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Introduction to Observation Skills

The following information will help you to improve your observation skills, the most important skill in gathering information. Skilled observation begins the moment you see your patient for the first time and continues during every treatment session; throughout the course of therapy. The more skilled you are at observation, the better therapist you will be. Therapists with exceptional observation skills will more readily identify key problem areas as well as incremental changes in progress.

Remove extra layers of clothing
It is much easier to identify asymmetries if you can look at bony prominences or actual creases and folds in the skin. Ask your outpatient to wear a tank top or swim suit under their clothes to make the evaluation easier. It is important to respect your patient’s privacy, so the evaluation may take place in their room, behind a curtain in the therapy area or in a quiet evaluation room.

Determine the base of support
How the patient sits or stands can affect symmetry or asymmetry throughout.

The base of support can include any contact your patient has with a weight-bearing surface.

1. Are both feet flat on the floor?
2. Is their weight evenly distributed or are they sitting or standing with their weight on one side more than the other.
3. Are they resting against the back of the chair or are they seated without a back support.
4. Do they use one or both upper extremities to support themselves?
5. Are they seated on a support surface that is firm or soft?

A more accurate assessment of symmetry in sitting is possible when the patient sits on a firm surface, such as a solid mat table or bench. A patient sitting on a soft, high hospital bed, without support through their feet will demonstrate different problem areas than a patient sitting on a mat table, with their feet flat on the floor.

A wheelchair with a solid seat will encourage more symmetry in sitting than a wheelchair with a ‘slung out’ seat. A seat with poor support contributes to internal rotation and adduction of the lower extremities. Soft surfaces also impair weight shifts in sitting making lateral movements difficult.
Observations of Asymmetry

Observe the patient from the front, the side and from the back. Begin with the base of support, noting any asymmetry in weight bearing through the hips. In your mind’s eye, draw three lines: one at midline, along the spine, one at the pelvis and one at the shoulders.

Look for deviations from midline

- Is the head in midline or off to one side?
- Is the medial border of the scapula equal distance to the spine on both sides?
- Is the scapula more pronounced on the involved side?

Look at the position of the pelvis and height of the shoulders to help determine asymmetries. Look for any clues or ‘red flags’ of asymmetries that help determine problem areas that need to be further investigated. The asymmetry doesn’t tell the cause of the problem but it does help determine that a problem exists.

Evidence of Asymmetry

- unilateral creases or skin folds
- bony prominences
- muscle atrophy
- position of head
- height of shoulders
- position of pelvis
- position of upper extremities
- position of lower extremities
Observations of Clint

While observing Clint we can gather even more information.

- From the front, Clint looks fairly symmetrical.
- From the side, look at the position of the pelvis. It is not uncommon for stroke survivors to sit in a posterior pelvic tilt. When the pelvis is tipped posteriorly, the head and neck compensate by coming forward. This posture, although common, will affect the patient’s symmetry, trunk control and ability to move from sit to stand. It can also affect their breath control, ability to swallow and vital capacity.
- Continue to observe from the back. Observe proximal to distal, noting any asymmetry in the upper or lower extremities. Are the lower extremities positioned symmetrically? Or, is it in abduction with external rotation? How is the upper extremity postured at the shoulder, elbow, forearm, wrist and hand?

Dynamic Observations

Observations made while the patient moves are called dynamic observations. If your patient appears fairly symmetrical during static observation, it may be easier to see problems during dynamic observation. Continue to follow the procedure, as before. Complexity increases as more elements are added to the description of how the patient moves. When evaluating your patient during movement, look at both sides. Do they “hold” or “brace” with the non-involved side? Is there any limitation of movement?

Look carefully as you describe your patient’s movement components.

1. Identify the starting position (sitting, standing, sidelying or supine).
2. Identify each joint and their direction of movement or combinations of movement.
3. Describe if their movement is through full range or partial range.
4. Describe the quality of movement on the non-involved side.

