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StrokeHelp®

TREATMENT STRATEGIES IN THE ACUTE CARE OF STROKE SURVIVORS

By Jan Davis, MS, OTR/L

UNIVERSITY EDITION
FACULTY GUIDE

About the Author & Presenter

Jan Davis, MS, OTR/L, is an internationally recognized leader in educational programs for health care providers, families and caregivers of stroke survivors. She founded International Clinical Educators in 1983 and since then, faculty, students, and therapists have attended her workshops and used her training materials worldwide.

About International Clinical Educators, Inc.

ICE is dedicated to providing high-quality educational programs for occupational therapists, physical therapists, nurses and assistants working with stroke survivors. All programs are designed to give practitioners practical treatment ideas that can be used in acute care, rehabilitation, skilled nursing, outpatient and home health settings.

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Also available:

- Teaching Independence: A Therapeutic Approach to Stroke Rehabilitation
- Functional Treatment Ideas and Strategies in Adult Hemiplegia

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How to Use this Learning Module

This program is designed to be interactive, meaning you will need to carefully read the information in each chapter of this Workbook and then watch the corresponding videos.

The purpose of this independent learning module is to provide guidelines for safe and therapeutic strategies for therapists working with stroke survivors in the acute care setting. Every effort has been made to present the content of this learning module in clear and manageable units of information. It is the responsibility of every therapist to seek medical advice and follow safe guidelines when determining the best treatment for individual patients.

All stroke survivors in this program are actual patients in an acute care hospital. The assessment and intervention methods were filmed as they occurred and are demonstrated by the patient's own physical therapist, occupational therapist, speech-language pathologist and/or nurse. All patients and their family members gave full consent to being filmed in order to help educate and train other practitioners who care for stroke survivors.

Behavioral Objectives

At the completion of this Learning Module, the participant will be able to:

- Diagram the components of the International Classification of Functioning, Disability and Health (ICF) and describe how each applies to the assessment and intervention of the stroke survivor in the acute care setting.
- Name the four primary guidelines for safe and optimal care.
- Describe the six elements in the continuum of acute care.
- Name at least four observable symptoms of acute distress that a stroke survivor may exhibit.
- Demonstrate how to safely facilitate bed mobility and sit to stand with a stroke survivor.
- Demonstrate how to mobilize the scapula (while the patient is in a supine position) in elevation/depression, protraction/retraction and upward rotation/downward rotation.
- Name four symptoms of aspiration.
- Describe how a patient with aspiration precautions should be positioned.
- Describe two examples of therapeutic intervention for stroke survivors while treating: bedside, sitting at the edge of the bed, sitting in a chair and standing.
- Identify and describe the purpose of six different pieces of equipment commonly seen in the ICU.

Program Guide

Introduction to Acute Care	Time	Worksheet
Introduction to Acute Care	6:00 minutes	
SAFE Guidelines for Optimal Care	7:00 minutes	
ICF: The International Classification of Functioning, Disability and health	4:00 minutes	
Six Elements in the Continuum of Acute Care	11:00 minutes	
Assessment in Acute Care	**Time**	**Worksheet**
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Intervention in Acute Care	Time	Worksheet
Guidelines for Therapeutic Intervention In Acute Care	3:45 minutes	
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Bed Mobility: Rolling	2:30 minutes	
Bed Mobility: Supine to Sitting	4:15 minutes	
Bed Mobility: Sitting to Supine	1:30 minutes	
Sit to Stand: Moderate Assist	3:00 minutes	
Sit to Stand: Maximum Assist	2:00 minutes	
Sit to Stand: Two Person Maximum Assist	2:00 minutes	
Scapular Mobilization: Elevation	2:45 minutes	
Scapular Mobilization: Protraction	4:00 minutes	
Scapular Mobilization: Upward Rotation	3:45 minutes	
About Us	1:00 minutes	
Closing Credits	1:30 minutes	

Introduction to Acute Care

This Workbook is designed to provide safe and effective guidelines of care in the acute care setting for you and your stroke survivor. The demonstrated methods of assessment and intervention (in video format) are taken from the hospital setting but can be used for stroke survivors in any setting.

The guidelines, illustrations and tips are suggestions for a treatment strategy organized in a progression of care beginning with assessment and continuing through intervention. These are only guidelines. It is extremely important that you consult with the medical team at your hospital and follow protocols and medical guidelines specific to your facility.

To complete the independent learning module, view the videos that accompany this Workbook. The specific title and length of each video segment is listed in the “Program Guide.”

The general content areas are divided as follows:

- Introduction to Acute Care and Assessment Guidelines
- Therapeutic Intervention and Treatment Ideas
- The Intensive Care Unit (ICU)
- Practice Labs

The Stroke Team

From the moment a person is admitted to the acute care hospital with a stroke, the acute care team is put into motion. Diagnostic tests are ordered and reviewed by physicians. The appropriate medical management is determined and carried out with the help of the nursing staff, and discharge plans begin. Social workers help the entire team by providing critical information related to family support and home conditions.



