

Gait

Basic Paediatric Gaits



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Gait Cycle

Gait is a dynamic posture allowing bipedal unassisted mobility by virtue of sound interplay between coordination and balance primarily of the lower limb and pelvis.

Normal?

Normal Gait: A reciprocal heel-toe gait with appropriate cadence and normal speed.

(Cadence= No. of steps/ min)

Components

- Arm swing
- Head and trunk position and movement
- Pelvic position and rotation
- Hip position and motion
- Knee position and motion
- Ankle and foot position (pronation, neutral, supination) and motion
- Overall gait dynamics

Initial Contact



Initial Contact



Gait Cycle

2 Phases

- 1. Swing
- 2. Stance

Stance Phase

- Foot On the Ground
- Majority (60%)
- Body Moves forward
- Parts
 - Initial Contact
 - Loading response
 - Midstance
 - Terminal stance
 - Pre swing

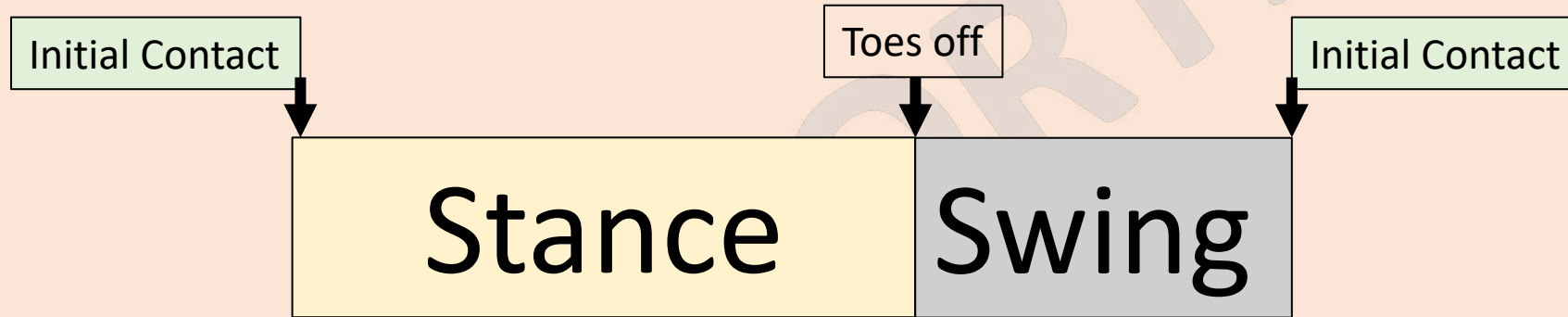




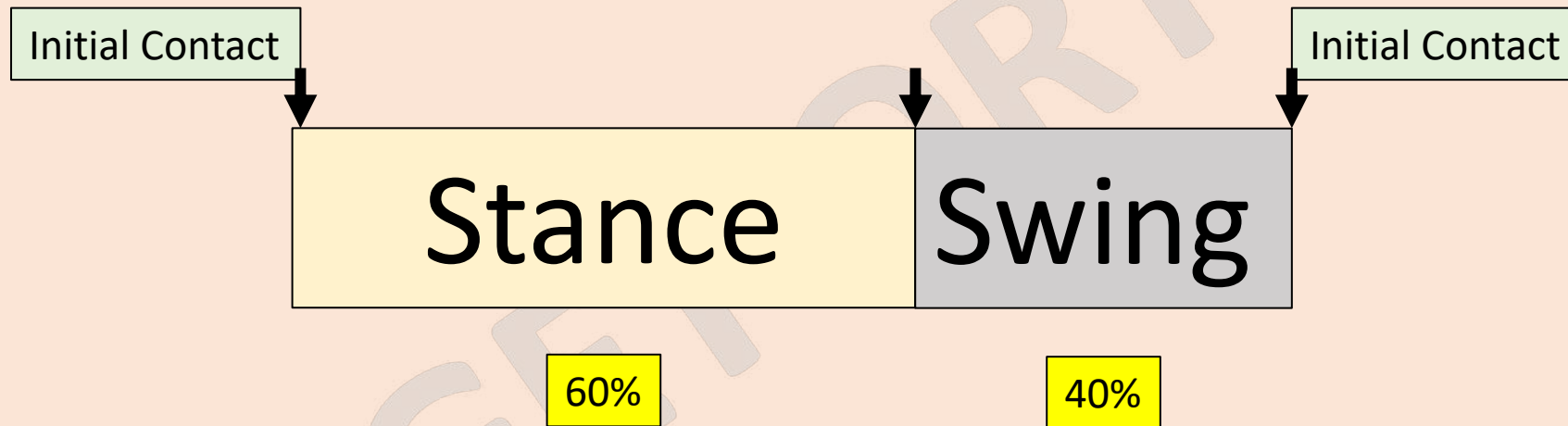
Swing Phase

- Foot off the Ground
- 40%
- The limb swings forward
- Parts
 - Initial Swing
 - Mid swing
 - Terminal Swing