Describe the quality of movement of the involved side.

1. Does the patient move with selective, isolated control?
2. Are the movements in a pattern?
3. Describe the pattern of movement.
4. What movements or combinations of movements is the patient able to do?
5. Look proximal first and then more distal.
6. Continue to look from the front, the side and the back.
7. Ask your patient to move their sound side.
8. Compare the movement of the two sides.
W3 Patient Observation: Clint

1. **Describe Clint's base of support.** Include weight distribution, surface support, and position of upper and lower extremities.

2. **Observing Clint from the side, describe the position of his pelvis.**

3. **Describe any asymmetries noted.** Include creases or folds, position of head, height of shoulders, position of scapula, and upper and lower extremities.

4. **Describe Clint's movement during dynamic observation.** Include quality of movement (selective control or synergistic movement)

   - **Trunk**
   - **Shoulder**
   - **Elbow**
   - **Forearm**
   - **Wrist**
   - **Hand**

5. **Are there any limitations noted in the non-involved side?** Please describe.

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The Problem Solving Begins!
We've gathered a lot of information and now it's time to make sense of it all. With clinical reasoning the problem solving really begins! During Clinical Reasoning we need to identify and prioritize key problem areas. We determine the source of each problem based on our observations and interpretations, in order to develop the most effective treatment program.

Identifying the Key Problem Areas
To treat hemiplegia most effectively, it is essential to first identify key problem areas so that the treatment is specific to the primary underlying problem. Evaluating a patient and identifying key problem areas are the equivalent of doing good detective work. Treating a person recovering from a stroke is complex and many problem areas are associated with adult hemiplegia.

Key problem areas are determined through interview, specific observations, handling and moving the patient. I make sure that I compare and contrast the patient's movement with normal movement. As a therapist, your ability to analyze normal movement and the components of normal movement within a functional context are essential to good evaluation and effective treatment. Be specific in your analysis and description of problem areas.

Prioritizing Key Problem Areas
Next, prioritize the identified problem areas. Select two or three key problems that, if remedied, would have the greatest overall impact on your patient's functional status. Determine which key problem areas can be realistically treated in your setting. Keep in mind time constraints such as the patient's tolerance to activity, length of stay and financial considerations.

Do not assume that the loss of motor control will always have the greatest impact. Sensory loss, fear, neglect or cognitive impairment also could be key problem areas. The two most important prognostic indicators in determining my patient's ability to function are cognition and sensation. If my patient has good cognition and good sensation, they have a much better chance at becoming independent. If my patient has good motor recovery but poor cognition and sensation, they are less likely to be safe and independent.

With the following patients we'll combine what we see, what we hear and what we feel and begin the clinical reasoning process.
Interpretation: Determining Underlying Factors (Impairments)
It’s important to separate interpretation from observation. All of us should have seen basically the same things when we observed Clint and Alice. However, how we interpret what we have seen can be very different. How we interpret the information we’ve gathered is based largely on our knowledge and experience. If you have one year of experience in the acute care hospital and seldom see a stroke patient more than one week post stroke, your interpretations will be very different from a therapist who has ten years of experience working with a stroke patient over a period of several months in inpatient, outpatient and home health.

Look at movement patterns that are deviations from normal and begin to ask yourself "Why?” The same holds true for asymmetries noted. Asymmetry tells us there’s a problem but doesn’t tell us the cause. We need to determine the source or the cause of each problem before we can plan an effective treatment program. The source of the problem can also be described as the underlying factor or impairment. Once underlying factors are identified it is much easier to plan our treatment strategies.

Underlying factors or impairments related to stroke

- motor control
- sensation
- perception
- cognition
- communication
- environmental factors

Impairments that occurred prior to the stroke may include:

- surgical procedures
- previous injuries
- secondary diagnosis

Examples of Observation and Interpretation
We noticed in the Evaluation segment that Tom’s head was not in midline and that Clint had a winged scapula. I take these observations and think “why?” What could be some possible reasons? What are the underlying factors? We should all see the same problems but we may each think of different reasons why the problems exist. The answers to "Why?” help me to interpret my observations and form the basis of my clinical reasoning.

