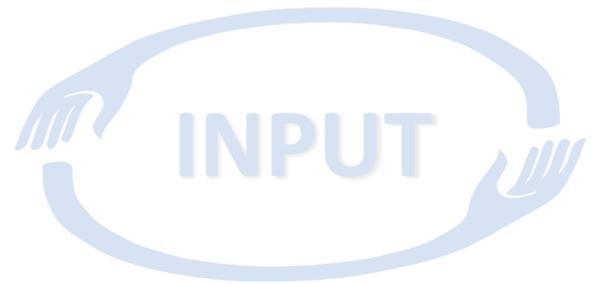


MILESTONE REPORT



Project acronym: INPUT

Project number: 687795

MS9, End of verifying test setup with amputees

Related Work package(s): WP7

Related Deliverable(s): D 7.1

Lead Participant OSS

Dissemination level: PU

Planned delivery date: 2018-07-31

Actual delivery date: 2018-07-26

Reporting Period: 2

1 DESCRIPTION OF THE MILESTONE

The test setup is verified with patients.

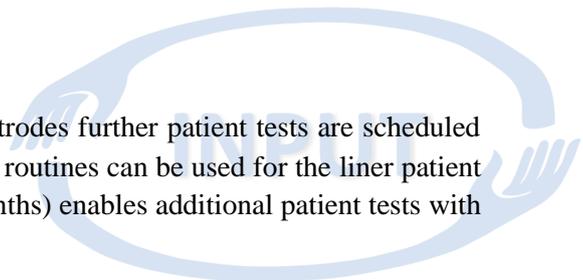
2 PROVE OF MILESTONE FULFILMENT

Related to Deliverable D7.2 we developed and verified a test setup for trans-radial amputees. The aim of the Deliverable was to develop a set a functional ADL, which will be most appropriate and recommended for further practical tests. Another aim of D7.2 was to compare assessment tests (SHAP, Shelf-Test) to complex ADL tests (ADL of D7.2, Dual Task). Assessment tests are more time saving and standardized which is important in clinical practice. However, most of these tests use the execution time as parameter to interpret functional prosthesis control (short execution times mean better function). According to the shorter duration time in assessment tests, the muscle fatigue of the amputees can be reduced. Complex ADL tests are alternatively more time consuming but provide a higher amount of data in nearly realistic daily life situations. Therefore, choosing an appropriate approach depends on the research question. A combination of both tests would be the best way to receive information about functionality of the prosthesis, compensatory movements, etc. However, it will always be some compromise between quantity and quality and the time aspect. Therefore, we suggested a protocol which includes SHELF-Test and SHAP-Test (time based and marker based tests), different ADL (“moving a tray and grasping objects – unilateral”, “Holding and transferring a bag (or basket)”, “Eating simulation”, “Opening/ closing a jar – bilateral”, “tying a bow – bilateral”) and a dual task situation. Based on some preliminary results, we adapted in accordance with UMCG some parts of specific tasks to reduce the execution time of the setup (see section changes, below). Finally, we verified this setup by testing prosthesis users in order to release it for our project partners.

3 DECISION TAKEN ON PROJECT BECAUSE OF THE MILESTONE

- No changes needed project is on track
- Reorganisation of the project

Changes:



Based on a new developed silicone liner with embedded electrodes further patient tests are scheduled using the developed setup. From the current point of view, all routines can be used for the liner patient tests. Shifting working months from OBHP to OSS (2 x 5 months) enables additional patient tests with the silicone liner at OSS using the current setup.

We decided to change some small parts of the set of functional ADL (D7.2) in the way to reduce execution time and to prevent amputees from muscle fatigue. Therefore, we removed eating simulation and the opening / closing a jar task from the set because we already captured similar tasks during the SHAP. This leads to a reduction in recording time and therefore to less muscle fatigue. Another advantage using the SHAP tasks is that we are able to compare patient movement patterns to already captured normative data. These changes are discussed and coordinated with our partners, especially with UMCG and OBHP, along with OBG for the prosthesis liner setup and with IDSIA for the control task aspects.