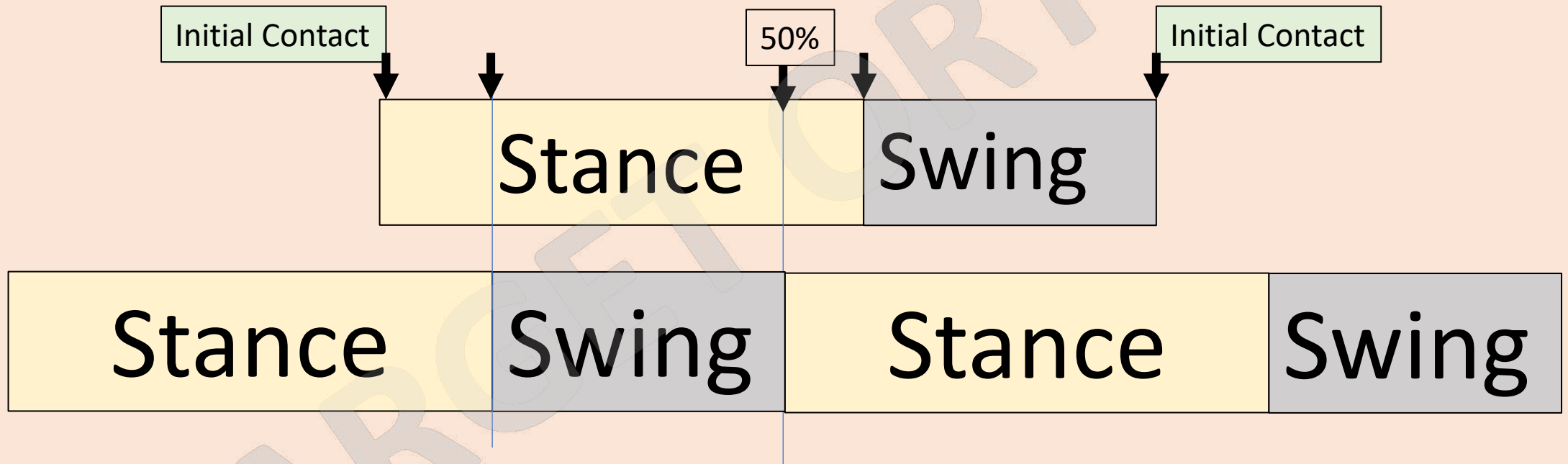


Duration

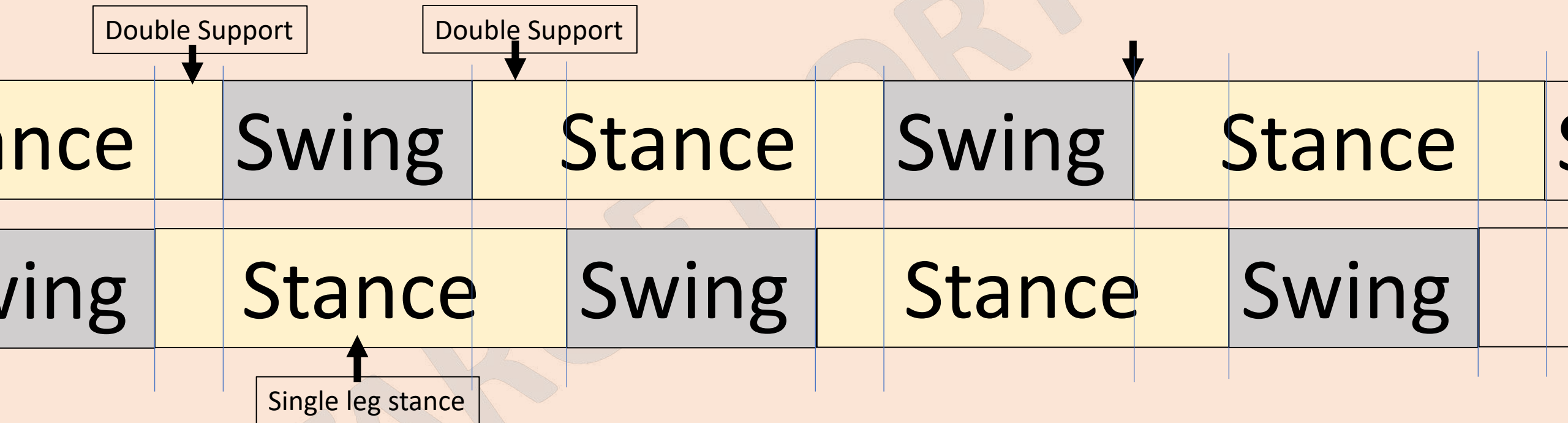


Stance:

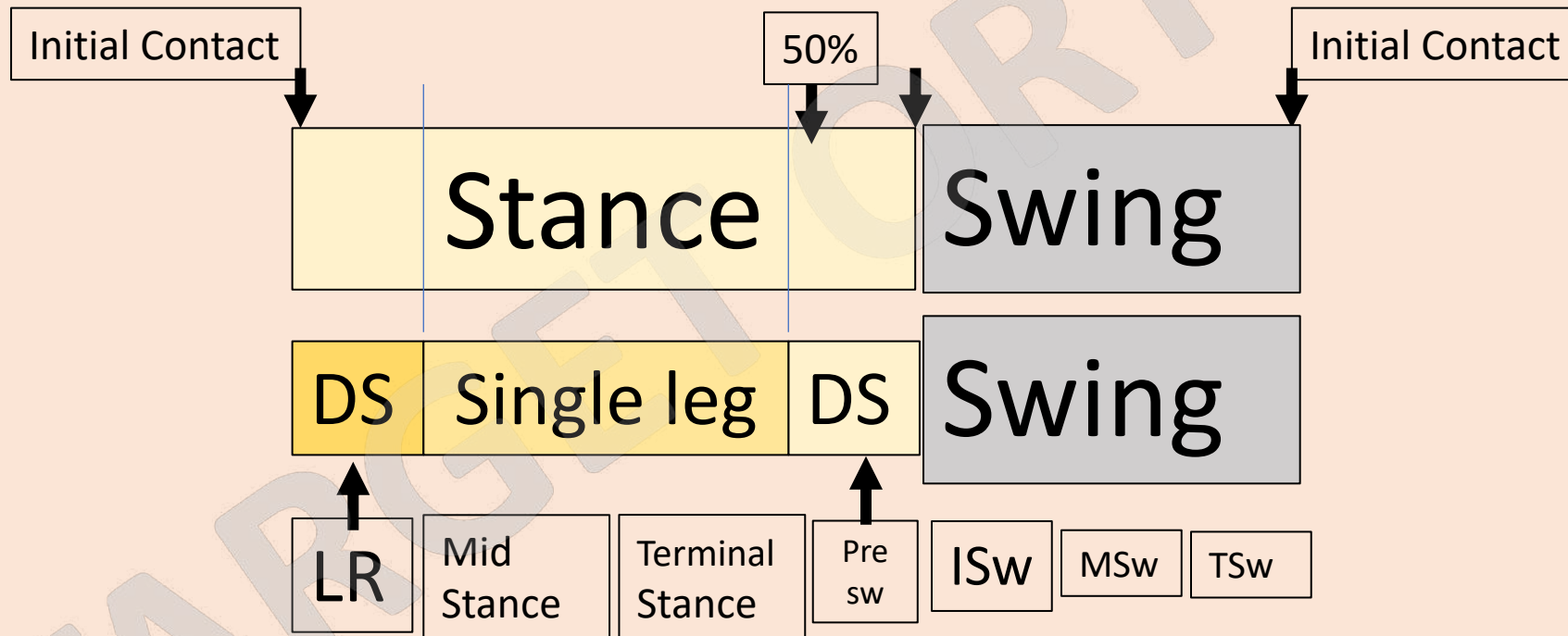
- Single leg support
- Double leg support



Stance of Opposite Limb



Stance



Stance

Initial contact

- Loading Response
- Mid stance
- Terminal Stance
- Pre Swing

Foot off

Swing

Foot off

- Initial Swing
- Mid Swing
- Terminal Swing

Initial Contact

Loading Response

- Double Support
- Weight acceptance
- GRF Posterior to ankle
- Tib ant prevents rapid plantarflexion



