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School of Occupational Therapy

The Importance of Updated Patient Education Materials and
Subsequent Influence on Home Exercise Programs

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May 2019



A capstone project submitted in partial fulfillment for the requirements of the Doctor of
Occupational Therapy degree from the University of Indianapolis,
School of Occupational Therapy.

Under the direction of the faculty capstone advisor:

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A Capstone Project Entitled

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Abstract

The current project was completed within a Doctoral Capstone Experience at a Community Health Network outpatient clinic that specializes in upper extremity rehabilitation. The objective of this project was to further develop a home exercise program while implementing quality improvement strategies. The needs of the site were assessed via survey which was sent to ten occupational therapists within Community Health Network with a 50% response rate. Based on the needs assessment, the home exercise program system (HEP2GO) required updating to include more hand-specific, diagnosis-specific, and occupation-based exercises, as well as additions that supported health literacy. Using relevant databases, current protocols, and expertise from veteran occupational therapists, the most effective exercises were added to the system as photos and/or videos. Diagnosis-specific programs were created for the following conditions: lateral epicondylitis, medial epicondylitis, carpal tunnel syndrome, carpometacarpal osteoarthritis, and DeQuervain's tenosynovitis. In addition to these diagnosis-specific programs, several other exercise programs were created to target cervical stretching, proximal strengthening, as well as active range of motion, passive range of motion, and strengthening protocols for the upper extremity. Occupational therapists at this site verbalized an overall positive response. Additionally, patients stated that they found the exercises easy to understand and benefitted from the video representations. The updated home exercise programs created within this project are now implemented and utilized at several Community Health Network locations.

The Importance of Updated Patient Education Materials and Subsequent Influence on Home Exercise Programs

The primary program evaluator and developer is an Occupational Therapy Doctoral student from the University of Indianapolis, working in conjunction with faculty mentor Dr. Erin Peterson, DHSc, OTR, CHT and site mentor Valerie Goodwin, OTR. The current study was completed as a Doctoral Capstone Project at an outpatient clinic with Community Health Network. This outpatient location specializes in upper extremity rehabilitation. The objective of this project was to further develop a home exercise program while implementing quality improvement strategies. At this site, the current home exercise program system (HEP2GO) required updating to include more hand and occupation-based exercises. While there is substantial client improvement within the clinic, there are also findings to support the idea that home exercise programs can be just as impactful (Sen, 2014; Valdes, 2015). These findings validate the need for excellent home exercise programs.

Theoretical Background

When examining this issue, the Person-Environment-Occupational-Performance (PEOP) model was used as an overarching guide to inquiry. This model was chosen based on its emphasis on occupation and occupational performance. Within the PEOP model, a person shows function when he or she expresses a level of competency in his or her ability to perform and master occupations (Cole & Tufano, 2008). Intervention strategies for the PEOP include the following: increase occupational performance competency and overall well-being, understand the role of the environment as it affects a person's participation in meaningful activities, improve occupational performance by managing occupations for meaningful participation and mastery, adapt or modify occupations to match the abilities of the client, and teach compensatory

techniques (Cole & Tufano, 2008). All of these interventions have an occupational element that could be beneficial in a hand clinic, and this model could guide service delivery in a more occupation-based direction.

To guide the everyday progress and analysis, a biomechanical frame of reference was used. The biomechanical frame of reference is utilized frequently in hand clinics due to the nature of the most commonly seen diagnoses. Many assessments and determination of progress are documented via biomechanical measures. Within this frame of reference, function involves maintaining strength, endurance, and ROM within normal limits (Cole & Tufano, 2008). Function can also include knowledge and use of good body mechanics within occupations to prevent further injuries (Cole & Tufano, 2008). The biomechanical frame of reference plays a vital role in hand therapy.

Literature Review

Several factors must be considered when analyzing the current HEP2GO. At present, the home exercise programs being used by the site are outdated. They are currently using handouts of two-dimensional drawings to meet this need. The site occasionally uses HEP2GO, but this system often lacks current, hand and occupation-based exercises. The lack of appropriate and updated patient education materials may be due to several factors, including the following: high productivity standards have taken precedence over program enhancement, lack of task designation within job descriptions, and/or desire to maintain routine and comfort levels with existing program. The American Occupational Therapy Association (AOTA) Code of Ethics states that occupational therapy practitioners must diligently maintain high standards and competency within all practice and research (AOTA, 2015), including patient education. Patient

educational materials should be updated regularly to promote beneficence and procedural justice within practice (AOTA, 2015).

Occupation-Based

The current system and outpatient rehabilitation process lacks the use of occupation. Colaianni and Provident (2010) found that 97% of participating practitioners believed that occupation-based interventions were valuable to hand therapy clients, but only 41-50% used occupation-based activities within practice. In another study, Earley and Shannon (2006), found that occupation-based treatment provided immediately to an acute upper extremity condition resulted in decreased pain and improved functional range of motion. The use of occupation is crucial to client recovery and engagement and acts as a fundamental aspect of the occupational therapy profession.

Need for Inclusivity

The current HEP2GO system must also be inclusive to all populations, utilizing concepts of health literacy. Researchers have analyzed health-related materials in relation to the intended audience. It was found that 89% of patient education materials were at or above a 9th grade reading level, whereas, most participants receiving these materials were at a 7th grade reading level or below (Cotugna, Vickery, & Carpenter-Haeefele, 2005). Health literacy can be a major barrier to patient compliance, progress within therapy, and can even have psychological effects such as poor self-esteem (U.S Department of Health and Human Services, 2010). Valdes (2018) found that patients actually preferred videos demonstrating home exercises as opposed to written materials. Medline Plus provides a helpful format when creating “easy-to-read” materials (U.S. National Library of Medicine, 2017). When the following factors are considered, it can result in greater health literacy: knowing the audience, analyzing language used, incorporating the use of

visual representation, and evaluating and re-evaluating materials until deemed appropriate (U.S. National Library of Medicine, 2017). In general, the current home exercise program must be restructured and must promote health literacy strategies to ensure social justice for all recipients.

Lack of Variety

The current system also lacks variety and contains only a limited selection of hand exercises. Studies have shown that stretching, conservative management, concentric strengthening, and eccentric strengthening all have positive effects on clinical outcomes for certain diagnoses (Martinez-Silvestrini et al., 2005). A variety of exercises have been shown to benefit functional performance (Martinez-Silvestrini et al., 2005). This emphasizes the need for a diverse inventory of home exercises so that programs can be individually tailored to each client's needs and abilities.

Diagnosis-Specific Programs

Along with the concept of having a more diverse inventory, the current HEP2GO would benefit from diagnosis specific programs. This would enable therapists to easily access the most effective exercises for that specific diagnosis. Hand clinics often encounter the following diagnoses: fractures, carpal tunnel syndrome (CTS) or other peripheral nerve injuries, lateral epicondylitis, rheumatoid arthritis (RA), osteoarthritis (OA), DeQuervain's tenosynovitis, trigger finger, and other tendon injuries/transfers. When updating the HEP2GO, the common diagnoses and most effective exercises must be analyzed.

Fractures. A distal radial fracture is one of the most common injuries seen in upper extremity clinics. This most often occurs during a fall on an outstretched hand (Meena et al., 2014). This type of injury can result in pain, range of motion deficits, and residual scar tissue (Meena et al., 2014). Krischak et al. (2009) found that patients with distal radial or boxer's

fractures benefited from contralateral strengthening during the immobilization phase. This exercise correlated with a quicker recovery of grip strength of the involved hand (Krischak et al., 2009; Roll & Hardison, 2017). Additionally, Gulke et al. (2018) found that the following implementations and exercises had a positive impact on metacarpal fracture rehabilitation: scar massage, Chamomile baths, decongestive exercises, composite flexion/extension, close and open safe positioning of hand, shoulder flexion with elbow, wrist, and finger extension with transition to arm at side with wrist flexed, rolling up a pen into a hook fist, pinching a clothespin, and exercises using a squeeze ball.

