

TEST FOR RHEUMATOID FACTOR

OBJECTIVES/RATIONALE

Testing for the presence of antibodies is important in diagnosing many diseases. The student will use the rheumatoid factor test to determine the absence or presence of rheumatoid factor.

TEKS 121.15 1A, 2B, 2D, 5C

TAKS ELA 1, 4
Science 1, 4

National Science Education Standards A9-12; C9-12; E9-12; F9-12; G9-12
National Health Care Skills Standards .01, .04, .05, .06, .07, .08

KEY POINTS

- I. Rheumatoid arthritis is believed to be an autoimmune reaction.
- II. Although many organs and tissues may be involved, it is characterized by its affect on joints.
- III. The synovial membranes become thickened due to inflammation and eventually are destroyed.
- IV. As the disease progresses, the fibrous tissue ossifies and the bones are fused causing the joints to become immobile and deformed.
- V. All patients exhibit joint restriction and pain.
- VI. The rheumatoid factor is found in the serum of most patients with rheumatoid arthritis.
- VII. In the diagnostic test a test result for the rheumatoid factor is indicated by agglutination.

**Teacher Note*

Invite a guest speaker from the Arthritis Association.

ACTIVITIES

- I. Complete the Rheumatoid Arthritis Test Laboratory Investigation.

MATERIALS/RESOURCES

Arthritis screening test
Microscope slide
Wax marker
Two applicator sticks
Test plasma and positive control plasma
Gloves

Laboratory coat or apron
Goggles
Biohazard containers
Surface disinfectant
Paper towels

**Teacher Note*

Some medical laboratories may donate outdated test kits.

ASSESSMENT

Laboratory Investigation Rubric

ACCOMODATIONS

For reinforcement, the student will list and describe the stages of rheumatoid arthritis.

For enrichment, the student will research and prepare a multimedia presentation covering the adaptations needed for patients in the later stages of the disease.

REFLECTIONS

RHEUMATOID ARTHRITIS TEST

Purpose:

In this laboratory investigation, the student will use the rheumatoid factor test to determine the absence or presence of rheumatoid factor.

Background Information:

Materials:

Arthritis screening test
Two microscope slides
Wax marker
Two applicator sticks
Test plasma and positive control plasma
Gloves
Laboratory coat or apron
Goggles
Biohazard containers
Surface disinfectant
Paper towels

Procedure:

1. Wash hands and put on gloves and goggles.
2. Assemble equipment and materials.
3. Prepare work area.
4. Mark one slide control and the other test.
5. Place a drop of the control plasma on the slide marked "control".
6. Place a drop of the test plasma on the slide marked "test".
7. From the test kit add a drop of reagent one to each sample. Mix the drops together using the applicator stick.
8. From the test kit add a drop of reagent number two to each sample. Mix the solutions with the applicator sticks.
9. Allow the slides to sit approximately three minutes.
10. Check for the presence of agglutination.
11. Clean work area with surface disinfectant. Remove goggles and gloves and wash hands.

Conclusion:

1. Compare and contrast the consistency of the control plasma before and after adding the testing reagents.
2. Compare and contrast the consistency of the testing plasma before and after adding the testing reagents.
3. Describe the characteristics that indicate a positive result.
4. Describe the immunological reaction in a positive result.