

Standardized Assessments for the Management of Children with Motor Disorders

OBSERVATIONAL GAIT SCALE (OGS)

Assessment Authors: Koman et al. 1993, Corry et al. 1998, Boyd & Graham 1999

Description of Assessment

Purpose: The Observational Gait Scale (OGS) is an evaluative/observational test of gait. The main purpose of the OGS is to rate gait parameters from video recordings utilizing a structured scale. The OGS was created as a simple tool to assess gait treatment outcomes in the clinical setting, specifically the knee joint and foot position during mid-stance.

According to Boyd and Graham (1999) this test may be useful when children are too small or are insufficiently cooperative for instrumented gait analysis. Furthermore, they had found this scale to be very useful when analyzing a typical walk viewed on split-screen video in slow motion.

Assessment Details

The OGS gives a standard score out of 22. The eight sections of the OGS describe specific information about gait in the sagittal plane including: knee position at midstance as either a crouch, neutral or recurvatum; initial foot contact with either being on the forefoot, foot-flat, or heel; foot contact description at midstance; the amount and timing of heel rise; description of hindfoot at midstance as either varus, valgus, or neutral; the amount of base of support; assistive devices utilized; and change from previous examination with either being worse, better, or neutral.

Assessment Administration

- **Administration:** The child should ambulate without socks, shoes, or braces and wear shorts (allowing a good view from the thigh down) while demonstrating the most typical/natural gait pattern, with a comfortable, self selected speed of gait. An experienced clinician then scores the OGS while analyzing the gait pattern from both frontal and lateral views by checking off gait deviation in each section of the OGS form. If the patient is video recorded, then the clinician will watch video recordings to score the OGS.
- **Time Requirements:** This assessment usually takes less than 15 minutes to judge all sections (based on video with slow motion capability).
- **Environment for Testing:** For adequate visual assessment or video recordings, a clinic setting with adequate amount of space to allow the patient to ambulate on a flat floor surface is required. The distance from camera should be long enough to avoid lens parallax problems. The room should be spacious and bright. The position of the cameras should be marked for future assessments. The walkway needs to be long enough to give a child the opportunity for an uninterrupted, comfortable walk. To improve joint angle discrimination, the axes of the joints may be marked with reflecting tape or a marker.
- **Equipment and Materials Needed:** Video recording system (digital cameras).
- **Examiner Qualifications:** Experienced clinicians are required to complete this test. Mackey et al. (2003) utilized a pediatric physical therapist and a pediatric orthopedic surgeon to examine intra-rater and inter-rater reliability and validity of the OGS. The authors cite subjective assessment experience as a very important factor in using the OGS as clinical outcome.
- **Increasing Test Accuracy:** Analyzing video with slow motion increases the accuracy of scoring for video gait assessment (Wren et al. 2005). The addition of on screen angle measurements may increase accuracy of test (Grunt et al. 2010).

Rating System

The OGS is a scale with 8 sections: (1) Knee position in midstance, (2) Initial foot contact, (3) Foot contact at midstance, (4) Timing of heel rise, (5) Hindfoot at midstance, (6) Base of support, (7) Gait assistive devices, and (8) Change. Scoring is performed for both the

left and right lower extremities by selecting the appropriate numerical value. A perfect score is a 22 on each limb. Lower scores suggest greater gait impairments and the higher the score, the less impairments demonstrated by the child.

Example for Right Lower Extremities:

SCALE SECTIONS		SCORING & DEFINITIONS
1. Knee Position in Midstance	<i>Crouch</i>	0 = Severe > 15°
		1 = Moderate 10° to 15°
		2 = Mild < 10°
	<i>Recurvatum</i>	3 = Neutral
		2 = Mild < 5°
		1 = Moderate 5° to 10°
0 = Severe > 10°		
2. Initial Foot Contact		0 = Toe 1 = Forefoot 2 = Foot-flat 3 = Heel
3. Foot Contact at Midstance		-1 = Toe/Toe 0 = Foot-Flat/Early Heel Rise 1 = Foot-Flat/No Early Heel Rise 2 = Occasional Heel/Foot Flat 3 = Heel/Toe (Normal Roll-Over)
4. Timing of Heel Rise		0 = No Heel Contact (Fixed Equinus) 1 = Before 25% Stance (Very Early) 2 = Between 25-50% Stance (Slight Early) 3 = At Terminal Stance 0 = No Heel Rise (After Foot-Flat i.e. Crouch)
5. Hindfoot at Midstance		0 = Varus 1 = Valgus 2 = Neutral
6. Base of Support		0 = Frank Scissoring 1 = Narrow Base (Poor Knee Clearance) 2 = Wide Base 3 = Normal Base (Width of Shoulders)
7. Gait Assistive Devices		0 = Walker (Forward/Posterior) with Assistance 1 = Walker (Independent) 2 = Crutches, Sticks 3 = None, Independent for 10m
8. Change		-1 = Worse 1 = None 2 = Better

Background / History

Indications for the use of video gait analysis in children with cerebral palsy (CP) include pre-treatment assessment and documenting change in gait pattern over time following interventions such as multilevel surgery, orthotics, botulinum toxin injections, serial casting and intensive therapy (Thomason et al. 2009). In an effort to make video gait assessment more objective and reliable a number of observational gait scales have been developed over the last few decades.

Development of the Assessment: The original Physician Rating Scale (Koman et al. 1993) was used to evaluate the effects of botulinum toxin-A in calf muscle injections on the function of the lower legs of children (4-11 years old) with CP. The Physician Rating Scale examined the hip, knee, and the foot position in the sagittal plane at defined phases of gait cycle and the speed of gait. The scale rated the gait in six sections: Gait pattern, Hind foot position during foot strike, Knee position during stance phase (degree of recurvatum), Maximum foot/floor contact during stance phase, Degree of crouch (hip, knee and ankle) and Speed of gait, scoring each on scales ranging from 0-3 and 0-4. It was used to examine gait of children with CP, either with naked eye examination alone or together with video recordings.

Corry et al. (1998) detected lack of sensitivity and reliability in detecting specific changes after treatment with BTX-A. The investigators reduced the PRS to four sections by removing Gait pattern, Hind foot position during foot strike, and Speed of gait. The authors also added a section on Change which aimed to improve discrimination between the two treatment groups in their study.

