

APPENDIX A.
Gait Assessment and Intervention Tool (G.A.I.T.)

Name _____ Date _____ Examiner _____
Diagnosis _____ Limb assessed _____ Device/Orthosis/Assist _____

Stance and Swing Phases

- | | <u>Score</u> |
|--|---------------------|
| 1. Shoulder position _____
0 = normal.
1 = abnormal position (check all that apply ___ depressed, ___ elevated, ___ retracted, or ___ protracted). | _____ |
| 2. Elbow flexion _____
0 = < 45° (normal = ~ 10°).
1 = 45 – 90° elbow flexion.
2 = > 90° elbow flexion. | _____ |
| 3. Arm swing _____
0 = normal.
1 = abnormal – reduced or absent arm swing. | _____ |
| 4. Trunk alignment (Static) _____
0 = normal erect posture (absence of flexion, extension or lateral flexion).
1 = trunk statically in ___ flexion or ___ extension.
2 = trunk statically in lateral flexion to the ___ right or ___ left.
3 = trunk in both ___ flexion or ___ extension, & lateral flexion to ___ right or ___ left. | _____ |

Stance Phase

- | | |
|---|-------|
| 5. Trunk posture/movement (Dynamic) (sagittal plane) (lateral view) _____
0 = normal (static trunk alignment maintained).
1 = trunk ___ flexes or ___ extends (check one) < 30°.
2 = trunk ___ flexes or ___ extends (check one) 30° or more. | _____ |
| 6. Trunk posture/movement (Dynamic) (coronal plane) (front/back view) _____
0 = normal (static trunk alignment maintained).
1 = trunk laterally flexes to ___ right or to ___ left (check one) < 30°.
2 = trunk laterally flexes to ___ right or to ___ left (check one) 30° or more. | _____ |
| 7. Weight shift (lateral displacement of head, trunk and pelvis) (coronal plane) (front/back view) _____
0 = normal weight shift (~ 25 mm shift over stance limb).
1 = reduced weight shift.
2 = almost none or no weight shift.
2 = excessive weight shift. | _____ |
| 8. Pelvic position (coronal plane) (front/back view) _____
0 = normal (no Trendelenberg sign)
1 = mild pelvic drop on contralateral side.
2 = severe or abrupt pelvic drop on contralateral side. | _____ |
| 9. Hip extension (sagittal plane) (lateral view) _____
0 = normal (moves from 30° of hip flexion at initial contact to neutral by midstance, then to 20° of extension past neutral in terminal stance).
1 = hip extends to neutral by midstance but lacks further hip extension during terminal stance.
2 = abnormal throughout stance (hip remains in flexion or marked extension). | _____ |
| 10. Hip rotation (coronal plane) (front/back view) _____
0 = normal (remains in neutral)
1 = abnormal, internal rotation
1 = abnormal, external rotation | _____ |

