

# In those with persistent post-surgical pain, elevated sensory pain occurs as early as 1 month after Total Knee Replacement and may indicate a need for early clinical intervention

## The trajectory of persistent post-surgical pain (PPSP) and self-reported sensory pain profiles after Total Knee Replacement (TKR) for osteoarthritis

### INTRODUCTION

- Up to **15%** of people experience **moderate-severe PPSP** after TKR
- PPSP is difficult to predict.
- Primary aim: To evaluate the prevalence of PPSP after TKR
- Secondary aim: To explore if sensory profiles of pain differed in those with/without PPSP

### METHODS

- People undergoing TKR were recruited from 2 SA hospitals (06/14 – 08/17)
- Short-Form McGill Pain Questionnaire (SF-MPQ) was completed pre-TKR, & at 1, 3, 6 & 12 months after TKR
- PPSP was defined as those reporting daily pain for the past 3 months
- SF-MPQ scores were compared between those with and without PPSP at 6 months, using independent t-tests

### RESULTS

- N = 52, 33 female, mean age 65 [± 8.5] years
- Prevalence of PPSP: 56% at 3 months, **53% at 6 months**; and 34% at 12 months
- **No significant difference in pre-TKR SF-MPQ scores** between PPSP and no=PPSP groups
- **Significant differences** between PPSP and no-PPSP groups for the **sensory subscale at 1, 3, 6 & 12 months**, total scale at 3, 6, & 12 months and affective scale only at 3 months

### DISCUSSION

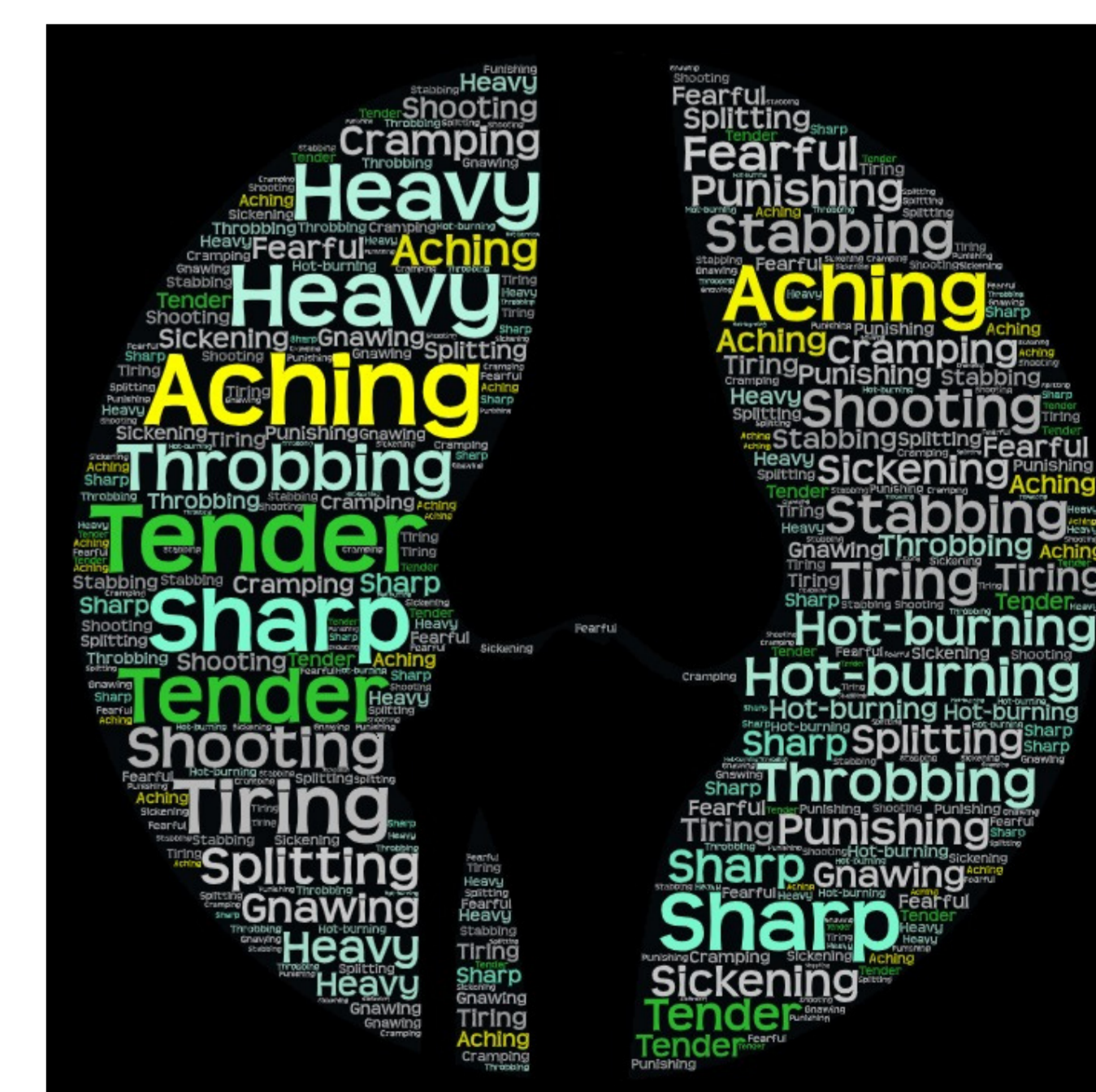
- Clinical **improvement occurred** for all participants. However, early **impairment in sensory pain profiles** (that also persisted) for those who developed PPSP may be a **relevant clinical marker** to prompt **early intervention** after TKR