To improve the sensitivity of this scale, especially the assessment of the relation between foot and knee position in midstance, modifications were made by team of M. Delgado from Texas Scottish Rite Hospital for Children, Dallas USA. Boyd and Graham (1999) made additional changes to Delgado's version of the scale and renamed the assessment the Observational Gait Scale. Alterations included: (1) the removal of three of the original sections (a) Gait pattern, (b) Hind foot position during foot strike, and (c) Speed of gait, (2) detailing foot contact in midstance, (3) adding new sections (initial foot contact/ hind foot position midstance, timing of heel rise, base of support, gait assistive devices) and (4) incorporating position "Change" proposed by Corry et al. (1998).

Psychometrics

- Reliability and validity: Mackey et al.(2003) showed that first four sections of OGS have acceptable level of reliability and validity. The OGS was found to have acceptable inter-rater and intra-rater reliability for knee and foot position in mid-stance, initial foot contact, and heel rise with weighted kappas ranging from 0.53 to 0.91 (intra-rater) and 0.43 to 0.86 (inter-rater). Comparison with 3-dimensional gait analysis (3-DGA) suggests that these sections might also have high validity (range 0.38-0.94). Base of support and hind foot position had lower inter-rater and intra-rater reliabilities (0.29 to 0.71 and 0.30 to 0.78, respectively) and were not easily validated by 3-DGA. Mackey et al. (2003) cited that, "Correlation of 3-DGA with OGS scores for the first four sections showed high validity for our most reliable observer." This comparison with 3-DGA suggests that the sections of knee and foot position in mid-stance, initial foot contact, and heel rise have high validity (Mackey et al. 2003.). In Rathinam et al. (2014), the OGS was reported to have very good inter-rater reliability, however only the sagittal plane (ankle/foot and knee joints) items scored maximum agreement. Overall, data from this study suggests that the first four sections of the OGS scale have an acceptable level of reliability and validity when assessing gait in children with spastic diplegia and problems principally in the sagittal plane. Zanudin et al. (2017) evaluated the methodological quality and the strength of the evidence of studies that reported an evaluation of the psychometric properties of observational assessments of gait quality and walking performance in children with CP. The authors were using the modified COSMIN checklist and found conflicting findings for inter-rater reliability and no quality data for intra-rater reliability for OGS.

Pros & Cons

Pros

- OGS is a short, easy to use observational scale which assists in the recognition of gait problems that can be treated in rehabilitation process.
- The observational (video) gait assessment does not require costly equipment.
- The OGS is less costly and time consuming than 3-DGA and can be used in children with ambulatory problems requiring less

complex decision-making, where 3-DGA is not required or available, for monitoring interventions and for younger and cognitively or behaviorally impaired children (Mackey et al. 2003; Harvey & Gorter 2011).

- The test can help distinguish between different foot alignment patterns (like true equinus, apparent equinus) or different knee abnormalities (recurvatum, crouch).
- By defining certain gait abnormalities, this test can assist in predicting changes in motor function related to gait with age progression in children with CP (eg. recognition of mild crouch).
- The OGS has high reliability and validity at least in most sections. It includes specific measuring properties that are geared toward the gait impairments in children with cerebral palsy. It looks at change over time which enhances its use as a good outcome measure for rehabilitation. Video recordings can be assisted with computer software to make accurate assessments (Wren et al. 2005, Grunt et al. 2010)

Cons

- The assessment does require adequate training and experience.
 - A lack of clear definitions for items can increase reliability issues.
 - The literature for this assessment provides limited evidence on validity in children with CP.
 - Assessment of young children is often more difficult due to lack of compliance with gait instructions.
 - The reproducibility of measurements of the different joint/segment angle and between the phases of the gait cycle can vary (Grunt et al. 2010).
 - Precise discrimination between different percentages of heel rise (section four) may be difficult without additional tools.
 - Patients with significant transverse plane problems or major foot deformities make the assessment of sagittal plane gait deviations more difficult and could potentially compromise the validity of the scale (Mackey et al. 2003).
 - When two different observers perform the observational gait measurements, the SDD (smallest detectable difference) is more than 10 degrees in majority of joints. For the assessment of treatment outcomes, the same observer should perform assessment before and after the intervention (Grunt et al. 2010). But detecting 5 degree differences for knee joint positions (section one) remains difficult (Wren et al. 2005).
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		1 = Moderate > 10° to 15°
	Recurvatum	2 = Mild < 10°
		3 = Neutral
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3. Foot Contact at Midstance	0 = Toe	
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	3 = Heel	
4. Timing of Heel Rise	-1 = Toe/Toe	
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5. Hindfoot at Midstance	0 = No Heel Contact (Fixed Equinus)	
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8. Change	0 = Walker (Forward/Posterior) with Assistance	
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Background / History

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Observational Gait Scale Tool

Left Lower Extremity

Instructions



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SKIP

CONTINUE



Observational Gait Scale Tool

Left Lower Extremity

Instructions



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SCALE SECTIONS		SCORING & DEFINITIONS
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		<input type="radio"/> 1 = Moderate > 10° to 15°
		<input type="radio"/> 2 = Mild < 10°
	Recurvatum	<input type="radio"/> 3 = Neutral
		<input type="radio"/> 2 = Mild < 5°
		<input type="radio"/> 1 = Moderate 5° to 10°
		<input type="radio"/> 0 = Severe > 10°
2. Initial Foot Contact		<input type="radio"/> 0 = Toe <input type="radio"/> 1 = Forefoot <input type="radio"/> 2 = Foot-flat <input type="radio"/> 3 = Heel
3. Foot Contact at Midstance		<input type="radio"/> -1 = Toe/Toe <input type="radio"/> 0 = Foot-Flat/Early Heel Rise <input type="radio"/> 1 = Foot-Flat/No Early Heel Rise <input type="radio"/> 2 = Occasional Heel/Foot Flat <input type="radio"/> 3 = Heel/Toe (Normal Roll-Over)
4. Timing of Heel Rise		<input type="radio"/> 0 = No Heel Contact (Fixed Equinus) <input type="radio"/> 1 = Before 25% Stance (Very Early) <input type="radio"/> 2 = Between 25-50% Stance (Slight Early) <input type="radio"/> 3 = At Terminal Stance <input type="radio"/> 0 = No Heel Rise (After Foot-Flat i.e. Crouch)
5. Hindfoot at Midstance		<input type="radio"/> 0 = Varus <input type="radio"/> 1 = Valgus <input type="radio"/> 2 = Neutral
6. Base of Support		<input type="radio"/> 0 = Frank Scissoring <input type="radio"/> 1 = Narrow Base (Poor Knee Clearance) <input type="radio"/> 2 = Wide Base <input type="radio"/> 3 = Normal Base (Width of Shoulders)
7. Gait Assistive Devices		<input type="radio"/> 0 = Walker (Forward/Posterior) with Assistance <input type="radio"/> 1 = Walker (Independent) <input type="radio"/> 2 = Crutches, Sticks <input type="radio"/> 3 = None, Independent for 10m
8. Change		<input type="radio"/> -1 = Worse <input type="radio"/> 1 = None <input type="radio"/> 2 = Better