Carpal Tunnel Syndrome. As inflammation occurs within the carpal tunnel, pressure can develop on the median nerve (American Society for Surgery of the Hand, 2015). This condition is often caused by overuse, lack of properly used ergonomic principles, and/or swelling from another upper extremity injury or even from pregnancy (American Society for Surgery of the Hand, 2015). CTS can cause numbness and tingling within the radial side of the hand. Patients with CTS may experience a decrease in symptoms when neural glides are incorporated into therapy programs (Peters et al., 2013; Roll & Hardison, 2017). Sensory symptoms related to CTS can also be relieved via self-massage techniques (Goransson & Cederlund, 2011; Roll & Hardison, 2017).

Lateral Epicondylitis. Lateral epicondylitis involves inflammation at the origin of the wrist extensors due to overuse and repetitive movements of the forearm. Lateral epicondylitis can result in pain and decreased functional performance. Smidt et al. (2002) compared patients with lateral epicondylitis by analyzing a group who received corticosteroid injections, a group that received therapy, and a control group. The study found that patients who completed therapy exercises had better functional outcomes (Smidt et al., 2002). These exercises included slow but

progressive wrist and forearm stretching, muscle conditioning, and occupational exercises (Smidt et al., 2002).

Arthritis. OA is the most common form of arthritis. This condition involves the everyday wearing away of the cartilage surrounding the bone (Mayo Foundation for Medical Education and Research, 2019). RA is different in that it is a systemic condition that causes inflammation within synovial membranes. These synovial membranes help lubricate joint movement (Mayo Foundation for Medical Education and Research, 2019). Both OA and RA can cause pain, deformities, and range of motion deficits. Patients with RA demonstrated improved functional performance when provided with a home exercise program that included strengthening and stretching, as opposed to stretching alone (O'Brien, Jones, Mullis, Mulherin, & Dziedzic, 2005; Roll & Hardison, 2017). Cima et al. (2013) compared a group of patients with RA. One group completed hand exercises at home and at the clinic. The control group completed hand exercises only in the clinic. These exercises included the following: motor-coordination exercise with finger extension, flexion-extension of the wrist, pronation-supination, flexion-extension of the thumb interphalangeal joint, radial and ulnar deviation, Digi-flex hand exerciser, flexed fingers squeezing exercise putty, exercises for intrinsic muscles with exercise putty, tip pinch performed with all fingers pulling an elastic, and exercises for hand intrinsic muscles with elastic (Cima et al., 2013). When comparing the two groups, the group completing the set of exercises at home had significantly better outcomes than the control group (Cima et al., 2013; Lamb et al., 2017).

Stenosing Tenosynovitis. DeQuervain's tenosynovitis is a result of inflamed tendons within the first dorsal compartment of the hand. This condition is often caused by repetitive radial abduction of the thumb and ulnar to radial deviation of the wrist (Statteson & Tannan,

2017). Trigger finger is similar in that it also involves the inflamed tendons within the hand, but at the site of the A1 pulley, typically affecting the third or fourth digit (Mayo Foundation for Medical Education and Research, 2019). Papa (2013) conducted a study using the following exercises to treat DeQuervain's tenosynovitis: thenar muscle group stretches, forearm extensor/flexor stretches, eccentric unweighted hammer curls, eccentric weighted hammer curls, eccentric thumb extension and abduction exercises with elastic band, eccentric wrist extension/flexion with dumbbell, and eccentric forearm pronation/supination with Theraband (Papa, 2013). When these exercises were done routinely, they provided positive results, including decreased pain in the radial hand (Papa, 2013).

Tendon Repairs. Tendon injuries are often a result of various types of trauma to either the flexors or extensors and are typically repaired surgically. Tendon repairs can cause stiffness and decreased mobility. Within the healing process, scar tissue may develop near the repaired tendons, resulting in tendon adhesions. Patients with tendon injuries/transfers often have positive outcomes when early motion protocols are incorporated into therapy programs (Chesney, Chauhan, Kattan, Farrokhyar, & Thoma, 2011; Roll & Hardison, 2017; Sultana, MacDermid, Grewal, and Rath, 2013). Additionally, after a zone-II flexor tendon repair, active motion therapy resulted in greater outcomes compared to passive motion therapy (Trumble et al., 2010). Rostami, Arefi, and Tabatabaei (2013) found that mirror-based home exercise programs can be beneficial to patient outcomes when addressing diagnoses involving range of motion deficits in the upper extremity.

Overall, it is imperative that the literature be considered when updating the current HEP2GO at this site. Each upper extremity condition varies in etiology, symptoms, deficits, and course of treatment. Therefore, a wide array of literature must be explored when updating the

system. The literature will act as a guide so that the most effective exercises for each upper extremity condition will be added to the HEP2GO system.

Screening and Evaluation

In order to identify the specific needs of the facility, all occupational therapy clinicians were given an online survey via work email. This survey included a variety of multiple choice, checklist, and open-ended questions to further explore the needs of the clinicians regarding the current HEP2GO system. Due to demanding work schedules, only 50% of occupational therapists were able to return the survey, posing a limitation to this project. Nonetheless, significant and meaningful data were collected and analyzed.

When rating the current HEP2GO system, 40% of the clinicians reported fair satisfaction and 60% reported good satisfaction. Frequency of use varied between less than once a month, once a month, and several times a week. When asked what they like least about the current system, the clinicians stated that HEP2GO is very physical therapy focused and lacks hand-specific exercises. Often, there is not an image that correctly displays the desired exercise, or if there is an image, the quality and angle may be questionable. Additionally, some of the exercise descriptions can be confusing for patients. The clinicians agreed that they desire a more time-efficient and diagnosis-specific database. When the clinicians were asked what they liked most about the current system, they stated that it is easy to edit, organize, print, text, or email programs to patients. They also stated that it is helpful to have actual images of people performing the exercises as opposed to stick figures or drawings.

The clinicians reported that patient adherence to home exercise programs was also an issue. As far as patient barriers, the clinicians identified time management as the biggest barrier, along with language, culture, health literacy, pain, and discomfort. According to clinician report,

this site encountered several different ethnicities, with the majority of patients being Caucasian, African American, Hispanic or Latino. This site occasionally encountered Burmese, Native American, or Asian ethnicities. When discussing education, the clinicians believed the average education level of most patients ranged from high school education to some college. According to the clinicians, patients typically had access to exercise bands and exercise putty, but fewer had access to dumbbells or wrist weights. However, one clinician noted that patients are often willing to buy dumbbells.

When asked what type of exercises they would like to see added to the database, the clinicians replied with the following: diagnosis-specific exercises, nerve glides, tendon glides, thumb carpometacarpal (CMC) exercises within confines of splint, strengthening programs with progressions, reverse blocks, digital range of motion, weight-bearing and strengthening with exercise putty, progression of thumb and wrist deviation exercises, edema control techniques, intrinsic strengthening, and self-manual therapy such as scar massage, retrograde massage, and passive range of motion. In addition to these suggestions, 100% of the clinicians agreed that the current system would benefit from more occupation-based exercises. When asked to identify the most common diagnoses seen, 100% of the clinicians reported treating distal radial/ulnar fracture and DeQuervain's tenosynovitis; additionally, 80% reported often treating carpal tunnel syndrome, lateral epicondylitis, medial epicondylitis, and cubital tunnel syndrome. Furthermore, 60% of clinicians reported that they often treat trigger finger, osteoarthritis, Dupuytren's contracture, and scaphoid fracture.

During review and analysis of the clinician responses, four areas of improvement were defined. The clinicians desired the HEP2GO system to include: 1.) exercises that are hand-specific, 2.) organized by diagnosis, 3.) occupation-based, and 4.) be clear and inclusive to all

populations served. A variety of exercises have been shown to benefit functional performance, however, the success of these exercises depends on the diagnosis being treated (Martinez-Silvestrini et al., 2005). Therefore, hand and diagnosis-specific exercises were necessary to include in the HEP2GO system. It was also critical that the HEP2GO system include more occupation-based exercises. Occupation is a fundamental concept within the occupational therapy profession (AOTA, 2014). Furthermore, Colaianni and Provident (2010) stated that whereas some exercises can mimic occupation, only functional task completion can provide the precise movements required for occupational performance. When discussing inclusivity and clarity of patient home exercise programs, the clinicians believed that health literacy and language can be barriers for patients. Cotugna, Vickery, and Carpenter-Haeefe (2005) found that most patient education materials are at a higher reading level than a patient's level of comprehension. Not only can this impact patient compliance and progress within therapy, but it can even cause poor self-esteem (U.S Department of Health and Human Services [HHS], 2010). These findings demonstrate the need to restructure the current system to include clear and inclusive home exercise programs.

