Myomo Reimbursement Support Checklist

Steps to be completed by the CPO:

_____ 1. The CPO will ensure completion of the *Candidate Questionnaire* & *Clinician Evaluation* forms (with EMG graphs and photos), *DASH*, *Release of Medical Records*, as well as *Verification of Insurance Benefits* and send them to *Myomo Reimbursement* (fax: 440-815-2233 or email: reimbursement@myomo.com).

_____2. The CPO will obtain physician prescription for desired MyoPro type.

Steps to be completed in cooperation between Myomo Reimbursement and the CPO:

_____ 1. If needed, Myomo Reimbursement can prepare medical records request form(s) to help the CPO quickly obtain corroborating medical records from all relevant health care providers. The CPO will receive corroborating medical records, and forward them on to Myomo Reimbursement.

_____ 2. If needed, Myomo Reimbursement may communicate directly with the patient for any additional information on their history to ensure adequate medical necessity argument.

_____ 3. Myomo Reimbursement will generate a *History and Physical Exam* document on the CPO's behalf with all information gathered, establishing medical necessity and proven efficacy of the Myopro, to serve as the main insurance authorization request / billing document with attached prescription and medical records for the CPO to submit.

Follow-up coordination between Myomo and the CPO:

_____ 1. The CPO will keep Myomo Reimbursement apprised of the date that the authorization packet is submitted, as well as inform Myomo Reimbursement of all updates and to discuss subsequent steps. In the event of denial(s), or request(s) for additional information, Myomo Reimbursement will continue to generate formal responses (e.g. appeal letters) for the CPO to submit.

Example Prior Authorization / Claim Billing Document - Generic

Medical/Orthotic
History and Physical Exam

Examiner: Brian Brown, MD
Re: Smith, John
Date of Birth: 1/1/1970
Diagnosis: traumatic, right brachial plexus traction injury

Date of Injury: 1/1/1990
Current Orthotic/Assistive Devices: none

Date of Evaluation: 1/1/2016
Location: Orthotic/Prosthetics, Inc. – Springfield, USA

Patient History

History of injury: Mr. John Smith is a 46 year-old, previously right handed male who suffered a polytraumatic motorcycle accident at the age of 19. He recounts that on 1/1/1990 he was riding his motorcycle, while wearing a helmet, in the company of friends less than a mile from his childhood home in West Nowhereshire, USA, when he was struck by a car and ejected from the motorcycle, landing on the pavement most heavily on his right side. Mr. Smith was initially taken locally to South Hospital for triage and stabilization, and then transferred by helicopter to General Hospital in Springfield. Ultimately, his injuries sustained from the accident included lacerations to the right knee, right hand, and right shoulder, as well as a serious traction injury to the right brachial plexus. He was admitted to General Hospital under trauma surgeon Dr. Michael Doe, and was taken promptly to the operating room for irrigation and debridement of his various wounds, with delayed closures completed in the next few days. Smith tolerated these procedures well and eventually experienced normal wound healing. Regarding his brachial plexus injury (BPI), his initial trauma evaluation done in the emergency department found that he had no sensation, movement, or deep tendon reflexes whatsoever in his right arm below the elbow. Meanwhile he had full neurological function remaining in his left arm and both legs. Imaging found no spine fractures nor evidence of frank spinal cord or peripheral nerve ligation. Neurosurgery consultants felt that these symptoms in the right arm were due to a traction injury of the brachial plexus, and opted for conservative management and observation to see what function would return. During this acute inpatient hospitalization Smith began rehabilitation with physical and occupational therapy (PT/OT). He was soon able to stand and walk again, and began to experience dysesthesias marked by tingling in his right thumb and index finger, the earliest sign of what would become an incomplete neurological recovery. He was discharged to home with services, including home PT/OT, on 1/15/1990.

Mr. Smith continued in his home-based PT/OT program for several months following the accident, transitioning to outpatient OT in North Nowhereshire, USA, which he continued for the next few years. Ultimately, he did have significant, albeit only partial, return of movement and strength in his right shoulder and elbow (see physical exam below), while movement and strength in his right wrist and

hand have remained non-functional. He reports that he was evaluated by multiple neurosurgeons specializing in BPI at Specialty Hospital as well as specialists out-of-state, who all agreed that nothing surgically could be done that would improve his daily function. Mr. Smith reports having been fit with a static wrist-hand-orthosis (WHO) in 1995, which he wore for a couple of years in an attempt to stabilize his hand and permit greater weight bearing and allow some level of function through the right arm. He eventually abandoned this orthosis citing lack of usefulness in actually facilitating the use of his right arm.

While Mr. Smith reports that his right arm sensation has generally returned, his main complaint is of remaining weakness in this extremity, particularly from the elbow and distally to the wrist and hand. While the elbow can flex and extend against gravity, he reports being unable to bear any weight and experiences quick onset of fatigue. The wrist and hand are so limited as to not be able to make any active movements on their own. He also complains of constant, cyclical pain through the arm, characterizing it is a crushing sensation, 10:10 at worst and 3:10 at best with no patterns of exacerbation, and not improved by medicines that he has tried and abandoned. He denies any history of spasticity or contractures.

Smith notes that he has come to accept his chronic pain, but has only grudgingly adapted to living life essentially one handed, given his intense aggravation with being totally dependent upon his non-dominant, left arm and sense of shame for requiring assistance from family and friends across various activities of daily living as well as instrumental activities of daily living (ADL/IADLs). Additionally, he is concerned about long term overuse injury to his left arm as he ages, and presents today for a renewed orthotic evaluation, in hopes that new technology has emerged since his accident which might restore his bimanual function. Comprehensive review of systems is negative for complaints other than those already mentioned.

