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**Male STI Ontology**

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**Male STI Ontology - Use Case Brief**

**What It Is**

A structured knowledge system that connects male STI diseases, causes, symptoms, tests, and treatments in a machine-readable format.

**Key Use Cases**

**Clinical Decision Support** - where doctors can quickly get diagnosis suggestions, test recommendations, and treatment options with resistance patterns (like an ER doctor treating penile discharge getting immediate guidance instead of spending 20 minutes researching);

**Complication Management** - where the system prevents treatment failures by flagging drug resistance and suggesting alternative therapies (such as alerting that ciprofloxacin is ineffective for gonorrhea and recommending ceftriaxone instead);

**Medical Education** - where students can visualize complex relationships between pathogens and diseases through interactive pathways rather than memorizing disconnected facts from multiple sources.

By organizing scattered medical information into connected, actionable knowledge, the ontology enables faster diagnosis, reduces treatment errors, improves learning efficiency, and ultimately enhances patient care outcomes while supporting healthcare system integration and standardization.