

# ACTIVE LEARNING TEMPLATE: Medication

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MEDICATION Pneumococcal Polysaccharide Vaccine (23-Valent)

REVIEW MODULE CHAPTER \_\_\_\_\_

CATEGORY CLASS Vaccine, Inactivated (Bacterial)

## PURPOSE OF MEDICATION

### Expected Pharmacological Action

Stimulates the immune system to produce antibodies against pneumococcal polysaccharide antigens → protection against invasive pneumococcal disease.

### Therapeutic Use

Prevents pneumococcal disease (pneumonia, meningitis, bacteremia) caused by 23 pneumococcal serotypes.  
Used in children ≥2 with chronic/immune conditions, adults with risk factors, and all adults ≥50 (including ≥65 regardless of prior vaccine history).

### Complications

Local (common): Pain, redness, swelling, induration, tenderness  
Systemic: Fatigue, headache, myalgia, chills, low-grade fever, nausea/diarrhea  
Rare/Serious: Anaphylaxis, Guillain-Barré syndrome, rash/urticaria, thrombocytopenia, hemolytic anemia

### Medication Administration

Dose: 0.5 mL IM or SubQ  
Adults: One-time dose; revaccination may be needed ≥5 years later for high-risk groups  
Pediatrics (≥2 years with high risk): 0.5 mL IM/SubQ; revaccinate ≥5 years later if needed  
Important: Not effective in children <2 years  
Timing with PCV vaccines: If PCV15 given first → PPSV23 ≥8 weeks (immunocompromised/CSF leak/cochlear implant) or ≥1 year (others). If PPSV23 given first → PCV given ≥1 year later.  
Never IV or intradermal

### Contraindications/Precautions

Contraindicated in severe allergic reaction to vaccine or components  
Precautions:  
Bleeding disorders or anticoagulant therapy (risk hematoma)  
Immunocompromised (reduced response possible)  
Vaccinate ≥2 weeks before splenectomy or cochlear implant surgery  
Syncope risk after injection (esp. adolescents/young adults)

### Nursing Interventions

Screen for allergies, immune status, and vaccine history  
Monitor closely post-injection for hypersensitivity or syncope  
Use fine needle + firm pressure ≥2 minutes for bleeding risk patients  
Store refrigerated at 2–8°C (36–46°F)  
Use separate syringe/site if giving with other vaccines\

### Interactions

Can be given with other vaccines (different sites/syringes)  
Immunosuppressive therapy may reduce effectiveness

### Client Education

Protects against serious pneumococcal infections but not all respiratory infections  
Common side effects: mild arm pain, redness, fatigue, headache  
Severe allergic reaction is rare → seek emergency care if breathing problems, hives, or swelling occur  
Some may need revaccination depending on age/health condition

### Evaluation of Medication Effectiveness

Patient does not develop pneumococcal infection  
Lower rates of pneumonia, meningitis, or sepsis in high-risk populations