

Reading Comprehension

Read the following essay on juvenile rheumatoid arthritis. Then use the information in the text to answer the questions that follow.

Arthritis in Children: Juvenile Rheumatoid Arthritis

By Kerry V. Cooke

1 Arthritis is usually associated with adults, but children can be affected as well.
2 Juvenile rheumatoid arthritis (JRA), a chronic condition causing joint inflammation for at
3 least six weeks in a child sixteen years of age or younger, is the most common type of
4 arthritis in children. In most cases it is not a lifelong disorder, and the signs and
5 symptoms fade after several months or years. Still, JRA can be complicated. The term
6 juvenile rheumatoid arthritis is actually an **umbrella term** for a group of conditions. The
7 conditions are classified according to the number of joints affected, the signs and
8 symptoms, and the results of blood tests. There are three main categories of JRA. These
9 categories are pauciarticular JRA, polyarticular JRA, and systemic JRA. Juvenile
10 rheumatoid arthritis can be further understood according to its causes, symptoms,
11 diagnosis, and treatment methods.

12 Doctors believe that JRA is an autoimmune disorder. This means that the body
13 attacks its own cells and tissues. It is unknown why **this** happens, but both heredity and
14 environment seem to play a role. It may be that a virus or bacterium triggers the
15 development of JRA in children with certain genetic profiles. These genetic profiles are
16 detected in many children with JRA and are considered genetic markers for juvenile
17 rheumatoid arthritis. However, not all children with the markers develop JRA, and
18 children without the markers can still develop the condition.

19 There are several signs and symptoms of JRA. Joint swelling, with pain and
20 stiffness, is always experienced. This feeling may be more **pronounced** in the morning or
21 after a nap. It commonly affects the knees and the joints in the extremities. Children may
22 complain of pain, and at times, they may even limp as a result of the pain. Aside from
23 these symptoms, other symptoms occur depending on the specific type of JRA. Eye
24 inflammation tends to occur in children with pauciarticular JRA. Signs and symptoms of
25 eye inflammation include red eyes, eye pain, and increased pain when looking at light.
26 Eye inflammation is not always clearly noticeable; therefore, routine eye examinations
27 are recommended since it may result in blindness. There are also various signs specific to
28 systemic JRA. Fever, rash, and swollen lymph nodes most commonly affect children with
29 systemic JRA. The fever is often temporary, and the rash usually appears and disappears
30 quickly. If a child exhibits signs of joint swelling, stiffness or pain, or just limps for no
31 obvious reason, the child should be taken to see a doctor. Additionally, if the child has a
32 fever of 102°F that **persists** for longer than two or three days, she should be taken to the
33 doctor. A fever that signals JRA occurs intermittently throughout the day and lasts for a
34 few hours each time.

35 A variety of diagnostic tests are necessary to confirm the presence of JRA. To
36 begin with, the physician takes the patient's medical history and performs a physical
37 examination. Following this, different tests are completed to determine whether or not the
38 patient is suffering from JRA and specify the type of JRA the person is experiencing. A
39 specific blood test called an erythrocyte sedimentation rate test is often the first procedure
40 carried out. Sedimentation rate is the speed at which a person's red blood cells settle to

41 the bottom of a tube. An elevated rate **indicates** inflammation in the patient's body.
42 Measuring the sedimentation rate is used to rule out other conditions, help classify the
43 type of JRA, and determine the degree of inflammation. A second type of blood test,
44 called an ANA test, is also performed. This test is used to look for antibodies in the
45 child's blood. Further analysis of the antibody helps the doctor determine the type of
46 arthritis. Antinuclear antibodies are commonly produced by the immune systems of
47 people with certain autoimmune diseases, including arthritis. Furthermore, a rheumatoid
48 factor is an antibody commonly found in the blood of people with rheumatoid arthritis. In
49 addition to blood tests, x-rays are taken to help the doctor exclude other conditions that
50 may have caused the symptoms. These conditions include fractures, tumors, and
51 congenital defects. X-rays are also used from time to time after the diagnosis to **monitor**
52 bone development and possible joint damage. In some cases, a surgical procedure is
53 necessary. The procedure most often involves the removal of some synovial fluid from
54 between the affected joints; this fluid is later analyzed. The removal of synovial fluid
55 relieves the pain and helps the doctor identify the cause of the arthritis.