Observational Gait Scale Tool

Right Lower Extremity

Instructions



SCALE SECTIONS		SCORING & DEFINITIONS
1. Knee Position in Midstance	Crouch	<input type="radio"/> 0 = Severe > 15°
		<input type="radio"/> 1 = Moderate > 10° to 15°
		<input type="radio"/> 2 = Mild < 10°
		<input checked="" type="radio"/> 3 = Neutral
	Recurvatum	<input type="radio"/> 2 = Mild < 5°
		<input type="radio"/> 1 = Moderate 5° to 10°
<input type="radio"/> 0 = Severe > 10°		
2. Initial Foot Contact		<input type="radio"/> 0 = Toe <input type="radio"/> 1 = Forefoot <input type="radio"/> 2 = Foot-flat <input checked="" type="radio"/> 3 = Heel
3. Foot Contact at Midstance		<input type="radio"/> -1 = Toe/Toe <input type="radio"/> 0 = Foot-Flat/Early Heel Rise <input type="radio"/> 1 = Foot-Flat/No Early Heel Rise <input type="radio"/> 2 = Occasional Heel/Foot Flat <input checked="" type="radio"/> 3 = Heel/Toe (Normal Roll-Over)
4. Timing of Heel Rise		<input type="radio"/> 0 = No Heel Contact (Fixed Equinus) <input type="radio"/> 1 = Before 25% Stance (Very Early) <input type="radio"/> 2 = Between 25-50% Stance (Slight Early) <input checked="" type="radio"/> 3 = At Terminal Stance <input type="radio"/> 0 = No Heel Rise (After Foot-Flat i.e. Crouch)
5. Hindfoot at Midstance		<input type="radio"/> 0 = Varus <input type="radio"/> 1 = Valgus <input checked="" type="radio"/> 2 = Neutral
6. Base of Support		<input type="radio"/> 0 = Frank Scissoring <input type="radio"/> 1 = Narrow Base (Poor Knee Clearance) <input type="radio"/> 2 = Wide Base <input checked="" type="radio"/> 3 = Normal Base (Width of Shoulders)
7. Gait Assistive Devices		<input type="radio"/> 0 = Walker (Forward/Posterior) with Assistance <input type="radio"/> 1 = Walker (Independent) <input type="radio"/> 2 = Crutches, Sticks <input checked="" type="radio"/> 3 = None, Independent for 10m
8. Change		<input type="radio"/> -1 = Worse <input type="radio"/> 1 = None <input checked="" type="radio"/> 2 = Better

SKIP

CONTINUE



Results — Observational Gait Scale



Scale Sections	Left	Right
1. Knee Position in Midstance	0	3
2. Initial Foot Contact	2	3
3. Foot Contact at Midstance	1	3
4. Timing of Heel Rise	3	3
5. Hindfoot at Midstance	2	2
6. Base of Support	1	3
7. Gait Assistive Devices	2	3
8. Change	1	2
Total (Max 22)	12	22

BACK

DONE



Results — Observational Gait Scale



Scale Sections

1. Knee Position in M
2. Initial Foot Contact
3. Foot Contact at Mic
4. Timing of Heel Rise
5. Hindfoot at Midsta
6. Base of Support
7. Gait Assistive Devic
8. Change
Total (Max 22)

Email Results

Assessor's Name

Patient Identifier

Email Addresses

Separate multiple recipients by commas.

Comments

Additional notes about assessment results.

CANCEL

SEND EMAIL

BACK

DONE



Results — Observational Gait Scale



Scale Sections

1. Knee Position in M
2. Initial Foot Contact
3. Foot Contact at Mid
4. Timing of Heel Rise
5. Hindfoot at Midsta
6. Base of Support
7. Gait Assistive Devic
8. Change
Total (Max 22)

Email Results

Assessor's Name

Annie Gray

Patient Identifier

096095155

Email Addresses

jkeller@email.com, daniel.reyes@email.com, marvinkmack@email.com

Comments

Some slight progress from the last assessment, Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam ut molestie nibh. Curabitur id massa tempus, viverra magna id, dapibus dolor. Suspendisse sollicitudin, ante id rhoncus pellentesque, dolor nibh eleifend libero, laoreet laoreet urna erat ut ante. Suspendisse finibus hendrerit mattis. Mauris sed lorem eros. Phasellus vulputate elit quis dapibus euismod. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

CANCEL

SEND EMAIL

BACK

DONE

Standardized Assessments for the Management of Children with Motor Disorders

[HYPERTONIA ASSESSMENT TOOL](#)[MODIFIED ASHWORTH SCALE](#)[TARDIEU SCALE](#)[GOAL ATTAINMENT SCALE](#)[OBSERVATIONAL GAIT SCALE](#)[PHYSICIAN GLOBAL ASSESSMENT](#)[← BACK](#)

Observational Gait Scale Videos

[Video Instruction Introduction](#)

The Observational Gait Scale (OGS) is an evaluative/observational test of gait. The main purpose of the OGS is to rate gait parameters from video recordings utilizing a structured scale. The OGS was created as a simple tool to assess gait treatment outcomes in the clinical setting, specifically the knee joint and foot position during mid-stance.

The OGS gives a standard score out of 22. The eight sections of the OGS describe specific information about gait in the sagittal plane including: knee position at midstance as either a crouch, neutral or recurvatum; initial foot contact with either being on the forefoot, foot-flat, or heel; foot contact description at midstance; the amount and timing of heel rise; description of hindfoot at midstance as either varus, valgus, or neutral; the amount of base of support; assistive devices utilized; and change from previous examination with either being worse, better, or neutral.

