

## STUDY OF OSTEOPOROTIC FRACTURES (V2)

### Frontal Release Reflexes Protocol

#### 1. Introduction:

This part of the examination consists of two reflex tests. The purpose of these tests is to evaluate the participant for signs of frontal release. Frontal release reflexes are reflexes that are suppressed in normal adults, but which may be present with certain frontal lobe abnormalities, or may be present with certain atrophic diseases, such as Alzheimer's. These signs may be predictive of falling and cognitive decline. However, it should be noted that these signs are also often found in normals.

#### 2. Subject Preparation:

The participant should be seated comfortably.

"This part of the examination tests reflexes. Understanding these tests may help people to avoid falls. This is part of a standard neurological exam."

#### 3. Measurement procedure:

##### A. PALMOMENTAL REFLEX

a) Hold the back of the participant's dominant hand, letting both your hand and her hand relax on her thigh, palm open and facing up.

"For this test, I am simply going to draw this handle across the palm of your hand. It won't hurt at all. It might tickle you a little."

With gentle pressure (enough to dent the skin of the palm), draw the tip of the handle upward across the palm, starting at the big crease below the little finger and following the crease all the way past the index finger. You should scrape across the palm in about one second.

b) As you draw across the hand, watch the chin. If the chin muscles move or twitch at all, this is a positive reflex. Even a slight contraction counts. The chin movement is usually on the same side as the hand you are testing, e.g., right hand, right side of chin.

c) Repeat, watching the chin again and rate the second trial as before.

d) Scoring: Rate each test as positive or negative. If both trials are positive, the test is positive. If one or both trials are negative (i.e. no twitch), then the test is negative.

e) If you are not sure whether the test was positive, you may repeat the two trials one time. Score the test as positive only if you see the chin twitch in a similar fashion both times. You should see the same thing each time. A grimace, smile, or whole facial reaction does not count as a positive trial. If the subject grimaces, smiles, or reacts, repeat the trial.

## B. GLABELLAR TEST

a) Stand to the side of the participant. Have her remove her glasses.

"For this next test, I am going tap your forehead gently a few times with my finger."

Tap the middle of the forehead rapidly six times with your index finger. The tapping should take about 6 seconds, or about 1 tap per second.

### IMPORTANT:

i) Reach over the top of the participant's head from behind while you stand on the side. Hold your hand so that your palm is to the side and above and away from the eyes as much as possible.

ii) Tap hard enough so that you would make a solid thud your own forehead.

iii) Do not injure the participant with long fingernails.

b) Count the number of consecutive blinks. A blink is defined as a complete closure of at least one eye. If the eyes don't briefly close, it doesn't count as a blink. If you think she blinks, count it.

c) If the participant blinks on tap #1, but not #2, but blinks again on #3, count as only one blink. You can stop tapping as soon as the participant stops blinking for two consecutive taps.

d) Rate the test as positive or negative. A positive test consists of 6 consecutive blinks, one per tap. A negative test is anything less than one blink for each tap.

e) If a test is rated positive, ask another examiner to observe and repeat the test one time. Score the second test according to the consensus of the the two examiners.