The average length of stay in the acute care hospital for the diagnosis of stroke is approximately 4-5 days. The plan of assessment and intervention is influenced by 3 distinct factors in the acute care setting:

- Medical Stability
- Urgent Discharge Planning
- Time Limitation

Most urgent is the patient's medical management. The medical management of acute stroke focuses on diagnosing and minimizing the progression of the stroke, treating any secondary complications, and identifying the source for the purpose of preventing a recurrent stroke.

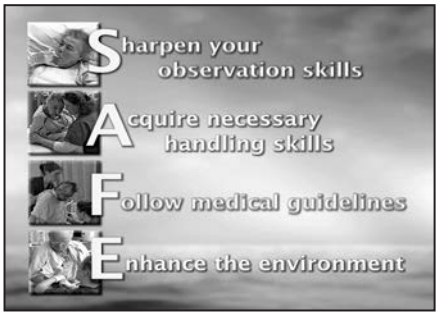
Therapists receive doctors' orders and become key players on the acute care team. Attending physicians look to therapists for their opinions on the rehabilitation prognosis of a stroke survivor and recommendations related to their care. Therapists assess functional changes on an ongoing basis, providing physicians with critical information about responses to acute medical management and providing the team with critical information about discharge planning.

Trained and experienced therapists have excellent evaluation and prognostic abilities and provide critical insight into acute medical management and rehabilitation decisions. These insights are especially important when the acute care team is considering discharge plans.

SAFE Guidelines for Optimal Care

During the assessment and intervention of the stroke survivor, and as recommendations are made regarding discharge plans, *safety is key*.

The following **SAFE** guidelines provide the foundation for this learning module and will be used throughout the program.



Sharpen your observation skills
Acquire necessary handling skills
Follow medical guidelines
Enhance the environment

Sharpen Your Observation Skills

Continually observe the patient and the patient's environment as you work. Sharp observation skills are fundamental for accurate assessment and intervention of stroke survivors, or any patient in the acute care setting. Sharp observation skills can even prevent medical emergencies.

Acquire Necessary Handling Skills

In order for you and your patient to be safe, you must have good handling skills. Safe and effective handling skills are demonstrated throughout this program. If you are ever unsure of your ability to manage a patient, stop and get assistance. Never put yourself or your patient in an unsafe situation.

Follow Medical Guidelines

Your knowledge of the patient's medical condition, medical management, precautions and contraindications must be current and up to date. Know your hospital's protocols when working in the intensive care and acute care units. Check with the nurse or doctor if you have any questions.

Enhance the Environment

The environment includes all therapeutic equipment, assistive devices, monitors, IV poles, call lights for nurses and even hospital beds. Use all items safely and carefully. Follow any specific guidelines established by your hospital. Be sure to add any adaptive equipment that can enhance safety for both you and your patient.

In order to effectively follow these **SAFE** guidelines, it is important to maintain a high level of competency while working in the acute care setting. Competency requires excellence in two areas, *knowledge* and *skill,* in order to provide the safest medical care for stroke survivors.

Providing Optimal Care: Increasing Your Knowledge and Skill in the Acute Care Setting

Acute care is a dynamic environment. New medical therapies and procedures are adopted on a regular basis. Therapists must continually increase their knowledge related to the medical conditions of all patients on their case load.

There are several ways therapists can acquire additional knowledge, specific to their patient, in the hospital setting.

Review Medical Records

Medical records are important legal documents containing confidential information about a specific patient's status and care. The medical record or chart is designed to communicate important information to team members caring for a particular patient.

Attend Team Rounds

Formal meetings between team members provide excellent opportunities to gather and share information. As members of the team report their findings, questions are asked and discussions take place enabling everyone to obtain critical information necessary for making informed decisions related to patient care. Typically the patient's physician, nurse, physical therapist, occupational therapist, speech-language pathologist, social worker and discharge planner attend rounds.

Participate in Informal Communication

Some of the most important information related to patient care is gathered during informal communication. Essential information is often learned while speaking with nursing staff, social workers, chaplains or other therapists in passing. Family members provide invaluable information regarding the stroke survivor's prior level of function, helping therapists determine recommendations for discharge placement and any further therapy. Therapists with sharp observation and listening skills become adept at gaining knowledge through informal communication.

Improve Therapeutic Skills in the Acute Care Setting

The key to safe treatment in the acute care setting is the therapist's ability to observe and assess the patient before, during and after treatment. Through careful observation therapists are able to determine whether their intervention has been effective or not.

