

Supplementary File 2 - GALLOP – Round two.



University of
South Australia

Thank you for participating in this research. You have been invited to take part in this research project as you have been identified as having experience in the field of paediatric assessment in the podiatry and physiotherapy profession. This project aims to develop a lower limb assessment tool that can be used Australia wide to gain consistency in the type of questioning and assessment that is used in young children. Please enter your participant number. You can go back to any question as required. Your responses are confidential and will only be known by the research team. The survey should take 20 minutes to complete. If you have any questions please contact Simone Cranage (scrantage@phcn.vic.gov.au) Cylie Williams (cyliewilliams@phcn.vic.gov.au) Helen Banwell (HelenBanwell@unisa.edu.au)

Thank you for participating in this research.

This project aims to develop a lower limb assessment tool that can be used to gain consistency in the type of questioning and assessment that is used with children.

To assist you in your responses, we have also emailed you your responses from round 1.

Your responses are confidential and will only be known by the research team.

The survey should take under 15 minutes to complete. You will have the chance at the end to make any comments if you wish.

If you have any questions please contact Simone Cranage (scrantage@phcn.vic.gov.au) Cylie Williams (cyliewilliams@phcn.vic.gov.au) or Helen Banwell (HelenBanwell@unisa.edu.au)

Q1. What is your participant number?

For the following questions, we would ask you to consider your practice and original responses when taking history and assessing a child who has attended for a full foot and leg examination.

We have collated the responses from all the participants thus far into themes and will report on consensus of these. Consensus was deemed as 70% agreement. For the items that consensus was not achieved, we ask you to respond with your agreement of whether the question or measure should be included.

1. Pre and post natal history

Based on the responses, consensus was achieved on the following themes (70% of people identified these themes).

Therefore the pre and post natal history questions that the parent/caregiver should be asked is:

1. Were there any complications during pregnancy? (Prompts: Health of the mother, use of medications) Yes No

List: _____

2. What was the term of the pregnancy? _____ wks?
3. How was the baby delivered Vaginal Caesarean
4. List any post-natal complications during or post delivery (Prompts: Resuscitations, NICU, Special Care Nursery, congenital abnormalities, medications, general health).

The following themes were also identified, however consensus was not achieved. Please rate on the following scale your opinion of whether these statements/questions should be included:

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Labour | <input type="radio"/> |
| Breech | <input type="radio"/> |
| Birth weight | <input type="radio"/> |
| Assistance required during labour (forceps/ventouse) | <input type="radio"/> |
| APGAR Score | <input type="radio"/> |
| Other medical professionals involved in the care of the baby at birth or within the first 14 days? | <input type="radio"/> |
| Any prior pregnancies? | <input type="radio"/> |
| Immunisation | <input type="radio"/> |

Family history of foot or leg problems

2. Developmental milestones/history

Based on the responses, consensus was achieved on the following themes (70% of people identified these themes). Therefore the proposed developmental milestones/history questions that the parent/caregiver should be asked is:

Age of Sitting _____ months
 Age of Crawling _____ months Type of crawl _____
 Age of Walking _____ months Running _____ years

The following themes were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether these statements/questions should be included:

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Age of pull to stand | <input type="radio"/> |
| Begin to squat | <input type="radio"/> |
| Age of beginning to cruise | <input type="radio"/> |
| Age of beginning to jump | <input type="radio"/> |
| Age of beginning to hop | <input type="radio"/> |
| Age of beginning to skip | <input type="radio"/> |
| Age of walking up/down stairs | <input type="radio"/> |
| Age of beginning to kick a ball | <input type="radio"/> |

3. Other history questions

Based on the responses regarding other questions asked during history taking, no consensus was achieved; however the following themes were identified. Please rate on the following scale your opinion of whether these statements/questions should be included:

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Medical history | <input type="radio"/> |
| Previous treatment of foot or lower limb (interventions, orthotics, AFO's) | <input type="radio"/> |
| Pain History | <input type="radio"/> |
| Footwear | <input type="radio"/> |

| | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Recreational/Sport activities/Social history | <input type="radio"/> |
| Sensory concerns (surfaces/textures) | <input type="radio"/> |
| Parental goals of treatment | <input type="radio"/> |
| Primary sitting position | <input type="radio"/> |
| Primary sleeping position | <input type="radio"/> |
| Height/weight | <input type="radio"/> |

