

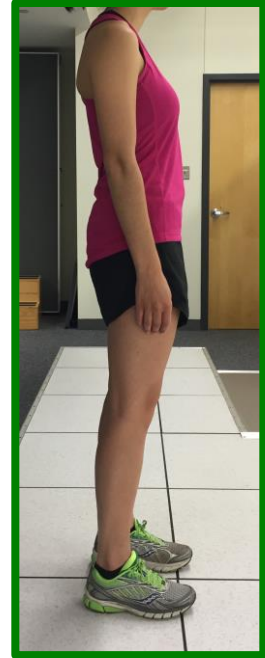
Appendix: Task-Specific Movement Pattern Training

Standing

Key Concepts of Optimal Alignment/Movement



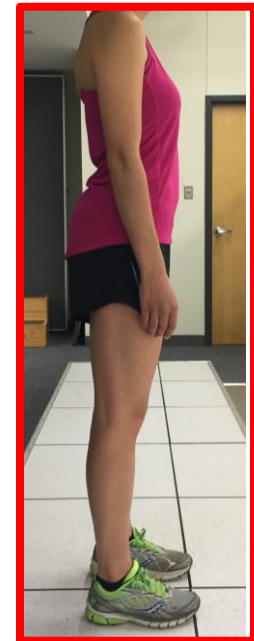
- Unlocked knees
- Knees apart from one another
- Neutral pelvis



Alignment/Movement Error



- Knees turned in
- Knees together



- Knees hyperextended
- Anterior pelvic tilt

Key: Correct

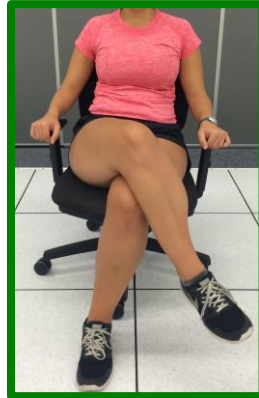
Incorrect

Sitting

Key Concepts of Optimal Alignment/Movement

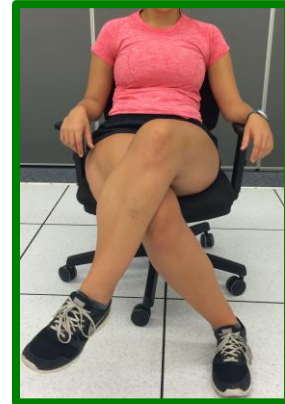


- Knee under hips
- Feet under knees



Top Leg:

- Knee outside foot



Bottom Leg:

- Knee outside foot

Alignment/Movement Errors



- Knees inside feet (example 1)



- Knees inside feet (example 2)



Bottom Leg:

- Knee inside foot



- Too much knee flexion (Feet behind knees)

Single Limb Stance

Key Concepts of Optimal Alignment/Movement



- Hip aligned over knee
- Knee aligned over little toes
- Shoulders level
- Pelvis level

Alignment/Movement Errors



- Knee turned in



- Hips not level



- Shoulders not level

Examples: Task Practice Conditions

Variable	Progression	Downgrade
Speed	<ul style="list-style-type: none">• Move quickly to one leg• Maintain longer hold	<ul style="list-style-type: none">• Weight shift without lifting uninvolved foot
Surface	<ul style="list-style-type: none">• Stand on unstable surface (e.g. foam cushion)	<ul style="list-style-type: none">• Allow hand support

Single Limb Squat

Key Concepts of Optimal Alignment/Movement

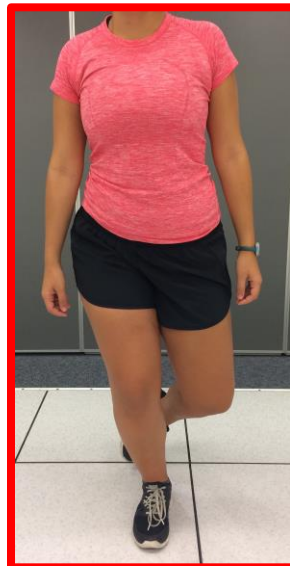


- Hip aligned over knee
- Knee aligned over little toes
- Shoulders level
- Pelvis level

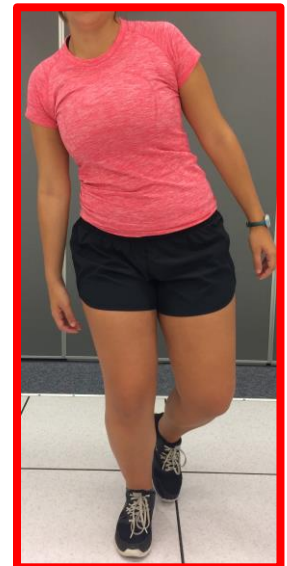
Alignment/Movement Errors



- Knee turned in
- Knee inside foot



- Hips not level



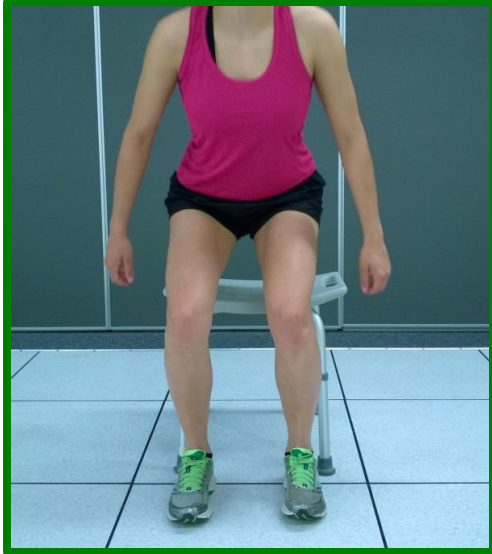
- Shoulders not level

Examples: Task Practice Conditions

Variable	Progression	Downgrade
Speed	<ul style="list-style-type: none"> • Increase speed of squat 	<ul style="list-style-type: none"> • Slow controlled motion
Surface	<ul style="list-style-type: none"> • Stand on unstable surface (e.g. foam cushion) 	<ul style="list-style-type: none"> • Allow hand support