Therapists often learn best from another therapist, a mentor or a clinical specialist. Make the necessary adjustments in your schedule to observe other clinicians and learn the necessary handling skills for safe and effective care of your stroke survivors.

Continuing Education

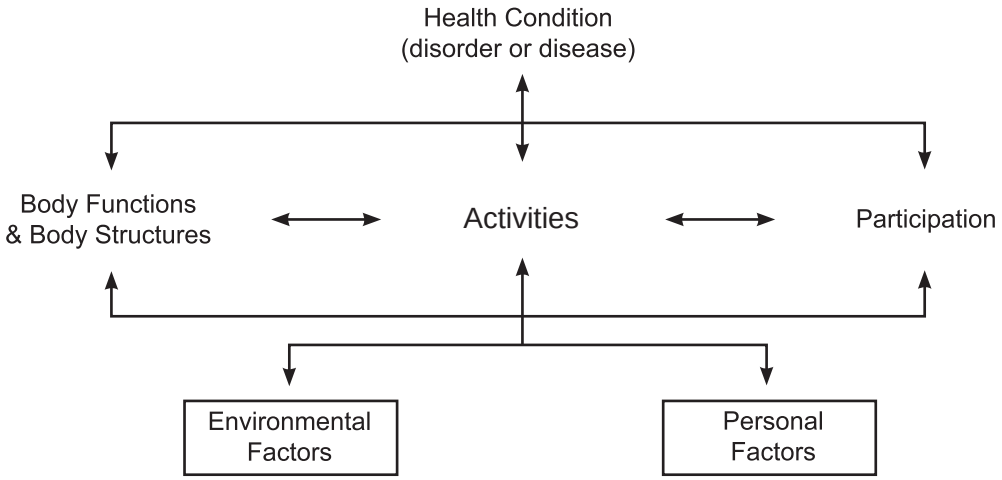
Academic training and daily interactions in the acute environment are not enough to keep abreast of the cutting edge in acute care. Therapists must be committed to increasing their knowledge and skill through continuing education. Continuing education may include attending conferences or seminars, participating in grand rounds, receiving departmental in-service training and staying current with the latest literature.

ICF: The International Classification of Functioning, Disability & Health

A Common Language for all Health Care Providers

In 1980 the World Health Organization began a system for classifying impairments, disabilities and handicaps that could be used internationally. This system, refined over the years, has evolved into the current model called the International Classification of Functioning, Disability and Health, known as the ICF (World Health Organization, 2001). Accepted by the World Health Assembly for international use in 2001, the ICF classification provides a universal language and standard framework for the description of health and health-related states.

Many hospitals and health care facilities use the ICF as a basis for diagnostic codes, documentation and reimbursement. The ICF also has a broader spectrum of applications. In addition to being used as a clinical tool, it is also used as a statistical tool, a research tool and a tool to study health care systems.



ICF and This Learning Module

Components of the ICF model are used throughout this learning module. The ICF is useful to therapists because it identifies and addresses specific impairments that affect a person's level of functional activity.

The ICF model describes a continuum of health and is comprised of six components: health condition, body functions and structures, activities, participation, environmental factors and personal factors.

Health Condition

The health condition describes the actual disease or disorder. This diagnosis is extremely relevant to all members of the team during assessment and intervention. A referral with the diagnosis of stroke requires therapists to have an in-depth understanding of the medical management, risk factors and the overall implications of the disease. Secondary diagnoses are equally important and require an equivalent level of understanding (for example, diabetes, osteoarthritis or any surgical procedure).

Body Functions and Body Structures

Knowledge of body functions and structures is especially critical to the therapist's assessment and intervention of the stroke survivor. Changes in anatomical structures and/or changes in physiological functions related to stroke must be carefully assessed before skilled intervention can begin.

In the ICF model, the body functions and structures most often associated with the therapeutic care of the stroke survivor are range of motion (ROM), sensation and motor function. Therapists use a variety of assessment tools to determine any impairments and to evaluate changes related to body functions and structures.

Activities

Activities are placed at the center of the ICF model. Activities describe functions typically associated with Activities of Daily Living (ADL) such as self-care, mobility and communication. When therapists describe improved functional outcomes, they are describing changes in that person's level of activity. Assessment tools such as the Functional Independence Measure™ (FIM), the Barthel Index and others can be used to determine a patient's level of function and to measure improvement in everyday activity.

Environmental Factors

Environmental factors such as the hospital room, monitors, assistive devices and medical equipment are extremely important in the safe and therapeutic management of the stroke survivor in the acute care setting. Environmental factors not only impact all components of functioning and disability, but also relate to the safety of the therapist during treatment. Therapists modify the environment and enhance therapeutic methods in order to improve the patient's level of function.

