

The UE Ranger Calm®

Product Placement - Pilot Study

At the heart of every good intention is an underlying goodwill hoping to be fulfilled. And yet, even in a most well-intended form, for example in encouraging another to “work smarter instead of harder,” can leave a recipient feeling unintentionally slighted for assumptions made and as such turning back the potential for progress. At the heart of Rehab Innovations, Inc. it is our principal intention to provide the means for health care specialists to fully deliver both their vast knowledge and refined skills towards optimizing the outcomes of their patients. To achieve this end goal, we first listen to respective professionals along with their patients, to insure we are fully understanding their unmet needs in either delivering or receiving very well intended therapeutic influences. Secondly, we ultimately offer only what we believe to be truly helpful. Ultimately it is our mission to provide the highest quality products rooted in both the therapeutic sciences along with evidence-based practice.

Building on the successes of this approach in developing and implementing the UE Ranger®, first within the specialty of Orthopedic Rehabilitation, followed by Neurological Rehabilitation, we have just completed our research and development process in the form of a Pilot Product Placement Research Study by implementing the UE Ranger Calm® into practice with therapeutic professionals within the specialty of breast cancer rehabilitation. We initially invited APTA Board Certified Oncologic Specialist as well as Certified Lymphedema Therapists from available registries to critically examine the UE Ranger Calm®, designed to support post operative pain control, circulation and functional mobility recovery associated with breast cancer. Respective candidates were requested to review all provided UE Ranger Calm® foundational materials along with the intended supportive capacities of this tool. Interested candidates would ultimately be asked to self-implement, within their current treatment protocols, the described intended therapeutic influences/benefits and then offer their evaluation and expert clinical perspective via a follow-up questionnaire.



The pool of voluntary participants were provided all necessary equipment and supportive educational materials and allowed at their own professional discretion and time frame to implement the tools (UE Ranger Calm® along with a Wall Mount or Door Mount) as to adequately establish their perspective. All participants were provided a copy of the follow up questionnaire in advance of their completing their self-paced evaluation along with any desired interactive communication support as a means of ensuring their confidence in truly measuring the merits of the UE Ranger Calm® and supportive accessories. The questionnaire utilized an ordinal scale of 7 points ranging from Strongly Agree, Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, Disagree, Strongly Disagree as a means communicating a tester’s impression per question. In addition, the testers were provided a section to communicate their impressions, “in their own words.” Within the following section, we offer for your review the combined listening and application assessment exercise through the compiled input from our volunteer participants.

Anonymous Professional Think Tank

Within the combined participants, their reported length of application time averaged 12.2 weeks. Participants were not asked to provide a total number of patients receiving portions of their care with the support of the UE Ranger Calm, rather to implement the clinical tool to the extent of making a self-determination of the recognized value. Categories of established externally supported movement based therapeutic applications were selected and are defined below. Note, within each category of application resides both the intended therapeutic influence along with the desired response on the part of the combined patient and therapist experiences.

Externally Supported Movement Based Therapeutic Modalities (within the respective professions of Physical and Occupational Therapy) Passive Range of Motion (PROM)

The influences imparted and successes achieved in this first phase of a person's rehabilitation establish the foundation from which all further gains will be determined. By definition PROM means that a patient's involved upper extremity (UE) is being supported and solely moved by the combination of the UE Ranger Calm stable support and the patient's less involved upper extremity (and its supportive kinetic chain). The primary involved arm in this phase is not actively participating in the production of movement it is **ONLY ALONG FOR THE RIDE**. The principal goals of this phase of rehabilitation are as follows.

PROM Goals

1. Resolution of local pain sources
2. Restoration of a balanced Autonomic Nervous System, absent of sustained fight or flight influences, i.e. fear
3. Restoration of proper resting tone of the full shoulder girdle's musculature
4. Restoration of primary or diaphragm produced respiration, absence of neck and shoulder bracing
5. Preserve and enhance the integrity of the circulatory system's role in healing
6. Prevent adhesions
7. Resolve and prevent further compensation

Foundational Scientific Principles Supporting the UE Ranger Calm's Application in the PROM Phase of Rehabilitation

A patient who has recently undergone a surgical procedure or who has been compensating for chronic pain related to impaired and or disrupted contractile or non-contractile structures will likely be utilizing a protective guard or substitutive motor pattern. During such a period of immobilization or avoidances of movement, there are potential detrimental effects including impaired motor unit recruitment, muscle strength and fibrous connective tissue formation which can each ultimately impair motion and function. Thus, it is an accepted principle that our bodies are intended to move and need to in a manner to support healing and restore function.

Our first priority is to do no harm to the underlying tissues. From the 2012 research study produced independently by the University of Kentucky, the UE Ranger utilizing the execution of movements described within the manual pages 8 through 11, demonstrated the capacity for a patient to self-produce mobility of their involved shoulder without producing to a level of clinical concern, motor activity of any portion of the rotator cuff. With this assurance in mind, one can proceed to accomplish the other 7 PROM goals associated with Breast Cancer concurrently.