Mid stance



- Ankle DF
- Soleus eccentric contraction
- 2nd Rocker
- GRF ant to knee

Terminal
Stance -

Pre Swing



Ankle Movements

Initial Contact

Toes off

Initial Contact

Stance

Swing

0*

- 1.Plantar flexion
- 2.Dorsi flexion
- 3.Plantarflexion
- 4.Dorsiflexion

Ankle Movements

Initial Contact

Toes off

Initial Contact

Stance

Swing

0*

1.Plantar flexion

2.Dorsi flexion

3.Plantarflexion

4.Dorsiflexion

Ankle Movements

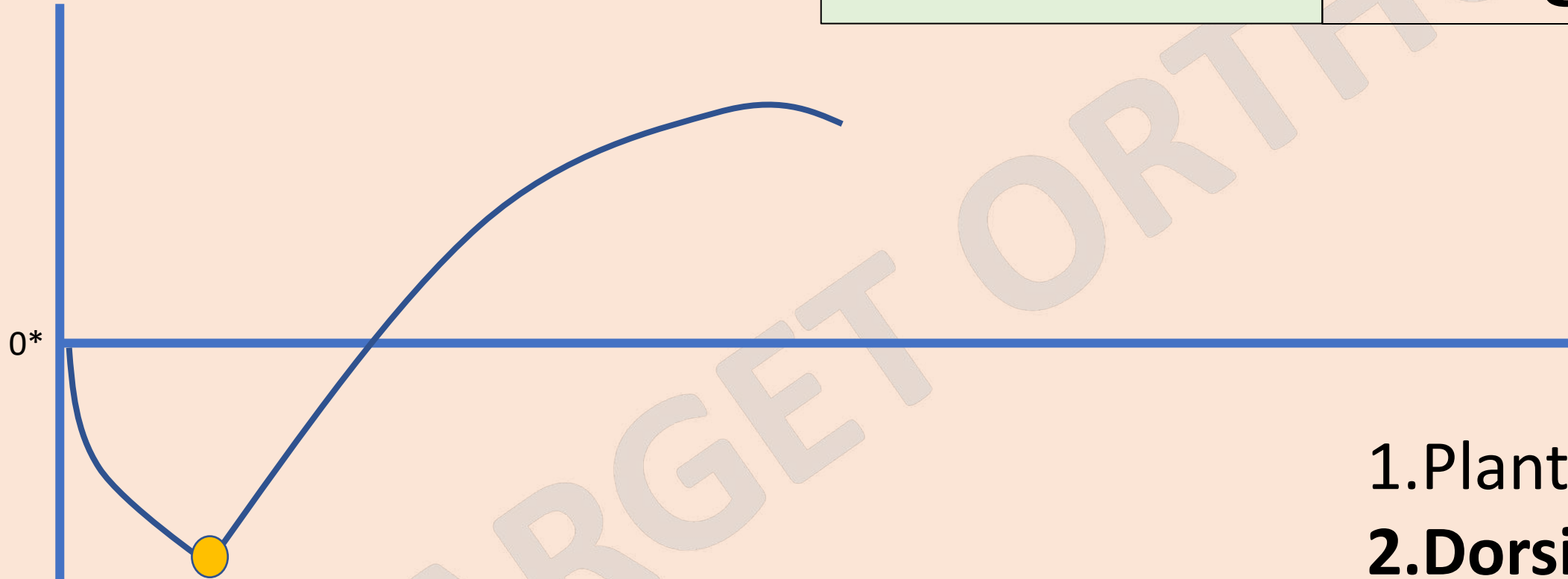