11. Knee – initial contact phase (sagittal plane) (lateral view). Choose ___ A or ___ B (check selection) _____
- A. Knee flexion
 0 = normal (knee in neutral/not hyperextended).
 1 = 5° – 15° knee flexion.
 2 = > 15°, but < 30° knee flexion.
 3 = > 30° knee flexion.
- B. Knee extension
 0 = normal (knee in neutral/not in flexion).
 1 = 5° – 15° knee hyperextension.
 2 = > 15° up to 30° knee hyperextension.
 3 = > 30° knee hyperextension.
12. Knee – loading response phase (sagittal plane) (lateral view). Choose ___ A or ___ B (check selection) _____
- A. Knee flexion
 0 = normal (up to 15° knee flexion).
 1 = > 15°, but < 30° knee flexion.
 2 = ≥ 30° knee flexion
- B. Knee extension
 0 = normal (up to 15° knee flexion).
 1 = no knee flexion, up to 15° knee hyperextension.
 2 = ≥ 15° knee hyperextension.
13. Knee – midstance phase (sagittal plane) (lateral view). Choose ___ A, ___ B, ___ C, or ___ D (ck. select) _____
- A. Knee flexion
 0 = normal (knee in 4° flexion at heel strike, increasing to 15° flexion at 14% of gait cycle).
 1 = 5 – 15° flexion throughout midstance; does not achieve neutral at midstance.
 2 = > 15°, but < 30° knee flexion
 3 = ≥ 30° knee flexion.
- B. Knee extension
 0 = normal (knee in 4° flexion at heel strike, increasing to 15° flexion at 14% of gait cycle).
 1 = knee extended through midstance phase; not hyperextended.
 2 = up to 15° knee hyperextension during midstance phase.
 3 = > 15° knee hyperextension during midstance phase.
- C. Knee flexion moving to extension
 0 = normal (knee in 4° flexion at heel strike, increasing to 15° flexion at 14% of gait cycle).
 1 = normal knee flexion during early midstance phase, then knee extends to neutral.
 2 = knee flexion during early midstance phase, then knee extends to full extension range (neutral or beyond) in uncontrolled manner, but not snapping back.
 3 = knee in flexion during early midstance phase, then knee abruptly and forcefully extends into end range in an uncontrolled manner.
- D. Knee extension moving to flexion
 0 = normal (knee in 4° flexion at heel strike, increasing to 15° flexion at 14% of gait cycle).
 1 = knee remains in extension in early midstance, then knee flexes late, but retains control.
 2 = knee remains in extension in early midstance, then knee flexes, losing control and regaining control.
 3 = knee remains in extension in early midstance, then knee buckles with failure to regain control and requires use of compensatory strategies.
14. Knee – terminal stance phase/pre-swing phase (heel-rise to toe-off) (sagittal plane) (lateral view) _____
- 0 = normal (knee flexion position in sagittal plane 35 – 45°).
 1 = knee flexes < 35° or > 45°.
 2 = knee flexes 35 – 45°, then extends.
 3 = knee remains in full extension throughout.

15. Ankle movement (sagittal plane) (lateral view). Choose ___ A or ___ B. (Check selection). _____
- A. Ankle plantar flexion
- 0 = normal (from ankle neutral position at initial heel contact, moving to 10° plantarflexion before midstance, then moving to 10° dorsiflexion at heel off).
 - 1 = normal from initial contact (with heel strike) to midstance, but in plantarflexion after midstance.
 - 1 = foot flat at initial contact, moving to slight plantarflexion before midstance, but in plantarflexion after midstance.
 - 2 = foot flat at initial contact with plantarflexion to heel off.
 - 3 = no heel contact with excessive plantarflexion to heel off.
 - 3 = either heel contact or no heel contact followed by excessive and/or early (midstance) plantarflexion (i.e. vaulting).
- B. Ankle dorsiflexion
- 0 = normal (from ankle neutral position at initial heel contact, moving to 10° plantarflexion before midstance, then moving to 10° dorsiflexion at heel off).
 - 1 = normal just prior to midstance, but > 10° dorsiflexion after midstance
 - 2 = 15 – 20° dorsiflexion at midstance and to terminal stance (heel off).
 - 3 = excessive ankle dorsiflexion (> 20°) throughout stance.
16. Ankle inversion (coronal plane) (front/back view) _____
- 0 = normal (slight inversion/supination at initial stance; then eversion/pronation until heel-off).
 - 1 = excessive ankle inversion/supination present at initial contact.
 - 2 = excessive ankle inversion/supination present at initial contact and at midstance.
 - 3 = excessive ankle inversion/supination throughout stance.
17. Plantarflexion during terminal stance/pre-swing (heel-rise to toe-off) (sagittal plane) (lateral view) _____
- 0 = normal (adequate push-off at pre-swing for moving from dorsiflexion position to 10° plantarflexion).
 - 1 = partial/weak push-off while moving into plantarflexion at toe-off.
 - 2 = absent/lack of plantarflexion; no push-off.
18. Toe position (sagittal plane) (lateral view) _____
- 0 = normal (toes in neutral position)
 - 1 = excessive toe extension.
 - 1 = clawing.
- Swing Phase**
19. Trunk posture/movement (Dynamic) (sagittal plane) (lateral view) _____
- 0 = normal (static trunk alignment maintained).
 - 1 = trunk ___ flexes or ___ extends (check one) < 30°.
 - 2 = trunk ___ flexes or ___ extends (check one) 30° or more.
20. Trunk posture/movement (Dynamic) (coronal plane) (front/back view) _____
- 0 = normal (static trunk alignment maintained).
 - 1 = trunk laterally flexes to ___ right or to ___ left (check one) < 30°.
 - 2 = trunk laterally flexes to ___ right or to ___ left (check one) 30° or more.
21. Pelvic position (coronal plane) (front/back view) _____
- 0 = normal (relatively level pelvis or slightly lower on swing side).
 - 1 = mild hip hiking.
 - 2 = moderate to severe hip hiking.
22. Pelvic position (sagittal plane) (lateral view) _____
- 0 = normal (neutral position with respect to anterior or posterior tilt).
 - 1 = anterior pelvic tilt.
 - 1 = posterior pelvic tilt.

