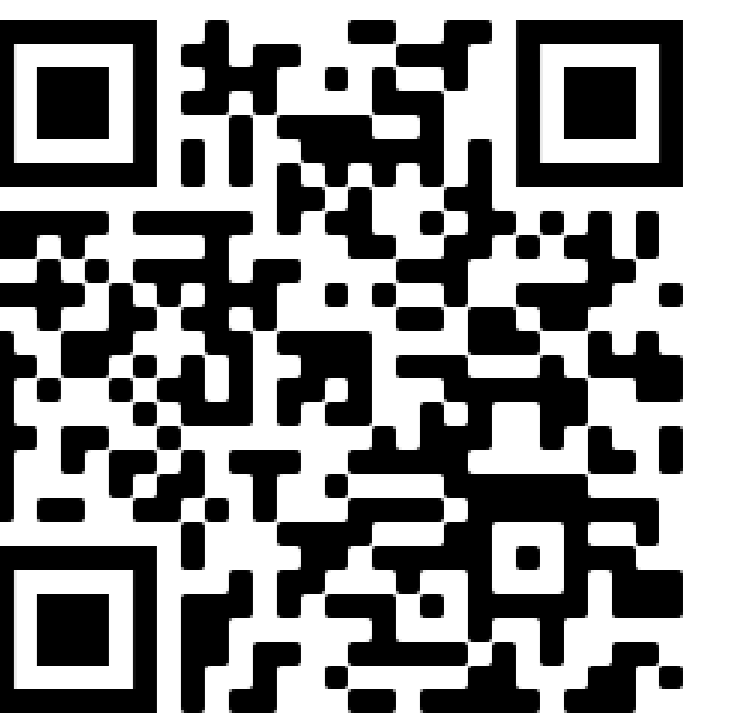


Advancement in Hand Therapy and Neurological Diagnoses in the Outpatient Setting

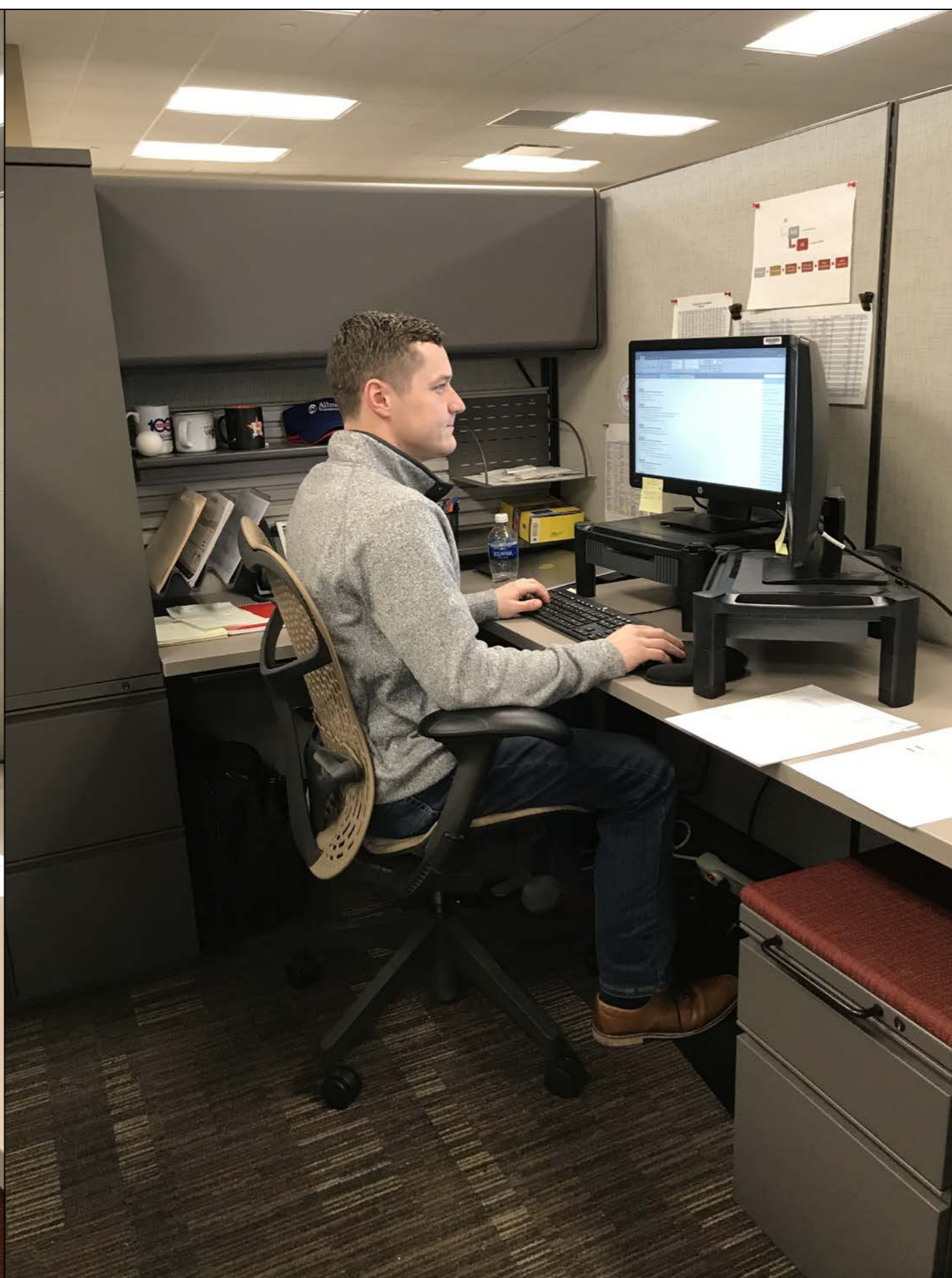