Personal Factors

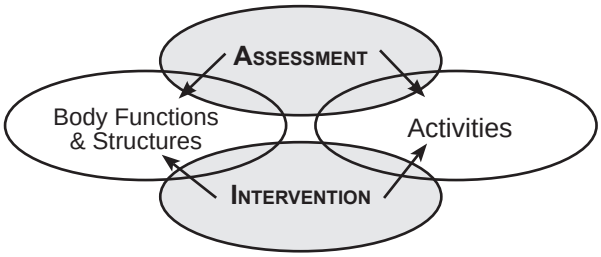
Personal factors such as age, gender, hobbies, lifestyle, and profession can be very important when planning a treatment program that is meaningful to the patient. It is not uncommon for a therapist to uncover important findings related to a patient's social history during the assessment and intervention process. These findings, shared with team members, can greatly influence patient care and discharge planning.

Participation

Participation refers to the level of activity as the patient participates outside of the hospital setting.

Assessment and Intervention of the Stroke Survivor Utilizing the ICF Model

In the acute care setting, assessment and intervention of the stroke survivor addresses two components of the ICF model: 1) body functions and structures, and 2) activities. The combined assessment of both components helps the therapist identify specific problem areas, establish a baseline, determine a plan of intervention and provide the team with information relevant to discharge planning. Therapeutic intervention emphasizes preventing complications that can diminish future functional potential while maximizing functional independence and safety.



Assessment of Body Functions and Structures

Motor function, sensation, ROM, muscle tone, cognition and swallowing are just a few examples of assessments that would be included in the ICF component of body functions and structures. Loss of motor function, sensory disturbances, swallowing deficits or problems related to vision would be considered impairments. Impairments of body functions and structures can have a significant impact on the level of a patient's ability to perform functional activities.

Assessment of Activities

The assessment of functional activities such as bed mobility, transfers, dressing, grooming and hygiene, eating and communicaiton are categorized under the ICF component 'activities.' As a therapist assesses the patient's level of functional activity, it is important to identify any related impairments.

Intervention Related to Impairments of Body Functions and Structures

Intervention of stroke survivors in the acute care setting typically focuses on therapeutic methods to improve motor function, strength, coordination, and compensation for visual field deficits. These therapeutic methods are used to increase awareness of the involved side, to prevent pain, and to maintain ROM of the upper and lower extremities. These examples of intervention are related to body functions and structures.

Intervention Related to Functional Activities

The potential for the patient to perform functional activities improves as impairments of body functions and structures are addressed. Improvement in strength, balance and awareness of the involved side will help patients better perform activities of daily living such as bed mobility, transfers, sit to stand, dressing, grooming and hygiene.

Six Elements in the Continuum of Acute Care

Assessment and intervention in the acute care setting is a continuum of components, beginning before the initial patient contact and continuing through each treatment session. The six elements are not always followed in a linear fashion and may flow from one element to the next and back again. Each element is critical to the **SAFE** and therapeutic management of acutely ill patients.

This chapter is designed to give the reader suggestions for each of the six elements in the continuum of acute care. Most of the ideas described in the six elements are practical tips from experienced therapists working in the acute care hospital and intensive care unit.

As you read this chapter take the information and apply it to your own experiences and work place, making modifications as necessary.

Six Elements in the Continuum of Acute Care

I. Review Medical Information

II. Observe the Patient and the Environment

III. Initiate Patient Contact

IV. Assess Body Functions and Structures

V. Assess Functional Activities

VI. Intervention

❖ I. Review Medical Information

The first element in the continuum of acute care begins even before the patient is seen. In preparation for the assessment, and to ensure safety, the therapist gathers important information. You must have a good understanding of the disease process and know what impact your treatment may have on any other medical conditions. Talk with the nurse if you have any questions regarding your patient's medical care or any planned procedures that may interfere with your treatment schedule. Before entering the patient's environment, be sure to do the following:

Review the medical records

Medical records include the medical history, daily vital signs, medications given, reports of test results, recommendations, and daily notes from nurses, doctors and therapists. Most importantly, for the therapist, the chart also contains doctor's orders, allowing the therapist to initiate treatment. In acute care settings, a patient's status can change quickly and, therefore, therapists should review the medical chart prior to each patient contact for updates as well as changes in orders. When reviewing medical records, pay close attention to the details. Look for inconsistencies or conflicting information. Follow up with the medical staff to seek clarification and answer any questions.

Look for the following in the patient's chart:

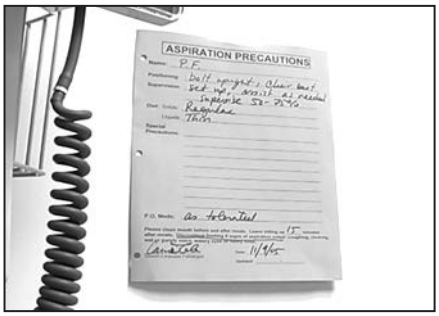
- new or revised orders
- diagnosis and past medical history
- any specific precautions which may affect treatment
- specific contraindications or precautions related to the medical condition
- recent progress notes
- prior level of function and living situation
- recent tests or lab results and their implications
- changes in medications and possible side effects
- significant changes in vital signs

❖ II. Observe the Patient and the Environment

The second element in the continuum of acute care begins with specific observations of the patient and the patient's environment. This is extremely important for the safety of the patient and for proper patient care. Interaction with the patient is not required during this element. Observations begin before the more formal assessment begins and continues throughout each therapy session.

