HEAL SEQUENCE SUB-COMMITTEE UPDATE: 20JAN2014

The committee recommends we assess the following parameters on the web portal Licket Scale:

-100 0 +100

WORSE SAME BETTER

**Overall Healing WORSE, SAME, BETTER**

* Ossification of OCD:  WORSE, SAME, BETTER
* Boundary of OCD:  MORE APPARENT, SAME, LESS APPARENT
* Sclerotic Rim of Parent: MORE OBVIOUS, SAME, LESS OBVIOUS
* Size of OCD:  BIGGER, SAME, SMALLER
* Articular surface shape: WORSE (concave), SAME, BETTER (normal convexity)

20JAN2014 PLAN:

**STUDY #1**

Let’s start simple and compare the beginning 3-view x-ray to the final 3-view x-ray (at 1½ - 2 years). This should show us the maximum change to see if we can agree if they are overall healed vs unhealed (fig 1). This is analogous to recognizing that the grass lawn has grown longer after a week versus after a day. Due to simplicity, in addition to the “overall healing” rating, we can also ask the 5 sub-questions on ossification, boundary, sclerosis, size, and articular surface shape, without overburdening the raters. With 30 patient sequences and 6 Likert scale questions (overall heal, ossification, sclerosis etc) this would generate 30x6 questions = 180 total questions for each rater to answer.



Figure 1

**OVERALL HEALING**

-100 0 +100

WORSE SAME HEALED

**BOUNDRY**

-100 0 +100

MORE APPARENT SAME LESS APPARENT

**SCLEROSIS of parent**

-100 0 +100

MORE SCLEROSIS SAME LESS SCLEROSIS

**SIZE**

-100 0 +100

BIGGER SAME SMALLER

**ARTICULAR SURFACE SHAPE OF OCD**

-100 0 +100

CONCAVE SAME CONVEX (normal)

**OSSIFICATION**

-100 0 +100

LESS OSSIFIED SAME MORE OSSIFIED

**STUDY #2**

We will look stepwise at the whole sequence and have testers look ‘time 0’ vs ‘time 2 mo’ (fig 2), than uncover the next column at 0, 2, 4, (fig 3) and then uncover the 6 (fig 4), progressively to the end whole seq (fig 6). Due to the amount if images in this test, we should just ask about the overall healing of most recent (right-most images) as compared to the prior images on the left. From this data we could show at what time a rater can predict the final outcome by looking at the sequence. Use the Likert Scale only. This would be 30x5=150 Likert scales per rater.



Figure 2

**OVERALL HEALING**

-100 0 +100

WORSE SAME HEALED



Figure 3

**OVERALL HEALING**

-100 0 +100

WORSE SAME HEALED



Figure 4

**OVERALL HEALING**

-100 0 +100

WORSE SAME HEALED



Figure 5

**OVERALL HEALING**

-100 0 +100

WORSE SAME HEALED



Figure 6

**OVERALL HEALING**

-100 0 +100

WORSE SAME HEALED

Randomization

Each patient with have a sequence of about 6 images (range 4-8). We will shuffle each of these sequences with other patient’s sequences so that patient #3’s (0, 2, 4 mo) sequence could be followed by patient #17’s (0, 2, 4, 6, 8, 12 mo) sequence, and then patient #8’s (0, 2 mo) sequence and so on.