

**SUPPLEMENTARY FILES:**

**Supplementary File 1: Case report forms**

**Baseline Demographics**

\*=HEAL required questions

1. 1. \*Gender identity  Male  Female  Unknown      Other, Specify: \_\_\_\_\_
  
2. \*What is the highest level of education you have completed?  
 Did not complete Secondary School or Less than High School  
 Some Secondary School or High School Education  
 High School or Secondary School Degree Complete  
 Associate's or Technical Degree Complete  
 Doctoral or Postgraduate Education
  
3. \*What is your current employment status?  
 Full-time employment  
 Not employed  
 Part-time employment
  
4. \*What category best describes your current relationship status?  
 Divorced  
 Married  
 Never Married  
 Separated  
 Widowed  
 Domestic Partner
  
5. Including yourself, how many people live in your household? \_\_\_\_\_
  
6. \*How long have you had the type of pain for which you are enrolled in this study? (Please list the number of months) \_\_\_\_\_
  
7. Is your low back pain more severe than pain in other parts of your body?
  - a) Yes
  - b) No
  - c) Not sure
  
8. Have you ever had a low-back operation?
  - a) Yes, one operation
  - b) Yes, more than one operation
  - c) No
  
9. If yes, when was your last back operation?
  - a) Less than 6 months
  - b) More than 6 months but less than 1 year ago
  - c) Between 1 and 2 years ago
  - d) More than 2 years ago

10. Did any of your back operations involve a spinal fusion? (also called an arthrodesis?)
- a) Yes
  - b) No
  - c) Not sure
11. Have you been off work or unemployed for 1 month or more due to low-backpain?
- a) Yes
  - b) No
  - c) Does not apply
12. Have you filed or been awarded a worker's compensation claim related to your backproblem?
- a) Yes
  - b) No
  - c) Does not apply
13. Are you involved in a lawsuit or legal claim related to your back problem?
- a) Yes
  - b) No
  - c) Not sure
14. \*Have you ever applied for, or received, disability insurance for your pain condition?
- a) Yes
  - b) No
15. \*What is your annual household income from all sources?
- Less than \$10,000
  - \$10,000 - \$24,000
  - \$25,000 - \$34,999
  - \$35,000 - \$49,999
  - \$50,000 - \$74,999
  - \$75,000 - \$99,999
  - \$100,000 - \$149,999
  - \$150,000 - \$199,999
  - \$200,000 or more
  - Prefer not to answer

**Minimum Dataset: Outcomes Assessment**

Completed at baseline and 3 months

\*=HEAL-required CDE

**Pain Duration and Frequency**

1. How long has low-back pain been an ongoing problem for you?
  - a) <3 months
  - b) 3-6 months
  - c) 6 months-1 year
  - d) 1 to 5 years
  - e) More than 5 years
  
2. How often has low-back pain been an ongoing problem for you over the past 6 months?
  - a) Every day or nearly every day in the past 6 months
  - b) At least half the days in the past 6 months
  - c) Less than half the days in the past 6 months

**Pain Location**

3. Has back pain spread to your buttock or thigh during the past 2 weeks?
  - a) Yes
  - b) No
  - c) Not sure
  
4. Has back pain spread below your knee during the past 2 weeks?
  - a) Yes
  - b) No
  - c) Not sure

**Widespread Pain**

5. Do you have chronic pain the following areas?
  - a) Head or face (Yes/No)
  - b) Right hand, arm, or shoulder (Yes/No)
  - c) Left hand, arm, or shoulder (Yes/No)
  - d) Right buttock, leg, or foot (Yes/No)
  - e) Left buttock, leg, or foot (Yes/No)
  - f) Chest, abdomen, or pelvis (Yes/No)
  - g) Neck or upper back (Yes/No)



**Pain Intensity Journal (7 days)**

Rate your average [back] pain today on a scale from 0-10, where 0 means no pain and 10 means the worst pain imaginable.

\_0\_1\_2\_3\_4\_5\_6\_7\_8\_9\_10

No Pain

Worst imaginable pain

**Motion Sickness Propensity Questionnaire**

1. I am susceptible to sickness induced by video or computer games.
  - a) True
  - b) False
  
2. I get motion sickness.
  - a) True
  - b) False

### Immersive Tendency Questionnaire

Source: Witmer, B. G., & Singer, M. J. (1998). Measuring presence in virtual environments: A presence questionnaire. *Presence, 7*(3), 225-240.