Within PROM, most of our volunteer participants voiced varying levels of agreement while only a small number of volunteer participants voiced disagreement or neutrality of the UE Ranger Calm's benefit, residing within the following intended therapeutic influences:

1. By educating patients in the proper use of the UE Ranger Calm®, including the accomplishment of obtaining Pure Spin (Differentiation of Movement), they were able to "self-reduce" their current sense of heaviness and or fatigue through the application of PROM.
2. By educating patients in the proper use of the UE Ranger Calm®, including the accomplishment of obtaining Pure Spin (Differentiation of Movement), they were able to "self-reduce" their current achiness or pain through the application of PROM.

Within PROM, all of our volunteer participants voiced varying levels of agreement of the UE Ranger Calm's benefit, residing within the following intended therapeutic influences:

1. Ability of Therapist to Accomplish Appropriate Mobilization - With the ability to free my hands as a therapist, while simultaneously preserving the trust of my patients involved arm to the UE Ranger Calm®, I am able to use my manual skills more effectively in a functional context.

Pertaining to PROM – Volunteer participant's own supportive words:

"By offering a smooth, comfortable support during active assisted and passive range of motion, the desired duration of exercise can be accomplished to increase blood flow to improve the delivery of oxygen and nutrients to the tissues."

"I appreciated the feeling of support reported by patients, the smooth motion provided by the UE Ranger was calming for stressed out nervous systems and encouraged self-efficacy in managing shoulder/elbow dysfunctions."

"I think it is a valuable addition to the shoulder treatment toolbox; a stepping stone back to active movement, but also reassuring for patients who have some kinesiophobia as the smooth supportive motion was appreciated by those with persistent pain."

Pertaining to PROM – Volunteer participant's own concerning words:

"My only concern is the cost of the UE Ranger Calm. I would love to send one home with all of my post operative patients, but it is too costly."

"The primary concern is about the UE ranger as a tool for home. It was cost prohibitive for all my patients compared to other exercise interventions coupled with a CBIT approach for stress management."

"Patients thought it was an interesting tool but did not see enough difference to justify cost for home use."

"It would be nice to have some sort of a gentle locking feature to provide sustained holds necessary to mobilize radiated tissue."

"Cost would be prohibitive for use as a home ex device for patients."

**Externally Supported Movement Based Therapeutic Modalities
(within the respective professions of Physical and Occupational Therapy)
Active Assistive Range of Motion (AAROM)**

By definition, AAROM means that the most involved upper extremity (UE) is now contributing to its own motions being produced. The degree to which the involved upper extremity successfully contributes to the production of motion will vary as a patient re-learns healthy motions and regains the strength and endurance to successfully produce these motions. In varying circumstances and to varying degrees, the UE Ranger Calm support and the patient's full body supportive kinetic chain, and in some circumstances the less-involved upper extremity should be contributing the necessary influences and assistance of movement to insure the execution of healthy biomechanics.

AAROM Goals

1. Maintain resolution of pain
2. Preserve the integrity of the circulatory system's role in healing
3. Prevent capsular adhesions and or myo-fascial restrictions
4. Preserving primary or diaphragm produced respiration absent of neck and shoulder bracing

5. Facilitate neuro-muscular re-education to support the reintegration of coordinated motor activity (synergistic movement productions)
6. Maintain resolution of a balanced ANS, absent of the fight or flight influences (evidenced in part by balanced motor tone when at rest)
7. Establish variable planes graded strengthening/endurance program free of compensatory patho-mechanics

Foundational Scientific Principles Supporting the UE Ranger Calm's Application in the AAROM Phase of Rehabilitation

A patient who has recently undergone a surgical procedure or who has been compensating for chronic pain is inclined to initiate movements and or quickly revert to movements with the inclusion of substitutions or compensatory muscular involvements. Therefore, in this critical window of opportunity it is imperative to ensure all essential muscles are both appropriately excitatory and sustainable during progressively graded demands. Modes of applications conducive to supporting the underlying foundations of natural free flowing movement health require a very subtle process and therefore "the little things matter" approach.

Within AAROM, all of our volunteer participants voiced varying levels of agreement of the UE Ranger Calm's benefit residing within the following intended therapeutic influences:

1. With the ability to free my hands as a therapist, while simultaneously preserving the trust of my patients involved arm to the UE Ranger Calm®, I am able to use my manual skills more effectively in a functional context.
2. The UE Ranger Calm® as a reflection of variable position capacities, can therapeutically support Active Assistive Range of Motion (AAROM) in variable patient positions, including seated, standing, side lying and hook lying.

Within AAROM, most of our volunteer participants voiced varying levels of agreement while only a small number of volunteer participants voiced neutrality of the UE Ranger Calm's benefit residing within the following intended therapeutic influences:

1. By educating patients in the proper use of the UE Ranger Calm®, they were able to report a sense of being in control of their movements and as such experienced a reduction of fear both within their initiation and progressions of Active Assistive Range of Motion (AAROM).
2. Patients were able, by using the UE Ranger Calm®, when compared to traditional tools that require gripping (such as shoulder pulley, a T bar, or other forms of a rigid bar), to comfortably self-assist their involved upper extremity through a therapeutic progression of range of motion. Therapeutic progression: meaning preserving healthy biomechanics through their current end range.