The screening and evaluation process within this project may vary from other occupational therapy settings. Typically, the screening and evaluation process primarily involves recipients of occupational therapy. Within this project, the primary clients are the occupational therapy clinicians. The occupational therapy recipients, or patients, are the secondary clients within this project. The essential occupation of the occupational therapy clinicians is patient-care. In order to optimize patient-care at this facility, it was evident that the clinicians desired a better HEP2GO system. This request was to not only provide convenience for themselves, but above all, benefit their patients. The plan for this project encompassed a create/promote

approach. This approach is different from other settings, as traditional settings tend to favor restoration and modification approaches. An updated home exercise programs must be created to address the needs of the facility as well as promote occupation, health literacy, and evidence-based practice. Additionally, the project utilized a Person-Environment-Occupational-Performance perspective and was highly influenced by the biomechanical frame of reference. While the biomechanical lens is occasionally used in other occupational therapy settings, it acts as a fundamental feature of evaluation and re-evaluation within hand clinics.

Implementation

Based on the current literature and needs assessment, it was determined that the site required updated home exercise programs within the HEP2GO system. Throughout my time at this site, I was able to collaboratively create with my site mentor an updated home exercise program for the conditions of lateral epicondylitis, medial epicondylitis, carpal tunnel syndrome, carpometacarpal (CMC) osteoarthritis, and DeQuervain's tenosynovitis (Appendix A). In addition to these diagnosis-specific programs, I also created exercise programs to target cervical stretching, proximal strengthening, wrist passive range of motion (PROM), wrist active range of motion (AROM), hand AROM, thumb AROM, thumb PROM, thumb isometrics, elbow AROM, elbow PROM, elbow strengthening, strengthening with exercise putty, and fine motor control (Appendix B). Within each of these programs, clarity of instructions was examined and edited by multiple occupational therapy clinicians throughout Community Health Network to promote health literacy. These exercise programs were analyzed based on Medline Plus guidelines and strategies (U.S. National Library of Medicine, 2017). Medline Plus delineates several strategies that can be used to promote health literacy (U.S. National Library of Medicine, 2017). The following were the specific strategies implemented within this project: limiting content to only

necessary information, presenting information in a logical order, using language that is at an eighth grade reading level, reviewing the information several times before finalization, avoiding abstract language, and being consistent with word usage (U.S. National Library of Medicine, 2017). These strategies were implemented using the Medline Plus guide and also by comparing our written directions to other health-related sources that promote health literacy. In conjunction with my site mentor, we compiled current literature from relevant databases, the most recent protocol books, discussed exercises that have been most efficient for clients in the past, and incorporated data collected in the needs assessment before selecting exercises for each program. The duration and frequency of each exercise was not assigned as this is to be determined by individual therapist's preference. Some of these exercises included cross-friction massage at medial or lateral epicondyle, weight-bearing through exercise putty, lateral and three-point pinch with exercise putty, gross opposition with exercise putty, CMC joint distraction and stabilization, thumb pronation on ball, thenar and webspace release, first dorsal interossei strengthening, finger to palm and palm to finger translation, first dorsal compartment stretch progression, and graded stretching for wrist flexors and extensors. This was accomplished by my site mentor taking photos of me completing the exercises and uploading them to the system. For complex exercises, such as first dorsal interossei strengthening, CMC stabilization, and thumb pronation, videos were recorded and uploaded to provide a clearer representation of the desired movements. I was also able to add some exercises that incorporate occupation, such as wringing out washcloths, handling coins, and weight-bearing through a sponge when washing dishes.

Leadership Skills. Throughout this process, my leadership skills have allowed me to collaborate with other occupational therapists and assess the needs of the facility. For example, I was able to send out a survey to gather information from occupational therapists within several

different Community Health Network clinics. Collaboration among numerous clinics can be difficult, but with my initiative and strategic platform of electronic survey, this difficult task became possible. With my background in research and evidence-based practice, I was able to lead the way in adding exercises that were supported by current evidence. This allowed for more credible and effective home exercise programs. Additionally, I led the facility in initiating the continuous quality improvement of patient education materials, more specifically, the improvement of home exercise programs. With my leadership skills, I was able to organize ongoing monthly meetings to discuss quality improvement strategies, making it easier for the occupational therapists to collaborate and maintain quality of resources.

Staff Development. This project has allowed me and other staff members to become more aware of health literacy and the importance of updating patient education materials based on supported evidence. While the staff was most likely aware of these considerations, this project brought them to the forefront, allowing me and the team to further address these issues. Additionally, this project has raised the level of competency for occupational therapists at this site and has allowed for easier access to home exercise programs. These exercise programs are easily adaptable and can be tailored to each patient in a short amount of time. This is beneficial for staff development as this will save time and allow for more hands-on treatment.

Discontinuation and Outcome Phase

When speaking with all of the occupational therapists impacted by this project, there was an overall positive response regarding the success of this project. Additionally, patients stated that they find the exercises easy to understand and benefitted from the video representations. Based on informal feedback from the occupational therapists, some changes were made to the programs including word usage and chronological order of exercises. However, the updated

home exercise programs created within this project are currently being implemented and used at both Hillsdale and Noblesville Community Health Network locations.

Continuous Quality Improvement. For the ongoing process of continuing quality improvement for this project, I met with each occupational therapist individually to assist them in navigating the updated system as well as inform them of all new additions. Additionally, a monthly focus group will be implemented. The occupational therapists at this site already conduct a monthly journal club meeting. During these meetings, the occupational therapists will conduct a brief focus group to touch on the topic of updating patient education materials. This focus group will discuss necessary updates and delegation of tasks. Also, as this site often hosts students, fieldwork students may also be delegated tasks related to patient education materials. It was determined that incorporating a focus group into an already existing meeting time would promote greater compliance to quality improvement strategies. Future focus groups will be conducted as an open-discussion that promotes all occupational therapists to state ideas, concerns, and thoughts related to patient education materials.

Meeting a Societal Need. Within this project, the societal need addressed is the need for updated patient education materials; more specifically, the need for improved home exercise programs within HEP2GO. When analyzing the literature and needs assessment, it was found that the home exercise programs needed to be more occupation-based, inclusive, understandable, and more diverse. Colaianni and Provident (2010) found that most practitioners believed that occupation-based interventions were beneficial to clients, but less than half actually used occupation within practice. To combat this issue, exercises were added to the existing program to include everyday occupation such as weight-bearing through a sponge while washing dishes and managing coins for improved fine motor control.

The current HEP2GO system also lacked inclusivity and concepts of health literacy. When analyzing health-related materials in relation to the intended audience, researchers have found that most patient education materials are at a higher reading level than the reading level understood by most patients (Cotugna, Vickery, & Carpenter-Haeefe, 2005). Health literacy can be a major barrier to patient compliance, and the current home exercise programs were restructured to ensure social justice and health literacy for all recipients. Within my project, each set of exercise instructions were analyzed to include only necessary information, use language that is at an eighth-grade reading level, avoid abstract language, and be consistent with word usage as recommended by Medline Plus guidelines (U.S. National Library of Medicine, 2017).

Lastly, the system lacked variety and contained only a limited selection of hand exercises. Studies have shown that stretching, conservative management, concentric strengthening, and eccentric strengthening can all have beneficial effects on clinical outcomes for certain diagnoses (Martinez-Silvestrini et al., 2005). This emphasized the need for a diverse inventory of home exercises. Through the combining of information found in the relevant databases, current protocol books, and in conjunction with my site mentor's expertise, the most effective exercises were added to the system. Additionally, for ease of use, many of these exercises were organized by diagnosis. This was done so that the occupational therapists can easily find the most appropriate home exercise program and alter as needed to fit the client's needs and abilities.

