

Case Study: Effectiveness of Mirror Therapy as an Adjunct Modality in Occupational Therapy Services

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BACKGROUND

Mirror therapy (MT) is a type of motor imagery whereby the patient moves the unaffected limb while watching the movement in a mirror; this in turn sends a visual stimulus to the brain to promote movement of the affected limb. This intervention has been utilized by Occupational Therapists as an adjunct therapy and as a pain management strategy. Recently, OT has been in collaboration with our PICU Medical team in identifying non pharmacological treatment strategies for pain management. Mirror therapy has been an ongoing project in our PICU. Not only addressing pain but also delirium in the ICU as one of the non pharmacological strategies.

PURPOSE

- To ascertain efficacy of Mirror therapy in 2 oncology patients (pediatric and adult)
- Review course of hospitalization and inpatient therapy services

METHODS

Review of 2 cases who had successfully received Mirror Therapy.

Reviewed the Occupational therapy data which included the date of the initial evaluation and administration of mirror therapy.

Case #1:

Background: Patient presented with a history of inflammatory myofibroblastic tumor of the left thigh originally noticed in October 2021; incisional biopsy with eventual mass resection in January of 2022; had chemotherapy; referred to UMC for surgery. S/p left hemipelvectomy on 5/4/23 with flap for inflammatory myofibroblastic tumor refractory to chemotherapy; emergently on 5/7 for flap exploration given signs of vascular congestion with s/p leech therapy as skin flap was compromised. Patient positioned primarily in lateral decubitus position. Patient reports ongoing pain, and phantom limb pain.

This case was complicated with a flap on the pelvis, needing to undergo "sitting protocol" allowing *child to be in supine* with schedule below

- Day 1: 5 min bid
- Day 2: 10 min bid
- Day 3: 15 min bid
- Day 4: 30 min bid
- Day 5: 1 hour bid

Intervention: OT collaborated with Nursing for AM/ PM cares as OT initiated mirror therapy within "sitting protocol", advanced to OOB activities and standing ADL tasks

Results: Patient demonstrated improved outlook and improved participation in therapy sessions. A total of 20 Occupational Therapy Sessions and 22 Physical Therapy sessions. Patient was discharged from UMC at Modified Independent with self care activities (dressing UB/LB and toileting), Modified Independent with transfers and Supervision for ambulation with walker
Patient was discharged home

Case #2

Background: Patient is a 59 year old male who was admitted primarily for N/V. Grade III undifferentiated pleomorphic myosarcoma (left thigh); was undergoing chemotherapy; Left hip wound irrigation and debridement and closure, application of wound vacuum, complex closure hip disarticulation wound; referred to Occupational Therapy to manage phantom limb pain therapy on the L amputation site.

Intervention: Patient had total of 7 OT sessions after initiation of mirror therapy; 14 PT sessions

Results: Improved pain level, anxiety
Improved participation with improved sitting balance with supervision x 15 minutes
Tolerated 45 minutes for out of bed activities
Patient qualified for Skilled Nursing Facility.



RESULTS

- ❖ Improved rapport with the patient
- ❖ Improved outlook on patients' progress with increased patient and family satisfaction
- ❖ Improved participation of patient in therapies (Occupational Therapy and Physical Therapy)
- ❖ Improved level of Independence in Activities of Daily Living
- ❖ Improved functional mobility and transfer skills
- ❖ Surgeons recognized the **importance of Occupational therapy and use of mirror therapy**

CONCLUSIONS

There is a current need to incorporate **mirror therapy** (MT) as an alternative modality in rehabilitation with specific benefit to the pediatric oncology patient.

Our hope is that this will encourage greater understanding of the role that Occupational Therapy can play in pain management. Physician recognition is important for initiation of these referrals. MT can prove to be a cost effective, easily accessible therapy intervention.

There is potential benefit to incorporate this into the plan of care in the pediatric as well as the adult populations.

REFERENCES

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A systematic review of rehabilitation and exercise recommendations in oncology guidelines

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