

How do you calculate the final HJHS score when you have an NE?

As mentioned previously, “non evaluable” or “NE” should not be used except under rare circumstances. In most cases, the joint can be evaluated.

Situations where an “NE” is applicable include

- used joint (NE for muscle strength and crepitus only)
- amputated joint (NE for all items for the amputated joint)
- non-ambulatory patient. (NE for gait)
- If the duration of swelling is not known (NE for Duration of Swelling)
- If assessing any item causes concern for harm or an increased chance of bleeding, then that item should not be assessed and should be marked as NE. (note: the other items for that joint can be assessed)

A common mistake in calculating the final HJHS score is to simply assign “0” to the tested parameter which would make the final score inaccurate (and the score appear better).

When NE is used, separate calculations are used in order for the final HJHS score to be valid. This is done by using a **conversion factor** for each NE item or joint.

(NOTE: The information and calculations provided are to be used as a guide for the conversions and does not include every potential NE combination)

Here is a table of conversion factors for conditions that are non-evaluable.

| Non-evaluable conditions | Conversion Factor |
|---|-------------------|
| Non ambulatory (NE for gait) | 1.03 |
| Amputated joint (NE for all items for the amputated joint) | 1.19 |
| Amputated joint and non-ambulatory (NE for all items for the amputated joint and NE for gait) | 1.24 |
| Fused joint (NE for strength and crepitus) | 1.43 |
| Duration of swelling (NE for duration of swelling) | 1.05 |

1. Non ambulatory:

If gait is unable to be evaluated, the conversion factor is 1.03.

The adjusted HJHS score would be the HJHS score X the conversion factor

For example: if the HJHS score is 20 with gait as NE, the final adjusted HJHS score is 20.6

$$20 \times 1.03 = 20.6$$

2. Amputated joint

If a joint is amputated and the patient is ambulatory, the conversion factor is 1.19

If a joint is amputated and the patient is non-ambulatory, the conversion factor is 1.2

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The adjusted HJHS score would be the HJHS score X the conversion factor

When a specific joint test has an “NE”, all the other HJHS items for that joint will be assessed and scored to obtain a total score for that joint. A conversion factor will be needed to calculate the adjusted joint score.

3. If there is a fused joint with no residual movement, the conversion factor is 1.43.

For example, if the right ankle is fused, we would be unable to assess for joint strength and crepitus and both of those parameters would be scored as NE.

We will assume in this case that all the other parameters for the right ankle add up to 3. We multiply the score of 3 with the conversion factor of 1.43, for the final adjusted joint score of 4.29

The adjusted score would be the joint score X the conversion factor

$$3 \times 1.43 = 4.29$$

4.29 would then be entered for the right ankle total score.

4. If the duration of swelling is unknown, the conversion factor is 1.05.

If for example, the duration of swelling in the right ankle is unknown and we assume that all the other parameter for the right ankle add up to 3, then the final adjusted score would be 3.15

The adjusted score would be the joint score X the conversion factor

$$3 \times 1.05 = 3.15$$

5. If the NE is evaluated and is not in the above examples, it is very likely that the joint can be evaluated and should be reassessed (unless the NE is because of concerns for harm or an increased chance of bleeding).

If it is still assessed as an “NE”, then the following conversion factors can be used for each NE item or joint.

| HJHS Item (given NE) | Conversion Factor |
|----------------------|-------------------|
| Swelling | 1.17 |
| Strength | 1.25 |
| Muscle Atrophy | 1.11 |
| Crepitus on Motion | 1.11 |
| Flexion Loss | 1.17 |
| Extension Loss | 1.17 |
| Joint Pain | 1.11 |

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EXAMPLE CALCULATIONS

*** Please remember to note the specific reason(s) for the “NE” in the “General Comments” section, provided at the bottom of the HJHS Summary Score Sheet and Worksheets.**

A few important notes:

- It is NOT possible to confirm if your HJHS summary scores are correct, unless you are verifying the scores with the work completed in the HJHS worksheet.
- For example, in the HJHS strength item a grade 0 (NO palpable muscle contraction) results in a score of 4, not NE
- If a specific joint obtained a score on any of the HJHS items with one HJHS item receiving an NE there should still be a total joint score recorded, it will NOT Result in an “NE” .

| Reason | Response | Comments | Example Calculation |
|--|--|--|--|
| Due to developmental age reasons (pediatrics) | The total for that specific HJHS item provided with the “NE” is subtracted from both the total and the denominator | The child should not be penalized for not performing a skill due to developmental age. | <p>Example: Global Gait = NE</p> <p>Scoring:</p> <ul style="list-style-type: none"> ▪ Numerator (obtained HJHS score) (the numerator DOESN'T include a score for Global Gait) ▪ Denominator <p>Maximum possible HJHS Total Score (124) – Maximum score for the specific “NE” Scored Item (Global Gait = 4) = NEW Adjusted Maximum possible HJHS Total Score = (120)</p> <p>If you want to convert your obtained HJHS Total score to be aligned with the original Maximum HJHS Total score then you would complete the following: Adjusted Total HJHS Score = Obtained HJHS score X conversion factor</p> <p>In this case the conversion factor is...(Maximum possible, i.e., 124)/ (Adjusted Maximum possible, i.e., 120) = 1.033333</p> <p>As an example, if the HJHS total score, without any score for global gait is 2...</p> |

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| Reason | Response | Comments | Example Calculations |
|---|--|---|---|
| Patient or Guardian chose NOT to complete the skill or test | The total for that specific HJHS item provided with the "NE" is subtracted from both the total and denominator | This is because you cannot attribute a score to an item that was not assessed. If the item was completed the actual score may be higher or lower than what was written. | <p>Example: Strength right elbow (RE) score, <i>Both</i> extension & flexion = NE</p> <p>Scoring:</p> <ul style="list-style-type: none"> Numerator (obtained HJHS RE score) (the numerator DOESN'T include a score for RE strength) Denominator <p>Maximum possible HJHS RE Total Score (20) – Maximum score for the specific "NE" Scored Items (RE strength = 4) = NEW Adjusted Maximum possible HJHS RE Total Score = (16)</p> <p>If you want to convert your obtained RE HJHS Total score to be aligned with the original Maximum HJHS Joint Total score then you would complete the following: Adjusted Total HJHS RE Score = Obtained HJHS RE score X conversion factor</p> <p>In this case the conversion factor is...(Maximum possible RE, i.e., 20)/ (Adjusted Maximum possible, i.e., 16) = 1.25</p> <p>As an example, if the HJHS RE total score, without any score for strength is 9...</p> <ul style="list-style-type: none"> HJHS RE Scores: Swelling = 0; Duration = 0; Muscle Atrophy = 1 Crepitus = 0; Flexion loss = 3; Extension loss = 3; Joint pain = 2 Strength = NE HJHS RE Total = 9 Adjusted Total HJHS RE Score = $[9 \times (1.250)] = 11.25$ <p>NOTE: It does not result in an "NE" HJHS Score for that specific joint</p> |
| Assessor decision to prevent a potential bleed, when the lowest level/grading cannot be assessed. | The total for that specific HJHS item provided with the "NE" is subtracted from both the total and denominator | This is because you cannot attribute a score to an item that was not assessed. If the item was completed the actual score may be higher or lower than what was written. | <ul style="list-style-type: none"> HJHS Total = 2 Adjusted HJHS Total= $[2 \times (1.033333)] = 2.06$ |

For further information, please refer to the HJHS website or help desk at hjhs.helpdesk@sickkids.ca

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