Overall Learning

Communication. Throughout this project, I interacted with occupational therapists with various levels of experience within Community Health Network from both Noblesville and Hillsdale locations. Initially, communication occurred through a face-to-face meeting between

me and my site mentor. This meeting acted as a brief needs assessment that allowed me to formulate a survey that would better analyze the site's needs. Then, I was able to email the survey to all of the occupational therapists working for Community Health Network at nearby clinics. Once I received feedback, I used those findings to initiate my project. Throughout the implementation of the project, I communicated verbally with my site mentor and also via email with other occupational therapists to clarify their needs regarding HEP2GO. Lastly, for sustainability and quality improvement, I met with all of the occupational therapists face-to-face to assist them in navigating the updated program while also informing them of the updates. When communicating with the occupational therapists, it was critical that I maintained professionalism, clarity, and directiveness with my communications. Throughout this process, I feel as if I developed more effective and refined communication skills.

Leadership and Advocacy. I utilized various aspects of leadership to carry out this project. Initially, I had to use investigative aspects of leadership to explore the site's current procedures and identify a need. Then, I had to take initiative in researching and finding a solution to meet that need. Throughout this project, I was also able to demonstrate leadership through advocacy. It was my goal to advocate for health literacy and bring more awareness to the need for understandable patient education materials. I also strived to advocate for evidence-based practice. I did this by initiating home exercise programs that are thoroughly supported by current evidence.

Future Practice. Throughout this experience, I learned the importance of updating patient education materials. Along with this, I learned the practicalities that make this task difficult. As the need for high productivity standards skyrockets, it leaves little time for practitioners to update materials. However, this is a necessary task that should be discussed with

employers so that time can be allotted to updating education materials. Additionally, I learned that it is important to stay immersed in current literature regarding our profession. Often practitioners create a routine treatment and have difficulty straying from that regimen. This highlights the need for continual education and evidence-driven practice. I aim to always include evidence-based literature into my practice. Overall, this experience taught me the importance of communication, leadership, advocacy, and how those skills can be best utilized in future practice.

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doi:<http://dx.doi.org.ezproxy.uindy.edu/10.1016/j.jht.2017.11.012>

Appendix A

Figure 1. Carpal Tunnel Syndrome

<p>1</p>  <p>FINGER DIP FLEXION Grasp the finger, bracing below the last knuckle, and actively bend the finger at the last joint. Repeat on each finger.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) x Day</p>	<p>open palm and then repeat the series.</p>	<p>5</p>  <p>Tendon Glide Begin with fingers straight. Then, bend at the finger tips (DIP) and middle joints (PIP) while keeping knuckles (MP) straight. Then make a full fist. Reverse this sequence and repeat.</p>	<p>9</p>  <p>Contrast Bath 1. Fill 2 basins/tubs with water -1 warm water (105-110 degrees F) -1 cool water (tap cold water) 2. Immerse your hand and wrist in the warm water for 10 minutes. 3. Immerse your hand and wrist in the cool water for 1 minute. 4. Immerse your hand and wrist in the warm water for 4 minutes. 5. Immerse your hand and wrist in the warm water for 1 minute. 6. Repeat steps 4 and 5 two times, and then end in warm water for 4 minutes.</p>
<p>2</p>  <p>FINGER PIP FLEXION Grasp the finger, bracing below the middle knuckle, and actively bend the finger as shown. Repeat on each finger.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) x Day</p>		<p>6</p>  <p>Composite Flexion/Extension Make a fist and bend your wrist down. Now straighten your wrist and fingers at the same time.</p>	
<p>3</p>  <p>FINGER FLEXION WITH BLOCKING Place your hand on a table with the palm side up. Bend the finger while blocking and holding down the other fingers as shown. Repeat on each finger.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) x Day</p>		<p>7</p>  <p>WRIST FLEXOR STRETCH Use your unaffected hand to bend the affected wrist up as shown. Keep the elbow straight on the affected side the entire time.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) x Day</p>	
<p>4</p>  <p>TENDON GLIDES Perform the following series of movements with your hand. Start with an open palm and then bend your fingers to a claw hand as in the upper right image. Next, return to an open palm and then to a "hoodtop" position as shown in the bottom right image. Next, return to an open palm and then make a fist as in the bottom left image. Finally, return to an</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) x Day</p>		<p>8</p>  <p>Median Nerve Glide Begin with making a fist with wrist in a straight (neutral) position. Now straighten the fingers and thumb. Bend wrist back, moving thumb away from the palm. Then, turn wrist palm up. Use other hand to pull the thumb farther away from the palm. Repeat.</p>	

Figure 2. Carpometacarpal Osteoarthritis

<p>1</p>  <p>Adductor Release Manually Using the opposite hand, pinch the affected space between the thumb and index. Hold that spot gently for 30 sec to 1 minute, then release. Repeat.</p>	<p>5</p>  <p>Thenar Stretch Reach under your affected hand and grasp entire thumb down to wrist. Bring both hands to your chest and gently press top hand towards chest as if trying to flatten the palm.</p>	<p>9</p>  <p>"C" Position on Ball Place thumb and index into a "C" position around ball and tighten your muscles. Try to keep an arch along the thumb joints. Tighten your muscles in that position for 5-10 seconds. Relax. Repeat</p>	<p>13</p>  <p>Thumb Isometric Adduction Place opposite index finger in space between index and base of thumb. Tighten the muscles as if you are trying to move your thumb inward toward the index. Hold for 5-10 seconds. Then, return to relaxed position.</p>
<p>2</p>  <p>Adductor Release with Clip Use a clip to pinch the tender spot on the space between the thumb and index. Wear this for 3 minutes.</p>	<p>6</p>  <p>CMC Joint Distraction Behind Back With hands behind back, grasp the entire affected thumb with other hand. Relax arms, and allow the weight of your arms to gently pull the affected thumb.</p>	<p>10</p>  <p>Thumb Opposition Bring the tips of the pinky and thumb together in an "O" position and hold. Try to keep thumb joints in an arch.</p>	<p>14</p>  <p>First Dorsal Intersossei Strengthening Place rubber band around ball. Grasp the ball with index finger underneath the rubber band. Lift the index finger off of the ball. While keeping the finger straight and lifted off of the ball, move the index away from the middle finger and out toward the thumb. Then return to relaxed position.</p>
<p>3</p>  <p>Webspace Stretch Manually Spread thumb and index apart on both hands. The space between the thumb and index is called the webspace. Place the webspaces from both hands together. Gently push the hands together until you feel a light stretch.</p>	<p>7</p>  <p>CMC Joint Distraction Overhead Rest affected arm on top of head. With other hand, grasp the entire affected thumb at the base. Relax unaffected arm, and allow weight of your arm to gently pull the affected thumb.</p>	<p>11</p>  <p>Thumb Pronation on Ball Grasp the ball with thumb away from fingers. While keeping the thumb in contact with the ball, gently rock the last joint of the thumb back and forth.</p>	
<p>4</p>  <p>Webspace Stretch with Cone Place tips of index and thumb together in "O" position around top of cone. Slide fingers down cone while keeping the index and thumb in contact with the cone. Slide down cone until you feel a light stretch.</p>	<p>8</p>  <p>Thumb "C" Position Place your thumb in a "C" position as if holding a ball. Tighten your muscles in that position for 5-10 seconds.</p>	<p>12</p>  <p>Resisted "C" Position Place rubber band around the thumb, pull the rubberband across the back of the hand then loop the other end on the middle finger including middle, ring, and small finger. Form the "C" position with thumb and fingers and hold for 5-10 seconds. Then, return to relaxed position.</p>	