23. Pelvic rotation as limb swings forward (transverse plane) (top view) _____
0 = normal (from 5° backward rotation at initiation of swing to 5° forward rotation by terminal swing)
1 = reduced pelvic rotation.
1 = excessive pelvic rotation.
2 = absent pelvic rotation.
24. Hip flexion (sagittal plane) (lateral view) _____
0 = normal (0° hip flexion at initial swing to ~ 35° at peak, then reducing to ~ 25° at terminal swing; hip neutral with respect to hip abduction/adduction).
1 = hip begins swing in flexion, but reaches normal peak.
1 = > 10°, but < 30° hip flexion peak in the sagittal plane.
2 = > 10°, but < 30° hip flexion peak, and with hip abduction (e.g. = circumduction).
2 = > 10°, but < 30° hip flexion peak, and with hip adduction (e.g. = scissoring).
3 = 0 to 10° hip flexion throughout swing.
3 = > 35° hip flexion (excessive hip flexion).
25. Hip rotation (coronal plane) (front/back view) _____
0 = normal (remains in neutral)
1 = abnormal, internal rotation
1 = abnormal, external rotation
26. Knee – initial swing (sagittal plane) (lateral view) _____
0 = normal (40 – 60° of knee flexion).
1 = at least 15° knee flexion, but < 40° knee flexion.
2 = < 15° knee flexion.
3 = knee never flexes.
27. Knee – midswing (sagittal plane) (lateral view) _____
0 = normal (60° knee flexion ± 4°).
1 = 45° - 55° knee flexion.
2 = 25° - 45° knee flexion.
3 = 0 to 25° knee flexion.
28. Knee – terminal swing (sagittal plane) (lateral view) _____
0 = normal (from knee flexed position to full knee extension).
1 = from knee flexed position, remaining in knee flexion throughout.
1 = from knee extension position, remaining in knee extension throughout.
29. Ankle movement (sagittal plane) (lateral view) _____
0 = normal (from initial plantarflexion at terminal stance [toe-off] to neutral by midswing, then slight dorsiflexion just prior to initial contact in stance).
1 = midswing ankle neutral but no terminal swing dorsiflexion.
2 = no midswing ankle neutral and no terminal swing dorsiflexion; plantarflexion throughout.
30. Ankle inversion (coronal plane) (front/back view) _____
0 = normal (ankle remains in neutral regarding inversion/eversion).
1 = ankle in inverted position during swing.
31. Toe position (sagittal plane) (lateral view) _____
0 = normal (toes in neutral position)
1 = inadequate toe extension.
1 = clawing.

Total Score _____ / 62

Comments: