What Does the Evidence Say?

- Live, attenuated virus.
- Recommended for all children unless specific contraindication.
- Adults 18 years of age and older, born after 1956, should receive one dose unless they can document they have been previously vaccinated or had all three diseases (CDC, 2015a).

Contraindications

- Patients who are immunosuppressed post-transplant (Danzinger-Isakov, Kumar, & AST, 2013).
- Blood dyscrasias, leukemias, lymphoma, or other neoplasms affecting bone marrow or lymphatic systems (Rangel, Coronado, Euler, & Strikas, 2000).
- Primary acquired immunodeficiency states (Chi et al., 2012).
- Family history of congenital or hereditary immunodeficiency, until immune competence is demonstrated (CDC, 2000).
- Patients with CKD receiving immunosuppressive therapy (Danzinger-Isakov et al., 2013).
- Hypersensitivity to any component of vaccine, including gelatin, neomycin, and eggs (Chi et al., 2012).
- Active febrile infections (Chi et al., 2012).

Pregnancy

- Pregnancy should be avoided 3 months post-vaccination (Chi et al., 2012).
- Do not give during pregnancy (CDC, 2015b).
<table>
<thead>
<tr>
<th>Dose</th>
<th>ESRD</th>
<th>CKD</th>
<th>PEDIATRICS</th>
<th>TRANSPLANT</th>
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<tbody>
<tr>
<td></td>
<td>• 0.5 mL subcutaneously.</td>
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<td>• Contraindicated post-transplant (Campbell &amp; Herold, 2005; Danziger-Isakov et al., 2013).</td>
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<td>Timing</td>
<td>• Adults: At least one dose. • If no record of immunity, give (0.5 mL) subcutaneously times two doses at least 28 days apart (CDC, 2015a).</td>
<td>• All stages of chronic kidney disease (Chi et al., 2012).</td>
<td>• Administer between 12-15 months of age; repeat dose between 4-6 years old (Neu, 2012).</td>
<td>• Antibody titers should be measured prior to proceeding to transplant; repeat vaccination should be given to patients with negative titers; wait at least 4 weeks post dose to repeat serology (Danziger-Isakov et al., 2013).</td>
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<td>Info</td>
<td>• According to CDC, “Live vaccines might need to be deferred if severe immune compromise is present; persons with altered immunocompetence might be at increased risk for an adverse reaction after administration of live, attenuated vaccines because of uninhibited replication; however, the majority of persons with CKD (regardless of CKD stage) have sufficient immune function to safely receive all live vaccines for which an inactivated vaccine is not an alternative” (Chi et al., 2012, p.3).</td>
<td>• According to CDC, “Live vaccines might need to be deferred if severe immune compromise is present; persons with altered immunocompetence might be at increased risk for an adverse reaction after administration of live, attenuated vaccines because of uninhibited replication; however, the majority of persons with CKD (regardless of CKD stage) have sufficient immune function to safely receive all live vaccines for which an inactivated vaccine is not an alternative” (Chi et al., 2012, p.3).</td>
<td>• All children should receive two doses, which should be given at least 28 days apart (CDC, 2015a).</td>
<td>• Wait 4 weeks after vaccination before transplantation (Danziger-Isakov et al., 2013).</td>
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References