[PRINTABLE OGS TOOL](#)[Training](#)[Examples](#)[View All](#)

Training

[Training Video 1](#)[Training Video 2](#)[Training Video 3](#)

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Standardized Assessments for the Management of Children with Motor Disorders

[← BACK](#)

Observational Gait Scale Videos

Video Instruction Introduction [↑](#)

The OGS is a scale with 8 sections: (1) Knee position in midstance, (2) Initial foot contact, (3) Foot contact at midstance, (4) Timing of heel rise, (5) Hindfoot at midstance, (6) Base of support, (7) Gait assistive devices, and (8) Change. Scoring is performed for both the left and right lower extremities by selecting the appropriate numerical value. A perfect score is a 22 on each limb. Lower scores suggest greater gait impairments and the higher the score, the less impairments demonstrated by the child.



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[Training](#)

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[Training Video 2](#)



[Training Video 3](#)

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Observational Gait Scale Videos

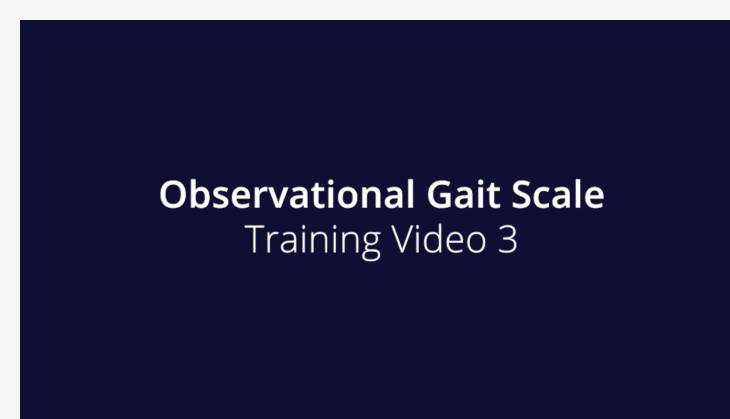
[Video Instruction Introduction](#)

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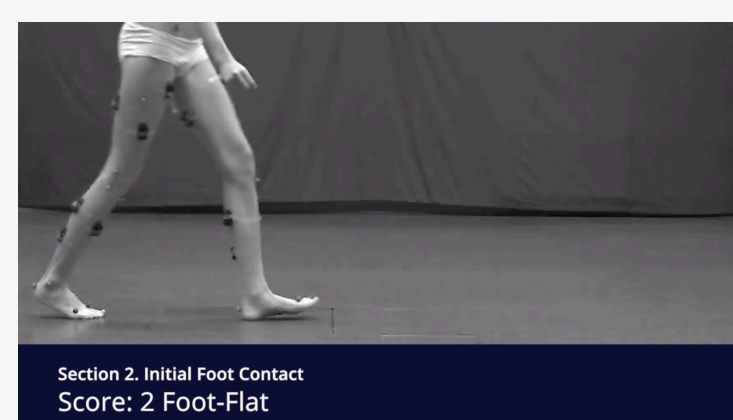
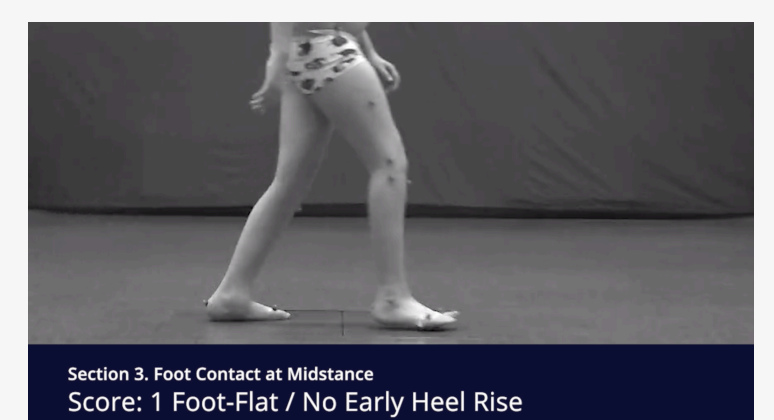
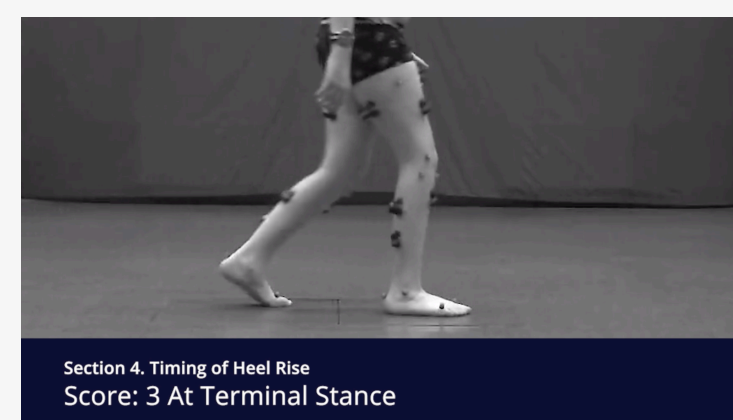
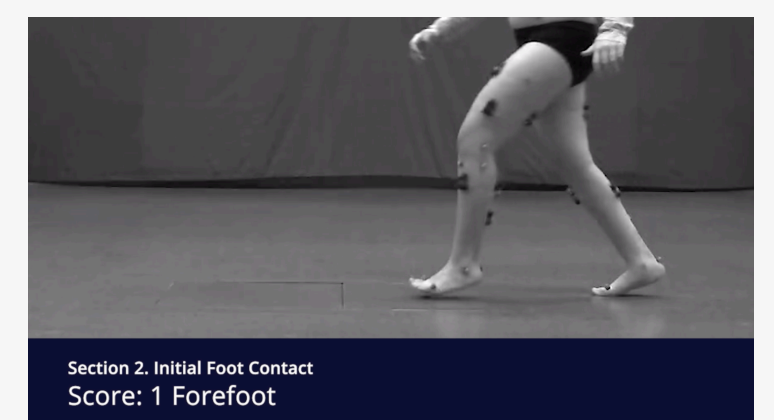
The OGS gives a standard score out of 22. The eight sections of the OGS describe specific information about gait in the sagittal plane including: knee position at midstance as either a crouch, neutral or recurvatum; initial foot contact with either being on the forefoot, foot-flat, or heel; foot contact description at midstance; the amount and timing of heel rise; description of hindfoot at midstance as either varus, valgus, or neutral; the amount of base of support; assistive devices utilized; and change from previous examination with either being worse, better, or neutral.

