



CLINICAL CASE STUDY

A Wheelchair User with Common but Serious Complaints of Back Pain and Sliding or Shear

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Introduction:

Sitting in a wheelchair all day is not an easy task. Imagine yourself if you were not able to move around and had to perform all of your daily activities from one position. Some of the most common problems that end users experience are discomfort, back pain and sliding out of the chair. The causes for these common problems are often overlooked for various reasons. This clinical case study will examine some of the common causes for these problems and how to manage them. It also demonstrates the importance of a properly prescribed seating system and how it can increase quality of life for the end user.

History:

Mrs. K.L. is a 50 year old female that has been diagnosed with relapsing- remitting Multiple Sclerosis since the age of 17. She has been experiencing symptoms over the past 30 years and began to use a manual wheelchair for mobility over 15 years ago.

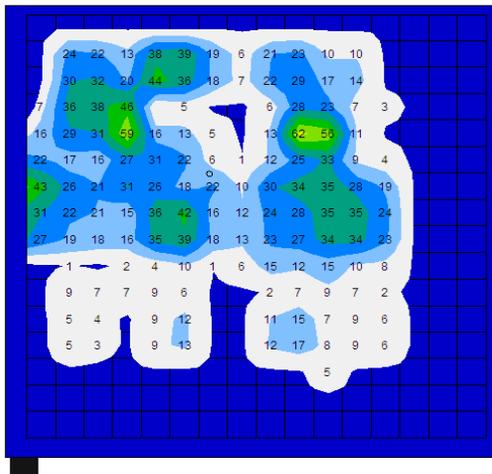
K.L. lives with her husband and works full time from the home performing the administrative duties of the family business. She usually tries to sit in her wheelchair while at the computer but transfers to sit in a regular chair at a table to do paperwork. The assistance needed to transfer varies from independent to minimal. She no longer drives but loves to go out shopping and frequently visits her sisters or vacations with them.

K.L. is currently sitting in a high strength, lightweight wheelchair with a sling back and tension upholstery seating that was newly purchased a year and a half ago. She is using a *VARILITE* Evolution PSV™ cushion that she picked out without assistance of a seating professional. With her current equipment, K.L. reports that she has constant back pain and can not sit in her chair for more than an hour at a time. Because of this she transfers in and out of her chair as many as 20 times a day which contributes to her fatigue. She also reports that she can't stay seated back in her chair and is always sliding forward. At this time she does not have any skin integrity issues.



Before pictures of K.L. sitting with her sling back and old Evolution cushion.

During the evaluation, we were surprised to find that K.L., who is fairly tall and has a buttock/thigh length of 19.5" on both legs, was sitting in a 16 x16" chair and cushion. When asked who measured her for her chair, she responded that no one did. She showed up at the dealer to purchase her new chair. They pointed to an area of the showroom and told her she could "pick out one from those over there".



FSA pressure map of K.L. with her sling back and current Evolution cushion. Note the obvious sacral sitting.

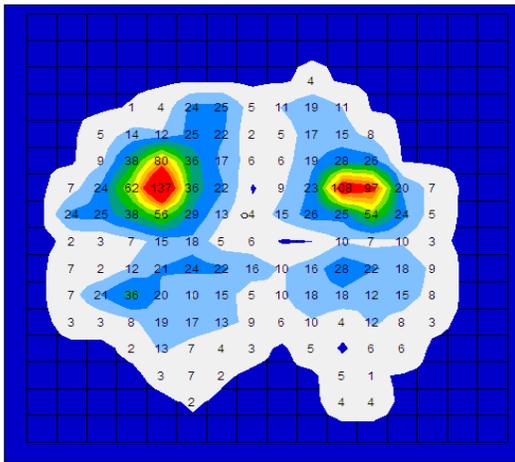


GOALS:

1. Decrease back pain and improve overall sitting position and endurance by replacing sling back upholstery with a solid positioning back.
2. Come up with a seating solution to increase seat depth of the seated support surface for increased postural support.
3. Assess appropriateness of the current cushion for the user’s pressure and positioning needs.

