USEFUL FOR
Detection of antibodies to *Schistosoma* species

CLINICAL INFORMATION

*Schistosoma* species (class Trematoda) are flukes, characterized by their flat, leaf-like morphology as adults, and use of gastropod molluscs (eg, snails) as an intermediate host. The schistosomes are also referred to as the “blood flukes,” of which there are 5 species known to infect humans: *S. mansoni*, *S japonicum*, *S haematobium*, *S mekongi*, and *S intercalatum*. Among these *S mansoni*, *S japonicum* and *S haematobium* are most common.

These species have a defined geographic distribution, with *S. mansoni* occurring throughout sub-Saharan Africa, the Middle East, and islands in the Caribbean; *S haematobium* found in much of the African continent and the Middle East; and *S japonicum* localized to China, Indonesia, and the Philippines.

Humans are definitive hosts for all of the *Schistosoma* species except for *S japonicum*, and infection begins with skin penetration of cercariae in contaminated water sources. The cercariae shed their bifurcated tails, becoming schistosomulae and migrate through the vascular system to the lungs, heart, and to the portal venous system in the liver. There they mature to adults, pair off and migrate to the mesenteric venules of the bowel and rectum (*S mansoni*, *S japonicum*) or venous plexus of the bladder (*S haematobium*). Females will shed eggs, which are moved progressively towards the lumen of the intestine (*S mansoni*, *S japonicum*) and bladder (*S haematobium*) and are eliminated in the feces or urine, respectively. These eggs will hatch under ideal conditions, releasing miracidia, which penetrate specific snail (mollusc) intermediate hosts and develop into cercariae, continuing the life cycle.

While many infections are asymptomatic, acute schistosomiasis (Katayama fever) due to *S. mansoni* or *S japonicum*, may occur weeks after initial infection. Symptoms include fever, cough, abdominal pain, diarrhea, hepatosplenomegaly, and eosinophilia. Central nervous system infection is uncommon; however, cerebral granulomatous disease may be caused by migration of *Schistosoma* eggs into the brain or spinal cord. Cystitis and ureteritis with haematuria are associated with *S haematobium* infection, and can progress to bladder cancer.

Diagnosis of schistosomiasis can be made by detection of eggs in stool or urine samples as appropriate for each species. Antibody detection can be useful to in patients who reside in nonendemic areas, but have recently traveled to regions where *Schistosoma* species are found, and in whom eggs cannot be identified in fecal or urine examinations.

TEST ID: BILHA
*SCHISTOSOMA* SPECIES ANTIBODY, IgG, SERUM

REFERENCE VALUES
Negative

ANALYTIC TIME
Same day/1 day

CONTENT AND VALUES SUBJECT TO CHANGE. SEE THE MAYO MEDICAL LABORATORIES TEST CATALOG FOR CURRENT INFORMATION.
**INTERPRETATION**

**Negative**
The absence of antibodies to Schistosoma suggests that the patient has not been exposed this trematode. A single negative result should not be used to rule-out infection with Schistosoma species.

**Equivocal**
Consider repeat testing on a new serum sample in 1 to 2 weeks.

**Positive**
Results suggest infection with Schistosoma. False-positive results may occur in settings of infection with other helminths, including with Echinococcus or Taenia species (see Supportive Data). Results should be considered alongside other clinical findings and exposure history.

**CLINICAL REFERENCE**