Sharpen your observation skills. Look carefully for any clues to help determine problem areas that affect your patient's level of functioning. You should always scan the environment for any new information related to patient care. The better you are at observing, the better your decisions will be regarding safety, therapeutic intervention, recommendations and discharge planning.

Observations of the Environment



Is the patient's room located near the nurse's station?

Nursing will generally select rooms near the nurse's station for confused patients or patients who require frequent monitoring.

Are there signs or postings?

Signs and postings are important ways to gather information. Signs at the door or next to the bed help share information between all team members. For example, if a patient has specific precautions related to infection control or aspiration, signs will be posted where they are easy for everyone to see. Pay close attention to these signs for the safe and proper care of the patient.

What medical equipment is in the room?

Observe all medical equipment, monitors, lines and their placement. Note readings on the monitors before you begin. Make sure that lines hooked to monitors, IVs or catheters have enough length to allow you to move your patient. Notice whether there are seizure pads on the bed rails.

What is the placement of the bed in the room?

The orientation of the bed in the room will determine if your patient has the involved side or the less involved side toward the door. Depending on your assessment, you may request to make a change. Although a fearful patient may feel reassured being able to see the door by having their less involved side toward the door and be less inclined to climb out of bed, positioning the bed so the involved side is toward the door can help patients become more aware of that side. When the involved side faces the door, nurses and family members are more likely to approach the patient's weak side as they enter the room.

Are the lights on in the room? Are the window shades open or closed?

How the room is lit can provide clues to the patient's status. Many patients have sensitivity to light and prefer to keep the room darkened. Depressed patients may also prefer a darkened room. Check with the patient before brightening the room.

What is on the bedside table?
Observe the articles on the bedside table. Glasses, hearing aides, dentures, books and even the type of drink or food (and what has been eaten or not eaten) give the therapist more information about the patient and the patient's interests. If you need the table during the assessment, keep it close by.

Are there flowers, plants, get well cards or balloons in the room?
Therapists must determine what type of caregiver assistance is necessary and available should the patient be discharged to home. Cards and flowers indicate someone (family and/or friends) is involved in the patient's life who may be a potential caregiver if someone is needed. This information will be extremely important during discharge planning.

Observations of the Patient

Before entering the room, is the patient's door open?
If so, walk by and observe what the patient is doing.
Is the patient staring into space?
Is the patient picking at clothing, calling out, slumped in bed or positioned with a leg over the side rail?

Observations of such behaviors can provide important information before initiating patient contact and can alert you to the possibility of mentation, risk to fall or inability to follow directions.

Are there any indications of medical procedures such as a tracheotomy, chest tubes, sternal bandages, craniotomy incisions, shunts, or IVs?
If so, follow proper medical guidelines. Always consult with the nurse if you have any questions.

Are there restraints? If so, why?
Consult the medical chart or ask the nurse why the restraints were ordered. Follow your hospitals policies and procedures and be sure all restaints are in place once your treatment has been completed.

Does the patient appear anxious, uncomfortable or distressed?
Signs related to anxiety or discomfort may be obvious or subtle. The patient may be pale or sweating. Agitation (moving the head from side to side) may be medication induced or secondary to communication challenges, pain or confusion. Incontinence, skin irritation, wounds and poor or prolonged bed positioning can all contribute to agitation. Remember: the low functioning stroke survivor cannot tell you these things, so you need to think of all the potential irritants, both internal and external. Many patients have premorbid pain from arthritis, chronic back pain, fibromyalgia or other conditions. Discuss with the nurse or physician to see if the medications taken by the patient at home have been ordered.

Is the patient experiencing nausea?
Look to see if there is an emesis basin near by. If so, they may have a reaction or sensitivity to medication. Keep the basin, towels, a moist wash cloth and the call light within reach during therapy.

Does the patient look overly fatigued?

Fatigue may be related to the patient's medical condition, medications or busy schedule. Some patients have their nights and days reversed and are fatigued because they spent the entire night in the emergency room at the time of admission. Many team members will be making their initial contact during the first 24 hours to assess the patient. Had another discipline just been there for their initial assessment? If so, you may want to reschedule and allow the patient to rest before beginning your session.

What is the patient doing as you enter the room?

