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Laboratorio Analisis Clinicos  
Av. Obregon 28-9  
Nogales, Sonora  
Mexico

## URINE ANALYSIS

Date/Time Received: 06/09/2014

Date Tested: 11-Jun-2014

Sent Method: upload

Service No: 99687

<b>Patient:</b> Jane Doe 6574 One way Dr. Overhere, GA 30237	Date of Birth: 04/24/92 Home Phone: 365-354-9900 Business/Cell Phone:	Sex: Female 365-354-9900	<b>Health Practitioner:</b> Dr. Sample Doctor Business Phone: 123-456-7890 Facsimile:
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**History:**

Foreign Travel:	Africa
Symptoms:	Urine is discolored and foggy.
Past Infection /Treatment:	UTI's throughout life.
Other infected in household:	None.

Analysis of urine specimen: Normal value = 0 (not marked) Reference range: 0 (negative) - 4 (heavy presence)  
Specimens fixed and transported in 10% buffered formalin

### Common Biological Findings:

2 Eggs of Schistostoma sp.

2 Squamous epithelial cells

Bacteria

Protozoa

WBC

RBC

Other

### Common Mineral Findings:

#### Diatoms:

Round Forms

Tubular Forms

Colonies

Other

**Comments** (samples tested at the Nogales facility):

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## SUMMARY OF FINDINGS

### SCHISTOSOMIASIS

**Schistosomiasis** (bilharzia) is a disease caused by parasitic flukes that inhabit the circulatory system of humans and other mammals. More than 200 million people are infected worldwide. It is the second most devastating parasitic disease after malaria. It is one of the Neglected Tropical Diseases (NTDs). Most human infections are caused by *Schistosoma mansoni*, *S. haematobium*, or *S. japonicum*; less commonly, *S. mekongi* and *S. intercalatum* can cause disease.

**Clinical significance:** *Schistosoma haematobium* is the form found in urine. In endemic areas in Africa and S. America, *S. haematobium* has a life cycle in snail hosts and in humans who wade in infected snail contaminated waters. Larvae emerging from snails infect human skin and develop to adults in blood vessels. Adults will eliminate eggs that pass to the urinary bladder then the urinary tract. As the eggs penetrate the urinary system, they can find their way to the female genital region and form granulomas in the uterus, fallopian tube, and ovaries. Most of the pathological damage caused by this infection is caused by the scarring passage of eggs from the circulatory system to the urinary bladder for elimination.

**Treatment:**

Treatment section is reserved for Practitioners.

### SQUAMOUS EPITHELIAL CELLS

**Squamous epithelial cells in urine:** There are three different types of epithelial cells that line the urinary tract. This includes the cells lining the ureters, urinary bladder, and the urethra. These are transitional epithelial cells, renal tubular cells, and squamous epithelial cells. Transitional epithelial cells consist of multiple layers of epithelial cells. They are usually found throughout the length of the urinary tract. Renal tubular cells may be found in the urine. These cells have an elongated nucleus and they are generally columnar in shape. The presence of renal tubule cells in the urine is of diagnostic significance, related to an underlying kidney disease. The squamous cells are the largest cells. They are flat, usually with an angular or irregular outline and a thin, small nucleus with a fine, granular cytoplasm. They may be present as single cells scattered around the specimen or may be seen as clusters.

**Clinical significance:** The presence of squamous epithelial cells in the urine indicates the presence of a pathological condition associated with the kidneys or some other part of the urinary tract. An underlying infection needs to be detected. It is often detected when the collected urine was not an early morning specimen, which is the ideal specimen that is recommended by most pathologists for collection. While the presence of these cells in urine is not a very alarming symptom by itself, it may yet reflect the presence of a bacterial or other infection when the squamous cells are seen in large numbers. Further examination and culturing of the urine sample would be recommended, especially if the urine sample is cloudy, bloody, or otherwise discolored or with dense consistency.

**Treatment:**

Treatment section is reserved for Practitioners.