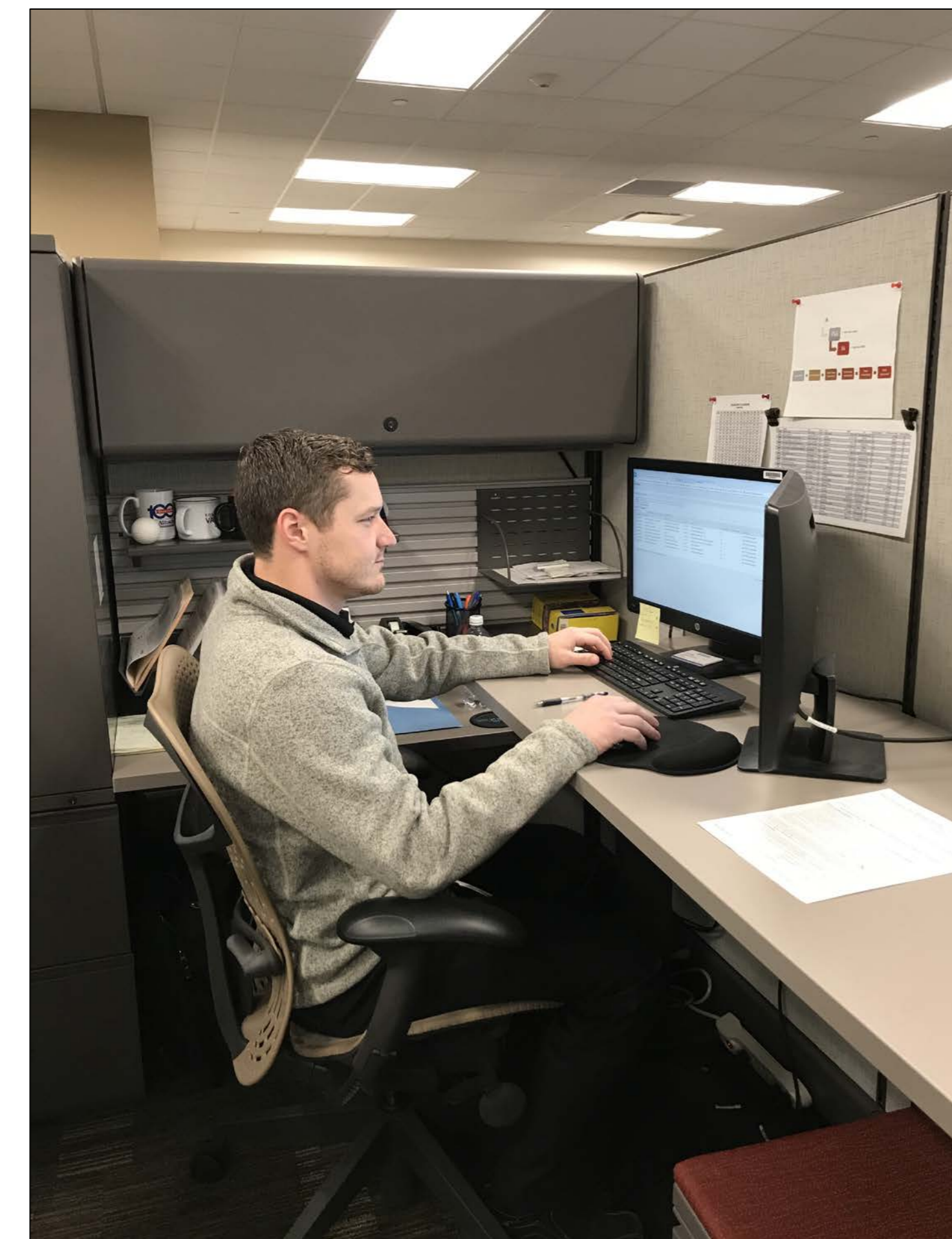
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Huntington University Doctor of Occupational Therapy Program