Specific observations can provide critical information as you proceed with your more formal assessment of strength, motor planning, vision, language skills, cognition, perception and level of functional activities.

For example, if the patient is eating their meal, observe the following:

- Is the patient eating independently or is assistance necessary?
- If so, what level of assistance?
- Is the patient using one or both upper extremities?
- Can the patient grip the utensils? (Observe finger flexion and extension).
- Can the patient bring the utensil or glass to their mouth? (Observe elbow flexion, supination, wrist extension).

❖ III. Initiate Patient Contact

As you initiate contact with your patient, continue your observations and follow hospital protocols. Most hospitals require the therapist to knock on the door and identify themselves by name and discipline before entering the room.

Practice **SAFE** guidelines throughout the session. Remember the four guidelines for safety during your assessment.

Sharpen your observation skills
Acquire necessary handling skills
Follow medical guidelines
Enhance the environment

Sharpen Your Observation Skills

- Check the patient's wristband for proper identification.
- Continue to observe the patient's general appearance and level of alertness.
- Observe rate and pattern of breathing.
- Observe color of skin and palpate skin temperature.

Acquire the Necessary Handling Skills

- Put the patient at ease.
- Follow guidelines for therapeutic use of self.
- Use critical listening skills.
- Develop trust and rapport to help the patient feel safe.
- Know your own abilities and limitations, what you can and can't do safely related to patient care, and, if needed, ask for assistance when mobilizing the patient.

Follow Medical Guidelines and Procedures

- Have a good understanding of the disease process.
- Know the impact the treatment may have on any other medical conditions.
- Be aware of any contraindications or precautions.
- Check with nursing staff before disconnecting any lines or monitors.
- Practice universal precautions.
- Wash your hands before you begin; use gloves if necessary.
- Get patient consent before beginning treatment.

Enhance the Environment

- Bring any necessary equipment (assessment tools, gait belt) with you.
- Place the call light within your reach, in case you need assistance.
- Use good body mechanics; change the height of the bed, if necessary.
- Position necessary items within reach; once your patient is sitting or standing, you do not want to leave their side to get something you've forgotten.

A patient's level of impairment and functional status can change as the result of your influence or other factors including the disease process, medications or fatigue. Some therapists find it helpful to visualize what they will do during the therapy session. This gives them a chance to practice before including the patient.

Orientation to time and place

Each time you see your patient, assess their orientation to time and place. An increase in confusion or disorientation could indicate a change in medical status. Methods for determining a patient's cognitive status can vary, using more or less formal assessments. Establish rapport and begin with simple, easy questions. "I just need to ask you a few questions. Can you tell me where you are?"

Therapists often develop their own particular 'style' for gathering this information, asking the patient to respond to a list of questions or, making it less formal, as a part of normal conversation. Get well cards or family photos in the room may help in asking questions related to orientation. For example, asking, "Do you know who this is?" Whether you follow an evaluation form, item by item, or glean the information in a less formal manner, it is important that your assessment is thorough and complete.

Whether your questions are a part of normal conversation or a more formal assessment, remember the following:

- Follow guidelines for therapeutic use of self.
- Put the patient at ease.
- Help the patient feel safe.
- Develop trust and rapport with the patient.
- Use good critical listening skills.
- Try to finish with an easy question.
- Ending on a positive note is important and helps calm the patient.

❖ IV. Assess Body Functions and Body Structures

The assessment of body functions and structures, the fourth element in the continuum of acute care, establishes a baseline for possible impairments of ROM, motor control and sensation that may affect the patient's ability to perform functional activities. Always follow the guidelines established at your facility for assessing and recording impairments related to ROM, strength, muscle tone and sensory status. For a complete list of descriptions and codes for body functions and structures included in the ICF, refer to the text "International Classification of Functioning, Disability and Health."

Tips for the Initial Assessment of Body Functions and Structures

Be prepared to adjust the length of your initial assessment.

Your session may be shortened due to factors including:

- Patient's level of fatigue.
- Scheduling of laboratory or clinical tests.
- Interruptions due to medical management by nurses or physicians.

Prioritize your assessments

Determine which assessments are most urgent and necessary for making discharge recommendations. Therapists working in the acute care setting often combine sensory, ROM and motor function assessments during their initial evaluation, moving seamlessly from one to the next. Combining assessments helps with efficiency of time and provides an impression of the patient's functional potential.

Organize the environment

Come prepared with the necessary equipment or tools to complete each assessment. Position the bedside table for better efficiency. Adjust the lights, bedding, pillows and bed rails, as needed.

Raise the height of the bed

Raising the height of the bed improves eye contact with your patient. A raised bed also provides better ergonomics for you, protecting your back. Be sure to explain to your patient that you are going to raise the bed, so your patient isn't startled or surprised.

