# Phantom Limb Pain Perceptions: Are Clinicians Aware Enough?

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# Phantom Limb Pain Perceptions: Are Clinicians Aware Enough?

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## Background

- Phantom limb pain (PLP) is very common and has been reported in **50 - 85% of amputees** [1], [2].
- Pathophysiology of PLP is complex and poorly understood [3].
- Lack of clinical guidelines for management
- 25% of PLP patients may find pain disabling and limiting to function [4].

## Problem Statement

Healthcare providers who are not aware of PLP and its high incidence will be less likely to provide values-based patient-centered care to amputee patients.

## Methods

- Study involved physicians and students at the LVH-CC surgery department.
- Surveys were given before and after an education intervention.
- Pre-test survey evaluated attitudes and management strategies for PLP.
- Education intervention of a Grand Rounds on PLP is planned.
- Post-test surveys will be given to evaluate changes in attitudes and management strategies for PLP.

## Results

**Final results are still in process since IRB was only recently fully approved as of February 2020.**

Pre-Test Survey Results:

- 100% of residents (n = 16) and 88% of fellows and attendings (n = 49) of have cared for amputee patients.
- 31% of total respondents (n = 49) estimated less than 40% of patients with amputations suffer from PLP.
  - Fellows & attendings were more likely to answer there would be "<20%" of patients ($x^2 = 4.567$; d.f. = 2; $p > 0.10$).
- 78% of fellows & attendings and 75% of residents correctly included physical therapy (PT) as part of an appropriate treatment intervention.

Post-Test Survey Results:

- Pending.

**Table 1. Overview of Pre-Test Responses**

| | Students (Medical, PA) | Residents | APC | Fellows & Attendings | *Total* |
|---|---|---|---|---|---|
| n = | 14 | 16 | 1 | 18 | *49* |
| **"Have you ever cared for patients with amputations?" (% of Responses)** | | | | | |
| Yes | 10 (71%) | 16 (100%) | 1 (100%) | 16 (89%) | *43 (88%)* |
| No | 4 (29%) | 0 (0%) | 0 (0%) | 2 (11%) | *6 (12%* |
| **"Have you ever received formal training or education on [PLP]?"** | | | | | |
| Yes | 0 (0%) | 1 (6%) | 0 (0%) | 0 (0%) | *1 (2%)* |
| No | 14 (100%) | 15 (94%) | 1 (100%) | 18 (100%) | *48 (98%)* |
| **"What percent of patients with amputations suffer from [PLP]?" (% of Responses)** | | | | | |
| >80% | 4 (29%) | 2 (13%) | 1 (100%) | 3 (17%) | *10 (20%)* |
| 60-80% | 3 (21%) | 4 (25%) | 0 (0%) | 7 (39%) | *14 (29%)* |
| 41-59% | 5 (36%) | 2 (13%) | 0 (0%) | 1 (6%) | *8 (16%)* |
| 20-40% | 1 (7%) | 8 (50%) | 0 (0%) | 4 (22%) | *13 (27%)* |
| <20% | 0 (0%) | 0 (0%) | 0 (0%) | 2 (11%) | *2 (4%)* |
| No answer given | 1 (7%) | 0 (0%) | 0 (0%) | 1 (6%) | *2 (4%)* |
| **"What is the likely mechanism of [PLP]?" (Multiple answers accepted; % of Responses)** | | | | | |
| Neuroma development at the vicinity of the stump | 1 (7%) | 5 (31%) | 0 (0%) | 4 (22%) | *10 (20%)* |
| Peripheral nerve damage in the residual limb | 0 (0%) | 3 (19%) | 1 (100%) | 2 (11%) | *6 (12%)* |
| Cortical remapping of somatosensory region | 12 (86%) | 11 (69%) | 0 (0%) | 9 (50%) | *32 (65%)* |
| Psychosomatic stress response to amputation | 1 (7%) | 2 (13%) | 0 (0%) | 3 (17%) | *6 (12%)* |
| Malingering or factitious behavior | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | *0 (0%)* |
| None of the above | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | *0 (0%)* |
| **"What treatment regimen would you use for [PLP]?" (Multiple answers accepted; % of Responses)** | | | | | |
| Opioids (eg, oxycodone) | 0 (0%) | 0 (0%) | 0 (0%) | 5 (28%) | *5 (10%)* |
| NSAIDs (eg, ibuprofen) | 4 (29%) | 5 (31%) | 0 (0%) | 6 (33%) | *15 (31%)* |
| Acetaminophen | 2 (14%) | 5 (31%) | 0 (0%) | 3 (17%) | *10 (20%)* |
| Neuropathic pain agents (eg, gabapentin) | 13 (93%) | 15 (94%) | 1 (100%) | 16 (89%) | *45 (92%)* |
| NMDA receptor antagonists (eg, memantine, ketamine) | 1 (7%) | 1 (6%) | 0 (0%) | 4 (22%) | *6 (12%)* |
| Tricyclic antidepressants (eg, amitriptyline) | 5 (36%) | 11 (69%) | 0 (0%) | 14 (78%) | *30 (61%)* |
| Local anesthetics (eg, lidocaine) | 0 (0%) | 3 (19%) | 0 (0%) | 2 (11%) | *5 (10%)* |
| Physical therapy (eg, mirror therapy) | 13 (93%) | 12 (75%) | 1 (100%) | 14 (78%) | *40 (82%)* |
| Psychiatry referral/consult | 6 (43%) | 8 (50%) | 1 (100%) | 5 (28%) | *20 (41%)* |

## Discussion

- Limitations:
  - Simple survey with small sample size
  - Survey itself could have biased respondents so may not have been an accurate assessment
- Future directions:
  - Creation of a care pathway for patients with amputees as their conditions can be complicated and interdisciplinary.
- SELECT principles of values-based patient-centered care
  - If **healthcare professionals are unaware** of a patient's pathology, then the **discussion on treatment options may not even occur,** and values-based patient centered care **cannot be truly delivered.**

## Conclusions

The preliminary data for this study indicates that LVH-cc surgery clinicians **may be unfamiliar** with the high incidence of this phenomenon but the **majority would still include** PT and neuopathic pain agents as part of an appropriate treatment regimen.

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