

## Assessment of Standing with Support

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The TOMT 0-3 assessment of standing follows the stages in standing seen in a typically developing infant, with attention to three important underlying abilities that emerge over time with experience:

- adapting the amount of tension (stiffness) in the LE muscles in response to changing alignment of the body segments and task demands;
- realigning the relative position of the trunk and body segments to maintain the CoM over the BoS with changing task demands;
- use of exploratory postural sway to provide information about the position of the body in space.

### Standing with caregiver support

Support the infant around the chest in the upright position.

#### Observe

- Does the infant extend the LEs and take weight on the feet?
- Are the hips extended close to full ROM?
- Does the infant engage in small flexion and extension movements of the knees or are the knees held stiffly in extension?



- Does the infant flex the hips and knees, or flex the hips with the knees extended (sitting on air) when supported upright?



# Standing with waist high support

Let the infant stand facing a waist-high support surface. The infant may choose to take weight on the chest, on the forearms, or on the hands with extended elbows.

In this position the BOS is larger in the A-P direction and the infant is relatively stable and will usually start to reach for toys, as well explore LE movements and with small A-P and lateral weight shifts over the extremities.

Postural sway in a lateral and A-P direction can be observed.



## Observe

### *Trunk and upper limb position and weight bearing*

► Does the infant choose to take weight on the chest, on the forearms or on the hands with extended elbows?



### *LE alignment, hip position and knee extension*

- Do the infant's feet remain flat on the support surface? What is the alignment of the feet?
- If the infant is supporting himself on the chest, he may start to explore extending the hips and lifting the feet up off the floor.
- Are the feet positioned hip width apart or in some abduction?
- Are the knees fully extended or flexed?
- Does the infant play with small flexion and extension movements of the knees as he explores different options for supporting the body weight on the LEs?



### ***Reaching and weight transference***

- ▶ Does the infant lift one hand to reach for a toy?
- ▶ Does the infant make effective adjustments in weight bearing over the LEs when he reaches for a toy?



## Standing with chest high support

Let the infant stand facing a chest-high support surface. With chest high support a typically developing infant, after some practice, will stand with the hips in extension and use the hands for balance rather than support.

### Observe

#### *Use of trunk and UEs for support*

- Can the infant stand lightly supporting on one hand, or does the infant lean the chest against the support surface or take weight on the forearms?



#### *Hip position and LE alignment*

- Are the feet aligned more or less pelvic width apart, with maybe a few degrees of abduction. Or are the feet positioned wide apart with  $> 10^\circ$  of abduction?



- Are the hips extended or in slight flexion?
- Do the feet face forwards or are they laterally rotated?
- Are the knees flexed a few degrees or fixed in hyperextension?





### ***Reaching in all directions***

Any reaching action with one hand requires an adjustment in the alignment of the COM over the BOS which is formed by the LEs and the contralateral hand.

**Remember** that effective balance when lifting one hand is accomplished by shifting the weight onto the ipsilateral LE and contralateral UE.



### ***Reaching in all directions***

Encourage the infant to reach to the side, up and backwards.

- ▶ Can the infant reach up and backwards?
- ▶ Does the infant realign the trunk and limbs to maintain balance?



- ▶ Can the infant reach sideways to a toy that is just out of arm's reach?

Does the infant shift the COM laterally and adduct the ipsilateral hip when reaching for a just out of arms reach toy.

Does the infant take a small step sideways to get closer to a toy that is placed beyond arm's reach

- ▶ Does the infant take small steps to realign the COM over the BOS as he reaches for toys in all directions?

### ***Reaching down to pick up a toy from the floor***

- Can the infant reach down to retrieve a toy from the floor.

Does he achieve this task by flexing the knees, or does he keeps the knees straight and tip the trunk forwards.



### ***Sitting down with control***

- Does the infant sit down by flexing the hips and knees?



- Or does she fall back into sitting with the knees in extension?



### ***Stepping sideways to reach out-of-reach toys***

- Has the infant started to take small steps sideways to reach for out-of-reach toys?



### ***Cruising - repeated steps sideways***

- Has the infant started to take repeated, rhythmical steps to move sideways?

Cruising involves a swing and a stance phase for each LE, as well as lateral shift of the COM over the stance LE, with the stance hip moving from abduction to adduction.



### ***Walking forwards pushing a chair***

- Can the infant step forwards pushing a chair or step?

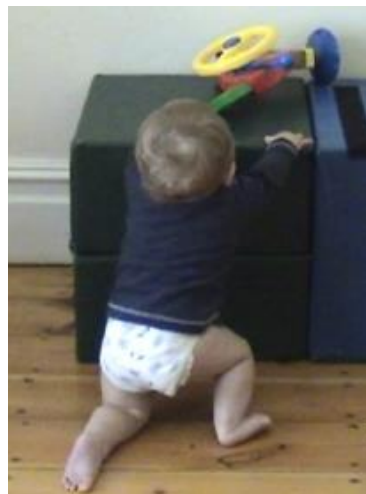


- Does the infant respond to forwards movement of the support surface by taking alternate steps forwards?



### ***Pull-to-standing from sitting or kneeling***

- Is the infant able to pull himself up into standing transitioning through half kneeling?



- Or does she pull herself up using a bilateral hip and knee extension pattern?



### ***Standing without support - letting go and balancing***

- Has the infant started to let go and stand without support?

Balancing in unsupported standing usually starts to elicit ankle balance responses. Will he let go and move across a gap?