[PRINTABLE OGS TOOL](#)[Training](#) [Examples](#) [View All](#)

Training

[Training Video 1](#)[Training Video 2](#)[Training Video 3](#)

Examples

[Slight Early Heel Rise](#)[Foot-Flat Initial Contact & Foot-Flat/No Early Heel Rise at Midstance](#)[Heel Initial Contact, Foot-Flat/Early Heel Rise at Midstance & Slight Early Heel Rise](#)[Severe Crouch Knee, Foot-Flat Initial Contact, Foot-Flat/No Early Heel Rise](#)[Mild Recurvatum Knee, Foot-Flat Initial Contact, Foot-Flat/Early Heel Rise at Midstance](#)[Severe Crouch Knee, Foot-Flat Initial Contact, Heel Rise at Terminal Stance](#)[Moderate Crouch Knee, Toe Initial Contact, Foot-Flat/Early Heel Rise & Slight Early Heel Rise](#)[Mild Crouch Knee, Forefoot Initial Contact, Foot-Flat/Early Heel Rise at Midstance](#)[Neutral Knee, Foot-Flat Initial Contact, Foot-Flat/Early Heel Rise at Midstance](#)

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Observational Gait Scale Videos

[Video Instruction Introduction](#)

FPO - VIDEO PLAYER



2:25 / 5:47



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[PRINTABLE OGS TOOL](#)

[Training](#) [Examples](#) [View All](#)

Training



Training Video 1



[Training Video 2](#)

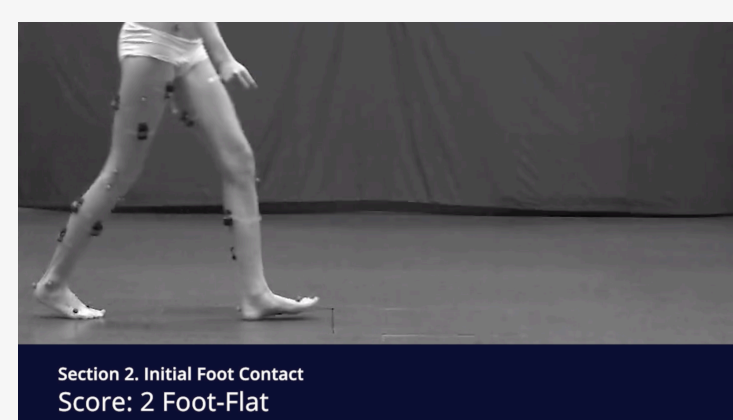


[Training Video 3](#)

Examples



[Slight Early Heel Rise](#)



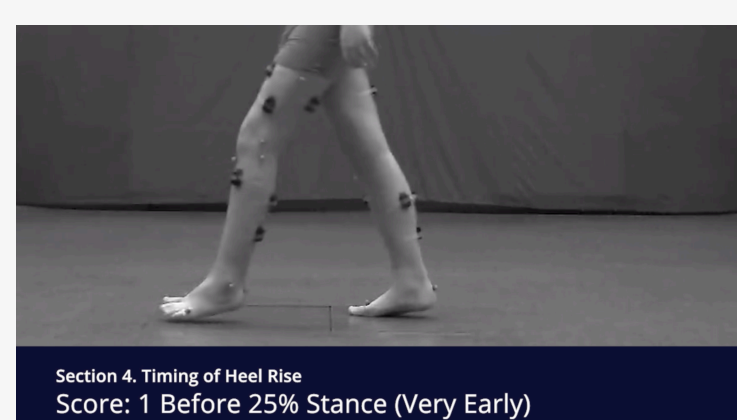
[Foot-Flat Initial Contact & Foot-Flat/No Early Heel Rise at Midstance](#)



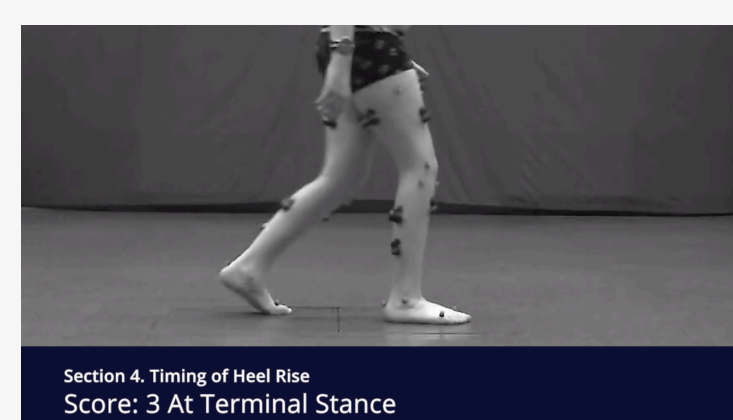
[Heel Initial Contact, Foot-Flat/Early Heel Rise at Midstance & Slight Early Heel Rise](#)



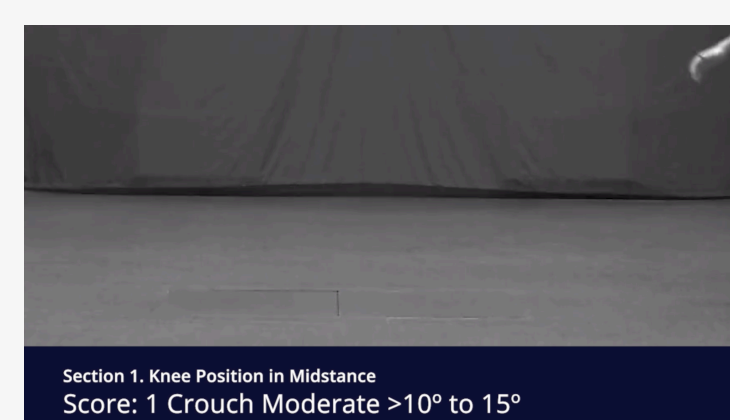
[Severe Crouch Knee, Foot-Flat Initial Contact, Foot-Flat/No Early Heel Rise](#)



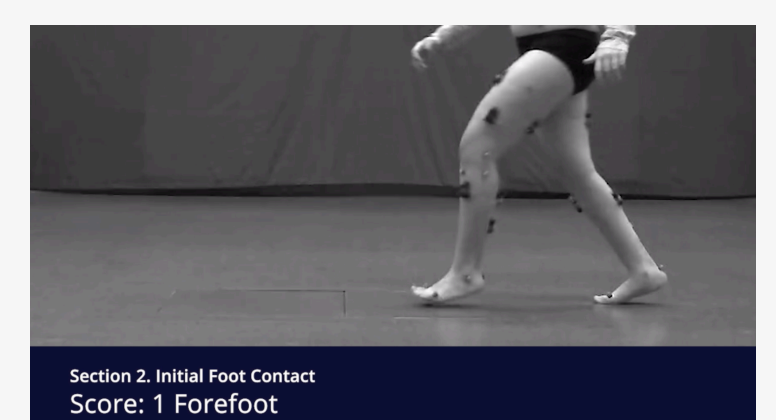
[Mild Recurvatum Knee, Foot-Flat Initial Contact, Foot-Flat/Early Heel Rise at Midstance](#)