The following could be reasons why a stroke survivor’s head would not be in midline:

- tightness of the upper trapezius
- compensation for visual field deficit
- neglect or disregard
- midline orientation deficit
- uneven weight bearing and the head 'rights' to one side as a result
Let’s take another example of a problem that is not uncommon in hemiplegia; winging of the scapula. We’ve all learned in school that the most common reason for a winged scapula is weakness of the serratus anterior. This may be true of a patient with orthopedic involvement, however, in hemiplegia, winging of the scapula is often caused by increased tone of the internal rotators of the humerus. Abnormal tone of the subscapularis is a likely cause of internal rotation of the humerus resulting in winging of the scapula.

Why is it important to know the cause? It’s important because how we interpret or determine the underlying factor as the source of the problem will affect the kind of therapy we do in treatment. If the patient has weakness of the serratus anterior, then we need to facilitate and strengthen that muscle. However, if the underlying factor is related more to high tone of the subscapularis, then, in therapy, we need to work on reducing tone of the subscapularis in order to be the most effective.

Observations and interpretations During Function
Some observations of problem areas are seen within a functional context. A patient might have difficulty standing up. The problem has already been identified, but the source of the problem hasn’t. So, I begin the problem solving process again. I think “why”? If I can identify the source of the problem or the ‘underlying factor’, then I will have a much better idea of specifically what to do in therapy.

What are some factors which could contribute to the difficulty in coming from sit to stand?

- Is it the patient’s inability to come forward?
- Are they limited in hip or trunk flexion?
- Is the patient fearful?
- Is it the position of their feet?
- Do they have limited ankle dorsiflexion? If so, what is the cause of that limitation?
- Do they have a shortened Achilles tendon? Why?
- Are they wearing an orthotic device? Is it limited to 90°, which would limit dorsiflexion?
Preparing for Function: When Weight Bearing is Painful

Preparation for function is also extremely important if you observe any discomfort or restricted movement during your treatment session.

Dale is a good example of just how important it is to modify treatment based upon a patient’s response in order to properly prepare them for treatment.

Although Dale doesn’t have a history of shoulder pain, his discomfort became clear as I worked with him in Preparing for Function. During treatment I observed that Dale was not able to weight bear through the involved upper extremity due to discomfort around the shoulder structures. His treatment session needed to be modified in order to change the focus of Dale’s treatment session from upper extremity weight bearing to working in supine, putting muscles on length.

Modifying Therapeutic Methods Based on Patient’s Response

Dale has increased tone in his involved hand. Weight bearing is a good activity to prepare such an upper extremity for function. I put the muscles of his hand on length as I slowly opened it. He had full passive ROM. As his hand was slowly brought to the mat table, Dale expressed discomfort. Although I was surprised by Dale’s expression, it is not uncommon for patients to experience some discomfort in shoulder abduction. This pain must be resolved before beginning weight bearing in sitting. Dale needs more preparation.

Supine is a good position to prepare the shoulder for abduction. The shoulder girdle is supported and any chance of impingement is minimized while putting muscles on length. As the muscles are put on length, ROM increases allowing for pain free movement at the shoulder.

After working in supine, it is now time to evaluate the effectiveness of treatment. Dale returns to a sitting position and I carefully bring the arm into horizontal abduction. Again, I have Dale try weight bearing through the upper extremity.

I observe his response to see how he tolerates it. Dale is apprehensive at first.

He begins to bear some weight through his involved upper extremity. It’s getting easier and easier with each weight shift. Dale is now able to weight bear without pain.

Dale is now well prepared for a functional activity. A task incorporating these movements would be an excellent choice.

