Veteran Highlight…Mr. Reyes

by: Daniel Ganoza

After more than two decades in rehab, (specializing in seating and positioning) at the SFVA, I am not surprised when a need arises that is not met by the current product offerings. It is why I feel lucky to be part of the VA system. We are allowed to seek out new technologies, modify current technology, and even innovate new technology all for the purpose of providing the best possible solution for the men and women that have served and continue to serve our country.

Mr. Reyes is a 69 year old male combat VETERAN who served in Vietnam as a 91W in Army Airborne. He is a former police officer with a large extended family committed to assisting him in his daily life.

The problem: Mr. Reyes attends the SFVA ALS clinic and has "head drop". With limited muscle tone, he is unable to keep his neck and head in the upright position while sitting in his power chair. His wife (primary caregiver) uses one hand to drive the chair with an attendant control while using her other hand to maintain head position. This makes it difficult to navigate the chair safely. It is exhausting for her to manage and limits his ability to be outside, or go places.

Correct head position is vital for breathing, visual contact, swallowing without obstruction, improved socialization, ADL, IADL, MRADL and most other upright activity.

OT goal: find a position for his head that enables him to drive the chair with chin control.
Veteran goal: to keep his head upright while in sitting in the chair.

Several earlier solutions that were tried included:
ORTHOTIC.

- - THE ASPEN HARD COLLAR
- - SOFT COLLAR.

The outcome for these was unsuccessful. The limitations with hard collar:

- forces head and neck into uncomfortable position. Forcing neck into extension, can't swallow and difficulty breathing.
- Can't use the muscles he does have in his face to communicate (could not move his eyebrows to say yes or no, or hello.
- Said it gives too much support
- Did not like the way he looked.

Other things tried included:

- Re-positioning in the seating (tilt/recline) to use gravity to support the head, but this resulted in:
- compromised breathing
- compromised swallowing and
- an increased possibility of aspiration
- older Stealth head rest model
- a recliner chair (lounger) they modified to recline, but provided support to keep head upright.

I have tried other head rests from multiple manufactures over the years for this same problem. All have failed. Every expert I know with the same or similar problem hasn't found a satisfactory solution. So failure seemed to be an OK standard. No one seemed to have a reasonable solution that addressed comfort, function, and was safe to use. Most had some element of an orthosis that was not addressing the problem.
I sketched out the problem with some recommendations and design ideas and asked a manufacturer I work with if they could prototype a design for me:

- anterior/posterior points of control for head and neck
- not limiting the movement he does have with complete bracing
- comfort
- allow breathing and swallowing.
- chair could not go past 35 degrees without increasing the risk of aspiration.

Together we developed (after a couple of attempts) an adjustable forehead stabilizer that attaches to the headrest. Its goal was:

- to provide stability without limiting the mobility he does have
- to assure that his head was not stuck in one position

StaRite™ SRAFS Head Rest

Additionally, I used 30° of recline and tilt.

NOTE: We learned in the prototyping that a headrest pad that is too large is less effective. The stabilizer needs to be positioned within the circumscribed area of the forehead.

These changes are being incorporated in the production version.

OUTCOME: Veteran's wife at first anticipated his head falling off and braced for impact, but his head never needed her assistance to stay upright. This was verified at key points around the ramp, side walk, curb cuts, and down the street. We went into backyard where she could focus on driving without having to support his head the whole time; they were able to stay outside for 2.5 hours instead of the usual 30 minutes or less. He liked it because he could see, it looked good, was not invasive and he could stay out longer. I saw no indication of irritation on the skin due to the effectiveness of the gel pad.