1. Do you ever get extremely involved in projects that are assigned to you by your boss or your instructor, to the exclusion of other tasks?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never                      Occasionally      Often
  
2. How easily can you switch your attention from the task in which you are currently involved to a new task?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Not so easily      Fairly                      Often
  
3. How frequently do you get emotionally involved (angry, sad, or happy) in the news stories that you read or hear?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never                      Occasionally      Often
  
4. How well do you feel today?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Not well                      Pretty well              Excellent
  
5. Do you easily become deeply involved in movies or TV dramas?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never                      Occasionally      Often
  
6. Do you ever become so involved in a television program or book that people have problems getting your attention?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never                      Occasionally      Often
  
7. How mentally alert do you feel at the present time?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Not alert                      Moderately Alert      Fully Alert
  
8. Do you ever become so involved in a television program or book that people have problems getting your attention?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never                      Occasionally      Often
  
9. How frequently do you find yourself closely identifying with the characters in a story line?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7



Never            Occasionally    Often

10. Do you ever become so involved in a video game that it is as if you are inside the game rather than moving a joystick and watching the screen?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Never            Occasionally    Often

11. On average, how many books do you read for enjoyment in a month?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

12. What kind of books do you read most frequently?

1, Spy novels | 2, Adventure novels | 3, Westerns | 4, Biographies | 5, Fantasies | 6, Romance novels | 7, Mysteries | 8, Autobiographies | 9, Science fiction | 10, Historical novels | 11, Other fiction | 12, Other non-fiction

13. How physically fit do you feel today?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Not fit            Moderately fit    Extremely fit

14. How good are you at blocking out external distractions when you are involved in something?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Not very good    Somewhat good    Very good

15. When watching sports, do you ever become so involved in the game that you react as if you were one of the players?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Never            Occasionally    Often

16. Do you ever become so involved in a daydream that you are not aware of things happening around you?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Never            Occasionally    Often

17. Do you ever have dreams that are so real that you feel disoriented when you awake?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Never            Occasionally    Often

18. When playing sports, do you become so involved in the game that you lose track of time?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Never            Occasionally    Often

19. Are you easily disturbed when working on a task?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7

Never            Occasionally    Often

20. How well do you concentrate on enjoyable activities?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

21. How often do you play arcade or video games? (FOTEN should be taken to mean every day or every two days, on average.)

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

22. How well do you concentrate on disagreeable tasks?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Not well            Moderately well    Very well

23. Have you ever gotten excited during a chase or fight scene on TV or in the movies?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

24. To what extent have you dwelled on personal problems in the last 48 hours?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

25. Have you ever gotten scared by something happening on a TV show or in a movie?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

26. Have you ever remained apprehensive or fearful long after watching a scary movie?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

27. Do you ever avoid carnival or fairground rides because they are too scary?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

28. How frequently do you watch TV soap operas or docu-dramas?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

29. Do you ever become so involve din doing something that you lose all track of time?

\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5\_\_\_6\_\_\_7  
Never            Occasionally    Often

### Simulator Sickness Questionnaire

Kennedy, Lane, Berbaym, & Lilienthal (1993)\*\*\*

*Source:* Original Version – Kennedy, R.S., Lane, N.E., Berbaum, K.S., & Lilienthal, M.G. (1993). Simulator Sickness Questionnaire: An enhanced method for quantifying simulator sickness. *International Journal of Aviation Psychology*, 3(3), 203-220. Last version: March 2013

Instructions: Circle how much each symptom below is affecting you right now.

1. General discomfort	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
2. Fatigue	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
3. Headache	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
4. Eye strain	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
5. Difficulty focusing	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
6. Salivation increasing	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
7. Sweating	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
8. Nausea	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
9. Difficulty concentrating	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
10. << Fullness of the head >>	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
11. Blurred vision	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
12. Dizziness with eyes open	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
13. Dizziness with eyes closed	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
14. *Vertigo	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
15. **Stomach awareness	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>
16. Burping	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>

\* Vertigo is experience as loss of orientation with respect to vertical upright.

\*\* Stomach awareness is usually used to indicate a feeling of discomfort which is just short of nausea.