4. Hip Assessment

Based on the responses, consensus was achieved on the following themes (70% of people identified the following assessments used when assessing hip range of movement and the preferred measurement method). Therefore the following hip assessments to be incorporated into the GALLOP assessment are:

Internal/external rotation (knee flexed and/or extended) Left _____ Right _____

Thomas test (modified thomas test) Left _____ Right _____

Hip abduction Left _____ Right _____

Hip adduction Left _____ Right _____

Preferred measurement methods: Goniometer

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following assessments should be included when measuring hip range of movement:

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Quad ROM/tightness | <input type="radio"/> |

5. Hamstring Assessment

Based on the responses, consensus was achieved on the following themes (70% of people identified the following assessments used when assessing hip range of movement and the preferred measurement method). Therefore the following hip assessments to be incorporated into the GALLOP assessment are:

Popliteal angle: Left _____ Right _____

Method: Angle finder

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following assessments should be included when measuring hip range of movement:

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Straight leg raise | <input type="radio"/> |
| Functional- long legged sitting | <input type="radio"/> |

6. Leg Length Assessment

Based on the responses, consensus was not achieved on measurement of a leg length difference. The following methods of assessment and tools were identified. Please rate on the following scale your opinion on the inclusion of the following methods to assess for a limb length discrepancy

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ASIS-MM (Supine or standing) | <input type="radio"/> |
| Umb-MM (Supine or standing) | <input type="radio"/> |
| ASIS-plantar surface of heel/ground | <input type="radio"/> |
| ASIS-plantar surface of heel/ground | <input type="radio"/> |
| Umb-plantar surface of heel/ground | <input type="radio"/> |
| ASIS-head of fibula | <input type="radio"/> |
| Comparison of ASIS and PSIS height | <input type="radio"/> |
| Stance umb-floor | <input type="radio"/> |
| Galleazi | <input type="radio"/> |
| Observation (frontal plane pelvic/shoulder tilt, scoliosis check, knee creases, head tilt, foot posture, gait) | <input type="radio"/> |

7. Leg Length method of measurement

Based on the responses, consensus was not achieved on measurement tools used to assess of a leg length difference. The following methods of assessment and tools were identified. Please rate on the following scale your opinion on the inclusion of the following measurement tools

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-------------------|----------|---------|-------|----------------|
| | | | | | |

| | | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Palpation | <input type="radio"/> |
| Use of blocks | <input type="radio"/> |
| Imaging (X-ray, CT) | <input type="radio"/> |
| Eyeball | <input type="radio"/> |
| Tape measure | <input type="radio"/> |

8. Rotational Profile

Based on the responses, consensus was achieved on the following themes (70% of people identified the following methods and tools when assessing rotational profile of the upper and lower leg. Therefore the following assessments to be incorporated into the GALLOP are:

Internal Hip ROM (hip flexed/extended, knee flexed/extended) Left _____
 Right _____
 External Hip ROM (hip flexed/extended, knee flexed/extended) Left _____ Right _____

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following assessments should be included when measuring rotational profile of the upper and lower leg.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Ryder's Test | <input type="radio"/> |
| Genicular rotation | <input type="radio"/> |
| Thigh foot angle (tibial torsion) | <input type="radio"/> |
| Trans-malleolar angle/malleolar position | <input type="radio"/> |
| Other (lumbar spine curve, shoulder symmetry, ASIS, knee position, metatarsus adductus) | <input type="radio"/> |

9. Rotational profile method of measurement.

Please rate on the following scale your opinion on the most appropriate tool when assessing the rotational profile of the upper and lower leg

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Goniometer | <input type="radio"/> |
| Digital inclinometer | <input type="radio"/> |

| | | | | | |
|-----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Smart phone app (tilt meter etc.) | <input type="radio"/> |
| Eyeball | <input type="radio"/> |

10. Ankle range of movement

Based on the responses, consensus was achieved on the follow themes (70% of people identified the following assessments used when assessing ankle range of movement. Therefore the following assessments to be incorporated into the GALLOP are:

