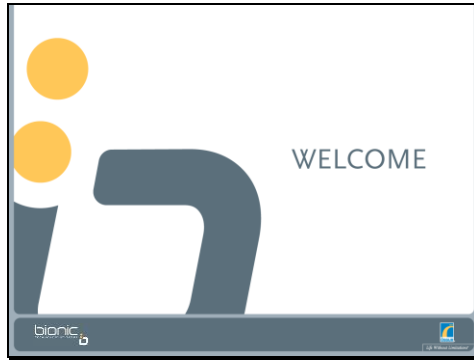


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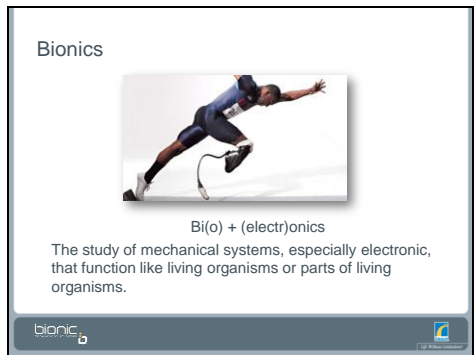
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Slide 2



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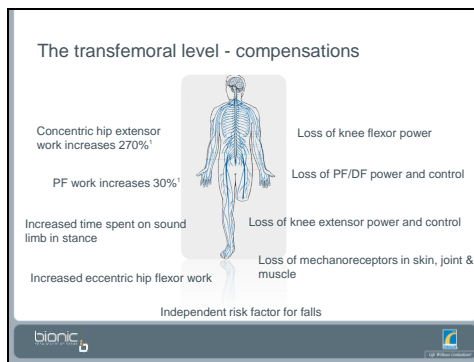
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Slide 3



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Slide 4

### The Benefits of bionics

The integration of bionic technology in prosthetic solutions aims to overcome all functions lost due to amputation by:

- Increasing functionality
- Increasing safety
- Reducing future comorbidity for amputees
- Reducing effort (mental – physical)
- Stimulating voluntary control



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Slide 5

### PROPRIO FOOT

...because the world is not flat

**Level ground**


- Reduced compensatory movements, particularly for swing clearance.

**Inclines and stairs**

- Intelligent adaptation to slopes leads to greater patient safety.

**Heel height adjustment**

- Powered toe clearance reduces the risk of stumbles and falls.



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Slide 6

### Walking

PROPRIO FOOT



PROPRIO FOOT dorsiflexes during swing phase providing 15mm ground clearance

- Powered toe clearance reduces the risk of trips and falls
- Reduces the need for a shorter prosthesis
- Minimizes the need for compensatory movements



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Slide 7

Stair Descent and Ascent

PROPRIO FOOT



PROPRIO FOOT provides powered dorsiflexion when descending stairs

Adaption in stairs improves users safety & stability

- Can place more of the foot on the step.
- More even distribution of peak pressure in the socket

bionic



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Slide 8

Ramp Descent and Ascent

PROPRIO FOOT



Incline 10°

PROPRIO FOOT adapts to inclines by providing powered toe lift in swing.

- Closer to able-bodied gait
- Improved kinematics and the kinetics of the lower limb
- More even distribution of peak pressure in the socket

bionic



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Slide 9

RAMP DESCENT

PROPRIO FOOT



Decline 10°

PROPRIO FOOT adapts to declines by plantarflexing

- More even distribution of peak pressure in the socket<sup>5</sup>
- Earlier support during roll over

bionic



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Slide  
10

Heel Height


PROPRIO FOOT



The PROPRIO FOOT adjusts to different heel heights

- Allows the user to change shoes safely
- Maintains alignment & symmetry

bionic



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Slide  
11

Functional Training – Proprio Foot

- User programming
  - On/off
  - Heel height
- Charging and battery warnings
- Troubleshooting
  - Walking speed
  - Motor sticking
- Mobility concerns:
  - Swing related gait deviations
  - Equal weight bearing
  - Strategies for functional activities



bionic



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Slide  
12

RHEO KNEE

...the most adaptable solution of its kind

**Proportional loading**

- Resistance varies according to weight bearing.
- Encourages weight bearing and muscle activity.