### Presence Scale Questionnaire

On a five-point scale (1 = not at all; 5 = extremely), designate the degree to which you feel presence.

1. To what extent did you feel like you were inside the virtual world?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5  
Not at all                      Extremely
2. To what extent did you feel immersed in the virtual world?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5  
Not at all                      Extremely
3. To what extent did you feel surrounded by the virtual world you saw and heard?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5  
Not at all                      Extremely
4. How much did it feel as if you visited another place?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5  
Not at all                      Extremely
5. How much was the virtual world like the real world?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5  
Not at all                      Extremely
6. To what extent were you distracted by noises in the physical world while you were inside the virtual world?  
\_\_\_1\_\_\_2\_\_\_3\_\_\_4\_\_\_5  
Not at all                      Extremely

**PROMIS Pain Interference – Short Form 8a**

PROMIS® Item Bank v1.0 – Pain Interference – Short Form 8a

**Pain Interference – Short Form 8a**

Please respond to each question or statement by marking one box per row.

In the past 7 days...

		Not at all	A little bit	Somewhat	Quite a bit	Very much
PAININ9	How much did pain interfere with your day to day activities? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ22	How much did pain interfere with work around the home? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ31	How much did pain interfere with your ability to participate in social activities?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ34	How much did pain interfere with your household chores? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ12	How much did pain interfere with the things you usually do for fun? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ36	How much did pain interfere with your enjoyment of social activities? ...	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ3	How much did pain interfere with your enjoyment of life? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PAININ13	How much did pain interfere with your family life? .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**PROMIS Physical Function– Short Form 6b**

PROMIS® Item Bank v2.0 – Physical Function – Short Form 6b

**Physical Function – Short Form 6b**

Please respond to each question or statement by marking one box per row.

		Without any difficulty	With a little difficulty	With some difficulty	With much difficulty	Unable to do
PFA11	Are you able to do chores such as vacuuming or yard work?.....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
PFA21	Are you able to go up and down stairs at a normal pace? .....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
PFA23	Are you able to go for a walk of at least 15 minutes? .....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
PFA53	Are you able to run errands and shop? .....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
					Quite a lot	Cannot do
PFC12	Does your health now limit you in doing two hours of physical labor? .....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
PFB1	Does your health now limit you in doing moderate work around the house like vacuuming, sweeping floors or carrying in groceries? .....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

**PROMIS Emotional Distress Anxiety – Short Form 4a**

PROMIS Item Bank v1.0-Emotional Distress-Anxiety – Short Form 4a

**Emotional Distress-Anxiety – Short Form 4a**

Please respond to each question or statement by marking one box per row.

In the past 7 days...		Never	Rarely	Sometimes	Often	Always
EDAN001	I felt fearful.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
EDAN040	I found it hard to focus on anything other than my anxiety.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
EDAN041	My worries overwhelmed me.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
EDAN053	I felt uneasy.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**PROMIS Depression – 4-item**

<b>In the past 7 days...</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Often</b>	<b>Always</b>
I felt worthless	—	—	—	—	—
I felt helpless	—	—	—	—	—
I felt depressed	—	—	—	—	—
I felt hopeless	—	—	—	—	—



**PROMIS Sleep Disturbance – Short Form 6a**

PROMIS Item Bank v1.0 – Sleep Disturbance – Short Form 6a

**Sleep Disturbance – Short Form 6a**

Please respond to each question or statement by marking one box per row.

<b>In the past 7 days...</b>		<b>Very poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Very good</b>
Sleep109	My sleep quality was .....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
<b>In the past 7 days...</b>		<b>Not at all</b>	<b>A little bit</b>	<b>Somewhat</b>	<b>Quite a bit</b>	<b>Very much</b>
Sleep116	My sleep was refreshing.....	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Sleep20	I had a problem with my sleep .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Sleep44	I had difficulty falling asleep .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Sleep108	My sleep was restless .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Sleep72	I tried hard to get to sleep .....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**PEG – Pain Screening Tool**

Select the one number that describes your pain.

1) What number best describes your pain on average in the past week?

\_0 \_1 \_2 \_3 \_4 \_5 \_6 \_7 \_8 \_9 \_10

No Pain

Pain as bad as you can imagine

2) What number best describes how, during the past week, pain has interfered with your enjoyment of life?