Project Justification

- ❖ Approximately 3.5 million upper extremity injuries are treated annually in the U.S. (Ootes, Lambers, & Ring, 2012).
- ❖ Currently there are 6,460 certified hand therapists (CHTs) in the U.S. (htcc.org).
- ❖ Most CHTs work in high density population areas, covering just 9% of the 33,120 US zip codes in the U.S. (Stegink-Jansen, Lindsey, Collins, & Wilson, 2017).
- ❖ Huntington, IN is considered a rural community, and Parkview Huntington Hospital (PHH) recently expanded the Rehab & Wellness department.
- ❖ With facility expansion comes opportunity to expand OT services and resources to better serve the community of Huntington.



Mission & Vision Statements

Mission

To increase quality of life and occupational engagement in patients at Parkview Huntington Hospital including those with ortho and neuro injuries or diagnoses.

Vision

The project will foster the development of advance skill and knowledge in foundational OT skills and practice as well as the hand therapy process at Parkview Huntington Hospital to prepare the student for future OT practice and CHT certification.

Outcome Measures & Learning Objectives

OUTCOME MEASURES

- ❖ At least 200 hours of immersion onsite at PHH
- ❖ Contribution to at least 1 ortho-related project at PHH
- ❖ Develop, review, implement lab content for OTD711

LEARNING OBJECTIVES

- ❖ Completion of CEU course related to upper quadrant
- ❖ Observe 3 surgeries & observe at least 20 hours with a CHT or hand therapist
- ❖ Fulfill community need at PHH (blog post, handouts, in-service presentation HEPs)

Accomplishments & Contributions

- ❖ 326.26 hours immersed at PHH gaining advanced clinical knowledge and experience through:
 - Provision of patient evaluation, treatment, and documentation utilizing EPIC
 - Facilitation of various technological interventions, modalities, & manual therapies
- ❖ Observation of surgeries and analysis of each procedure
- ❖ Completion of Matheson Ergonomic Evaluation Certification program
- ❖ Resources and education presented to PHH clinicians on use & application of newly acquired technology (Neuro Sensorimotor Integrator) to enhance patient outcomes
- ❖ Creation of patient education & home exercise programs (HEPs) for common UE diagnoses
- ❖ Advocate for OT at PHH through creating multiple resources such as:
 - articles explaining OT and hand therapy and who can benefit from these services
 - OT neuro-referral guide for physicians complete with ICD-10 codes
 - Brochure detailing benefits of Amadeo Tyromotion technology to facilitate patient outcomes
- ❖ Contribution to academic community by serving as a mock patient & lab assistant for OTD711

CMC arthritis conservative management

Description: A common cause of pain at the base of the thumb is arthritis of the carpometacarpal (CMC) joint of the thumb. Pain occurs because the synovial fluid and "cushion" that connects and protects the metacarpal and trapezium bones has worn away over time from activity, and now two bony surfaces are rubbing together every time you attempt to bend your thumb or grip an object. Weakness can also result at the muscles surrounding the thumb due to decreased use and muscle guarding from the pain. Although this "cushion" can only be replaced surgically, there are other alternative therapeutic options to help decrease pain and increase function.