**Instantaneous transitions**

- Releases to swing when unloaded for natural gait in small spaces.

**Rapid knee flexion**

- Key to toe clearance and momentum.



bionic



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[illegible]

Slide  
16

**RHEO KNEE**



Instantaneous transitions

bionic

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Slide  
17

**Functional Training – Rheo Knee**



- Charging and battery warnings
  - Battery loss state
- Troubleshooting
  - Knee locking vs. buckling
- Mobility
  - Weight bearing and proprioception
  - Level ground walking
  - Stand to sit
  - Stairs and ramps
- Additional features – extension hold

bionic

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Slide  
18

**POWER KNEE**

...function, performance, and safety

**Locks in stance**

- Stability in standing
- Stability on level and unlevel surfaces

**Powered swing**

- Provides toe clearance.
- Maintains momentum

**Lift assistance**

- Sit to stand assist
- Kneeling
- Stair ascent



bionic

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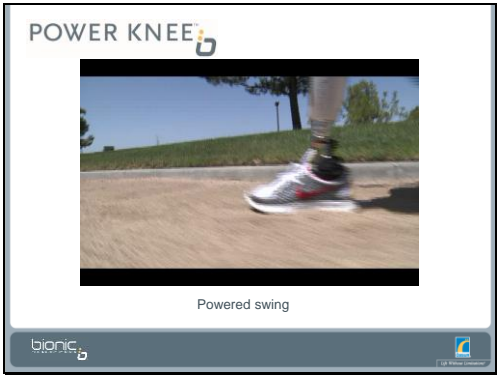
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Slide  
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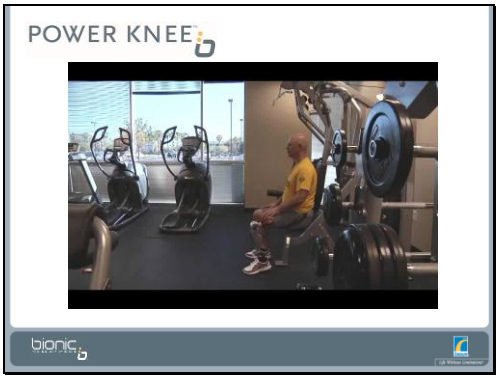
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Slide  
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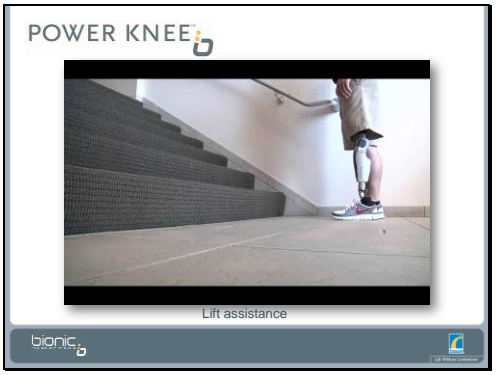
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Slide  
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Slide  
22

Functional training – Power Knee



- User programming
  - On/off
  - Exercise mode
  - Kneeling
- Charging and battery warnings
  - Battery loss state
- Mobility
  - Normal human locomotion!
  - Sit to stand
  - Stairs and ramps





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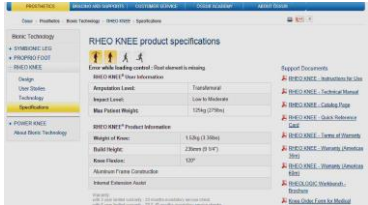
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Slide  
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Summary

- Understanding the features of any device will help you train the user
- Open lines of communication with the prosthetist is key
- Additional information can be found on manufacturer's websites







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Slide  
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