Figure 3. DeQuervain's Tenosynovitis

<p>1</p>  <p>Finkelstein Stretch Progression</p> <p>1. With elbow bent, make a fist surrounding the thumb. 2. With thumb tucked in fist and elbow bent and bend wrist down toward the floor. 3. With thumb tucked in fist and straighten elbow then bend wrist toward the floor.</p>	<p>5</p>  <p>Thumb Opposition</p> <p>Start with an open palm and fingers extended. Next, touch the thumb to the tip of each individual finger.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>9</p>  <p>Thumb Extension</p> <p>Place hand palm down on table with thumb slightly away from hand. Then, raise the thumb upward until it is no longer resting on the table. Repeat.</p>	<p>13</p>  <p>WRIST RADIAL DEVIATION - ARM</p> <p>Bend at your wrist upward with your wrist in a neutral position as shown, then slowly return to original position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>
<p>2</p>  <p>Thumb IP Block</p> <p>Holding the base of your thumb back, bend the top part of the thumb as shown.</p>	<p>6</p>  <p>Thumb Opposition Progression</p> <p>With affected hand resting on the small finger side, move the thumb away from hand as if making the letter "L". Slowly move the thumb along the palm to be in line with the index finger, then the middle, then the ring, and then the small finger as able.</p>	<p>10</p>  <p>WRIST EXTENSION AROM - TABLE</p> <p>Rest your forearm on a table and bend your wrist up and down with your palm face down as shown.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>14</p>  <p>WRIST EXTENSION - ARM - THIGH</p> <p>Rest your arm on your thigh and bend at your wrist up and down with your palm face down as shown. Return to original position and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>
<p>3</p>  <p>Thumb MP Block</p> <p>Support your hand below your thumb as shown and bend the thumb over your fingers.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>7</p>  <p>Palmar Abduction</p> <p>With pinky side of hand resting on a table, start with thumb held next to index finger. Move thumb away from palm like holding a cup.</p>	<p>11</p>  <p>WRIST RADIAL DEVIATION</p> <p>Bend your wrist towards the thumb side and then return.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>15</p>  <p>WRIST FLEXION - ARM - THIGH</p> <p>Rest your arm on your thigh and bend at your wrist up and down with your palm face up as shown. Return to original position and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>
<p>4</p>  <p>Thumb Flexion</p> <p>Move the thumb across the palm, bending at all joints.</p>	<p>8</p>  <p>Radial Abduction</p> <p>Place your hand on a table, palm face down, then actively move your thumb out to the side, then return and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>12</p>  <p>WRIST ULNAR DEVIATION</p> <p>Bend your wrist towards the little finger side and then return.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	

Figure 4. Lateral Epicondylitis

<p>1</p>  <p>Moist Heat Pack</p> <p>Apply moist heat pack to the affected area prior to exercise for 10 minutes. Layer towels between heat pack and skin as needed. You can substitute the heat pack by placing the affected area in warm water. Check status of skin prior, during, and after application.</p> <p>Hold: 10 Minutes</p>	<p>4</p>  <p>CLASPED FOREARM STRETCH</p> <p>Cross your forearms over one another so that the target arm is on top. Interlace your fingers as shown. Then use your bottom most wrist to bend the top wrist into a more flexed position for a stretch. Hold, relax and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>7</p>  <p>WRIST EXTENSION AROM - TABLE</p> <p>Rest your forearm on a table and bend your wrist up and down with your palm face down as shown.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>11</p>  <p>WRIST FLEXION - AROM - THIGH</p> <p>Rest your arm on your thigh and bend your wrist up and down with your palm face up as shown. Return to original position and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>
<p>2</p>  <p>Cross Friction Massage</p> <p>Begin by moving two fingers in a clockwise motion around the affected area. Then proceed to do the same in a counter-clockwise motion. Then, move fingers back and forth parallel with forearm. Then, move fingers up and down perpendicular to the forearm. Repeat to promote healing and circulation.</p> <p>Duration: 5 Minutes Perform: 2 Time(s) a Day</p>	<p>5</p>  <p>Active Extensor Stretch</p> <p>With your elbow bent, bend wrist toward your body with fingers relaxed. Then, with palm down, bend your wrist toward the floor while making a fist. With elbow straight, bend your wrist toward your body with fingers relaxed. Then, with palm down, bend your wrist toward the floor while making a fist.</p>	<p>8</p>  <p>Composite Wrist Flexion/Extension</p> <p>Place wrist and hand off of the edge of a table. Make a fist and bend wrist down. Then, straighten fingers and bend wrist back. Repeat.</p>	<p>12</p>  <p>Forearm Supination/Pronation</p> <p>With elbow at your side, bend the elbow with forearm in neutral. Then, turn palm up. Return to neutral position. Then, turn palm down. Repeat.</p>
<p>3</p>  <p>WRIST EXTENSOR STRETCH</p> <p>Use your unaffected hand to bend the affected wrist down as shown.</p> <p>Keep the elbow straight on the affected side the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>6</p>  <p>WRIST FLEXION EXTENSION AROM - TABLE - GRAVITY ELIMINATED</p> <p>Rest your forearm on a table and bend your wrist side-to-side with your palm facing sideways.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>9</p>  <p>WRIST RADIAL DEVIATION - AROM</p> <p>Bend your wrist upward with your wrist in a neutral position as shown, then slowly return to original position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>13</p>  <p>Elbow Flexion Neutral</p> <p>Place hand in a neutral position at side, with palm against leg. Then, bend at the elbow. Repeat.</p>
<p>15</p>  <p>Elbow Flexion Palm Down</p> <p>Place hand at side with palm facing backward. Then, bend at the elbow. Repeat.</p>	<p>10</p>  <p>WRIST EXTENSION - AROM - THIGH</p> <p>Rest your arm on your thigh and bend your wrist up and down with your palm face down as shown. Return to original position and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>14</p>  <p>ELBOW FLEXION EXTENSION Palm up</p> <p>Bend your elbow upwards as shown and then lower to a straightened position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	
<p>16</p>  <p>Eccentric Wrist Extension</p> <p>Place wrist and hand off of the edge of a table. With weight in affected hand, use other hand to assist in bending wrist upward. Then, without assist, slowly bend wrist down. Repeat.</p>			
<p>17</p>  <p>ICE MASSAGE TO LATERAL EPICONDYLE - COMMON WRIST EXTENSOR TENDON - TENNIS ELBOW</p> <p>Place direct ice from an ice massage cup to the lateral epicondyle of the elbow as shown (the wrist extensor tendon area). Move the ice in a circular motion for up to 5 minutes (no more). Use towels to catch the water drippings.</p> <p>You should feel 4 stages of sensations starting with...</p> <ol style="list-style-type: none"> 1. Uncomfortable sensation of cold, then 2. Stinging, then 3. Burning or aching feeling, then 4. Numbness <p>If the pain is too great to handle, lift it off your skin for a few seconds, dab with towel and then place it back on for a few circular motions and repeat.</p> <p>***Do not perform for more than 5 minutes or you may run the risk of frost bite and cause death to the tissue. Use a timer to be safe.</p> <p>Duration: 5 Minutes Perform: 1 Time(s) a Day</p>			

