Cotinine, Urine

**Indications for Ordering**
- Assess active exposure to nicotine
- Assess compliance with smoking-cessation programs

**Test Description**
Enzyme multiplied immunoassay technique

**Tests to Consider**

**Primary test**
*Cotinine Screen, Urine 2007081*
- Urine screening test for determining active exposure to nicotine and compliance with smoking-cessation programs
- Qualitative screen recommended for use in documenting abstinence from nicotine-containing products, such as in surgery qualification
- For determination of active or passive nicotine use, or for differentiation between nicotine replacement and tobacco use, quantitative nicotine and metabolites test is preferred

**Related tests**
*Nicotine and Metabolites, Urine, Quantitative 0092356*
- Assess active exposure to nicotine and compliance with smoking-cessation programs
- Use to confirm cotinine screening results
- Recommended for determination of active or passive nicotine use or for differentiation between nicotine replacement and tobacco use

*Nicotine and Metabolites, Serum or Plasma, Quantitative 0092361*
- Use to detect and monitor nicotine, cotinine, and trans-3’-hydroxycotinine in serum or plasma
- Serum or plasma testing may be useful when a valid urine specimen cannot be obtained (anuretic or dialysis)

**Disease Overview**

**Clinical issues**
- Cigarette smoking is a preventable cause of death
- Cigarette smoking is the most common form of drug addiction in the United States
- Long-term use of tobacco products is associated with the development of cancer, heart disease, stroke, lung disease
- Monitoring of tobacco use during smoking-cessation programs and for insurance purposes has become common
  - Best screening test is cotinine

**Physiology**
- Nicotine has a short half-life and may not be an indicator of smoking status
- Cotinine is a major metabolite of nicotine (70-80%)
  - Half-life of ~16 hours
  - May be detected up to 7 days after nicotine exposure

**Test Interpretation**

**Analytical sensitivity** – 100 ng/mL

**Results**
- Concentration is not reported – this is a qualitative screen
- Positive result reported at 100 ng/mL

**Limitations**
- May not differentiate between passive and active nicotine exposure
- Will not differentiate nicotine exposure from nicotine replacement therapy and tobacco use
- Assay may crossreact with other nicotine metabolites