Social history: Mr. Smith was born and raised in West Nowhereshire, USA. His highest level of education is some college. He lives at home with his wife and 3 school-age children (ages 12, 11, and 9 years-old) in North Nowhereshire, USA. Despite his disability, he has been otherwise healthy, and helps as he can in looking after his children and working around the house. His hobbies include light home improvement projects, going to sporting events and hosting watch parties at his home, traveling on vacation, and golfing, which he enjoys but struggles to do one-handed.

Employment history: Mr. Smith works full time as a computer science technologist for Pharmaceuticals Inc. in South Bridgeville, USA. Computer science has been his life-long career, and his daily job normally consists of desk work with a mixture of administrative/clerical tasks, with heavy one-handed computer use for programming, troubleshooting, and data entry.

Past Medical History: no other chronic conditions apart from those already described

Medications: none

Limitations: On completion of the Disability of the Arm, Shoulder and Hand (DASH) Outcome Measure, John Smith received a disability score of **50.83** in the function module, **37.5** in the work module for computer science, and **75** in the sports module for golf. The DASH is measured on a scale from 0 (no disability) to 100 (most severe disability) with the mean score in the general U.S. population of 10.1 for function, 8.81 for work, and 9.75 for sports[1]. Please find enclosed a copy of the DASH measure completed in concert with Mr. Smith.

In particular, Mr. Smith identified the following activities as being *Moderately Difficult, Severely Difficult or Unable to perform* on the DASH questionnaire:
Opening a tight or new jar
Writing
Preparing a meal
Gardening or doing yard work
Changing a lightbulb overhead
Putting on a pullover sweater
Using a knife to cut food
Recreational activities (high impact)
Managing transportation needs

Work Goals: Mr. Smith would like to increase his work place productivity by increasing his bimanual dexterity and help to rest his left arm from constant, daily use for operating his computer.

Activities of Daily Living and Recreational Goals: Mr. Smith would like to finally return to full independence in all of his ADL/IADLs with bimanual dexterity and reduce his overall level of aggravation with the clumsiness and dependency on others that comes with being one-handed. He would also like to increase his ability for sports and recreation to help maintain his health (e.g. bicycling).

Focused Physical Examination

Right upper extremity (RUE): all normal bony anatomy fully intact, notable muscle atrophy throughout flexor/extensor compartments of forearm and hand (most significantly in thenar/hypothenar eminences). Slightly flexed posturing through elbow and finger joints, supinated posturing in wrist. Skin with grossly normal color, temperature, and turgor. Broad traumatic / postsurgical scarring along anterior shoulder with scattered keloid formations.

RUE range of motion (ROM) and strength (0-5 scale):

Shoulder / humerus (max active effort*) – abduction = 30^{o} (normal = 150^{o}), 4/5 strength
flexion = 45^{o} (normal = 180^{o}), 4/5
extension = 10^{o} (normal > 45^{o}), 4/5

Elbow (max active effort) – flexion = 90^{o} (normal = 145^{o}), 4/5
extension = -25^{o} from neutral (normal = 0^{o} to humerus), 4/5

Wrist (max active effort) – flexion = no movement (normal = 75^{o}), 1/5
extension = 15^{o} (normal = 70^{o}), 2/5

(*Hand*)

Basal thumb joint (max active effort) – palmar abd/adduction = only trace movement off base flexor posturing (normal abd/add = 45^{o}/contact), 3/5 for abductors, 3/5 for adductors.

Metacarpophalangeal (MCP) joints (max active effort) – flexion = no movement (normal = 90^{o}), 1/5
extension = no movement (normal < 45^{o}), 1/5

Proximal interphalangeal (PIP) joints (max active effort) – flexion/extension = only trace movement off base flexor posturing (normal flex/ext = $100^{o}/0^{o}$), 3/5 for flexors, 3/5 for extensors.

Distal interphalangeal (DIP) joints (max active effort) – flexion/extension = only trace movement off base flexor posturing (normal flex/ext = $80^{o}/0^{o}$), 3/5 for flexors, 3/5 for extensors.

**Passive ROM* normal throughout, Modified Ashworth Scale = 0.

Left upper extremity: bony anatomy, muscle tone, and skin exam within normal limits. Full strength and ROM throughout all joints.

Photos:

Smith s/p right BPI.

Bilateral humeral abduction, max 30^{o} on right.

Right humeral flexion, max 45^{o}.

Right humeral extension, max 10^{o}.

Photos continued

Right elbow flexion, max 90°.

Right elbow extension, max -25° from full.

Right wrist flexion, no active range.

Right wrist extension, max 15°.

Photos continued

Right hand finger flexion posture, max effort.

Right hand finger extension, max effort.

Right thumb palmar adduction, trace.

Right thumb palmar abduction, trace.

Assessment and Plan

Reprise above briefly, then propose Myopro and detail its benefits specific to patient with citations[2] from scholarly literature.

Brian Brown, MD
Medical Director
Orthotics/Prosthetics, Inc.

References

1. Hunsaker, FG, Cioffi, DA, Amadio, PC, Wright, JG, Caughlin, B. The American academy of orthopaedic surgeons outcomes instruments. The Journal of Bone and Joint Surgery, 2002 84A(2): 208-215.
2. More citations specific to patient's condition.

Enclosures

A. Itemized list of medical record documents obtained through evaluation.