\_0 \_1 \_2 \_3 \_4 \_5 \_6 \_7 \_8 \_9 10

Does not  
Interferes  
Interfere

Completely

3) What number best describes how, during the past week, pain has interfered with your general activity?

\_0 \_1 \_2 \_3 \_4 \_5 \_6 \_7 \_8 \_9 10

Does not  
Interferes  
Interfere

Completely

### Pain Catastrophizing Questionnaire – Short Form 6-item

Everyone experiences painful situations at some point in their lives. Such experiences may include headaches, tooth pain, joint or muscle pain. People are often exposed to situations that may cause pain such as illness, injury, dental procedures or surgery.

We are interested in the types of thoughts and feelings that you have when you are in pain. Listed below are six statements describing different thoughts and feelings that may be associated with pain. Using the following scale, please indicate the degree to which you have these thoughts and feelings when you are experiencing pain.

#### *When I'm in pain ...*

1. It's awful and I feel that it overwhelms me

___0	-	1	-	2	-	3	-	4
Not at all		To a slight degree		To a moderate degree		To a great degree		All the time

2. I feel I can't stand it anymore

___0	-	1	-	2	-	3	-	4
Not at all		To a slight degree		To a moderate degree		To a great degree		All the time

3. I become afraid that the pain will get worse

___0	-	1	-	2	-	3	-	4
Not at all		To a slight degree		To a moderate degree		To a great degree		All the time

4. I keep thinking about how much it hurts

___0	-	1	-	2	-	3	-	4
Not at all		To a slight degree		To a moderate degree		To a great degree		All the time

5. I keep thinking about how badly I want the pain to stop

___0	-	1	-	2	-	3	-	4
Not at all		To a slight degree		To a moderate degree		To a great degree		All the time

- - - - -

6. I wonder whether something serious may happen

\_\_\_0

1

2

3

4

Not at all

To a slight  
degree

To a moderate  
degree

To a great  
degree

All the time

**Pain Health Questionnaire – 2 (PHQ-2)**

Over the last 2 weeks, how often have you been bothered by the following problems?

1. Little interest or pleasure in doing things

___0	___1	___2	___3
Not at all	Several days	More than half the days	Nearly every day

2. Feeling down, depressed, or hopeless

___0	___1	___2	___3
Not at all	Several days	More than half the days	Nearly every day

**Generalized Anxiety Disorder-2 (GAD-2)**

Over the last 2 weeks, how often have you been bothered by the following problems?

1. Feeling nervous, anxious, or on edge

\_\_\_0

\_\_\_1

\_\_\_2

\_\_\_3

Not at all

Several days

More than  
half the days

Nearly every day

2. Not being able to stop or control worrying

\_\_\_0

\_\_\_1

\_\_\_2

\_\_\_3

Not at all

Several days

More than  
half the days

Nearly every day

**Patient Global Impression of Change (PGIC)**

Since the start of intervention, my overall pain is ....

\_\_1 – Very much improved

\_\_2 – Much improved

\_\_3 – Minimally improved

\_\_4 – No Change

\_\_5 – Minimally worse

\_\_6 – Much worse

\_\_7 – Very much worse

**Event Assessment***Day 1:*

1. Have you experienced anything different during or after use of the VR headset?
  - a. Yes
  - b. No
  - c. Other
2. If Yes or Other, please describe the event. A research staff member will follow-up up with you about this event as soon as possible.
  - [Open Text Box]

*15-day interval, end of study:*

3. During the past 14 days, have you experienced anything different during or after use of the VR headset?
  - a. Yes
  - b. No
  - c. Other
4. If Yes or Other, please describe the event. A research staff member will follow-up up with you about this event as soon as possible.
  - [Open Text Box]



**Custom Questions***Screening Week*

1. Have you experienced virtual reality before?
  - a. Yes
  - b. No

*End of study survey*

2. Would you have wanted to continue to use the device?
  - a. Yes
  - b. No

## TAPS Tool Part 1

**NIDA Clinical Trials Network  
The Tobacco, Alcohol, Prescription medications, and other Substance  
(TAPS) Tool**

## TAPS Tool Part 1

Web Version: 2.0; 4.00; 09-19-17

## General Instructions:

The TAPS Tool Part 1 is a 4-item screening for tobacco use, alcohol use, prescription medication misuse, and illicit substance use in the past year. Question 2 should be answered only by males and Question 3 only by females. Each of the four multiple-choice items has five possible responses to choose from. Check the box to select your answer.