[Severe Crouch Knee, Foot-Flat Initial Contact, Heel Rise at Terminal Stance](#)



[Moderate Crouch Knee, Toe Initial Contact, Foot-Flat/Early Heel Rise](#)



[Mild Crouch Knee, Forefoot Initial Contact, Foot-Flat/Early Heel Rise at Midstance](#)



[Neutral Knee, Foot-Flat Initial Contact, Foot-Flat/Early Heel Rise at Midstance](#)

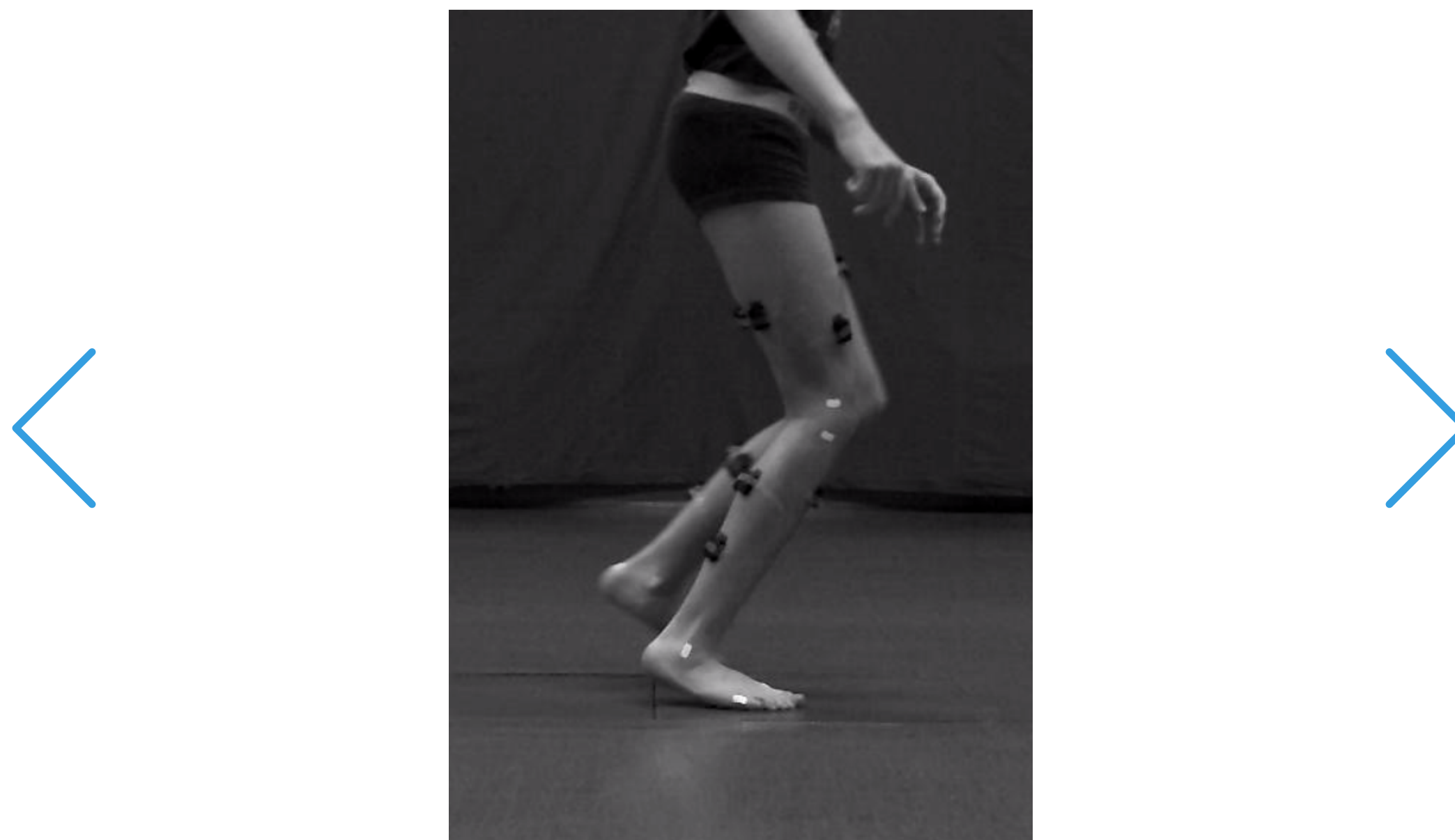
Moderate Crouch Knee, Toe Initial Contact, Foot-Flat/Early Heel Rise & Very Early Heel Rise

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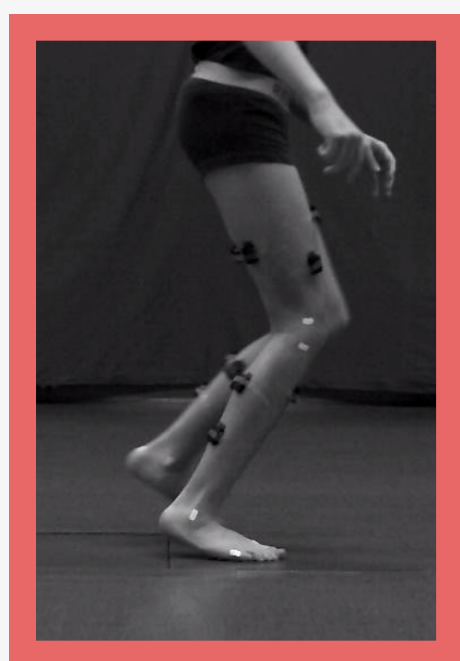
Observational Gait Scale Photos



