SP530: Comparative Usability Evaluation Of A Novel Peritoneal Dialysis Assistance Device Using Mobile Eye Tracking

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focus on its safe and efficient use. This is only realisable by continuously developing the user interface of the medical device together with representative users.

The aim is to evaluate the usability development by objectively comparing two different prototype status of a novel dialysis patient assistance device. The two raising questions are (1) Is the development of the user interface continuously gone in the direction of a safer and more efficient use? and (2) Where are the differences in the usability of the main interface features?

METHODS: This is achieved with a usability study using mobile eye tracking and nine representative novice participants (77% younger 65 years (av. 25 years), 23% older than 65 years (av. 73 years)). In this study, the participants use the most recent prototype version and an older prototype version of the medical device in the PD handling cycle.

RESULTS: Gaze data and task performances show that the challenges in the PD handling cycle with the device are comparable between the two user groups. The main user interface features of the device are the buttons and the lever on the right-hand side. When comparing the relating gaze data of the interaction, differences between the two prototype versions can be found. The lever is gazed at less than one second on average in the relevant handling stages for both versions, with slightly lower focus times for the older version. The buttons of the most recent version are gazed at between 33 percent (1.36 / 2.03 seconds) up to 51 percent (0.75 / 1.53 seconds) on average shorter.

CONCLUSIONS: The gaze data of the main user interface features indicate for both prototype versions a low level of cognitive load. While the usability of the lever is comparable for both versions, the buttons of the most recent prototype version seem to need a lower level of concentration compared with the buttons of the older prototype version.

SP530 **COMPARATIVE USABILITY EVALUATION OF A NOVEL PERITONEAL DIALYSIS ASSISTANCE DEVICE USING MOBILE EYE TRACKING**

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INTRODUCTION: Patients in peritoneal dialysis (PD) have beside of their disease further comorbidities like diabetes, arthritis and more. This result in several limitations like tactile and visual restrictions or dexterity shortfalls. When developing a novel medical device, it is mandatory to consider such characteristic of later users and to