# Critical Thinking Skills: Sit to Stand

## Watch

Watch the following video:

- Early Gait Training: Difficulties with Sit to Stand and Stand to Sit

1. What is the level of assist for the sit to stand transition? How are you determining this?

*The patient appears to require minimal assist. This is based on observing that the patient was able to shift his weight forward, extend his knees and control his center of mass. He was more assist than contact guard (defined as needing assist to maintain balance only) and he was less than moderate assist (defined as the patient exerting 50-74% of the effort). Minimal assist is defined as the patient exerting 75-100% of the effort required for the transfer.*
*Students should be confident with rating patient's task completion. The level of assist should NOT be determined by what the therapist is doing, it should be patient centered.*
*This will assist the students to determine appropriate short and long term goals related to sit to stand.*

2. How much verbal cueing does the patient need for the task? Do you feel the verbal cueing was appropriate? Why or why not? What could you do differently?

*The use of verbal cues has been shown in some research to be detrimental to the development of motor learning. The therapists verbal cues could use to be more concise. A good idea is to ensure the patient understands the task by asking them if they are clear on the task. If the patient is unable to verbalize they can be asked to nod their head. Even patients with poor comprehension should feel as though the therapist is seeking their input.*
*You could talk slower, be more concise, and break cues into smaller commands.*

3. Is sit to stand an impairment or a functional activity?

*According to the ICF model, sit to stand is a functional activity. Functional activities are influenced by impairments and they lead to a person being functional in their environment. They are also influenced by numerous personal and environmental factors. Functional activities should be the basis for most short term and long term goals.*

4. What participation activities incorporate sit to stand as a major component?

*Studies have shown individuals go from sit to stand approximately 60 times a day. This transitional movement is used for any number of participation activities: work and leisure related, child care, moving in and out of a vehicle, home maintenance activities, etc. For this case, refer back to the personal factors that were identified in Mr. McCain's case. What activities that he prefers or must engage in rely on sit to stand?*

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5. Where on the mobility>stability>controlled (dynamic) stability>skill continuum does sit to stand fall? Defend your answer. Discuss how this influences your critical thinking regarding treatment planning.

*Motor control theory would classify sit to stand as a skill. It is the accomplishment of a skilled movement that is goal directed. It goes beyond superimposing movement on a stable base of support (controlled/dynamic stability), the individual is moving their center of gravity.*
*As the person attempts tasks at this level of the continuum, they are maximally challenged. Their multiple impairments will influence the level of challenge. Although task specific training has been shown to be effective in improving sit to stand, where the patient is struggling with the task needs to be considered in order to promote neuroplasticity and recovery of function.*
*Task breakdown may be necessary to improve the patient's mechanics and muscle recruitment to promote functional strengthening and discourage compensation.*

6. What challenges exist when assisting a patient from sit to stand? Remember to think big picture.

*Medical stability should be first and foremost. Monitor vital signs until a baseline is established.*
*Monitor lab values in acute settings to ensure medical readiness for sit to stand.*
*Available seat heights could be a factor: too low and this would be more challenging but it may be the only thing available in some settings.*
*Patient fear of the activity could prevent him from leaning forward making it more difficult.*
*Pain or fear of pain could influence this movement transition. This could be from a premorbid condition.*
*Cognition/communication: if the patient was confused or did not understand the directions.*
*Vision: patients with visual field cuts or low vision may struggle with this activity.*
*Hearing: a pre-existing or new hearing issue will interfere with full understanding of the commands.*

7. List all possible impairments that you think may be contributing to this patient's functional limitation of decreased ability to move from sit to stand. Use professional terms and be specific.

*Decreased range of motion into L ankle dorsiflexion*
*Decreased range of motion into L knee flexion and/or extension*
*Decreased range of motion into L hip flexion and/or extension*
*Decreased thoracic extension range of motion*
*Decreased sensation and proprioception of L side*
*Altered tone in L lower extremity: either hypotonicity or spasticity*
*Altered tone in L upper extremity and trunk*
*Potential for pain in L side*
*Potential for decreased vision or visual perception*
*Decreased strength/motor control L ankle pf/df*
*Decreased strength/motor control L knee extensors*
*Decreased strength/motor control L hip extensors*
*Decreased strength in trunk extensors and abdominals*
*Decreased static standing balance (this could also be considered a functional limitation)*

8. What examination strategies would you use to determine if the impairments are present or not?

*Strength: given apparent hypotonicity and UMN lesion, would expect to not be able to manual muscle test the L side. Would use observational description for motor control examination.*
*Could also use the Fugl-Meyer Scale for determining motor control of the LUE and LLE.*
*The R side appears to be appropriate for manual muscle testing and this should be included in the upper and lower extremity to determine ability to use an assistive device and for functional activities.*
*Range of motion: full examination in supine of passive range of motion using goniometer as indicated.*
*Tone: modified Ashworth scale could be used to determine influence of tone in the L side.*
*Pain: depending on presentation could use the NPRS scale or the Wong-Baker Faces Scale for pain.*
*Sensation: should examine light touch, hot/cold, and proprioception in sitting or supine. Compare impaired side to intact side as specifically as possible.*
*Coordination: can easily test the R side but the LUE appears plegic and cannot be tested. The LLE appears to have some active movement but coordination testing such as heel to shin and toe tapping will be heavily influenced by the patients motor control.*
*Balance in standing: should take into account base of support, UE support and eyes open and closed.*

9. As you begin to treatment plan, determine how the task and the environment will influence this patient's motor output. Remember to include things like feedback, task set up, practice conditions, verbal and tactile cueing, etc.

*Students should be considering how they will set up their intervention from a motor control standpoint. Will they use an open or a closed environment and why? Will they give the patient immediate verbal feedback and why? They can discuss intrinsic versus extrinsic feedback as well as knowledge of results and knowledge of performance. Will they set up the intervention to include massed or distributed practice and why? Being able to justify their rationale for their intervention demonstrates the appropriate critical thinking.*