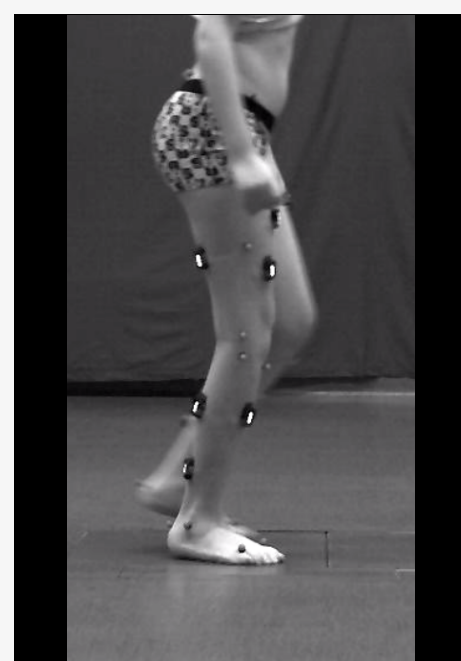
Section 1. Knee Position in Midstance Score 0 Crouch Severe $>15^\circ$

[Section 1](#) [Section 2](#) [Section 3](#) [Section 4](#) [Section 5](#) [Section 6](#) [View All](#)

Section 1. Knee Position in Midstance



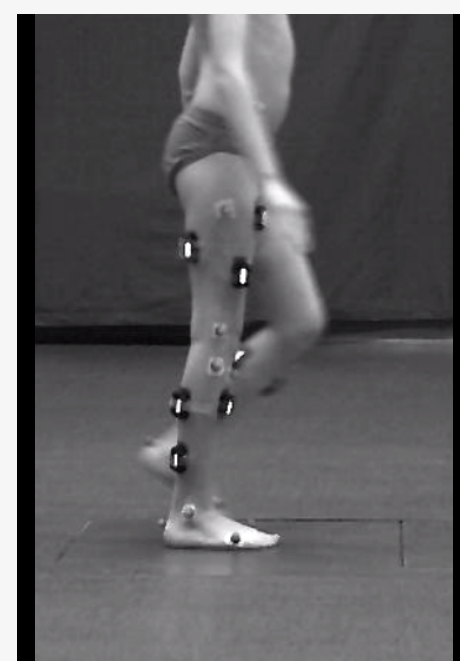
0: Crouch Severe



1: Crouch Moderate



2: Crouch Mild



3: Neutral



2: Recurvatum Mild



1: Recurvatum Moderate

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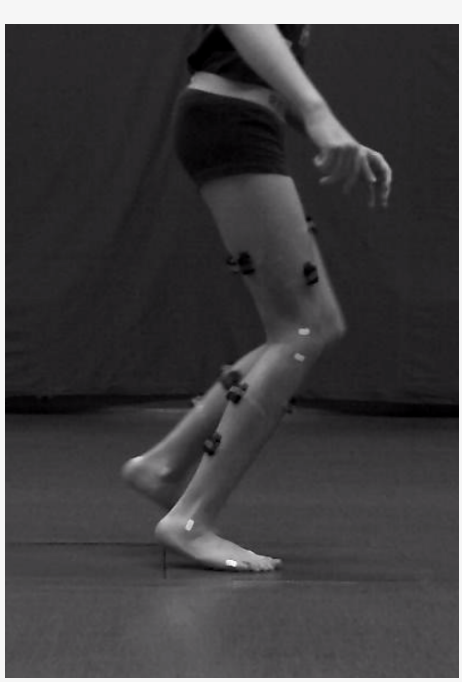
Observational Gait Scale Photos



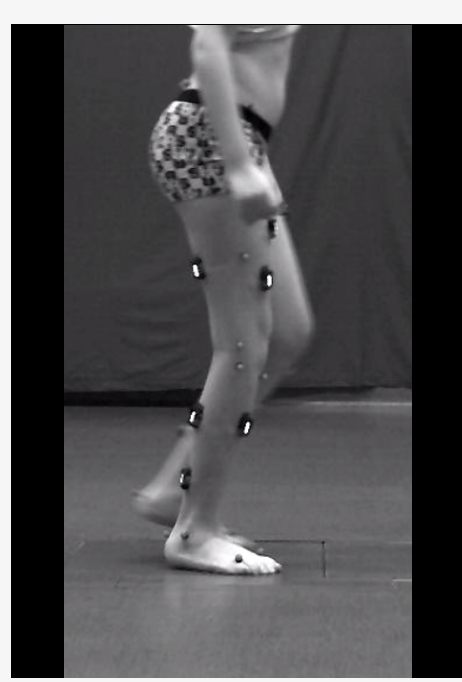
Section 4. Timing of Heel Rise. Score: 1 Before 25% Stance (Very Early)

[Section 1](#) [Section 2](#) [Section 3](#) [Section 4](#) [Section 5](#) [Section 6](#) [View All](#)

Section 1. Knee Position in Midstance



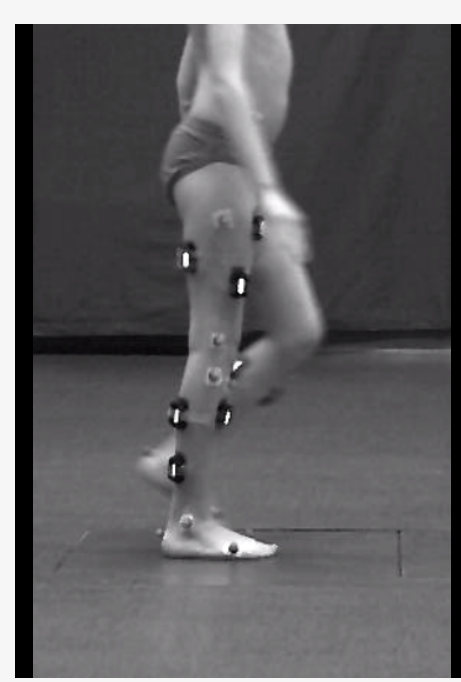
[0: Crouch Severe](#)



[1: Crouch Moderate](#)



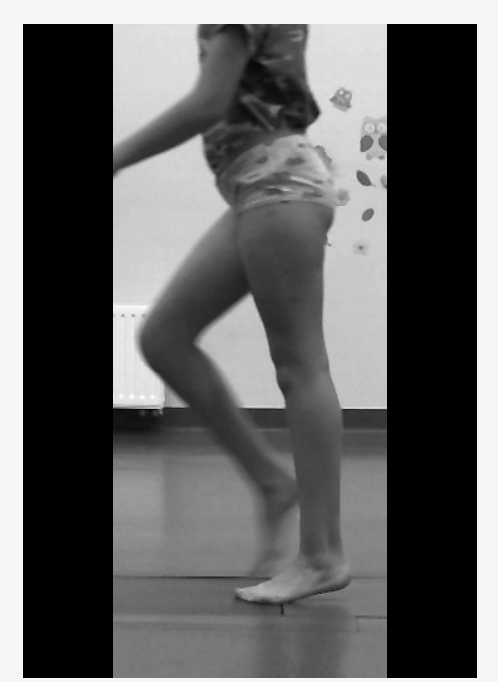
[2: Crouch Mild](#)