Work distal to proximal

Your patient will be less anxious if you begin with the hands and feet instead of the trunk, pelvis and shoulders. For example, when testing sensation or ROM of the upper extremity, start with the hands. Your patient will have a better idea of what to expect as you work more proximally.

Begin with the less involved side

Begin your assessment with the less involved side. This allows you to establish a baseline of 'normal' for your patient before assessing impairment of the involved side. In addition, it will help your patient better understand what to expect as you move to the involved side.

Observe your patient as you move to the involved side

As you complete your assessment of the less involved side and move to the involved side, continue your observations. Note your patient's ability to turn their head and track visually. Is there any inattention or disregard indicating a possible visual field deficit?

Observe the involved limb before moving it

Look for changes in color, feel the temperature of the skin and note any swelling or edema. Compare your observations with the less involved side. (Once you begin to move the extremity, note any changes.)

Use firm (never forceful) handling

Support the weight of the limb firmly, with a flat or open hand. Do not squeeze the limb or use force. Move the limb slowly. Go only to the point of resistance. Stop if your patient displays any signs of discomfort.

Use less formal assessments

When patients don't understand what to do, it may be appropriate to use less formal assessments to determine sensory status or motor function.

For example, if your patient has difficulty following directions re: movement of the limbs, it may be appropriate to observe impairments by asking your patient to "Squeeze my hand" or "Bend your legs." How your patient responds gives immediate information re: motor function, ROM and ability to follow commands.
If your patient is unable to understand verbal instructions, demonstrate the movement for your patient while repeating the verbal cues. Some patients do better with tactile cues. Try passively moving the limb. This may help your patient initiate movement.

Use real life situations to assess impairments

Is the television on? Ask your patient to turn it off during the assessment. Observe their ability to hear you, follow directions, visually find an object and then manipulate it. As you observe, assess active range of motion (AROM), strength against gravity and problem solving abilities.

Ask your patient to report any pain or discomfort

Explain to your patient, "If anything hurts, or if you have any discomfort, let me know." Observe facial expressions and look for signs (anticipation of pain, wincing or withdrawing). If pain is present, stop. Ask your patient to describe it and try to determine the source of the pain.

Tips for Assessing Sensation

Assessing your patient's awareness and perception of incoming stimulation to the involved side is an important prognostic indicator for functional recovery as well as safety. Sensory tests may include light touch, deep pressure or kinesthesia.

When testing your patient's sensory awareness, allow the limb to rest comfortably on the bed. Keep verbal instructions to a minimum (patients often respond to the verbal cue instead of the touch). Allow your patient to keep their eyes open until you've established that they understand your directions. Once your patient comprehends your instructions, ask your patient to close their eyes.

The validity of sensory tests may be compromised by lethargy, medications that sedate the patient or communication deficits. In this case, less formal tests will quickly give you information regarding possible sensory impairments. Note your patient's response as you touch their involved side to get their attention. It is also important to observe sensory awareness of the involved side during functional activities such as bed mobility and self-care. Is your patient aware of the involved limb?

Tips for Assessing Motor Function: ROM, Strength and Muscle Tone

Follow recommended protocols when measuring ROM, strength and muscle tone with your patient. At times, it may be difficult to get an accurate assessment if cognitive, perceptual, language or sensory impairment is present.

Note the position of your patient during the assessment

Your patient's position (supine, sidelying or sitting) can influence strength (gravity eliminated vs. against gravity) and muscle tone. Modify the position of your patient, as necessary, to maximize your patient's response. For economy of endurance, start in supine, progress to sidelying and then sitting.

Begin with active ROM

Your patient's ability to do active ROM (of either extremity) will allow you to observe ROM, strength (against gravity or with gravity eliminated, depending on the position of the limb), coordination and motor control. Note movement that is purposeful as well as non-purposeful. Describe the movement. Is there involuntary movement influenced by atypical muscle tone? If so, do not assign a muscle grade; instead describe what movement your patient can or cannot do. Describe how the tone interferes with function.

Determine the consistency of your patient's response

Can your patient do the movement more than once? Does the muscle become fatigued? Are there fluctuations in tone? After two or three repetitions, does the pattern of movement change? Describe the inconsistency of movement.

Note patterns of substitution

Stroke survivors often substitute motion when weakness or irregular muscle tone is present. Some patients may move in a synergy pattern. Describe the pattern of movement.

Note limitation in ROM

If limitations are observed during active ROM, try to determine the cause. Limited ROM may be premorbid (look for obvious scars, check your patient's medical history), environmental (sheets, hospital gowns, clothing, and catheter lines may restrict movement) or a result of body functions and structures (swelling of the limb, muscle tone, shortened ligaments or connective tissue tightness).

❖ V. Assess Functional Activities

The assessment of your patient's functional status defines the fifth element in the continuum of acute care. Key activities such as mobility and self-care are assessed, allowing you to make safe and accurate recommendations for patient discharge from the hospital. If formal assessments are used, such as the FIM™, the Barthel Index or others, follow the protocols specific to each tool.