Within AAROM, most of our volunteer participants voiced varying levels of agreement while only a small number of volunteer participants voiced disagreement or neutrality of the UE Ranger Calm's benefit residing within the following intended therapeutic influences:

1. By regaining patients trust of mobility, concurrently with the support of restoring healthy biomechanics, the UE Ranger Calm®, can facilitate a natural reconditioning (endurance to restore function) of skeletal muscle tissue via a "priming" recovery of the circulatory systems role of nourishing contractile muscles tissue.
2. By the ability to naturally merge current end ranges of respective soft tissues, involved in such co-morbidities as Chest Wall Adhesions, Cording or Axillary Web Syndrome and Frozen Shoulder (without triggering a Fight or Flight response), The UE Ranger Calm® can achieve the necessary therapeutic threshold requirements for safe and lasting tissue length changes, in terms of intensity and treatment duration tolerances along with the capacity of introducing gains into newly restored planes of movement.

3. By therapeutically reconditioning the essential role of patient's skeletal muscles activity during functional movements, the UE Ranger Calm® can concurrently facilitate recovery of a natural pressure gradient, supportive of naturally draining lymph from associated surrounding interstitial fluids.

Pertaining to AAROM – Volunteer participant's own supportive words:

"Patients stated that it was very supportive, allowed for smooth functional movements that replicated movements in daily activities."

"I found the UE Ranger Calm to be a very valuable tool to restore functional range of motion in my post operative upper extremity patients, as well as post radiation therapy and axillary web syndrome. It provided support to the affected extremity that allowed the patient to confidently relax the arm and perform smooth, long duration exercise without increasing pain or fatigue. I would love to be able to incorporate it into a daily home exercise program for these patients. Again, it is the cost that is prohibitive."

"I liked the facilitation of multiplanar movement to better simulate functional activities."

"I treat cancer related pain as well as chronic pain and I feel the UE Ranger does a great job allowing me to address kinesiophobia and down regulate the central nervous system during movement."

"I had no issues with using it. I think it is a great tool."

"Patients overall like it especially with AAROM."

"By utilizing the UE Ranger Calm, patients were able to relax and regain some sense of control over their ROM progression and healing process with less pain and exertion required. It seemed to allow faster progression of ROM without resultant pain or guarding to more quickly meet rehab plan of care and patient functional goals."

"Patients really enjoyed the ability to achieve more movement with less pain to more quickly reach their personal functional goals."

Pertaining to AAROM – Volunteer participant's own concerning words:

"Patients required multiple cues for full ROM use to promote true tissue mobility."

Within implementation of the UE Ranger Calm, into volunteer participants preferred practice protocols, most of our volunteer participants voiced varying levels of agreement while only a small number of volunteer participants voiced neutrality of the UE Ranger Calm's benefit residing within the following intended clinical applications:

1. In the future, I plan to implement the UE Ranger Calm® into treatment protocols for persons rehabilitating from Cancer or Lymphedema related pathologies which required surgical interventions.
2. In the future, I plan to implement the UE Ranger Calm® into treatment protocols for persons rehabilitating from Cancer or Lymphedema related pathologies which did not require surgical interventions.
3. By the ability of the UE Ranger Calm® to naturally support both the physically impaired needs of my patients along with naturally facilitating their healing requirements, I am able to utilize my clinical knowledge and skills more effectively and therefore provide a higher overall level of care to my upper extremity patients.

Within implementation of the UE Ranger Calm, into volunteer participants preferred practice protocols, most of our volunteer participants voiced varying levels of agreement while only a small number of volunteer participants voiced disagreement of the UE Ranger Calm's benefit residing within the following intended clinical applications:

1. The UE Ranger Calm®, when compared to the traditional tools such as a shoulder pulley, T bar, or other forms of a rigid bar, offers an all-encompassing means of a patient's prescribed therapeutic Home Exercise Program, being able to support a positive carryover between treatment sessions and progression towards a patient's recovery of their independence.

Within implementation – Volunteer participant's own supportive words:

"Some found it a little awkward to get used to, but most enjoyed using it."

Within implementation – Volunteer participant's own concerning words:

"A slightly more succinct manual would be my only suggestion."

Summary

Potential physical consequences associated with breast cancer often include one or both upper extremities with association to circulation, pain, and weakness along with variable degrees of resultant functional decline. Empowering professionals and their respective patients is the principal intent behind extending the UE Ranger Calm® to where it can be of greatest benefit. From this pilot study, we have learned there to be general agreement with the determination of the described benefits among those professionals combined with their patient's input who took part. Further, we have learned of a general concern amongst these same professionals of one primary barrier of equipping patients for their benefit of home use, principally due to cost.

The overall input compiled in this study provides great upside in providing the unmet needs of the body of professionals along with their respective patients that this combined group of participants represent. From this data, great consideration will be devoted to addressing the input provided in meeting the aforementioned principal intentions. Further, great consideration will be given to expanding such research to more closely examine the portions deemed to both require greater understanding as well as offer further empowerment for the good of all concerned. We sincerely thank you for your interest in this information along with special gratitude for all those that made this effort a great success.