Sitting Down in (Standing Up from) a Chair

Key Concepts of Optimal Alignment/Movement



- Hips aligned over knees
- Knees aligned over little toes
- Shoulders level
- Pelvis level

Alignment/Movement Errors



- Knees turned in
- Knees inside feet

Examples: Task Practice Conditions

Variable	Progression	Downgrade
Speed	<ul style="list-style-type: none">• Increase speed of movement	<ul style="list-style-type: none">• Slow controlled motion
Surface	<ul style="list-style-type: none">• Soft (e.g. outdoor/camp chair)	<ul style="list-style-type: none">• Sturdy bench/chair
Distance/Range of Motion	<ul style="list-style-type: none">• Lower seat height	<ul style="list-style-type: none">• Raise seat height

Ascending Stairs

Key Concepts of Optimal Alignment/Movement



- Hip aligned over knee
- Knee aligned over little toes
- Shoulders level
- Pelvis level

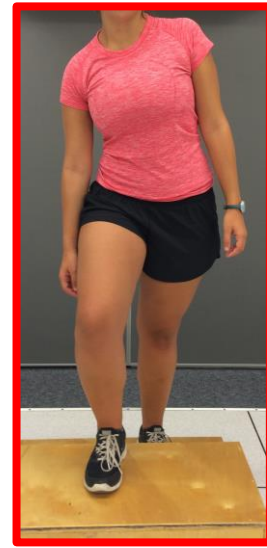
Alignment/Movement Errors



- Knee inside foot



- Hips not level



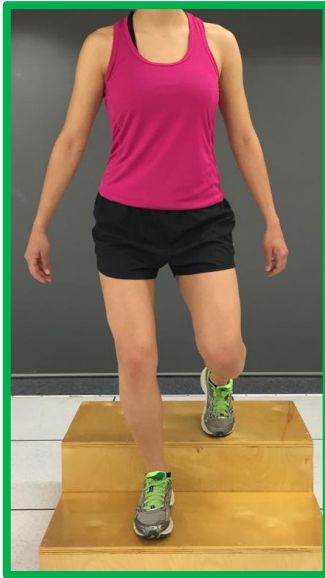
- Shoulders not level

Examples: Task Practice Conditions

Variable	Progression	Downgrade
Speed	<ul style="list-style-type: none"> • Increase movement speed 	<ul style="list-style-type: none"> • Slow controlled motion
Surface/Environment	<ul style="list-style-type: none"> • Carrying items 	<ul style="list-style-type: none"> • Hand support/railing
Distance/Range of Motion	<ul style="list-style-type: none"> • Increase step height 	<ul style="list-style-type: none"> • Decrease step height

Descending Stairs

Key Concepts of Optimal Alignment/Movement

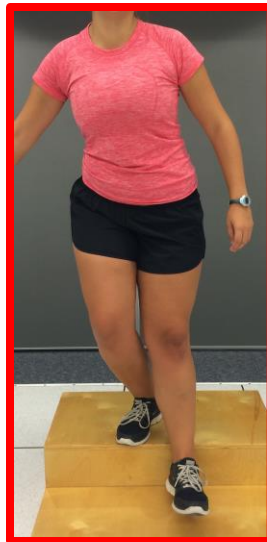


- Hip aligned over knee
- Knee aligned over little toe
- Shoulders level
- Pelvis level

Alignment/Movement Errors



- Knee inside foot



- Hips not level



- Shoulders not level

Examples: Task Practice Conditions

Variable	Progression	Downgrade
Speed	<ul style="list-style-type: none">• Increase movement speed	<ul style="list-style-type: none">• Slow controlled motion
Surface/Environment	<ul style="list-style-type: none">• Carrying items	<ul style="list-style-type: none">• Hand support/railing
Distance/Range of Motion	<ul style="list-style-type: none">• Increase step height	<ul style="list-style-type: none">• Decrease step height

Running

Key Concepts of Optimal Alignment/Movement



- Unlocked knees
- Knees apart from one another
- Neutral pelvis (no dropping to one side)
- No trunk lean or rotation
- Arm does not cross body when swinging

Alignment/Movement Errors



- Knees close together or touching
- Hips not level
- Trunk leans to side or rotates
- Arm crosses body when swinging

Examples: Task Practice Conditions

Variable	Progression	Downgrade
Speed	<ul style="list-style-type: none">• Increase running speed	<ul style="list-style-type: none">• Decrease running speed
Surface/Environment	<ul style="list-style-type: none">• Add/increase incline	<ul style="list-style-type: none">• Remove/decrease incline
Time	<ul style="list-style-type: none">• Increase time	<ul style="list-style-type: none">• Decrease time