INTRODUCTION

- Post-traumatic elbow dysfunction in children may be caused by many different conditions including:
  - Fractures following distal humeral or radial head fractures
  - Posterior lateral rotatory instability following a dislocation or significant valgus stress
  - Osteochondritis dissecans of the capitellum following repetitive compressive and shearing forces exerted by the radial head
- The final common pathway is post-traumatic elbow dysfunction comprised of pain, limited range of motion, and loss of function at the elbow joint.
- There are numerous post-traumatic unilateral elbow scoring systems developed for adults, but none have been validated for the pediatric population.
- To address this gap, we are developing the PEET.

METHODS

- Institutional Review Board approval was obtained for a prospective study. Participants were recruited from the outpatient sub-specialty clinics at Shriners Hospital for Children Northern California (SHCNC).
- A total of 15 children were recruited into the patient group. The mean age was 10.80 years old, and there were 7 males and 8 females (Table 1).
- Selection Criteria for Patient Population
  - Ages: 5-16 of any gender or ethnicity
  - Diagnosis of unilateral post-traumatic elbow dysfunction
  - Exclusion Criteria: developmental delay, medical co-morbidities that limit function or participation in activities, or parental or child inability to understand and read English or Spanish

PEET Components

- PEET consists of a survey questionnaire, functional video assessment, and physical examination of the elbow.
- Data Analysis
  - A Spearman’s correlation coefficient was calculated to analyze the relationship between the LES patient-rated questionnaire of elbow function and the functional video assessment.

RESULTS

- Of the 15 patients, only 13 completed both the LES patient-rated questionnaire and the functional video assessment and were included in the analysis.
- The Spearman’s correlation coefficient, rho or p, was calculated to be -0.29 (p-value = 0.34).
- There was no significant correlation between the LES patient-rated questionnaire and the functional video assessment (FVA).

CONCLUSIONS

- There is no relationship between the LES patient-rated questionnaire and the functional video assessment.
- This may be due in part to the fact that the LES focuses primarily on tasks related to activities of daily living, whereas the functional video assessment also includes elements of physical activity and sport.
- Additionally, we were only able to test a small number of subjects, which limits the power of the study.

REFERENCES


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