Orthotic type & purpose: Many thumb supports are available, but your occupational therapist will recommend one that is best for you. The Push MetaGrip thumb CMC brace is a great option as it provides support to the base of the thumb without restricting movement of the wrist. Others prefer a support made of neoprene.

Although thumb supports are recommended, avoid wearing it continuously throughout the day to avoid dependence on the support. Its purpose is to provide support during activities requiring repeated or heavy gripping or lifting to reduce pain. If it is worn 24/7, the surrounding muscles will weaken as they no longer have to work as hard, so be sure to perform light activities without it.

Activity modification: As you go about your day, think about what activities cause you the most pain. Often gripping or pinching small objects exacerbates the pain. Brainstorm with your occupational therapist ways you can modify these activities. For example:

- When cooking consider using an automatic can opener and dycem or similar rubber surface to open jars.
- Replace metal containers and mixing bowls with plastic for lightweight option.
- Use built up grips on keys and writing utensils to decrease the demand on small muscles in the hand.
- Use built-up grip, spring loaded scissors to open containers and bags instead of using fingers.
- Replace round doorknobs and faucets with lever style hardware to use arm instead of hands.
- Look for household and hygiene products with pumps rather than tubes or squeezable bottles.
- When lifting, use larger muscles of the shoulder and elbow and hold items close to the body.
- Instead of carrying groceries bags with your hand by the straps, loop the straps around your elbow.
- If you often use tools, consider ergonomic grips to reduce the amount of gripping required.
- Take breaks throughout an activity to allow the joint to rest.
- Consider making an activity schedule to pace yourself throughout the day and spread out times of exertion.

Pain management: Consider using moist heat such as a heat pack or paraffin bath to help reduce pain. Moist heat can be used as needed throughout the day for 10-minute sessions.

Aerobic Exercise: Aim for 30 minutes of exercise a day – this could also be broken up into 3, 10-minute sessions. Exercise in a heated pool has many benefits including pain relief, decreased inflammation, and increased strength and endurance. Others find benefits from walking, bike riding, and yoga practices.

Phase: Gentle strengthening and ROM	Precautions: Listen to pain – avoid repetitive gripping, pinching and heavy lifting	Orthotic: Thumb spica or thumb support with demanding activities	
• Do not strengthen adductors.			
HEP MedBridge Template: CMC arthritis conservative mngmnt			
EXERCISE	REPS & SETS	FREQUENCY	NOTES
RADIAL ABDUCTION WITH RUBBER BAND	1 set, 10 reps	3-4x/week	
PALMAR ABDUCTION WITH RUBBER BAND	1 set, 10 reps	3-4x/week	
DIGIT ABDUCTION WITH RUBBER BAND	1 set, 10 reps	3-4x/week	
PUTTY STRENGTHENING	2 minutes	1x/day	Grip, log roll, and pinch. Replace with foam block if painful.

Deliverables

- ❖ Completion of requirements necessary for Certified Ergonomic Evaluation Specialist distinction
- ❖ Competency check off to demonstrate acquisition of advanced skills in outpatient setting
- ❖ Surgery observation analysis document
- ❖ Presentation for community-needs based project (NSI in-service)
- ❖ PowerPoint exhibiting advanced skills, knowledge and experience gained

Future Implications for OT

- ❖ Future students and clinicians can expand the HEP and patient education document to include additional diagnoses and topics
- ❖ Opportunity for advancements in telehealth – use resources and education to empower clients and increase compliance



REFERENCES

*reference list and image reference list available upon request