\*\***Interview Questions for Clinicians:\*\***

\*\*Patient Types:\*\*

- Do you see more phantom pain in cases of trauma-related amputation compared to illness-related amputation?

- How long after amputation do patients typically start reporting pain? Is it usually immediate or does it take some time? And how long does the pain tend to persist?

- Do patients report specific factors that worsen or alleviate phantom pain (e.g., heat/cold, anxiety, with or without a prosthesis)?

Does depression over perceived inconsistency, inefficacy, or lack of novelty of treatment outcomes affect subsequent phantom pain episodes?

Does stress ( due to temporal situational factors such as physical/social difficulties, waning motivation to learn new skills to offset disability, etc. as well as chronic factors to do with livelihood, relationships, etc.) affect frequency or intensity of phantom pain episodes reliably?

Does stress during treatments that either use mirror illusions/ VR apparatus due to a ‘lack of believability’ factor affect outcomes, or is it accepted in practice as something that either works on a patient or not? Have there ever been patients who have been treated using these techniques successfully in the past, and have come to adapt and accept to their changed lifestyle, who had phantom pain reemerge or ‘re triggered’ by the same ‘lack of believability’ factor?

Does trauma over the disability affect future treatment outcomes or frequency/intensity of PLP episodes in between treatments? Does this factor fade away, or can crop up unexpectedly? If a memory ‘reminder’ is a cause or trigger for trauma that sparks a PNP episode, are they usually episodic (for example - looking in the mirror, at past photos or visiting certain places) or of a semantic nature (through music, books, tv shows, sports, news, etc. that either is familiar from one’s past or novel but of interest)?

- Is there a difference in phantom pain occurrence between leg amputees and arm amputees?

\*\*Treatment Types:\*\*

- What treatments are offered in your facility (considering both your sector and others such as physical therapy, medical doctors, occupational therapy, psychology)? What do you consider the most effective?

- Do you have a way of measuring treatment success for phantom pain, and how do you measure it?

- If you had the option to measure additional metrics (such as blood pressure or brain activity in pain-related areas), what would you like to measure? Would this add value beyond the patient’s subjective pain reports?

Would it be a value add if it would be possible to monitor (in a simple manner, without clunky electronic equipment) reliable digital biomarkers that indicate/interpret levels of amygdala activity (involved in fight/flight responses due to anxiety, trauma or other physical factors) and cognitive stress, during treatment sessions? As well as at home.

\*\*Needs:\*\*

- What would help you provide better care for these patients?

- What do you think these patients need most?

- What is missing in the current treatments?

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\*\*Interview with Racheli – Occupational Therapist in Orthopedic Rehabilitation, Tel Hashomer:\*\*

\*\*Overview:\*\* Treatment is highly individualized, with no consistent pattern. A distinction is made between stump pain (which can be caused by factors like neuroma) and phantom pain.

\*\*Trauma-Related vs. Illness-Related Amputation:\*\*

- Trauma-related amputations tend to result in more frequent phantom pain, while illness-related amputations (such as diabetes) may involve less brain representation over time, resulting in less pain.

\*\*Onset and Duration of Pain:\*\*

- Phantom pain typically starts shortly after amputation, within the first few months. Some patients experience relief after a few months, while for others, the pain persists indefinitely. Some may not experience phantom pain at all.

\*\*Influence of Weather or Time of Day:\*\*

- For some patients, weather or specific times of day can have an effect.

\*\*Phantom Pain in Legs vs. Arms:\*\*

- Based on experience, leg amputees tend to experience more severe phantom pain. However, the hand has a more substantial representation in the brain, which complicates this theory.

\*\*Prosthetics and Pain:\*\*

- Some patients find relief with a prosthesis, while for others, the prosthesis exacerbates the pain, potentially due to the sensation on the stump.

\*\*Treatment Approaches:\*\*

- \*\*Mirror Therapy:\*\* Sometimes effective, sometimes not; typically conducted twice daily for 30 minutes. It's unclear if improvement is due to therapy or spontaneous recovery. Patients are asked to imagine the limb performing certain movements during pain episodes.

- \*\*Guided Imagery and Relaxation Techniques:\*\* Can provide some relief.

- \*\*Medication:\*\* Lyrica (pregabalin) has shown effectiveness in alleviating phantom pain**.**