INTERVENTIONS:

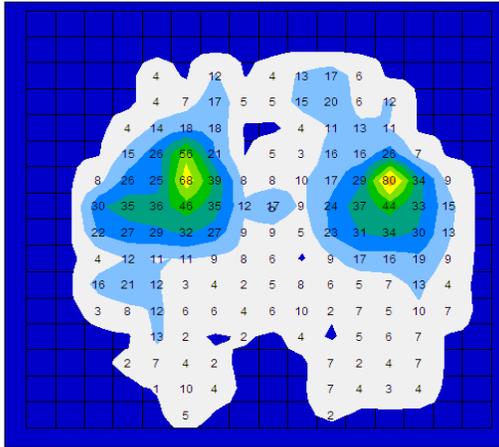
The sling back upholstery was removed from K.L.’s wheelchair and replaced with an Evolution Back™. We did a pressure map of her on her current Evolution cushion with the new solid positioning back. The addition of the solid back greatly improved her sacral sitting but when her sitting position was corrected, K.L. had high peak pressures underneath her ischials and no loading of the thighs.



FSA pressure map of K.L. with Evolution Back and Evolution cushion. Note high peak pressure areas of the ischials.

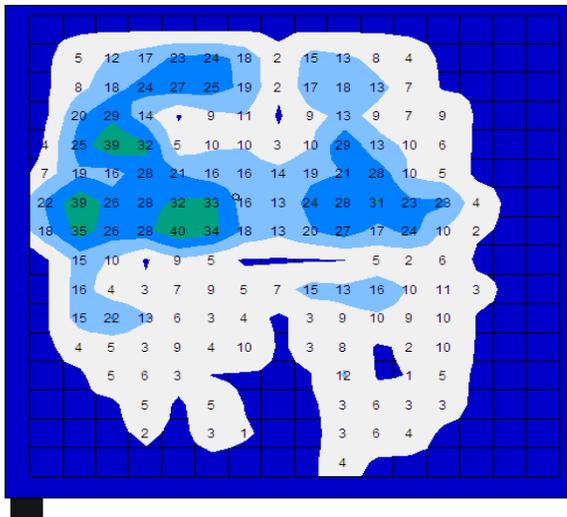


To see if we could get some loading onto the thighs and decrease the pressures under the ischials, a 16 x16” Meridian™ cushion was trialed with her new Evolution Back. Overall there was some improvement in the pressure distribution but the decreased seating surface area from a wheelchair that was too short interfered with good results.



FSA pressure map of K.L. on a 16 x16” Meridian cushion while using an Evolution Back.

To achieve greater seat depth for postural support and pressure distribution, a 16 x 18” Meridian Wave™ cushion with a Contoured Positioning Base was trialed. The solid base would allow the cushion to extend beyond the tension upholstery of the wheelchair seat and increase the seat depth. K.L.’s seat depth with this cushion was increased to 17.5”.



FSA pressure map of K.L. on a 16 x18” Meridian Wave CPB cushion while using the Evolution Back. Note the loading of the thighs, decreased peak pressures of the ischials and improved pressure distribution.



K.L. shown with her Evolution Back and Meridian Wave cushion. The solid base of the Meridian Wave system was used to extend her seat depth.

CONCLUSION:

Many of this end user's problems, which are common complaints frequently heard from many other end users, were resolved or significantly improved by providing better postural support and pressure distribution. During a follow up only weeks after the changes, K.L. was excited to report that she is no longer sliding down in her chair anymore. She is much more comfortable while sitting in her chair and able to sit much longer. Her sitting tolerance has now increased to 2 ½ to 3 hours at a time making shopping, working, and visiting her sisters much more enjoyable. Now K.L. is truly looking forward to her vacation in Mexico this summer.



K.L. is no longer sliding forward in her chair.