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Relations between the visual axis and dressing motions in people with hemiplegia

Yumi Suzuki[1], Hiromi Fujii[2], Toshiaki Sato[2], Emiko Fukuda[2]
[1]Division of Rehabilitation, Okitama Public General Hospital, Kawanishi, Japan, [2]Depertment of Occupational Therapy, Yamagata Prefectural university of Health Sciences, Yamagata, Japan

Introduction: This study was designed to analyze the relations between the visual axis and dressing motions in hemiplegic people. Subjects and methods: The six participating subjects were four women (58, 58, 65, and 70 years) and two men (49 and 69 years). No subject had ataxia, apraxia, agnosia, or dementia. The dressing task used a blouse which fastens in front. At the start of the dressing task, we assumed that we removed a veil over a blouse at an experimental desk (CFC-159N; Sakai Co., Tokyo). We measured subjects' time to the end of the task of putting an arm through a blouse sleeve. Furthermore, exploratory eye movements were recorded using an eye mark recorder (EMR-7; NAC Imaging Technology Inc., Tokyo), which detects corneal reflections of infrared light. Dressing movements were recorded from the sagittal plane using a digital video camera (DV320; Panasonic, Tokyo). Exploratory eye movements were synchronized with the dressing movements using a digital motion picture and a waveform real-time synchronous recording system (Teraview Gigatex; Osaki). Subjects' eye motion frequency, duration, visual axis position, and dressing motion were measured during dressing from a chair. Results and conclusion: When a veil on a blouse was removed, it was often evident that the subject put the visual axis to the blouse bodice. It often occurred that the subject next put the visual axis to an arm of the healthy side. It was rare that the subject watched the tag or sleeve of a blouse. This result differed from that of healthy subjects, who often looked at the tag and sleeve. Results suggest that hemiplegic people take in visual feedback information between an arm of the healthy side and a blouse.