## Segment:

Visit number:

1. In the PAST 12 MONTHS, how often have you used any tobacco product (for example, cigarettes, e-cigarettes, cigars, pipes, or smokeless tobacco)?  
 Daily or Almost Daily       Weekly       Monthly  
 Less Than Monthly       Never
2. In the PAST 12 MONTHS, how often have you had 5 or more drinks containing alcohol in one day? One standard drink is about 1 small glass of wine (5 oz), 1 beer (12 oz), or 1 single shot of liquor. (Note: This question should only be answered by males).  
 Daily or Almost Daily       Weekly       Monthly  
 Less Than Monthly       Never
3. In the PAST 12 MONTHS, how often have you had 4 or more drinks containing alcohol in one day? One standard drink is about 1 small glass of wine (5 oz), 1 beer (12 oz), or 1 single shot of liquor. (Note: This question should only be answered by females).  
 Daily or Almost Daily       Weekly       Monthly  
 Less Than Monthly       Never
4. In the PAST 12 MONTHS, how often have you used any drugs including marijuana, cocaine or crack, heroin, methamphetamine (crystal meth), hallucinogens, ecstasy/MDMA?  
 Daily or Almost Daily       Weekly       Monthly  
 Less Than Monthly       Never
5. In the PAST 12 MONTHS, how often have you used any prescription medications just for the feeling, more than prescribed or that were not prescribed for you? Prescription medications that may be used this way include: Opiate pain relievers (for example, OxyContin, Vicodin, Percocet, Methadone) Medications for anxiety or sleeping (for example, Xanax, Ativan, Klonopin) Medications for ADHD (for example, Adderall or Ritalin)  
 Daily or Almost Daily       Weekly       Monthly  
 Less Than Monthly       Never

## TAPS Tool Part 2

**NIDA Clinical Trials Network  
The Tobacco, Alcohol, Prescription medications, and other Substance  
(TAPS) Tool**

## TAPS Tool Part 2

Web Version: 2.0; 4.00; 09-19-17

## General Instructions:

The TAPS Tool Part 2 is a brief assessment for tobacco, alcohol, and illicit substance use and prescription medication misuse in the PAST 3 MONTHS ONLY. Each of the following questions and sub-questions has two possible answer choices- either yes or no. Check the box to select your answer.

1. In the PAST 3 MONTHS, did you smoke a cigarette containing tobacco?  Yes  No

If "Yes", answer the following questions:

- a. In the PAST 3 MONTHS, did you usually smoke more than 10 cigarettes each day?  Yes  No  
b. In the PAST 3 MONTHS, did you usually smoke within 30 minutes after waking?  Yes  No

2. In the PAST 3 MONTHS, did you have a drink containing alcohol?  Yes  No

If "Yes", answer the following questions:

- a. In the PAST 3 MONTHS, did you have 4 or more drinks containing alcohol in a day?\* (Note: This question should only be answered by females).  Yes  No  
b. In the PAST 3 MONTHS, did you have 5 or more drinks containing alcohol in a day?\* (Note: This question should only be answered by males).  Yes  No

\*One standard drink is about 1 small glass of wine (5 oz), 1 beer (12 oz), or 1 single shot of liquor.

- c. In the PAST 3 MONTHS, have you tried and failed to control, cut down or stop drinking?  Yes  No

- d. In the PAST 3 MONTHS, has anyone expressed concern about your drinking?  Yes  No

3. In the PAST 3 MONTHS, did you use marijuana (hash, weed)?  Yes  No

If "Yes", answer the following questions:

- a. In the PAST 3 MONTHS, have you had a strong desire or urge to use marijuana at least once a week or more often?  Yes  No  
b. In the PAST 3 MONTHS, has anyone expressed concern about your use of marijuana?  Yes  No

4. In the PAST 3 MONTHS, did you use cocaine, crack, or methamphetamine (crystal meth)?  Yes  No

If "Yes", answer the following questions:

- a. In the PAST 3 MONTHS, did you use cocaine, crack, or methamphetamine (crystal meth) at least once a week or more often?  Yes  No  
b. In the PAST 3 MONTHS, has anyone expressed concern about your use of cocaine, crack, or methamphetamine (crystal meth)?  Yes  No