*Pause and Practice* labs 12 and 13 illustrate extremely helpful techniques useful in reducing and preventing shoulder pain caused by soft tissue tightness.
**12 Pause and Practice:**

**Reducing Soft Tissue Tightness of the Shoulder**

This technique is extremely helpful in reducing shoulder pain caused by soft tissue tightness. It can also be helpful in preventing shoulder pain by putting the muscles of the trunk and shoulder on a gentle stretch.

If your patient has tightness around the shoulder, or complains of pain in weight bearing, you may want to work on slow stretching in preparation for weight bearing. Remember, always move to the point of any resistance or discomfort and no further. Watch the patient’s facial expression for any signs of pain or discomfort.

**Starting Position**
- Begin with the patient in supine on the mat table.

**Handling**
- Gently bring the knees and hips into flexion. Place the feet on the table.
- Let the involved arm rest on the mat table.
- Slowly move the knees to the side, putting the muscles of the trunk on length.
- Hold at end range for 10 to 15 seconds, or as the patient tolerates. Do not force ROM.
- Gently bring the knees to the opposite side, with a slow and gentle stretch to the trunk.
- Never go past the point of discomfort.
- Repeat, moving the knees side to side.
- Carefully bring the arm into slight abduction, working only within a pain-free range.
Pause and Practice:
Increasing Upper Extremity Horizontal Abduction of the UE in Supine

This is an excellent way to prevent or treat soft-tissue tightness of the shoulder.

Starting Position

- Begin with your patient lying on the mat table in supine. Hips and knees are flexed with the feet on the mat table. Preparation includes putting the muscles of the trunk on length. (See Pause and Practice §12)

Handling

- Support the weight of the arm tucked into your side at the elbow and under the scapula. Do not pull on the arm; just cradle it next to you.
- Gently but firmly begin scapular mobility in elevation/depression and protraction. Go to end range, within a pain-free range.
- As the scapula glides, you are now ready to try horizontal abduction of the upper extremity.
- Slowly and carefully lower the arm down to the mat table. Go slowly, a shoulder can be painful when lowered.
- With the arm supported on the mat table, once again gently rotate the trunk and lower the knees. Repeat, each time increasing the range of abduction to tolerance.

Tip

If you want to maximize horizontal abduction and give greater length to the pectoralis, bring both arms into horizontal abduction.

- Gentle slow stretches will be helpful.
- With any increase in tone or pain associated with tightness, be sure to work slowly and carefully.
- Your hands should be firm but never forceful.
Every step we've covered so far, from Evaluation to Clinical Reasoning to Establishing Goals and Preparation for Function has laid the groundwork for the final step: Treatment Using Functional Activities. This section demonstrates the process used to select functional activities and how to incorporate them into your treatment program.

Developing an Effective Treatment Program Utilizing Functional Tasks
Selecting therapeutic activities taken from real life situations provides more opportunities for patients to improve their functional abilities. Real life activities also include many problem solving opportunities for the patient. The ability to problem solve is extremely important and is required for your patient to become truly independent. Activities or tasks taken from daily functional routines are especially helpful in:

- facilitating upper and lower extremity movement
- shifting weight to the involved side
- putting muscles on length
- addressing cognitive/perceptual deficits.
- providing problem solving opportunities

I will explain the most important concepts of functional treatment while treating our 4 patients:

With Tom I will teach the important factors to consider in choosing a task and also how to facilitate movement during the activity.

As we watch Clint we will learn how to modify an activity to get the most normal movement possible and we’ll address one of the problems that Clint would like to have solved.

Alice’s treatment session will provide an opportunity to observe difficulties that happen during treatment and how to resolve them.

And during Dick’s treatment session our focus will be on developing in-depth observation skills within a functional context. We’ll also measure improvement and see functional changes within one session.
**Functional Therapeutic Activities Taken from Real Life**

- Helps patients to ‘bridge the gap’ between skills acquired in therapy and skills needed for home
- Provides a functional basis helping patients better understand the purpose of therapy
- Improves learning and follow through

As therapists, we must create a treatment program which best prepares stroke survivors to take the movements they have learned and begin to use them functionally on a day-to-day basis. Activities such as stacking cones, doing puzzles or playing games don’t provide the essential information needed to plan and carry out functional tasks required in daily life.