Figure 5. Medial Epicondylitis

<p>1</p>  <p>Moist Heat Pack</p> <p>Apply moist heat pack to the affected area prior to exercise for 10 minutes. Layer towels between heat pack and skin as needed. You can substitute the heat pack by placing affected area in warm water. Check status of skin prior, during, and after application.</p> <p>Hold: 10 Minutes</p>	<p>4</p>  <p>WRIST FLEXOR STRETCH</p> <p>Use your unaffected hand to bend the affected wrist up as shown.</p> <p>Keep the elbow straight on the affected side the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>8</p>  <p>WRIST EXTENSION - AROM - THIGH</p> <p>Rest your arm on your thigh and bend your wrist up and down with your palm face down as shown. Return to original position and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>12</p>  <p>Elbow Flexion Neutral</p> <p>Place hand in a neutral position at side, with palm against leg. Then, bend at the elbow. Repeat.</p>
<p>2</p>  <p>Cross Friction Massage</p> <p>Begin by moving fingers back and forth parallel with forearm muscle/tendon. Then, move fingers up and down perpendicular to the forearm muscle/tendon. Then move two fingers in a clockwise motion around the affected area. Then proceed to do the same in a counter-clockwise motion. Massage the inside of elbow for a total of 5 minutes. This will help to promote healing and improve circulation.</p>	<p>5</p>  <p>WRIST FLEXION/EXTENSION AROM - TABLE</p> <p>Rest your forearm on a table and bend your wrist up and down with your palm face down as shown.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>9</p>  <p>WRIST FLEXION - AROM - THIGH</p> <p>Rest your arm on your thigh and bend your wrist up and down with your palm face up as shown. Return to original position and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>13</p>  <p>Elbow Flexion Palm Down</p> <p>Place hand at side with palm facing backward. Then, bend at the elbow. Repeat.</p>
<p>3</p>  <p>Medial Epicondylitis Flexor Stretch</p> <ol style="list-style-type: none"> 1. With elbow bent, forearm in neutral, fingers relaxed, actively bend the wrist back away from body 2. With elbow bent, forearm in neutral, fingers straight, actively bend wrist back away from body. 3. With elbow extended, forearm in neutral, fingers relaxed, actively bend wrist back. 4. With elbow straight, forearm in supination (palm up), fingers straight, actively bend wrist backwards. <p>- This is a progression so not progress to the next stretch position until you can complete it without pain.</p> <p>Hold: 15 Seconds</p>	<p>6</p>  <p>WRIST FLEXION EXTENSION AROM - TABLE - GRAVITY ELIMINATED</p> <p>Rest your forearm on a table and bend your wrist side-to-side with your palm facing sideways.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>10</p>  <p>WRIST RADIAL DEVIATION - AROM</p> <p>Bend your wrist upward with your wrist in a neutral position as shown, then slowly return to original position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>14</p>  <p>ELBOW FLEXION EXTENSION</p> <p>Bend your elbow upwards as shown and then lower to a straightened position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>
	<p>7</p>  <p>Composite Wrist Flexion/Extension</p> <p>Place wrist and hand off of the edge of a table. Make a fist and bend wrist down. Then, straighten fingers and bend wrist back. Repeat.</p>	<p>11</p>  <p>Forearm Supination/Pronation</p> <p>Start With elbow at your side and elbow bent with forearm in neutral. Then, turn palm up. Return to neutral position. Then, turn palm down. Repeat.</p>	<p>15</p>  <p>ICE MASSAGE TO MEDIAL EPICONDYLE - COMMON WRIST FLEXOR TENDON</p> <p>Place direct ice from an ice message cup to the medial epicondyle of the elbow as shown (the common wrist flexor tendon area). Move the ice in a circular motion for up to 5 minutes (no more). Use towels to catch the water drippings. This is commonly the area of inflammation as describe with a Golfer's Elbow injury.</p> <p>Duration: 5 Minutes Perform: 1 Time(s) a Day</p> <p>You should feel 4 stages of sensations starting with...</p> <ol style="list-style-type: none"> 1. Uncomfortable sensation of cold, then 2. Stinging, then 3. Burning or aching feeling, then 4. Numbness

Appendix B

Figure 1. Hand Active Range of Motion

<p>1</p>  <p>FINGER FLEXION WITH BLOCKING Place your hand on a table with the palm side up. Bend the target finger while blocking and holding down the other fingers as shown.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>5</p>  <p>Straight Fist Make a fist, but instead of trying to bend the fingertips in, try to lay the tips (DIPs) flat on your palm as shown.</p>	<p>9</p>  <p>Full Fist Make a full fist and then straighten your fingers fully.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>14</p>  <p>Isolated Reverse MP Block Hold your knuckles (MPs) in a bent position with your other hand and let fingertips relax. Keep holding the MPs bent and try to fully straighten the targeted finger.</p>
<p>2</p>  <p>PIP Blocking Grasp the affected finger, bracing below the middle knuckle, and actively bend the finger as shown.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>6</p>  <p>Hook Fist Lay your hand palm up. Only bend your finger tips (DIPs) and the next joint (PIPs) while keeping knuckles (MPs) straight.</p>	<p>10</p>  <p>Composite Flexion/Extension Make a fist and bend your wrist down. Now straighten your wrist and fingers at the same time.</p>	<p>15</p>  <p>FINGER OPPOSITION COMBO Start with an open palm and fingers extended. Next, touch the tips of the first and second fingers. Then return to open palm. Next, touch the tips of the first and third fingers, etc until all fingers have performed as shown.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>
<p>3</p>  <p>DIP Blocking Grasp the affected finger, bracing below the last knuckle, and actively bend the finger at the last joint.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>7</p>  <p>TENDON GLIDES Perform the following series of movements with your hand. Start with an open palm and then bend your fingers to a claw hand as in the upper right image. Next, return to an open palm and then to an "L" hand" as shown in the bottom right image. Next, return to an open palm and then make a fist as in the bottom left image. Finally, return to an open palm and then repeat the series.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>11</p>  <p>Finger Abduction/Adduction Lay hand palm down on table with fingers together. Then, spread fingers apart. Repeat.</p>	<p>16</p>  <p>2-5 ALTERNATING FINGER TOWEL SCRUNCH Place a small towel on a firm table top. Flatten out the towel and then place your hand on one end of it. Next, flex your fingers 2-5 (index finger through pinky finger) one at a time as you pull the towel towards your hand.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>
<p>4</p>  <p>Rooftop Start with fingers straight. Now, try to keep the tips of the fingers straight, try to bend just your back knuckles (MPs). If you are doing it right, it looks like a roof on a house.</p>	<p>8</p>  <p>Hook Fist Begin with fingers straight. Then, bend at the finger tips (DIP) and middle joints (PIP) while keeping knuckles (MP) straight. Then make a full fist. Reverse this sequence and repeat.</p>	<p>12</p>  <p>Isolated Finger Extension With your hand flat on a table, try to raise and lower each finger one at a time.</p>	<p>13</p>  <p>Reverse Blocking Hold your MP joints (knuckles) in a bent position with your opposite hand and let your fingertips relax. Keep holding the MPs bent and try to fully straighten the fingertips as shown.</p>

Figure 2. Thumb Active Range of Motion

<p>1</p>  <p>Thumb MP Block Holding the base of your thumb back, bend the top part of the thumb as shown.</p>	<p>5</p>  <p>Palmar Abduction With pinky side of hand resting on a table, start with thumb held next to index finger. Move thumb away from palm like holding a cup.</p>
<p>2</p>  <p>Thumb CMC Block Support your hand below your thumb as shown and bend the thumb over your fingers.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>6</p>  <p>Radial Abduction Place your hand on a table, palm face down, then actively move your thumb out to the side, then return and repeat.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>
<p>3</p>  <p>Thumb Flexion Move the thumb across the palm, bending at all joints.</p>	<p>7</p>  <p>Thumb Extension Place hand palm down on table with thumb slightly away from hand. Then, raise the thumb upward until it is no longer resting on the table. Repeat.</p>
<p>4</p>  <p>Thumb Opposition Start with an open palm and fingers extended. Next, touch the tip of the thumb to the tip of each individual finger.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	

Figure 3. Thumb Isometric

	<p>1</p> <p>THUMB ISOMETRIC EXTENSION</p> <p>Press the thumb upwards against the fingers of the unaffected hand.</p>
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	
	<p>2</p> <p>THUMB ISOMETRIC FLEXION</p> <p>Press the thumb inwards against the fingers of the unaffected hand.</p>
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	
	<p>3</p> <p>TOWEL KEY GRIP PINCH</p> <p>Using your thumb and the side of your index finger, pinch and hold a small folded up towel.</p>
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	
	<p>4</p> <p>TOWEL GRIP</p> <p>Place a rolled up towel in your hand and squeeze.</p>
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	

Figure 4. Thumb Passive Range of Motion

	<p>1</p> <p>THUMB ABDUCTION STRETCH</p> <p>Grasp the thumb and pull it away from the palm as shown.</p>		<p>5</p> <p>THUMB IP EXTENSION STRETCH</p> <p>Grasp the affected thumb below the last knuckle and gently stretch it into a more straightened position.</p>
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>		<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	
	<p>2</p> <p>THUMB IP FLEXION STRETCH</p> <p>Grasp the affected finger below the knuckle and gently stretch it into a more bent position.</p>		
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>			
	<p>3</p> <p>THUMB MCP FLEXION STRETCH</p> <p>Grasp the affected thumb at the closest joint and gently stretch it into a more bent position.</p>		
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>			
	<p>4</p> <p>THUMB MCP EXTENSION STRETCH</p> <p>Grasp the affected thumb below the last knuckle and gently stretch it into a more straightened position.</p>		
<p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>			

