Rifampin (Rif)

**DRUG CLASS: RIFAMYCIN**

**Activity against TB, mechanism of action, and metabolism**

- **Bactericidal;** inhibits protein synthesis; cross-resistance with other rifamycins.

**Dose**

- **Adults:** 10 mg/kg/dose up to 600 mg (oral or IV).
- **Children:** 10-20 mg/kg/dose up to 600 mg (oral or IV).
- **Renal failure/dialysis:** No adjustment required.
- **Concomitant medications:** Dosage adjustment may be required for concurrent medications, including warfarin. After stopping rifampin, warfarin dosage may require downward adjustment to prevent toxicity. Concurrent treatment with most antiretroviral drugs is not recommended, as antiretroviral drug concentrations are substantially reduced. Rifampin plasma concentrations are not affected by most other drugs (based on current data).

**Route of administration**

- Oral or IV.

**Preparation**

- 150 and 300 mg capsules; lyophilized powder for injection: 600 mg/vial; contents of capsules can be mixed with liquid or semi-soft vehicles. Extemporaneously prepared oral solutions have unproven homogeneity and shelf life. Immediate administration of the dose after mixing capsular contents in a vehicle is ideal.

**Storage**

- Capsules and powder should be kept at room temperature (15–25 °C); powder suspended in saline is stable for 24 hours; powder suspended in dextrose solutions is stable for 4 hours.

**Oral absorption**

- Usually absorption is rapid but may be delayed or decreased by high-fat meals.

**CSF penetration**

- Rifampin CSF penetration is variable and typically achieves only 10–20% of serum concentrations in CSF (may be better in the face of inflamed meninges), but this may still be an important contribution to the regimen. Some authors recommend increased doses of rifampin in patients with TB meningitis.

**Special circumstances**

- **Use during pregnancy/breastfeeding:** Recommended for use during pregnancy; can be used while breastfeeding.
- **Use in renal disease:** Can be used without dose adjustment.
- **Use in hepatic disease:** Use with caution as it can be associated with hepatotoxicity.
| **Adverse reactions** | **Many drug interactions.**  
Orange staining of body fluids  
Rash and pruritus  
Gastrointestinal upsets, flu-like syndrome (usually only with intermittent administration).  
Hepatotoxicity.  
Haematologic abnormalities (thrombocytopenia, haemolytic anaemia). |
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<td><strong>Contraindications</strong></td>
<td><strong>Rifamycin allergy;</strong> due to drug interactions, may be contraindicated with concurrent use of certain drugs.</td>
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<td><strong>Monitoring</strong></td>
<td>Liver function monitoring if appropriate (if given with other hepatotoxic medications or if there are symptoms of hepatotoxicity); monitor drug concentrations of interacting medications.</td>
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| **Patient instructions and alerting symptoms** | Best taken without food; if it irritates the stomach, try taking it with a small amount of food. It is normal for urine, tears and other secretions to turn an orange color when taking this medicine. Soft contact lenses may become discolored while on this medicine. Make sure your doctor knows all the medicines you take because many drugs can interfere with this one. Avoid the use of oral hormone-based birth control methods because rifampin may decrease their effectiveness.  
Instruct patients to inform their health care provider right away if any of the following occurs:  
• Unusual tiredness or loss of appetite  
• Severe abdominal upset  
• Fever or chills |