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Each quiz is 12 questions in multiple-choice or true-false format. You must answer nine questions correctly (75%) to earn the .2 CEU credit. Results of the quiz will be emailed (or mailed by request) upon completion.

Complete the quiz by circling the correct answers. Mail or fax the completed quiz with payment to RESNA Quizzes, 1560 Wilson Blvd., Suite 850, Arlington, VA 22209. FAX: (703) 524-6630.

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Other quizzes from Assistive Technology Journal articles may be found on the RESNA website (www.RESNA.org). The primary program learning objective is to keep abreast of current findings and practices in assistive technology, research and rehabilitation engineering.

Was the content of the article relevant to current AT practice? Yes No

Was reading the article and completing the quiz a good way for you to learn? Yes No

Quiz – Design and Development of the First Exoskeletal Garment to Enhance Arm Mobility for Children with Movement Impairments, Martha L. Hall, MS and Michele A. Lobo, PT, PhD

1. Who participated in this study?

- A. An 18-month old infant female and her parents
- B. A 23-month old infant male and his parents
- C. A 2.5 year old female child and her parents
- D. A 2.5 year old male child and his parent

2. With what conditions did the infant subject present?

- A. A diagnosis of arthrogryposis
- B. A history of muscle fibrosis
- C. Muscular dystrophy
- D. Decreased muscle mass
- E. Symmetrical contractures in the shoulders elbows, hips knees, and ankles
- F. All of the above
- G. All of the above except C
- H. All of the above except B and C
- I. None of the above

3. What was the child's primary limitation?

- A. She didn't have full range of motion in her lateral wrist movements
- B. He could not bend his elbows fully with gravity
- C. She couldn't transition easily from sitting to lying down
- D. He couldn't fully lift his elbows and engage elbow flexion against gravity

4. What type of approach did the design process use for this project?

- A. Interactive approach
- B. Central scientific approach
- C. Interdisciplinary approach
- D. Broad-sequence approach

5. How many field testing sessions were performed to assess performance and gain participant feedback?

- A. Six
- B. Four
- C. Five
- D. Three

6. Which type of system proved to be most effective for the garment?
- A. Pulley and cable system
 - B. Magnet array
 - C. Steel spring supports
 - D. Elastic stretch band mechanism
7. Which set of characteristics describing the garment were considered most critical to perspective parents and users?
- A. Affordable and easy to clean
 - B. Comfortable and discreet
 - C. Close fit and free of moisture
 - D. Customizable and rehabilitative
8. Which materials were selected because they proved to be strong enough to house the bundles and thick enough to provide padding between the bundles and the child's body?
- A. A composite material with a polyethylene sulfate (PES) face and a mesh polyester backing
 - B. A composite material with a polyurethane oxide (PUO) face and a breathable cotton backing
 - C. A composite material with a polyvinyl chloride (PVC) face and a knit polyester backing
 - D. A composite material with a polymethanol chloride (PMC) face and a mesh nylon backing
9. What was one negative attribute of the device mentioned in the article?
- A. The arm straps caused temporary skin irritation
 - B. It did not lift the arm against gravity to fully 90 degrees of shoulder flexion
 - C. It restricted other shoulder movement
 - D. The device was very difficult for the parents to put on and take off the user
10. How was the design of the device changed in order to improve ease of use for the parents and overall aesthetic?
- A. The garment closure was changed to make the device easier to don and doff
 - B. The snap closure was replaced with a sport zipper backed with a self-fabric placket
 - C. Both A and B
 - D. None of the above
11. According to the article, how do rehabilitation devices tend to be defined in scope?
- A. Broadly
 - B. Functionally
 - C. Narrowly
 - D. Aesthetically
12. What was the name of the first exoskeletal garment for rehabilitation?
- A. Rise and Shine
 - B. The Playskin Lift
 - C. The Comfy Lift
 - D. The Rising Onesie