1. Non weight-bearing ankle dorsiflexion (knee extended) Left _____ Right _____
2. Non weight-bearing ankle dorsiflexion (knee flexed) Left _____ Right _____

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your agreement of whether the following assessments should be included when measuring ankle range of movement

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Weight-bearing lunge test (knee flexed, knee extended) | <input type="radio"/> |
| Functional testing (ability to squat, walk on toes, walk on heels) | <input type="radio"/> |

11. Ankle range of movement measurement

Please rate your level of agreement of which you believe should be used as the primary recommended tool when measuring ankle range of movement

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Goniometer | <input type="radio"/> |
| Digital inclinometer | <input type="radio"/> |
| Eyeball measurement | <input type="radio"/> |

12. Presence of a genu varum/genu valgum

Based on the responses, consensus was achieved on the following themes (70% of people identified the following assessments used measuring the presence of genu varum/genu valgum. Therefore the following assessments to be incorporated into the GALLOP are:

1. Intercondylar distance (WB) _____ cm
2. Intermalleolar distance (WB) _____ cm
3. Use of a tape measure/ruler

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following assessments should be included when measuring the presence of a genu varum/genu valgum

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Intercondylar distance (non-WB) | <input type="radio"/> |
| Intermalleolar distance (non-WB) | <input type="radio"/> |
| Angle of ASIS/patella tendon/tibial spine | <input type="radio"/> |
| Axial tibial/fibula angle | <input type="radio"/> |

13. Foot Posture

Based on the responses, consensus was achieved on the following themes (70% of people identified the following assessments used when assessing foot posture. Therefore the following assessments to be incorporated into the GALLOP are:

1. FPI-6 Left _____ Right _____

Method of measurement: Eyeball

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following assessments should be included when assessing foot posture

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Resting Calcaneal Stance Position | <input type="radio"/> |
| Neutral Calcaneal Stance Position | <input type="radio"/> |
| Navicular height/drop | <input type="radio"/> |
| Supination resistance | <input type="radio"/> |
| Presence of an arch (non-WB) | <input type="radio"/> |
| Jack's test | <input type="radio"/> |
| Sub talar joint axis/ROM | <input type="radio"/> |
| Mid-tarsal joint axis/ROM | <input type="radio"/> |
| 1st MPJ ROM | <input type="radio"/> |

| | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1st metatarsal length | <input type="radio"/> |
| Forefoot to rearfoot relationship | <input type="radio"/> |
| Plantar facial prominence | <input type="radio"/> |
| Standing on tip toes (STJ inversion, tibialis posterior function) | <input type="radio"/> |

14. Gross motor ability/balance

Based on the responses, consensus was achieved on the following themes (70% of people identified the following assessments used when measuring gross motor ability and/or balance. Therefore the following assessments to be incorporated into the GALLOP are:

Observations of achievement:

1. Squatting (single or double)
2. Running
3. Jumping
4. Skipping
5. Hopping
6. Single leg stance (eyes open, timed) Left _____ Right _____
7. Single leg stance (eyes closed, timed) Left _____ Right _____

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following assessments should be included when INTIALLY measuring gross motor ability and/or balance.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Use of standardised assessment (Himat, BOT-2, Berg balance scale, AIMS, Peabody, ASQ etc. | <input type="radio"/> |
| Heel to toe stationary (eyes open, eyes closed) | <input type="radio"/> |
| Walking heel to toe along straight line (eyes open, eyes closed) | <input type="radio"/> |
| Climbing ability | <input type="radio"/> |
| Ability to go up/down stairs | <input type="radio"/> |
| Balance beam | <input type="radio"/> |
| Other observations (fatigue, agility, maturity of pattern, coordination of movements, symmetry, strength) | <input type="radio"/> |
| Other functional tasks (throwing, catching, kicking a ball, animal walks, sport specific activities) | <input type="radio"/> |
| Ability to walk on toes | <input type="radio"/> |
| Ability to walk on heels | <input type="radio"/> |

| | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Maximum number of heel raises | <input type="radio"/> |
| Presence of a reciprocal arm swing | <input type="radio"/> |
| 6WT, 10RT | <input type="radio"/> |
| Times supine to stand | <input type="radio"/> |
| Quality of movement (symmetry, coordination) | <input type="radio"/> |