5. In the PAST 3 MONTHS, did you use heroin?  Yes  No

If "Yes", answer the following questions:

- a. In the PAST 3 MONTHS, have you tried and failed to control, cut down or stop using heroin?  Yes  No

b. In the PAST 3 MONTHS, has anyone expressed concern about your use of heroin?  Yes  No

6. In the PAST 3 MONTHS, did you use a prescription opiate pain reliever (for example, Percocet, Vicodin) not as prescribed or that was not prescribed for you?  Yes  No

If "Yes", answer the following questions:

a. In the PAST 3 MONTHS, have you tried and failed to control, cut down or stop using an opiate pain reliever?  Yes  No

b. In the PAST 3 MONTHS, has anyone expressed concern about your use of an opiate pain reliever?  Yes  No

7. In the PAST 3 MONTHS, did you use a medication for anxiety or sleep (for example, Xanax, Ativan, or Klonopin) not as prescribed or that was not prescribed for you?  Yes  No

If "Yes", answer the following questions:

a. In the PAST 3 MONTHS, have you had a strong desire or urge to use medications for anxiety or sleep at least once a week or more often?  Yes  No

b. In the PAST 3 MONTHS, has anyone expressed concern about your use of medication for anxiety or sleep?  Yes  No

8. In the PAST 3 MONTHS, did you use a medication for ADHD (for example, Adderall, Ritalin) not as prescribed or that was not prescribed for you?  Yes  No

If "Yes", answer the following questions:

a. In the PAST 3 MONTHS, did you use a medication for ADHD (for example, Adderall, Ritalin) at least once a week or more often?  Yes  No

b. In the PAST 3 MONTHS, has anyone expressed concern about your use of a medication for ADHD (for example, Adderall or Ritalin)?  Yes  No

9. In the PAST 3 MONTHS, did you use any other illegal or recreational drug (for example, ecstasy/molly, GHB, poppers, LSD, mushrooms, special K, bath salts, synthetic marijuana ('spice'), whip-its, etc.)?  Yes  No

If "Yes", answer the following questions:

In the PAST 3 MONTHS, what were the other drug(s) you used?

Comments:

**Discontinuation of Treatment Questionnaire**

1. In the last week, how many days did you use the VR headset?
  - a. None of the days
  - b. Some of the days
  - c. Most of the days
  - d. All of the days
  
2. Which of the following best describes why you have not used the VR headset in the last week?

Technical problem(s) using the headset

- a. Yes
- b. No

Unsatisfied with the program content

- a. Yes
- b. No

VR headset is uncomfortable

- a. Yes
- b. No

Schedule too busy to use the headset

- a. Yes
- b. No

Pain is too high to use the headset

- a. Yes
- b. No

The program does not relieve my pain

- a. Yes
- b. No

**Other** [open text box]

3. Would it be ok for a study team member to call you and help resolve any problems with the headset?
  - a. Yes
  - b. No

### Perceived Study Arm Question

This VR study involved randomly assigning all study participants to receive one of the following:  
(1) *active VR treatment for chronic pain* or  
(2) an intervention that did *not* include active VR treatment for chronic pain.

Your amazon code email that you get after returning the equipment will tell you the group you were in. Before we tell you, we would like you to guess your group assignment.

I believe that I received:

1. (1) *active VR treatment for chronic pain*.
2. (2) an intervention that did *not* include active VR treatment for chronic pain.

**Treatment Expectation Question**

1. I believe this treatment will help me...
  - a. Not at all
  - b. A little bit
  - c. Somewhat
  - d. Quite a bit
  - e. Very much

### End of study procedure Question

Since the beginning of the study, have you had any of the following procedures/treatments? (Select all that apply)

- Injections (TFESI, SNRB, ESI, Facet Block, steroid, facet joints, sacroiliac joint injections, Epidural injections, Rhizotomy, inter laminar or transforaminal injection)
- Pain Pump
- Occupational Therapy, Physical Therapy
- Aqua Therapy
- Acupuncture/acupressure
- Chiropractic procedures (adjustments)
- Massage
- TENS unit
- Radio frequency ablations (RFA)
- Cannabis related products
- Other [open text box]