

Biomechanical foundations of force: Worksheet

Everyone has some asymmetry that can lead to higher force / pressure placement in some tissues, but the body has a compensatory mechanism to reduce this from happening through compensatory joint and muscle function.

Consider this when you are seeing patients over the next few weeks, assess the asymmetries, (structural mal-alignments) and consider where the force may travel through the leg and foot.

1. Assess how much compensation the body has in the muscle and joint function.
2. How well is the body compensating for the asymmetries? E.g. is there any pain, adaptations or joint changes?
3. Does this correlation make sense?
4. If not, what are the paradoxical factors? E.g. excessive external tibial torsion and inverted feet - can you explain this by looking at HOW the body compensated (less / more)? Explain this?

Primary Structure	Left	Right
Genu Valgum		
Tibial Varum		
Internal Tibial torsion:		
Excess Ext torsion		
Metatarsus Adductus		
Forefoot Equinus		
Plantar Flexed 1 st		
Short First Ray		
Medial / Lateral displaced STJt axis		
Generalised Jt Laxity		
Local Foot Laxity		

Dynamic Testing	Left	Right
Lunge (Cm)		
Squat Function		

Muscle Function	Left	Right
Tibialis Anterior		
Tibialis Posterior		
Peroneal Group		
Gastroc / Soleus		
Hip Flexor		
Quadriceps		
Hamstrings		
Gluteal Group		

Joint Function	Left	Right
Fibula Head		
Rear-foot Joints		
Mid-Foot Joints		
Fore-foot Joints		
1ST MTP Joints		

Adaptations	Left	Right
FHL / HL / HR		
D/flexed 1 st Ray		
Forefoot Supinatus		
Hallux Valgus		
Joint Changes		

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