### EXTRA INFO !

Table 1: Pain ratings and SF-MPQ pre-and up to 6 months post-TKR with/without PPSP

|                 | NRS Average pain/100 |         | SF-MPQ total |         | SF-MPQ sensory subscale |         | SF-MPQ affect subscale |         |
|-----------------|----------------------|---------|--------------|---------|-------------------------|---------|------------------------|---------|
|                 | PPSP                 | No PPSP | PPSP         | No PPSP | PPSP                    | No PPSP | PPSP                   | No PPSP |
| <b>Baseline</b> |                      |         |              |         |                         |         |                        |         |
| N               | 20                   | 11      | 20           | 11      | 20                      | 11      | 20                     | 11      |
| Mean            | 74                   | 64      | 20           | 15      | 16                      | 11      | 4                      | 4       |
| [SD]            | [28]                 | [27]    | [9]          | [10]    | [6]                     | [7]     | [3]                    | [3]     |
| t value         | 0.80                 |         | -1.23        |         | -1.87                   |         | 0.24                   |         |
| p value         | 0.36                 |         | 0.23         |         | 0.07                    |         | 0.81                   |         |
| Cohens d        | 0.35                 |         | -0.46        |         | -0.70                   |         | 0.09                   |         |
| <b>1 month</b>  |                      |         |              |         |                         |         |                        |         |
| N               | 19                   | 12      | 19           | 11      | 19                      | 11      | 19                     | 11      |
| Mean            | 41                   | 26      | 15           | 9       | 12                      | 6       | 2                      | 2       |
| [SD]            | [28]                 | [29]    | [10]         | [9]     | [8]                     | [6]     | [3]                    | [3]     |
| t value         | 1.5                  |         | 1.55         |         | 2.12                    |         | 0.05                   |         |
| p value         | 0.15                 |         | 0.13         |         | 0.04                    |         | 0.96                   |         |
| Cohens d        | 0.54                 |         | 0.59         |         | 0.80                    |         | 0.02                   |         |
| <b>3 months</b> |                      |         |              |         |                         |         |                        |         |
| N               | 19                   | 12      | 19           | 11      | 19                      | 11      | 19                     | 11      |
| Mean            | 29                   | 13      | 8            | 2       | 7                       | 2       | 1                      | 0.2     |
| [SD]            | [24]                 | [18]    | [5]          | [2]     | [4]                     | [2]     | [1]                    | [0.5]   |
| t value         | 2.0                  |         | 4.82         |         | 5.12                    |         | 2.61                   |         |
| p value         | 0.06                 |         | <0.001       |         | <0.001                  |         | 0.02                   |         |
| Cohens d        | 0.72                 |         | 1.53         |         | 1.66                    |         | 0.78                   |         |
| <b>6 months</b> |                      |         |              |         |                         |         |                        |         |
| N               | 21                   | 11      | 21           | 12      | 21                      | 12      | 21                     | 12      |
| Mean            | 29                   | 6       | 8            | 2       | 8                       | 2       | 0.6                    | 0       |
| [SD]            | [20]                 | [18]    | [6]          | [2]     | [5]                     | [2]     | [2]                    | [0]     |
| t value         | 3.3                  |         | 4.06         |         | 4.34                    |         | 1.57                   |         |
| p value         | 0.003                |         | <0.001       |         | <0.001                  |         | 0.13                   |         |
| Cohens d        | 1.19                 |         | 1.20         |         | 1.33                    |         | 0.43                   |         |

Fig 1: WordArt showing highest scored words in the SF-MPQ at 1 month after TKR (Powered by WordArt.com)



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