Initial Contact

Toes off

Initial Contact

Stance

Swing



1. Plantar flexion
- 2. Dorsi flexion**
3. Plantarflexion
4. Dorsiflexion

Ankle Movements

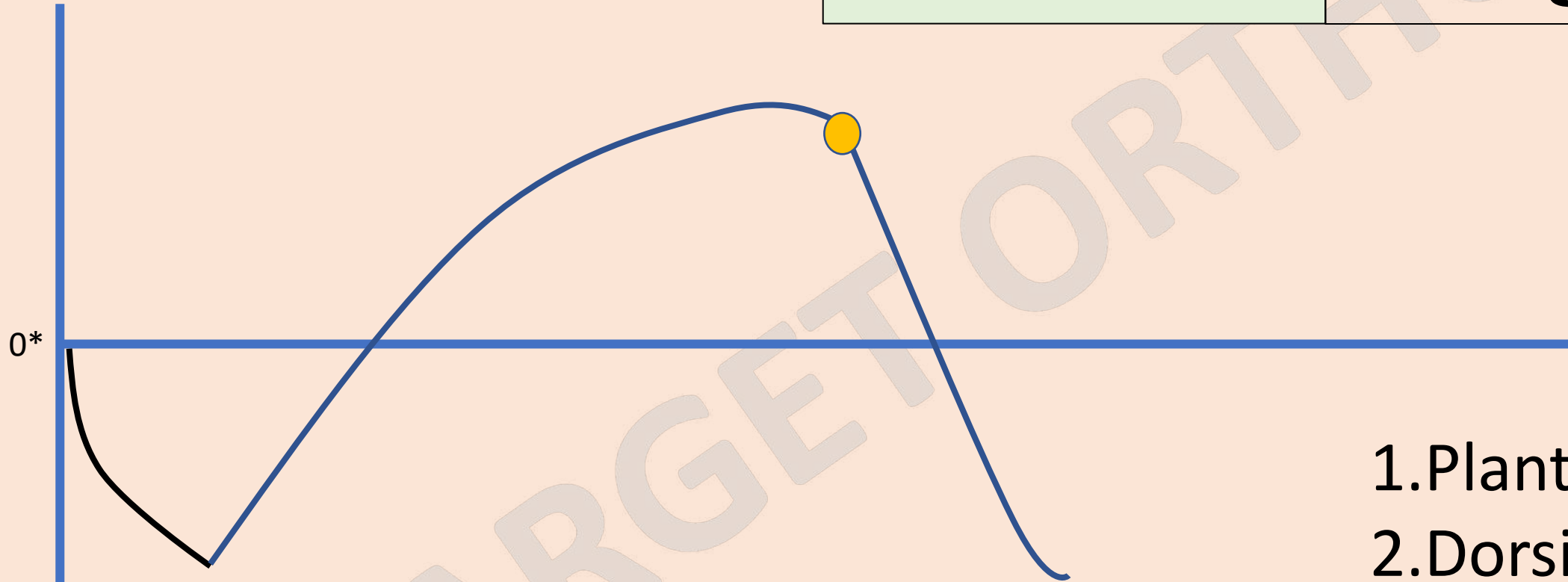
Initial Contact

Toes off

Initial Contact

Stance

Swing



1. Plantar flexion
2. Dorsi flexion
- 3. Plantarflexion**
4. Dorsiflexion

Ankle Movements

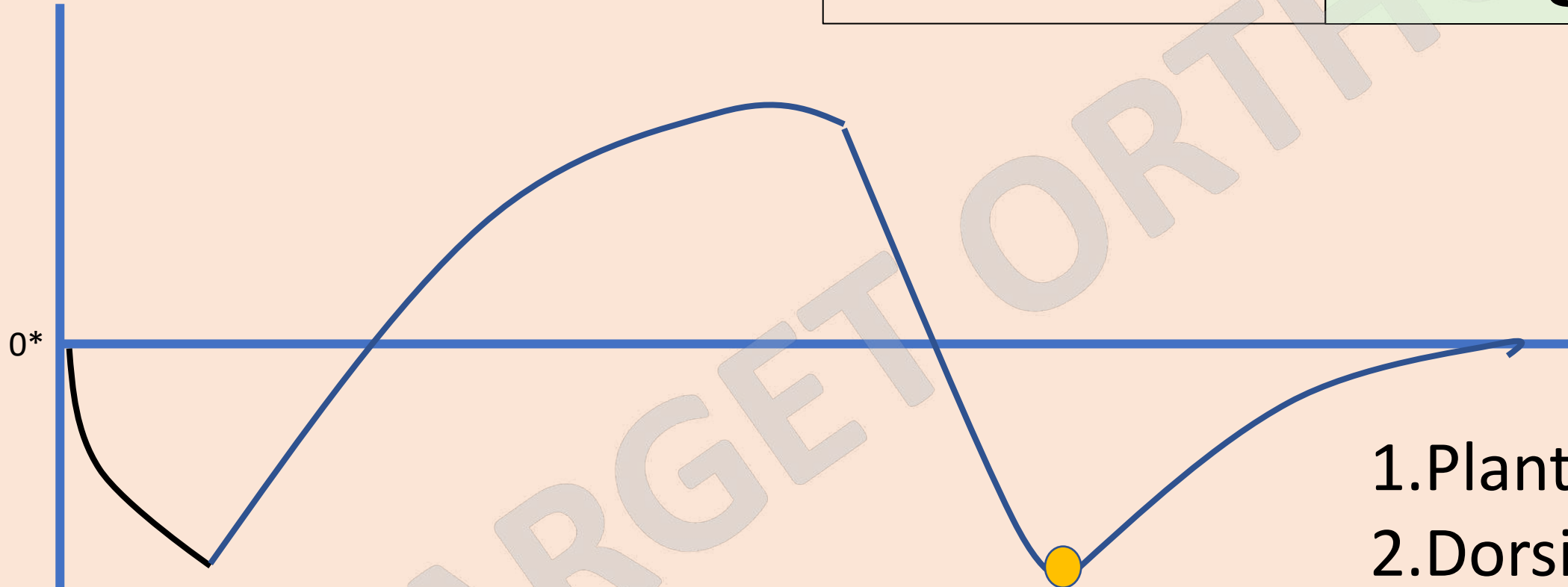
Initial Contact

Toes off

Initial Contact

Stance