Creating this treatment environment does not require expensive equipment or a special treatment space. It does require a well thought-out plan. The activities chosen, the way they are presented to the patient, and the therapeutic handling methods used will lay the foundation for attaining our ultimate goal.

Now let’s go through the process of developing an effective treatment program using functional tasks.

From our initial assessment and evaluation, we have identified our patient’s key problem areas. We then prioritized these problem areas, determining which will have the greatest impact on attaining functional recovery. We established treatment goals based on the key problem areas identified.

We have determined the underlying factors and impairments that need improvement and have begun a treatment program addressing those needs during the Preparing for Function stage. The therapeutic tools used during Preparation for Function in this stage are not typically taken from real-life situations.

We must now go to the next level; using Functional Activities, tasks taken from real-life situations, in order to accomplish our goals.
Factors to Consider in Choosing an Activity

- Select an activity that elicits similar movements to those facilitated during preparation for function.
- Select an activity that is at the appropriate cognitive level for your patient.
- Select an activity that requires problem solving.
- Select an activity that is familiar to the patient.
- Select an activity that is meaningful to the patient.
- Avoid activities that require precision.
- Select an activity the patient can complete in one treatment session.

Environmental Factors

The environment is also an important consideration. A quieter environment with fewer distractions will enable patients to focus and concentrate better. Most of us are able to screen out extraneous stimulation such as loud noises, bright lights and other distractions. But patients with perceptual-cognitive deficits may have difficulty focusing and often do better with a quiet room or environment.

The environment also provides additional information and helps patients better understand what is expected of them. Patients with language deficits or poor cognitive skills will do better if the environment (not just the therapist) helps provide this information. For example: patients will stand for a longer period of time if they are shaving in front of the bathroom sink. Patients will also be better at planning a meal if they are in the kitchen, not the clinic.

The objects selected and the materials used during functional activities are also components of the environment. The task selected should use objects that best relate to the desired movement components. For example, if your patient has high tone in finger flexion and the goal is for your patient to improve gross grasp while regulating muscle tone, select an object that is rigid (plastic or glass) rather than soft (paper or Styrofoam). A paper cup would not be the best choice for regulating muscle tone during gross grasp.

And, finally, use the real objects normally used during functional tasks. Using real objects promotes more normal patterns of movement and stroke survivors with cognitive impairment or language deficits will better understand what is expected of them during your treatment session.

Daily Routines

To get the best results, try selecting functional tasks that are part of your patient's normal daily routine. This routine can be the patient's routine at home (if you are doing home health) or what is now their routine within the facility (acute hospital, inpatient rehab or skilled nursing facility). Your patient will find the therapy session more meaningful and exhibit potentially greater gains when functional therapeutic tasks are "time appropriate". ADLs such as dressing should be practiced in the morning, not in the afternoon. Treatment programs related to oral motor facilitation would suggest that you schedule your therapy session before mealtime, not afterwards.
Facilitating Motor Control During Activities

Using functional activities as a tool for improving motor control can be extremely complex. The integration of all sensory systems during a functional task is difficult for stroke survivors with cognitive, perceptual, sensory, language and motor planning deficits. Keep in mind the following suggestions as you attempt to facilitate motor control during functional activities.

- **Select a position to work in: sitting or standing.**
  When making this decision, consider the patient’s level of endurance, trunk and lower extremity control. Determine the movement(s) you want to facilitate and the position (sitting or standing) that would be most appropriate. Consider the movement that would normally be required for the task or activity you’ve chosen.

- **Begin with your patient in a good starting position.**
  Be exact. Look at foot placement; are the feet flat on the floor? Are the feet too far apart or too close together? Is the patient’s weight evenly distributed over both feet? Observe the position of the pelvis. Is the pelvis in a neutral position or is it in a posterior pelvic tilt? How is the patient’s head positioned? In midline? Position yourself on their involved side for safety.

