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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.

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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

Name: _____ Email: _____

28.4B Quiz Analysis of Terrain Effects on the Interfacial Force Distribution at the Hand and Forearm during Crutch Gait

1. What proportion of crutch users have reported inability to perform many everyday activities due to their device?
 - a. Less than 10%
 - b. Less than 40%
 - c. More than 40%
 - d. Between 60% and 75%

ANSWER: _____

2. Which affliction is particularly common among crutch users?
 - a. Aneurysms
 - b. Carpal-tunnel syndrome
 - c. Crutch palsy
 - d. Joint pain

ANSWER: _____

3. Approximately what percentage of body weight does the palm of the hand support at peak force during the gait cycle?
 - a. 50%
 - b. 30%
 - c. 60%
 - d. 40%

ANSWER: _____

4. What did the crutches have in order to make a rigid crutch?
 - a. A flexible carbon spring
 - b. A fiberglass reinforcement rod
 - c. An optional spring damping component
 - d. An alternative pliable force component

ANSWER: _____

5. Why did the researcher walk behind the participant, tethered by a cord?
 - a. In order to obtain a more accurate reading
 - b. So as not to pace the participant
 - c. To avoid any collaborative results
 - d. In order to gain insight into gait movement

ANSWER: _____

6. What kind of sensors were mounted on the crutch handle, as well as on the contact surface of the forearm support?
 - a. Flexible piezoelectric force
 - b. Rotational ergonomic response
 - c. Calibrated barometric adjusted
 - d. Rigid axial stabilizing

ANSWER: _____

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7. What was one crutch modified with particularly for the study?

- a. an 8-axis fuel cell
- b. a 4-axis storage cell
- c. a 6-axis load cell
- d. a 2-axis electrolytic cell

ANSWER: _____

8. How many walking scenarios was each participant subjected to?

- a. 8
- b. 5
- c. 7
- d. 6
- e. 4

ANSWER: _____

9. What type of gait was selected in order to ensure that 100% of the participant's bodyweight was supported by the crutch at some point during ambulation?

- a. A swing-through gait
- b. A swing-stance gait
- c. A follow-through gait
- d. A contra-stance gait

ANSWER: _____

10. Approximately what percentage of bodyweight did a single crutch bear?

- a. @ 33%
- b. @ 50%
- c. @ 60%
- d. @ 40%

ANSWER: _____

11. According to the results of the study, what should be used as a metric for evaluating environmental effects on crutch use?

- a. Force magnitude
- b. Load rate
- c. Load force
- d. Rate of magnitude

ANSWER: _____

12. How would one rate the reliability of the FlexiForce sensors?

- a. Poor-to-moderate
- b. Moderate-to-excellent
- c. Moderate-to-good
- d. Good-to-excellent

ANSWER: _____