56 The various treatment methods for JRA focus on helping the patient maintain a
57 normal level of physical and social activity. To accomplish this, doctors use a
58 combination of strategies to relieve pain and swelling, maintain full movement and
59 strength, and prevent complications. Several types of medication are used. For some
60 children, a pain reliever is the only medication needed. Others need help from
61 medications **designed** to limit the progression of the disease. Specific medications
62 include non-steroidal anti-inflammatory drugs (NSAIDs), disease-modifying anti-
63 rheumatic drugs (DMARDs), and corticosteroids. NSAIDs, such as aspirin, ibuprofen,
64 and naproxen, reduce pain and swelling. Because children can develop side effects such
65 as bleeding as well as liver and stomach problems, these medications should be used
66 under a doctor's supervision. DMARDs are used when NSAIDs alone fail to relieve
67 symptoms of joint pain and swelling. **They** may be taken in combination with NSAIDs
68 and are used to slow the progress of JRA. The most commonly used DMARD for
69 children is methotrexate. Other DMARDs include sulfasalazine Azulfidine and etanercept
70 Enbrel. Corticosteroids are prescription medications for children with more severe JRA.
71 They are used to control symptoms until a DMARD takes effect or to prevent
72 complications such as pericarditis. Corticosteroids, such as prednisone, may be
73 administered by mouth or by injection but they can **interfere** with normal growth and
74 increase susceptibility to infection. In addition to medication, doctors may recommend
75 physical therapy in order to keep the child's joints flexible and maintain range of motion
76 and muscle tone. A physical therapist may make additional recommendations regarding
77 the best exercise and protective sports equipment for the child. A therapist may also
78 recommend that the child make use of special supports or splints to help protect joints
79 and keep them in a good functional position.

80 In conclusion, JRA is a condition that is relatively common among children. The
81 specific cause of the condition is not known; however, researchers believe that it is
82 prompted as a result of an autoimmune response. Though there are a variety of
83 symptoms, joint inflammation, with pain and stiffness, is most commonly experienced. A
84 variety of tests are used to diagnose the condition. Once the diagnosis is made, doctors
85 can prescribe treatment methods that aim to help relieve pain, maintain the ability to
86 move the joints, and prevent possible complications. Treatment usually involves the use
87 of medication; therapy is sometimes also used to help the child cope with this condition.
88 Clarifying the causes, symptoms, diagnosis, and methods of treatment of JRA helps
89 better define the condition.

Comprehension Questions

Now answer the questions below based on the essay you just read.

- 1) What determines the way JRA is classified?
 - a) the age of the child
 - b) the severity of the symptoms
 - c) the location of the joint affected
 - d) both b and c

- 2) Though JRA is a chronic condition, it does not last a life-time.
 - a) true
 - b) false

- 3) What are possible causes of JRA?
 - a) heredity
 - b) environmental influences
 - c) a virus
 - d) all of the above

- 4) Which of the following statements is true?
 - a) A child always inherits JRA from his/her parents.
 - b) Even if a child has the specific genetic marker for JRA, she may not develop the condition
 - c) JRA is contagious when caused by viral or bacterial infections.
 - d) all of the above

- 5) During an erythrocyte sedimentation rate test, if a child's red blood cells quickly settle at the bottom of a tube, what does it indicate?
 - a) the child may have JRA
 - b) the child does not have JRA
 - c) there are too many antinuclear antibodies in the child's immune system
 - d) the child does not have another condition related to JRA

- 6) Periods of inactivity may worsen the pain and stiffness experienced with JRA.
 - a) true
 - b) false

- 7) Which of the following was not mentioned as a symptom of JRA?
 - a) inflammation
 - b) reddish eyes
 - c) blisters
 - d) pain

- 8) Which symptoms occur if a child has systemic JRA?
 - a) pain & eye inflammation
 - b) fever & stiffness
 - c) rash & inflammation
 - d) both b & c

