

*"The Clinical Advantage"*TM



Biodex Balance System SD

- **High Tibial Osteotomy**



**Cincinnati SportsMedicine
& Orthopaedic Center**

A Nationally Recognized Center of Excellence

A cooperative effort by Biodex Medical Systems, Inc. and Cincinnati SportsMedicine & Orthopaedic Center

BIODEX

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BALANCE APPLICATION
PROTOCOLS

High Tibial Osteotomy

PHASE V – nine-twelve weeks

ACTIVITIES

Weight Shifting..... 3-1
Postural Stability..... 3-2
Limits of Stability 3-2
Single Leg Stance 3-3

Phase VI – thirteen-twenty six weeks

ACTIVITIES

Weight Shifting..... 3-4
Postural Stability..... 3-5
Limits of Stability 3-5
Single Leg Stance 3-5

Note: The balance progressions that follow are based on the protocols developed and provided by the Cincinnati Sports Medicine Center. The original protocols can be viewed at this link:

<http://www.cincinnati-sportsmed.com/csm/>

All phases are broken down into training and testing possibilities related to these protocols and potential stances utilized.

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BALANCE APPLICATION PROTOCOLS

High Tibial Osteotomy

PHASE V – NINE-TWELVE WEEKS

Activities

- Weight Shifting
- Postural Stability
- Limits of Stability
- Single Leg Stance
- Baseline Postural Stability Test

Weight shifting side to side and forward to back

Use the **Percent Weight Bearing** training screens to perform static medial / lateral weight shifting (*fig.1*), anterior posterior weight shifting and to re-establish center of balance (*fig.2*).



(fig.1)



(fig.2)

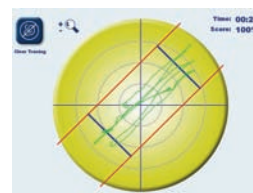
Use the **Weight Shifting** training screens to influence weight bearing to the affected side (*fig.3*) anterior / posterior (*fig.4*) and diagonally to prepare for ambulation (*fig.5*).



(fig.3)



(fig.4)



(fig.5)

Positions and Conditions

Use bilateral standing / no holding / static mode for **Weight Shifting** training (*fig.6*).



(fig.6)

Use bilateral staggered stance / holding on / static mode for diagonal **Weight Shifting** training (*fig.7*).



(fig.7)

BALANCE APPLICATION PROTOCOLS

High Tibial Osteotomy

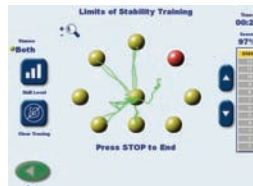
Postural Stability

Use the **Postural Stability** training screen to facilitate center of gravity training with a single leg stance in static mode (*fig.1*).



(*fig.2*)

Use the **Limits of Stability** training screen to explore the patient's sway envelope. Train their ability to move away from center, hit a target on the fringe of their allowable sway envelope and return to center (*fig.2*).



(*fig.3*)

Positions and Conditions

Progress to bilateral standing / no holding / dynamic mode for Postural Stability and Limits of Stability (*fig.3*).



(*fig.3*)

BALANCE APPLICATION PROTOCOLS

High Tibial Osteotomy

Single Leg Stance

Use **Postural Stability** (*fig.1*) and **Percent Weight Bearing** training screens (*fig.2*) to re-introduce single leg standing in static mode.



(fig.1)



(fig.2)

Positions and Conditions

Use single leg / stance / holding on / static mode for Postural Stability and Percent Weight Bearing training (*fig.3*).



(fig.3)

Testing:

Postural Stability / Dynamic Test vs. Normative Data using Fall Risk protocol (*fig.4*).



(fig.4)

BALANCE APPLICATION PROTOCOLS

High Tibial Osteotomy

PHASE VI – THIRTEEN-TWENTY SIX WEEKS

Activities

- Weight Shifting
- Postural Stability
- Limits of Stability
- Single Leg Stance
- Baseline Postural Stability Test

Weight shifting side to side and forward to back

Use the **Percent Weight Bearing** training screens to perform static medial / lateral weight shifting (*fig.1*), anterior posterior weight shifting and to re-establish center of balance (*fig.2*).



(fig.1)



(fig.2)

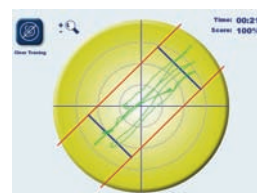
In dynamic mode, use the **Weight Shifting** training screens to influence weight bearing to the affected side medially and laterally (*fig.3*), anteriorly / posteriorly (*fig.4*) and diagonally (*fig.5*).



(fig.3)



(fig.4)



(fig.5)

Positions and Conditions

Use bilateral standing / no holding / static mode for diagonal **Weight Shifting** training (*fig.6*).

Use bilateral staggered stance / holding on / static mode for diagonal **Weight Shifting** training (*fig.7*).



(fig.6)



(fig.7)

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