- **Position the task to facilitate the desired movement.**
  The position of the task relative to the position of the patient is one of the most important factors to consider in facilitating movement during a functional activity.

  If you want to facilitate weight shift toward the involved side, place the activity on that side.

  If you also want to encourage lateral trunk flexion while they are shifting weight toward the involved side, place the task lower than table height. If you want to encourage elongation of the trunk on the involved side, place the activity above table height on the involved side.

  If you want to encourage trunk rotation, position different components of the activity on both sides of the patient. This can easily be done in sitting or standing.

  If you want to facilitate weight shift forward, place the activity in front of the patient. To encourage trunk extension, place the task in front of the patient at table height or higher. To encourage trunk flexion, place the task in front of the patient, lower than table height.

- **Work proximal to distal.**
  Begin with facilitation of trunk control. Remember, the narrower the base of support, the more trunk control is required. If your patient is functioning at a low level, frightened or unstable, broaden their base of support by weight bearing through both upper extremities and lower extremities. If your goal is to increase trunk activity, begin to decrease and eventually eliminate upper extremity weight bearing.

  We also work proximal to distal when facilitating movement of the extremities. It is important to have scapular stability for better hand function and pelvic stability for lower extremity control. However, if my patient is beginning to get distal return before proximal return, I will use the movement they have to get more proximal control.
• **Incorporate the upper extremity into functional activities.**

As you take the patient through the activity, facilitate (see *Preparing for Function*), inhibit and guide as needed. Whether the involved hand is low tone, high tone or beginning to move, never miss an opportunity to incorporate the hand into the activity in one or more of the following ways.

1. **Weight bearing/Stabilizer**

   Incorporating the involved hand into a functional task can be as simple as placing the arm on the table to support it in weight bearing or by stabilizing an object. Patients positioned in this way are more likely to spontaneously incorporate the involved extremity into a task.

   **Benefits of weight bearing**
   - facilitates weight shift toward the involved side
   - encourages use of the involved side
   - improves awareness of the involved side

2. **Guiding**

   Guiding is very effective in improving motor control and awareness of the involved side. Guiding helps the patient better understand what is expected of them, without the need for verbal cueing. Guiding by the therapists encourages more normal movement patterns and is very effective for patients exhibiting aphasia, apraxia, motor planning problems and visual field deficits.

   **Benefits of guiding**
   - promotes normal sensory information
   - facilitates normal patterns of movement
   - encourages compensation for visual field deficits
   - reduces the need for verbal cues

3. **Bilateral**

   When a patient uses both hands together, at the same time, it helps improve awareness of the involved side and better integrates both sides of the body. This can begin early in the rehabilitation process.

   Bilateral activities can be very effective in encouraging dynamic trunk control. When both upper extremities are used bilaterally during a task (in sitting or standing), the patient is required to activate the trunk due to a narrower base of support.

   **Benefits of bilateral use of the arm**
   - allows the patient to incorporate the involved UE without assistance from the therapist
   - promotes symmetry
   - facilitates dynamic trunk control
• **Evaluate the patient’s response.**
  While facilitating movement during functional activities, you may notice movement patterns that don’t appear to be “normal”. First, determine if the movement is abnormal (related to underlying factors found during *Clinical Reasoning and Evaluation*) or if the atypical movement is just a variation on normal.

If you determine that your patient’s atypical movement patterns need to be modified during the task to elicit better results, try the following:

- Modify the position of the patient.
- Modify the position of the task.
- Adjust the complexity of the task.
- Take a moment to inhibit or regulate tone.

**Utilize Movement Components into Other Tasks**
It is important that your patient learns to use the movement or skill that they have practiced and developed into other situations. In order to do this, select another task that requires the same movements to improve their skill, don’t just repeat the activity.