15. Reflexes

Based on the responses, consensus was achieved on the following themes (70% of people identified the following reflexes tested in the lower limb. Therefore the following reflexes to be incorporated into the GALLOP are:

1. Patella (knee jerk, quadriceps) reflex
2. Achilles (ankle jerk, gastrocnemius) reflex
3. Plantar reflex (up or down going)

The following reflex was also identified however consensus was not achieved. Please rate on the following scale your opinion of whether the following reflexes should be included in your assessment

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Chaddock | <input type="radio"/> |

16. What is your preferred method of grading responses

- 0 = No response
 1+ = slight by definitely present response
 2+ = brisk response
 3+ = very brisk response
 4+ = brisk with clonus
- 0: Absent reflex
 1+: trace, or seen only with reinforcement
 2+: normal
 3+: brisk
 4+: nonsustained clonus (i.e., repetitive vibratory movements)
 5+ sustained clonus
- Other



17. Neurological other

Based on the responses, no consensus was achieved when asked about what other aspects of a neurological assessment are considered. The following assessments were identified. Please rate on the following scale your opinion of which other aspects of a neurological assessment should be considered.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Muscle tone (passive, active, spasticity, rigidity) | <input type="radio"/> |
| Presence of a catch (R1/R2) | <input type="radio"/> |
| Presence of a clonus | <input type="radio"/> |
| Clasp knife | <input type="radio"/> |
| Sensory assessment (perception, discrimination, sensation, proprioception, monofilament) | <input type="radio"/> |
| Gower's sign | <input type="radio"/> |
| Hand to nose (eyes closed) | <input type="radio"/> |
| Muscle strength/muscle testing | <input type="radio"/> |

18. Assessment other

Based on the responses, no consensus was achieved when considering other measures that are used routinely during an assessment. The following assessments were identified. Please rate on the following scale your opinion of which other measures or assessments should be routinely considered.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Beighton score | <input type="radio"/> |
| Knee tests (ligament, menisci, PFJ tests, ACL etc.) | <input type="radio"/> |
| Tibiofibular joint mobility | <input type="radio"/> |
| Toe walking tool | <input type="radio"/> |
| Other assessment (spinal examination, PAIVMs) | <input type="radio"/> |

Other observations (syndactyl, skin folds, feet, legs, thighs, tufts)

Strength assessment/postural control (core strength)

19. Gait assessment

Based on the responses, consensus was achieved on the following themes (70% of people identified the following assessments when describing the aspects of the lower limb visualised during a gait assessment. Therefore the following gait observations that are to be incorporated into the GALLOP are:

1. Shoulder symmetry (transverse, frontal plane rotation)
2. Arm swing (symmetry, guard position, flapping/flailing)
3. Hip (rotation, frontal plane motion, flexion, hip drop/riase)
4. Knee position (patella, flexion/extension/hyperextension, internal, frontal, external, genu varum/valgum, Q angle)
5. Heel contact (initial contact, motion, timing, heel left, rearfoot position)
6. Mid-stance (mid-foot position)
7. Toe off (Forefoot position, propulsion, symmetry, duration)
8. Other gait observations (Trendelenberg, limp, circumduction, abductory twist etc)

Preferred method of measure: Eyeball/Visual

The following assessments were also identified however consensus was not achieved. Please rate on the following scale your opinion of inclusion of the following gait observations

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Head and neck position | <input type="radio"/> |
| Trunk/torso position and/or alignment | <input type="radio"/> |
| Length of stride | <input type="radio"/> |
| Angle of gait (foot progression angle) | <input type="radio"/> |
| Base of gait | <input type="radio"/> |

Any comments about any of the above?

Thank you for taking the time to complete this survey. The final round will be emailed to you as soon as possible.

By clicking out of this survey you will not be able to re-enter and your answers will be saved.

If you would like to modify your responses, please use the back button or close and re-enter at a later date. Please remember you only have 2 weeks from this time to complete the survey. Your responses though will not be recorded until you click the button at the end of this question.
