Paliperidone Drug Monitoring

Indications for Ordering
Optimize drug therapy and monitor patient adherence

Test Description
Quantitative liquid chromatography-tandem mass spectrometry

Tests to Consider
Paliperidone, Serum or Plasma 2007949
• Predose (trough) concentration at steady state should be assessed
• Trade names include Invega

Disease Overview
Clinical issues
Paliperidone is used in the treatment of mental mood disorders such as
• Schizophrenia
• Schizoaffective disorder

Physiology
• Primary active metabolite of risperidone
• Selective monoaminergic antagonist with high affinity for the serotonin type 2, dopamine type 2, and histamine type 1 receptors

Drug profile
• Atypical antipsychotic drug – also known as 9-OH risperidone
• Extensively metabolized in the liver by CYP2D6, the major enzyme for metabolism, and CYP3A4
  o Coadministration with known enzyme inducers may cause decreased concentrations of risperidone
  • Examples include carbamazepine, phenytoin, rifampin, and phenobarbital

Test Interpretation
Analytical sensitivity – limit of detection is 5.0 ng/mL
• Interferences from commonly used drugs and associated metabolites have not been observed

Results
• Concentration is reported
• Suggested therapeutic range – 20.0-60.0 ng/mL

Limitations
Toxic and therapeutic ranges are not well established