

CADCAM Orthotic Prescription and Design

Session 2

Assessment & Plantar Pressure Analysis

Step Force Training

Presented By Paul Graham

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The examination process for Orthomechanical Therapy

What already is understood:

- The patient's history
- We know the cause of the symptoms
- The aims and expected outcome of Orthomechanical treatment
- Conjunctive therapy to assist (either from us or /and other practitioners)

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Non-Weight Bearing Assessment

Compensation Potential

- Joint ROM



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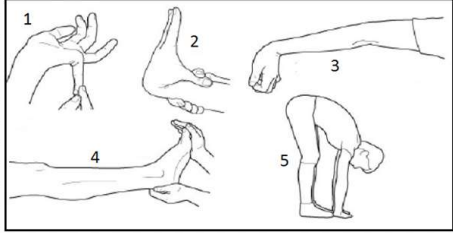
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Non-Weight Bearing Assessment

Compensation Potential

- Beighton Test – Hypermobility Score




1. Flexion of the thumb to touch the palm.
2. Flexion of the little finger to touch the thumb.
3. Flexion of the elbow to touch the forearm.
4. Flexion of the knee to touch the ankle.
5. Forward bending of the trunk to touch the knees.

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Non-Weight Bearing Assessment

Force pathways



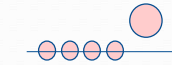
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Non Weight bearing Assessment

First Metatarsal Alignment Correction


Current Alignment



Possible Correction



90% 95% 100%



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Non Weight bearing Assessment

FHL Limit point marked




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Non Weight bearing Assessment

Arch Height point and Navicular Tuberosity marked
(Also Standing STJt axis point*)

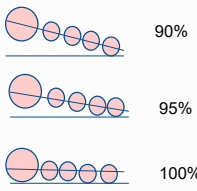


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Non Weight bearing Assessment

Forefoot Supinatus Correction



Possible Correction

Current Alignment



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Non-Weight Bearing Assessment

Galeazzi Test: measuring Femoral and Tibial difference

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Non-Weight Bearing Assessment

Assessing the leg length difference - non weight bearing

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Non Weight bearing Assessment


Heel Bisection Marked
(Also Standing STJt axis point*)

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Non Weight bearing Assessment

Subtalar Joint Axis marked



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Non Weight bearing Assessment

Standing Subtalar Joint Axis test




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2D and 3D Scanning: What's Gold Standard?



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2D and 3D Scanning and recording




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Weight Bearing Assessment

Lunge test




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Weight bearing Assessment

Maximum Foot Pronation and Supination movement



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Weight bearing Assessment

Resupination Resistance



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Weight bearing Assessment

Jacks Test

- Assess Frontal plane function: Effort
- Assess Sagittal plane function: Timing



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Weight bearing Assessment

Resupination Resistance



Jacks Test

- Assess Frontal plane function: Effort
- Assess Sagittal plane function: Timing



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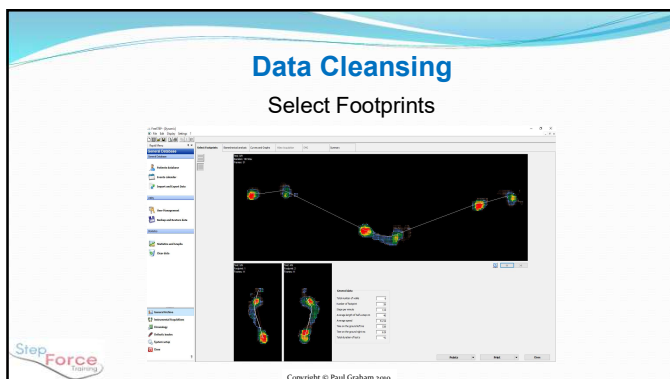
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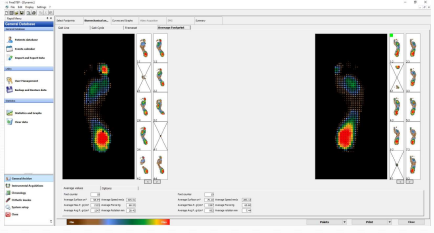
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Data Cleansing

Averaging Footprints



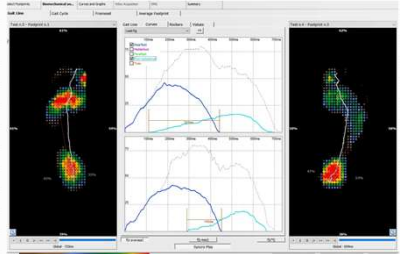
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Plantar Pressure Analysis

Amount and symmetry of arch elongation



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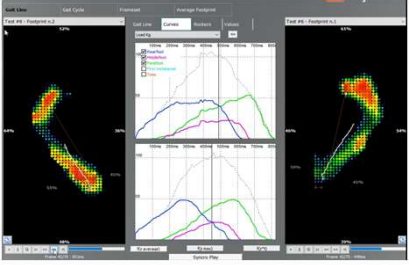
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Plantar Pressure Analysis

Overloaded Cells

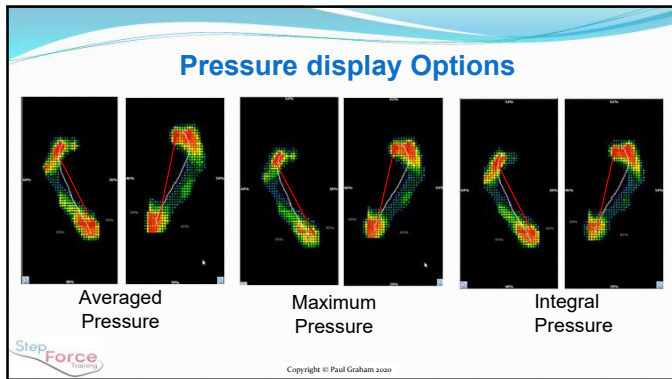
- Peak View & Line
- Integral View



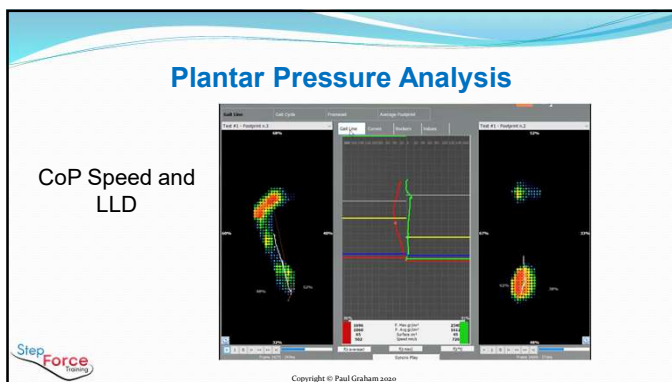
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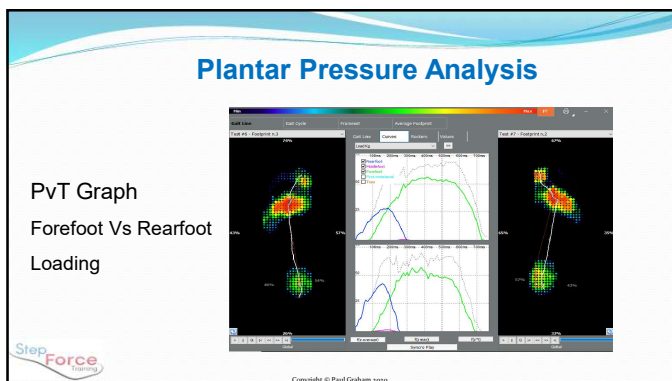
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Q and A Discussion



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