

SIDE EFFECTS

CNS: *Headache, asthenia*

GI: *Nausea, vomiting, diarrhea,* anorexia, *flatulence, abdominal pain,* pancreatitis

GU: Renal failure, renal tubular acidosis/necrosis, Fanconi's syndrome

HEMA: Neutropenia, osteopenia

INTEG: *Rash,* angioedema

META: Lactic acidosis, hypokalemia, hypophosphatemia

MS: Arthralgia, myalgia, decreased bone mineral density

SYST: Lipodystrophy

PHARMACOKINETICS

Rapidly absorbed, distributed to extravascular space, excreted unchanged in urine 70%-80%, terminal half-life 17 hr, peak 1-2 hr

INTERACTIONS

Increase: tenofovir level—cidofovir, acyclovir, valACYclovir, ganciclovir, valGANciclovir

Increase: level of didanosine when given with tenofovir

Increase: tenofovir level—any product that decreases renal function

NURSING CONSIDERATIONS

Assess:

- Viral load, CD4+ T-cell count, plasma HIV RNA, serum creatinine/BUN/phosphate
- Resistance testing at start of therapy and at treatment failure