- 9) Blindness is a possible complication of JRA.
- a) true
 - b) false
- 10) A specific type of genetic profile guarantees the onset of JRA.
- a) true
 - b) false
- 11) Physical therapy is an essential component of the treatment of JRA.
- a) true
 - b) false
- 12) Which of the following are necessary in order to diagnose JRA?
- a) blood tests & heredity tests
 - b) blood cell count & x-rays
 - c) physical examination & blood tests
 - d) both b and c
- 13) Blood tests are used to _____.
- a) identify the potential complications of JRA.
 - b) check the number of proteins produced by the immune system
 - c) discount other possible conditions
 - d) monitor bone development
- 14) What is the erythrocyte sedimentation rate test used for?
- a) analyze the strength of red blood cells
 - b) determine the length of treatment
 - c) establish the severity of the condition
 - d) help classify the type of JRA
- 15) Doctors look for two types of antibodies in a child's blood to determine the cause of JRA.
- a) true
 - b) false
- 16) X-rays help discount possible problems that may have been present at birth as a cause of JRA.
- a) true
 - b) false
- 17) Possible complications of the medication used during treatment include which of the following?
- a) bleeding
 - b) higher chance of getting an infection
 - c) obstruction of normal growth
 - d) all of the above

- 18) At times, taking a painkiller can cure JRA.
- a) true
 - b) false
- 19) In line 6, what does “umbrella term” mean?
- a) a lot of details
 - b) general phrase
 - c) specific details
 - d) category
- 20) What does the pronoun “this” stand for in line 13?
- a) juvenile rheumatoid arthritis
 - b) environmental influences
 - c) an autoimmune response
 - d) hereditary factors
- 21) The word “pronounced” in line 20 can best be replaced by which of the following?
- a) felt
 - b) strong
 - c) experienced
 - d) affect
- 22) The word “persists” in line 32 can best be replaced by which of the following?
- a) lasts
 - b) maintains
 - c) surrenders
 - d) extends
- 23) The word “indicate” in line 41, can best be replaced by which of the following?
- a) increases
 - b) cures
 - c) signals
 - d) detects
- 24) The word “designed” in line 61 can best be replaced by which of the following?
- a) created
 - b) decorated
 - c) caused
 - d) ordered
- 25) The pronoun “they” in line 67 refers to which of the following words?
- a) medication
 - b) NSAIDs
 - c) DMARDs
 - d) pain killers

- 26) The word “interfere” in line 73 can best be replaced by which of the following?
- a) involve
 - b) develop
 - c) contribute
 - d) disrupt
- 27) Which of the following sentences is a grammatically correct and accurate topic sentence for a summary of the article you just read?
- a) Kerry V. Cooke explained the causes, symptoms, diagnosis, and treatment methods of juvenile rheumatoid arthritis (JRA), form of arthritis that affect children under the age of 16, in the article entitled, “Arthritis in Children: Juvenile Rheumatoid Arthritis.”
 - b) Kerry V. Cooke explains different aspects of juvenile rheumatoid arthritis (JRA), in the article entitled, “Arthritis in Children: Juvenile Rheumatoid Arthritis.”
 - c) Kerry V. Cooke explains the causes, symptoms, diagnosis, and treatment methods of juvenile rheumatoid arthritis (JRA), a form of arthritis that affects children, in the article entitled, “Arthritis in Children: Juvenile Rheumatoid Arthritis.”
 - d) Kerry V. Cooke explains the causes, symptoms, diagnosis, and treatment in the article entitled, “Arthritis in Children: Juvenile Rheumatoid Arthritis.”
- 28) Which of the following sentences would not be included in a summary of this article?
- a) After the symptoms are noticed, diagnostic procedures are followed by taking a medical history, a physical examination, different blood tests, x-rays, and a sample of the fluid between the affected joint.
 - b) Diagnosis involves a variety of procedures in order to determine whether or not the patient is suffering from JRA and specify the type of JRA the person is experiencing.
 - c) Diagnosis involves determining the degree of inflammation and type of arthritis, which is accomplished using different blood tests.
 - d) After the symptoms are noticed, diagnostic procedures are followed by taking a medical history, a physical examination, an erythrocyte sedimentation rate test, other blood tests, x-rays, and synovial fluid sample.