

karma

A Better Wheelchair, A Better Fit

Evo Lectus Powerchair Case Study

by Helen Robinson BHSc OT, August 2021



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Introduction

This Case Study aims to:

- Highlight the progression of driving ability of a young boy with significant physical disability
- How the provision of a KARMA Evo Lectus dramatically improved his quality of life
- Demonstrate how he can control his positioning
- Have improved social inclusion
- Help him to continue to improve his physical skills



Meet Andre!

Age: 15 years

Diagnosis: Dystonic Cerebral Palsy

Attends: Special School

Hobbies: Spending money, fast cars, computer games, football, driving his wheelchair fast, Alexa

Dislikes: Moving slowly, being too serious

Physical Abilities | 1

Andre has Cerebral Palsy affecting his whole body

He has uncontrolled movements of his limbs and head

He is non verbal, however has just recently started speaking a few words

He has just gained continence

He requires help to feed himself and to take a drink
His has good hearing and vision

Physical Abilities | 2

Andre is hoisted for all transfers

He has a stander and a walker to help his motor skills

He is able to sit on a bench for a few minutes with minimal support

He can roll over

He is working on isolating his hand movements

He is aiming towards standing transfers

Cognitive abilities

- Andre has a great understanding of language and conversations
- He is able to communicate non-verbally extremely well
- He uses an eye gaze device to communicate with emerging single words spoken
- He has a great sense of humour
- He is sarcastic and likes to tell you how he really feels!
- He is working hard in school with his Maths and English





Learning To Drive | 1

I have been working with Andre since he was 8 years old.

He had a Smile Smart Mustang powered wheelchair which followed the line using head controls.

He refused to use it. He wanted to be pushed by an adult in his manual wheelchair. His independence was very limited.

Learning to Drive | 2

I gave him daily errands in school to encourage him to use the powered wheelchair



He had to take messages to different classrooms and



Return the register to the office



Soon, he wanted to use the wheelchair more.....



Learning to Drive | 3

- He started to drive to his Speech and Language and physiotherapy therapy session, still following the line
- But he was frustrated with following the line and wanted more independence and challenge.
- We practised driving for the first time without the line, in the school hall, so he had lots of space.

He DID IT!!

With deep focus and concentration, Andre managed to drive independently just using his head switches for direction.

Sweat was dripping off him with the effort of the activity.

He was delighted with the outcome. After lots of practice, we removed all sensors and bumpers and he drove the chair independently.



Provision of Powered Chair

- Andre had been independently driving his Mustang for 5 years, but had outgrown the chair. It was time for a new powerchair.
- I introduced Andre to the KARMA range, and he saw the Evo Lectus on the website of SMART wheelchairs
- We arranged an assessment in July 2020



Provision of Powered wheelchair

- Andre required Head Array switches attached to his headrest to control the power and direction of the wheelchair
- He required a 4-point body harness, ankle huggers to support his feet on the footplates, hip supports and a lap belt
- He opted for a deep contour seat cushion to maintain his legs in parallel
- Andre was THRILLED!



Colour Choice

- The colour choice of his new wheelchair was very important to Andre. He wanted to match the exact colour to his dad's race car so they would be matching when they go on race days together.





Provision of Powered wheelchair

- Andre now drives his wheelchair everyday
- He uses it independently at school
- He has his communication device fitted on the wheelchair
- He likes to change the settings to make it go faster when he is outside
- He has a rain cover fitted to prevent his hair getting wet

Independence

- Andre's Evo Lectus enables him to keep up with his friends
- He can lift himself in sitting position to be at the same height as his peers, parents and teachers
- He can lie down in the recline position and take a break if he is tired
- He can tilt in space in the wheelchair if he needs to shift weight from his pelvis
- He uses the wheelchair to take himself to the toilet and to the table at lunchtime
- He can tilt the wheelchair backwards so that transferring into the chair is easier for his carers and parents

Features of the Evo Lectus



Andre is able to raise himself so that he is at the same level as his peers. This helps to maintain eye contact and communicate



Andre is able to tilt in space, while maintaining good posture. He will use this if he needs to rest and sleep, to take pressure off his pelvis or if he is not feeling well.

Independence

We are continuing to work on Andre's fine motor skills during his physio sessions.

It is important to improve his ability to isolate his arm movements

This is because, in the future, Andre would like to be able to control his wheelchair by using a standard joystick with his hand instead of his Head Array

He needs to be able to make small, precise movements with his hand and fingers without compromising his posture

The EVO Lectus is adaptable so that he could use the joystick and still have adult controls if necessary

Andre's comments

I asked Andre to list the features of the new chair that he likes the most. He stated that:

He likes the fact that he has extra space and

It drives fast!

Knowing that we can adjust the seat base when he grows will ensure he will always have enough space and not feel squashed in, it is comfortable for him considering the length of time he sits in it per day.

The fact that he can keep up with his peers or even move quicker than them is extremely important to him. It helps to take away some of the limitations of his physical disability

Conclusion

- Andre is very determined and is a quick learner
- He learnt how to drive his new Evo Lectus within a couple of days
- The controls make it easy for him to consider his physical abilities
- He has complete control over his positioning so that he can adapt to his environment and feel included with his peers
- His posture is maintained in a symmetrical position due to the lateral trunk and hip supports
- The wheelchair enables him to have family fun at the weekend
- The Evo Lectus is a front wheel drive wheelchair so it handles outdoor and rough ground with ease