Swing



- 1.Plantar flexion
- 2.Dorsi flexion
- 3.Plantarflexion
- 4.Dorsiflexion**

Ankle Movements

Initial Contact

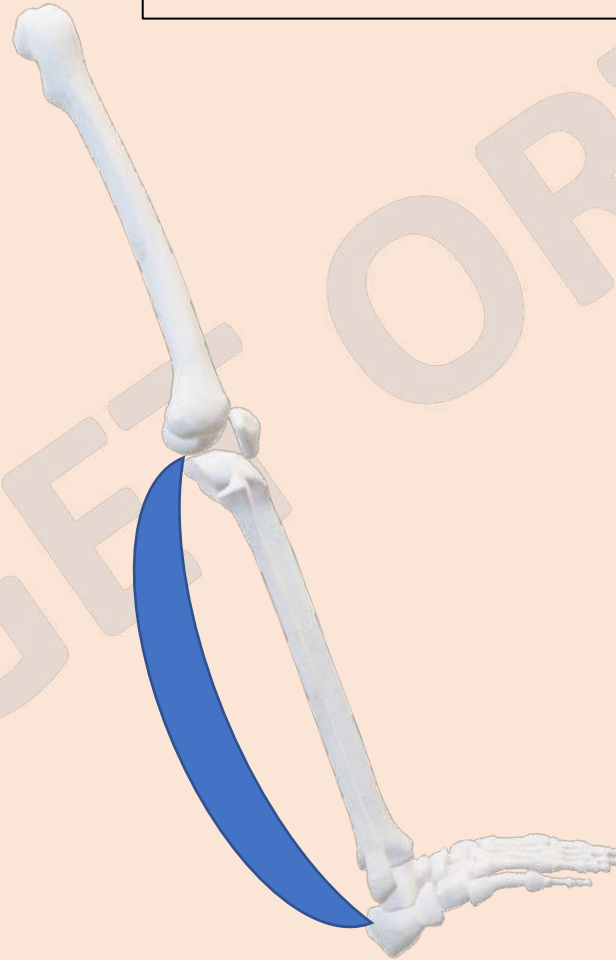
Toes off

Initial Contact

Stance

Swing

0*



1. Plantar flexion

Ankle Movements

Initial Contact

Toes off

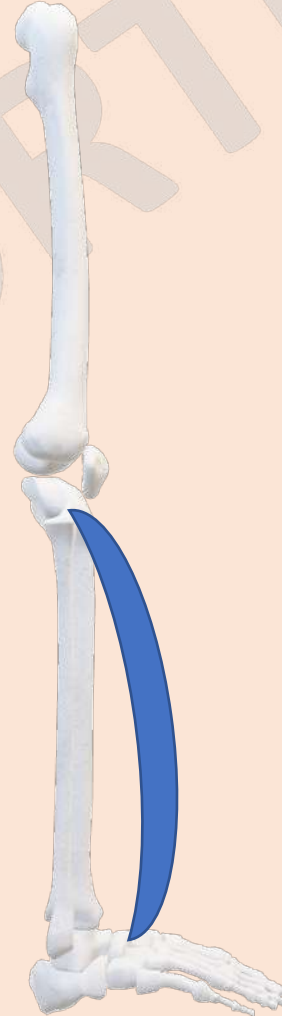
Initial Contact

Stance

Swing

0*

1. Plantar flexion
2. Dorsi flexion



Ankle Movements

Initial Contact

Toes off

Initial Contact

Stance

Swing