Figure 5. Wrist Active Range of Motion

<p>1</p>  <p>WRIST ULNAR DEVIATION Bend your wrist towards the little finger side and then return.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>5</p>  <p>Dart Throwing Position While bending at the elbow, bring wrist back as if holding a dart between thumb and index. Then, bring wrist forward as if releasing the dart. Repeat.</p>	<p>9</p>  <p>WRIST FLEXION - AROM - THIGH Rest your arm on your thigh and bend at your wrist up and down with your palm face up as shown. Return to original position and repeat.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>13</p>  <p>Wringing Washcloth Hold the washcloth in both hands, grasping with palm facing down. In unison, as you bend one wrist up, bend the other wrist down as if wringing out the washcloth. Repeat while switching roles of wrists.</p>
<p>2</p>  <p>WRIST RADIAL DEVIATION Bend your wrist towards the thumb side and then return.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>6</p>  <p>WRIST EXTENSION AROM - TABLE Rest your forearm on a table and bend your wrist up and down with your palm face down as shown.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>10</p>  <p>Forearm Supination/Pronation With elbow at your side, bend the elbow with forearm in neutral. Then, turn palm up. Return to neutral position. Then, turn palm down. Repeat.</p>	
<p>3</p>  <p>Composite Wrist Flexion/Extension Place wrist and hand off of the edge of a table. Make a fist and bend wrist down. Then, straighten fingers and bend wrist back. Repeat.</p>	<p>7</p>  <p>WRIST RADIAL DEVIATION - AROM Bend at your wrist upward with your wrist in a neutral position as shown, then slowly return to original position.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>11</p>  <p>CARD FLIP Hold a deck of cards with your unaffected hand and flip one card at a time with your affected hand.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	
<p>4</p>  <p>Composite Flexion/Extension Make a fist and bend your wrist down. Now straighten your wrist and fingers at the same time.</p>	<p>8</p>  <p>WRIST EXTENSION - AROM - THIGH Rest your arm on your thigh and bend at your wrist up and down with your palm face down as shown. Return to original position and repeat.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>12</p>  <p>CARD SLIDE Hold a deck of cards with your unaffected hand and slide one card at a time to the side with your affected hand.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	

Figure 6. Wrist Passive Range of Motion

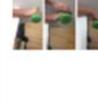
<p>1</p>  <p>WRIST EXTENSOR STRETCH Use your unaffected hand to bend the affected wrist down as shown. Keep the elbow straight on the affected side the entire time.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>5</p>  <p>PRAYER STRETCH - WRIST Place the palms of your hands together to stretch the wrist as shown.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>
<p>2</p>  <p>WRIST FLEXOR STRETCH Use your unaffected hand to bend the affected wrist up as shown. Keep the elbow straight on the affected side the entire time.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>6</p>  <p>Eccentric Wrist Extension Place wrist and hand off of the edge of a table. With weight in affected hand, use other hand to assist in bending wrist upward. Then, without assist, slowly bend wrist down. Repeat.</p>
<p>3</p>  <p>WRIST SUPINATION STRETCH Rest your arm on a table, then grasp your wrist as shown and gently turn your affected wrist towards palm face up. Keep your elbow straight and resting on a table during this stretch.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	<p>7</p>  <p>Sponge Weight-bearing Place affected palm on top of sponge, then push down bearing weight through hand.</p>
<p>4</p>  <p>WRIST PRONATION STRETCH Rest your arm on a table, then grasp your wrist as shown and gently turn your affected wrist towards palm face down. Keep your elbow straight and resting on a table during this stretch.</p> <p>Repeat 1 Time Hold 1 Second Complete 1 Set Perform 1 Time(s) a Day</p>	

Figure 7. Elbow Range of Motion and Strengthening

<p>1</p>  <p>ELBOW FLEXION EXTENSION</p> <p>Bend your elbow upwards as shown and then lower to a straighten position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>5</p>  <p>ELBOW FLEXION EXTENSION - SUPINE</p> <p>While lying on your back, rest your elbow on a small rolled up towel. Next, bend at your elbow and then lower back down and repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>9</p>  <p>BICEPS CURLS</p> <p>With your arm at your side, draw up your hand by bending at the elbow.</p> <p>Keep your palm face up the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>13</p>  <p>ELASTIC BAND BICEPS CURLS</p> <p>With your arm at your side holding an elastic band, draw up your hand by bending at the elbow.</p> <p>Keep your palm face up the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>2</p>  <p>Elbow Flexion Neutral</p> <p>Place hand in a neutral position at side, with palm against leg. Then, bend at the elbow. Repeat.</p>	<p>6</p>  <p>ELBOW FLEXION EXTENSION - GRAVITY ELIMINATED</p> <p>While seated and relaxed, hold your arm up with the help of your other arm. Next, bend and straighten your elbow.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>10</p>  <p>BICEPS CURLS - BRACHIORADIALIS - HAMMER CURL</p> <p>With your arm at your side, draw up your hand by bending at the elbow. Keep your palm pointed inward towards your body the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>14</p>  <p>ELASTIC BAND BICEP CURLS - BRACHIALIS</p> <p>With your arm at your side holding an elastic band, draw up your hand by bending at the elbow.</p> <p>Keep your palm face down the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>3</p>  <p>Elbow Flexion Palm Down</p> <p>Place hand at side with palm facing backward. Then, bend at the elbow. Repeat.</p>	<p>7</p>  <p>ELBOW FLEXION STRETCH</p> <p>Place your elbow on a table and use your other hand to bend it into a more bent position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>11</p>  <p>BICEPS CURLS - BRACHIALIS</p> <p>With your arm at your side, draw up your hand by bending at the elbow.</p> <p>Keep your palm face down the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>15</p>  <p>ELASTIC BAND BICEP CURLS - WRIST NEUTRAL - HAMMER CURL</p> <p>With your arm at your side holding an elastic band, draw up your hand by bending at the elbow.</p> <p>Keep your palm facing sideways the entire time.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>4</p>  <p>Forearm Supination/Pronation</p> <p>With elbow at your side, bend the elbow with forearm in neutral. Then, turn palm up. Return to neutral position. Then, turn palm down. Repeat.</p>	<p>8</p>  <p>ELBOW EXTENSION STRETCH</p> <p>Place your elbow on the edge of a table and use your other hand to press it into a more straightened position.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>12</p>  <p>SUPINE ELBOW TRICEP EXTENSION</p> <p>While lying on your back, extend your elbow as shown while holding a free weight.</p> <p>Maintain your upper arm in an upward direction and only bend and straighten at your elbow.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>16</p>  <p>ELBOW EXTENSION WITH ELASTIC BAND</p> <p>Hold an elastic band or sports cord with both hands. Hold one hand up at the front of your shoulder to fixate it there. Raise your other shoulder to 90 degrees and with the elbow bent.</p> <p>Next, straighten your target elbow against the resistance as you stretch the band. Then, allow your elbow to bend as you return it to starting position. Repeat.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>17</p>  <p>Elbow Extension</p> <p>With elbow bent, raise arm up to chest height. Place opposite arm underneath the elbow. Try to straighten the elbow.</p>			
<p>18</p>  <p>Elbow Extension</p> <p>Place hand flat on table. Place other hand behind the elbow. Gently apply pressure to bring the elbow into a more straightened position. Hold for at least 30 seconds.</p>			

Figure 8. Proximal Strengthening

<p>1</p> <p>SCAPULAR RETRACTIONS</p> <p>Draw your shoulder blades back and down.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>5</p> <p>ELASTIC BAND LAT PULLS</p> <p>Hold an elastic band with both arms in front of you and with your elbows straight. Your arms should be elevated. Next, pull the band downwards and back towards your side as you bend your elbows.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>2</p> <p>WALL PUSH UPS</p> <p>Standing at a wall, place your arms out in front of you with your elbows straight so that your hands just reach the wall. Next, bend your elbows slowly to bring your chest closer to the wall. Maintain your feet planted on the ground the entire time.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>6</p> <p>ELASTIC BAND ROWS - 90 ABD</p> <p>Holding an elastic band with both hands, draw back the band as you bend your elbow. Keep your about 90 degrees away from the side of your body.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>3</p> <p>SCAPULAR PROTRACTION - SUPINE</p> <p>Lie on your back with your arm extended out in front of your body and towards the ceiling. While keeping your elbows straight, protract your shoulders forward towards the ceiling. Keep your elbows straight the entire time.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>7</p> <p>ELASTIC BAND BICEPS CURLS</p> <p>With your arm at your side holding an elastic band, draw up your hand by bending at the elbow.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>4</p> <p>ELASTIC BAND BILATERAL HORIZONTAL ABDUCTION</p> <p>While holding an elastic band with your elbows straight and in front of your body, pull your arms apart and towards the side.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>8</p> <p>ELASTIC BAND TRICEPS - SELF FIXATION</p> <p>Start by holding an elastic band across your chest with the unaffected arm. Next, pull the band downward with the other arm so that the elbow goes from a bent position to a straightened position as shown.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>