[3: Neutral](#)



[2: Recurvatum Mild](#)



[1: Recurvatum Moderate](#)

Section 2. Initial Foot Contact



[1: Forefoot](#)



[2: Foot-Flat](#)



[3: Heel](#)

Section 3. Foot Contact at Midstance



[-1: Toe/Toe](#)



[0: Foot-Flat/Early Heel](#)

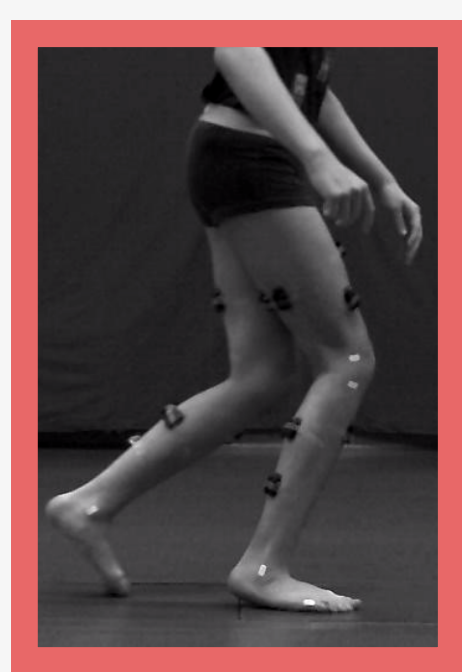


[3: Normal Roll-Over](#)

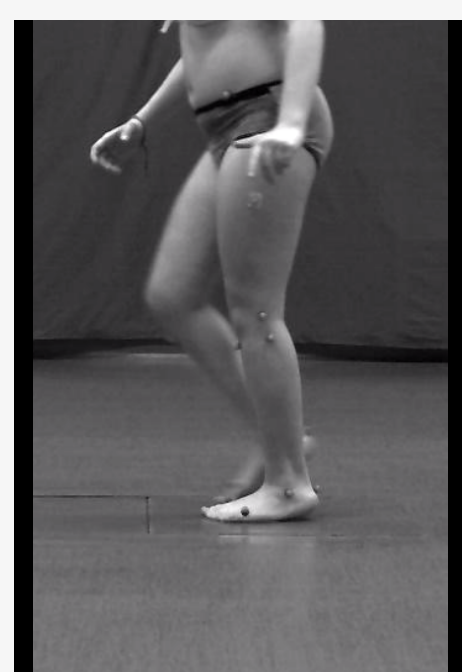
Section 4. Timing of Heel Rise



[0: No Heel Contact](#)



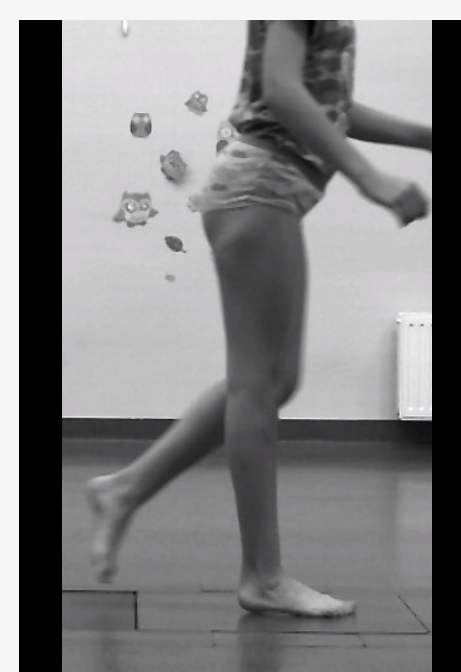
[1: Very Early](#)



[2: Slight Early](#)



[3: At Terminal Stance](#)



[0: No Heel Rise](#)

Section 5. Hindfoot at Midstance

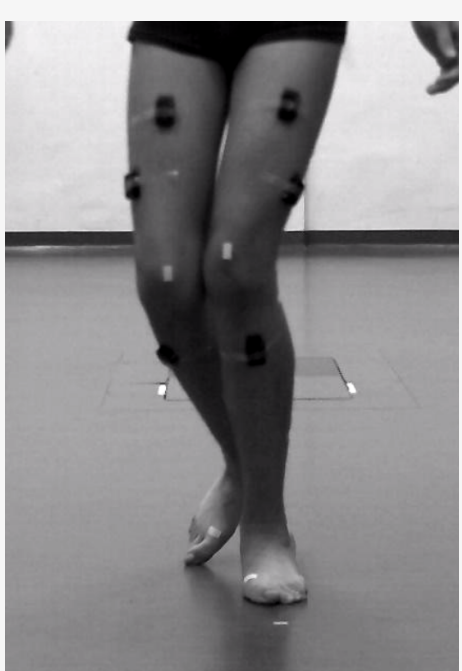


[0: Varus](#)

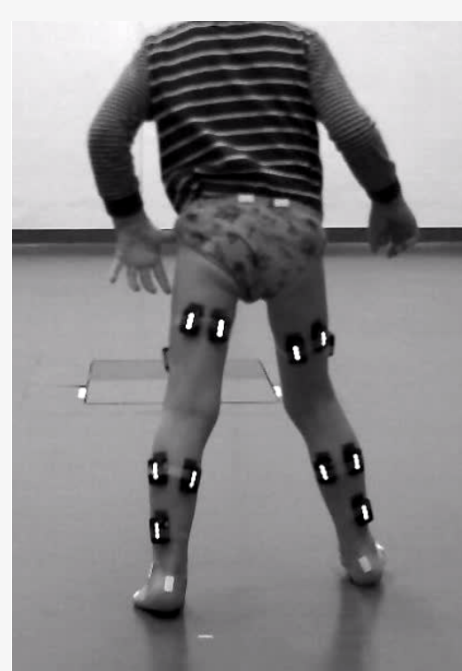


[1: Valgus](#)

Section 6. Base of Support



[1: Narrow Base](#)



[2: Wide Base](#)

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