

Case study – Mannan

Presentation of Mannan

Mannan is 65 years old and had a stroke in February 2015. He presents with a paretic right side, increased muscle tone in his right leg with external hip rotation. He has reduced function in his left hand and arm. Mannan has aphasia, but can communicate.

Background

Mannan is using an old version of Etac Cross. He uses his left foot and arm to propel. Co-ordination between his left arm and foot is poor. He uses his wheelchair all the time and undertakes standing transfers with assistance. He lives in a modern apartment with his wife who finds assisting him difficult.

Due to inactivity, he has gained some weight and now finds the wheelchair too narrow. When foot propelling, his left foot hits the front castor and his right foot tends to slide off the foot support. He also has back pain and slides forward. The seat cushion has raised edges which causes pain in his left thigh.



Mannan in his first wheelchair.



The back strap adjustment doesn't provide sufficient pelvic support.



The seat cushion has built in lateral support. The right side had insufficient support and his left side was hurting when he foot propelled.

First session

Assessment at the Assistive Technology Center, Sodexo, Stockholm

Since he needs a wider seat, a new chair has to be selected. The Cross 5 has improved adjustment possibilities both for positioning the back and settings for propulsion.

An initial assessment is performed to test seat height, back support height and angles.

It is also decided to change to a seat cushion with more stability and positioning features but without lateral raised edges. In order to set appropriate seat height combined with a comfortable houlder/arm movement, 22" rear wheels are selected.

Etac Cross 5 ready for the second assessment.



To provide lateral support, the Cross 5 is equipped with a longer padded side guard.

Wider castor housings facilitates foot propulsion.

Second session

Time for Mannan to test the new Cross 5 and do the "fine tune" adjustments.

Since Mannan and his wife found it difficult to inflate the tyres, we have decided to change to solid tyres. Finally we have moved the rear wheel one position forward to further facilitate propulsion and assist his wife when pushing outside.



The six back straps are adjusted to support the upper part of the pelvis and the lumbar region. More space is created for the thoracic trunk.



His posture is too upright. By adjusting the lumbar angle, the center of gravity in the upper trunk moves posteriorly without interfering with the pelvis position.



As Mannan's hand propulsion is weak, he needs high friction hand rims.



With the rear wheels moved forward, Mannan can comfortably start the propulsion from the top of the handrim.



The foot support angle is adjusted to accommodate 90° at the ankle.



The right foot support is equipped with an extension. The wider castor housings allow more space for foot propulsion.



See video – showing foot propulsion »

The positioning belt attached on the frame sides combined with the contoured seat cushion prevents him from sliding forward. Mannan is very pleased, but would benefit from propulsion technique training.



The cushion is “carved” out on his left side. This lowers his left leg but also allows him more space for knee flexion.



R82 and Etac

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