Figure 9. Cervical Stretching

<p>1</p> <p>CERVICAL ROTATION</p> <p>Turn your head towards the side, then return back to looking straight ahead.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>5</p> <p>RETRACTION / CHIN TUCK</p> <p>Slowly draw your head back so that your ears line up with your shoulders.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>8</p> <p>UPPER TRAP STRETCH - HOLDING CHAIR</p> <p>While sitting in a chair, hold the seat with one hand and bend your head towards the opposite side for a gentle stretch to the side of the neck.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>2</p> <p>CERVICAL FLEXION</p> <p>Tilt your head downwards, then return back to looking straight ahead.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>6</p> <p>RHOMBOID AND MIDDLE TRAP STRETCH - CLASPED HAND</p> <p>Interlace your fingers and then draw your hands forwards until a stretch is felt along your upper back.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p> <p>NOTE: You can vary the angle of your arms downward to stretch different muscle fibers along your back.</p>	<p>9</p> <p>UPPER TRAP STRETCH</p> <p>Begin by retracting your head back into a chin tuck position. Next, place one hand behind your back and gently draw your head towards the opposite side with the help of your other arm.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>
<p>3</p> <p>CERVICAL EXTENSION</p> <p>Tilt your head upwards, then return back to looking straight ahead.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	<p>7</p> <p>UPPER TRAP STRETCH - HAND BEHIND BACK AND TOP OF HEAD</p> <p>Begin by retracting your head back into a chin tuck position. Next, place one hand behind your back and gently pull your head towards the opposite side with the help of your other arm.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p>	
<p>4</p> <p>CERVICAL CHIN TUCK AND RETRACTION - SUPINE WITH TOWEL</p> <p>While lying on your back with a small folded up towel under your head, tuck your chin towards your chest. Also, focus on putting pressure on the towel with the back of your head.</p>  <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) x Day</p> <p>Maintain contact of head with the towel the entire time.</p>		

Figure 10. Fine Motor Control

<p>1</p>  <p>CARD FLIP</p> <p>Hold a deck of cards with your unaffected hand and flip one card at a time with your affected hand.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>4</p>  <p>COIN FLIP</p> <p>Place various coins on a table and flip each coin with your affected hand.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>8</p>  <p>BUTTON SHIRT</p> <p>Practice buttoning and unbuttoning a shirt with your fingers/hand. If you struggle, stay on the same button. Otherwise move up and down the shirt working on different level buttons.</p> <p>Repeat: 1 Time Perform: 1 Time(s) a Day</p>
<p>2</p>  <p>CARD SLIDE</p> <p>Hold a deck of cards with your unaffected hand and slide one card at a time to the side with your affected hand.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>5</p>  <p>Finger to Palm Translation</p> <p>Using fingertips, pick up one coin. Within that hand, move the coin from fingertips to the palm. While holding that coin in the palm, continue to pick up more coins using the same method.</p>	<p>9</p>  <p>Putty Fine Motor</p> <p>Begin by flattening the putty into a pancake. Then with fingers, locate and pinch each individual item. Then, pull the item out of the putty. Repeat until all items have been removed from the putty.</p>
<p>3</p>  <p>MARBLE PICK-UPS</p> <p>Pick a marble up and hold it in your hand as you pick another one up. Continue to pick one marble up at a time while holding all of them in your hand. Once your hand is full and you can no longer hold any more marbles, place one marble down on the table at a time until you have put them all down on the table.</p> <p>Repeat: 3 Times Complete: 2 Sets Perform: 2 Time(s) a Day</p> <p>Repeat.</p> <p>You will require 10-15 marbles.</p>	<p>6</p>  <p>Palm to Finger Translation</p> <p>Using fingertips, pick up one coin. Within that same hand, move the coin from fingertips to the palm. While holding that coin in the palm, continue to pick up more coins using the same method. Then, move one coin from palm to fingertip and place in coin slot. Continue to do this with the rest of the coins in the hand.</p>	
	<p>7</p>  <p>SCREW AND THREAD NUT</p> <p>Hold a screw with one hand and thread a nut on the screw with the target hand.</p> <p>Repeat: 1 Time Hold: 1 Second Complete: 1 Set Perform: 1 Time(s) a Day</p>	

Figure 11. Exercise Putty Strengthening

<p>1</p>  <p>Putty Grip</p> <p>Place putty in your hand and squeeze it firmly and slowly. Reshape it and repeat.</p> <p>Repeat: 1 Time Hold: 0 Seconds Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>5</p>  <p>Putty 3-point Pinch</p> <p>Pinch the putty between your index and long fingers and your thumb.</p>	<p>9</p>  <p>Putty Finger Extension Loop</p> <p>Create a small tubular section of putty. Form a loop around your fingers and then pull it apart as shown.</p> <p>Repeat: 1 Time Hold: 0 Seconds Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>13</p>  <p>Putty Finger Abduction</p> <p>Lay the putty flat on the table. Starting with all four fingers pressed together, push them into the putty and spread them apart.</p>
<p>2</p>  <p>Putty Hook Fist</p> <p>While keeping your MP joints (knuckles) straight, bend the PIP and DIP joints only into a hook position.</p>	<p>6</p>  <p>Putty Thumb Flexion</p> <p>Place ball of putty in the palm and bend the thumb against it. Try to bend all the way down, including the tip of the thumb.</p>	<p>10</p>  <p>Putty Single Finger Extension Loop</p> <p>Create a small tubular sections of putty. Form a loop around 1 finger and then pull it upwards as shown.</p> <p>Repeat: 1 Time Hold: 0 Seconds Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>14</p>  <p>Putty Palmar Abduction Loop</p> <p>Place your hand on the pinky side. Make a small loop with the putty and wrap it around your thumb and index finger. Spread the thumb and index finger apart like you are trying to make an "L".</p>
<p>3</p>  <p>Putty Pinch</p> <p>Roll up some putty to create a small tubular section. Next, pinch the putty with the thumb and each individual finger, repeating down the section.</p> <p>Repeat: 1 Time Hold: 0 Seconds Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>7</p>  <p>Putty Finger Extension/Table Spread</p> <p>Roll up some putty into a ball and then press and flatten it on a table. Next, spread the putty out with your finger tips as shown.</p> <p>Repeat: 1 Time Hold: 0 Seconds Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>11</p>  <p>Putty Finger Abduction Loop</p> <p>Create several small tubular sections of putty. Form a loop around 2 fingers and then pull it apart as shown.</p> <p>Repeat: 1 Time Hold: 0 Seconds Complete: 1 Set Perform: 1 Time(s) a Day</p>	<p>15</p>  <p>Putty Radial Abduction Loop</p> <p>Place your hand flat on a table. Make a small loop with the putty and wrap it around your thumb and index finger. Spread the thumb and index finger apart like you are trying to make an "L".</p>
<p>4</p>  <p>Putty Lateral Pinch</p> <p>With your hand on its side and fingers in a fist, place the putty between your thumb and the side of your index finger. Pinch the putty as you would if you were holding a key.</p>	<p>8</p>  <p>Putty Finger Flexion</p> <p>Flatten the putty like a pancake. Lay your hand flat on top of it. Bending the fingers into a claw position, rake your fingers through the putty.</p>	<p>12</p>  <p>Putty Finger Abduction Loop</p> <p>Place fingers next to one another. Wrap the putty around all four fingers. Then, spread your fingers apart.</p>	<p>16</p>  <p>Putty Thumb Extension</p> <p>Form putty into roll and cross over thumb. Then, hold putty in palm. Lift thumb up as shown.</p>
<p>18</p>  <p>Putty Weight-bearing</p> <p>Roll putty into a ball. With the affected hand, place palm on top of the ball. Then, push down bearing weight through hand.</p>		<p>17</p>  <p>Putty Fine Motor</p> <p>Begin by flattening the putty into a pancake. Then with fingers, locate each individual item. Then, pull the item out of the putty. Repeat until all items have been removed from the putty.</p>	