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Background & Purpose: The supplementary motor area (SMA) is a segment of the premotor cortex and has diffuse interconnections to the motor cortex. SMA has a role in planning and initiating volitional movement, perception of body, and speech. SMA Syndrome may occur after tumor resection of the SMA and is characterized by reversible contralateral weakness, neglect, and/or speech changes. Mechanism behind full recovery is unknown at this time. Severity of symptoms will vary from person to person and completely resolve within weeks to months. Currently there is minimal literature describing this post-operative syndrome and the benefits of early intensive physical therapy. The purpose of this case study is to describe a patient with SMA syndrome and the benefits of early intensive physical therapy across the acute care continuum.

Case Description: Patient is a 51 year-old female with a right astrocytoma on SMA. During physical therapy (PT) pre-op evaluation, patient ambulated ad lib independently with no neurological deficits. Post-operatively patient presented with left neglect, contraversive pushing towards left, left hemi-paresis, truncal ataxia, anxiety, and required maximal assistance of 2 for all functional mobility. Patient was diagnosed with SMA syndrome and received in-patient rehab in an acute-care hospital and rehabilitation center for a total of 29 days. PT sessions focused on maintaining midline, balance training, therapeutic exercise and functional training. Outcome measures used were the Functional Independence Measure (FIM), Functional Independence in Sitting (FIST), and the Berg Balance Scale (BBS).

Outcomes: During the acute care stay, the FIST was the primary outcome measure utilized. The initial FIST score was a 5/56 and discharge (d/c) FIST score from acute care was
11/56. During initial evaluation in acute rehabilitation, the initial FIST score was a 35/56 and after 5 days the final FIST score was a 46/56. The BBS was then utilized as a balance outcome due to the patient’s functional improvements. The patient’s initial BBS was administered 5 days after admission to acute rehab and the score was a 7/56. Upon d/c the patient’s BBS improved to a 34/56. The final outcome measure utilized was the FIM. Upon admission the patient’s FIM scores were as follows: Transfers: 2, ambulation: 0, stair negotiation: 0. Upon d/c the FIM scores were: Transfers 5, ambulation: 5, stair negotiation: 5.

Discussion: Based on current literature SMA syndrome is temporary with majority of patients returning to baseline function. Currently, there is a lack of research discussing the role of PT with this patient population. With this case study, it was observed that PT intervention significantly decreased burden of care and increased functional independence rapidly. Initially pt required maximal assistance of 2 people for bed mobility, sitting balance, and transfers. One month later at d/c, pt required supervision ambulating 150 ft with RW. Based on our findings, further research is needed to determine if early PT increases speed of recovery.