In order to maintain safety during the assessment of bed mobility, transfers, dressing, grooming and hygiene, the therapist often gives suggestions, verbal cues and/or physical assistance as necessary. As the therapist intervenes (and is no longer just an observer), the assessment becomes more dynamic. Dynamic assessment allows the therapist to make modifications to the patient and the environment at the time of the evaluation, resulting in safer care and, at the same time, preparing for intervention strategies.

Tips for the Assessment of Mobility

Bed mobility: scooting side to side

Scooting in bed is important to assess as it typically precedes the functions of rolling and coming to a sitting position. Therapits often see patients attempt to scoot in bed.

- Position your patient in supine.
- Observe the movements of the head, trunk and limbs as you ask your patient to "scoot over" in bed.

If assistance is required:

- Position the involved leg in hip and knee flexion.
- Stabilize one or both feet, as needed.
- Ask your patient to bridge, putting weight through both feet.
- Encourage your patient to use the less involved leg.
- Note the amount of assistance required.

For step-by-step handling methods, turn to the chapter on "Practice Labs."

Bed mobility: rolling

The assessment of rolling gives the therapist an indication of potential for a higher skill level. The ability to roll in bed is necessary to change position during bed rest (preventing pressure sores) and precedes coming into a sitting position at the side of the bed.

You can assess rolling in isolation (i.e., rolling for the sake of rolling) by asking your patient to roll to one side and then to the other. Or, you can assess rolling within the context of a functional activity by asking your patient to sit up. In either case, your observations of your patient's ability to roll will be entered into your assessment.

Bed mobility: rolling (cont.)

- Position your patient in supine.
- Prepare your patient to roll toward the involved side first. This allows for use of the less involved arm on the opposite bed rail to help roll into a sidelying position.
- Safely position the involved upper extremity forward, to avoid impingement at the glenohumeral joint. Make sure the involved arm is not pinned under your patient's trunk.
- Prepare the environment. Position any IV lines, drains, pumps and oxygen tubing as needed. Position the call light for the nurse within your reach.
- If your goal is to have your patient move into a sitting position at the edge of the bed, be sure to place bedside tables or a chair in a safe place with easy access.
- Next, have your patient roll toward the less involved side.

If assistance is required:

- Protect the involved arm as your patient attempts to roll toward the less involved side. Do not allow the involved arm to be "left behind."
- Some patients avoid rolling completely onto their involved side. This may be due to decreased awareness of the involved side.
- Some patients have difficulty rolling over the greater trochanter to get fully onto the involved side. Assist as necessary.

For step-by-step handling methods, turn to the chapter on "Practice Labs."

Bed mobility: sidelying to sitting

The activity of getting to the edge of the bed provides a wealth of information about your patient's body awareness, strength, coordination, tone and ability to follow instructions.

Ask your patient to tell you or demonstrate how they would get out of bed at home prior to their stroke. Use tactile and verbal cues to assist your patient for safety. Observe the involved side for any active movements this familiar activity might elicit.

Even a high level patient may have difficulty changing position from supine to sitting, especially for the first time. Always take your time, allowing your patient to change positions as gradually as possible. This can prevent or decrease the initial vertigo and/or nausea that some individuals experience following a stroke. Watch for sweating and/or changes in skin color or facial expression that may be early signs of nausea. Say to your patient: "Please let me know if you have any dizziness or nausea at any time during this assessment."

If a patient stops participating or becomes more dependent or requires more assistance with the task, it might be time to stop and have your patient lie back down. Remember, you still have quite a bit of work to do to get your patient repositioned well in the bed. If possible, have your patient actively participate throughout the session.

If during the assessment, you determine your patient to be unsafe, neglecting their involved upper extremity, or unable to motor plan for the activity, safely assist them back into a supine position. Determine if there was anything you could have done differently to be more successful. Begin again, if your patient has enough endurance, and guide them through supine to sidelying to sitting, instructing your patient on proper techniques to promote the return of function and safety. Often acute stroke survivors have only enough endurance to do the task once. Therefore, remember what went well and what could be improved during the next session.

For step-by-step handling methods, turn to the chapter on "Practice Labs."

Sitting at the edge of the bed

First assess whether your patient is ready to attempt sitting at the edge of the bed. This ability depends on trunk control, endurance, hemodynamic issues and the amount of assistance required.

Once your patient is sitting at the edge of the bed, position yourself on your patient's involved side. Lower the bed and position your patient's feet flat on the floor, in a weightbearing position.

Determine your patient's sitting balance and center of gravity. Is your patient pushing to one side or backward? Can they find or maintain a midline position? Note any pain, dizziness, nausea or double vision.

There are many ways to assess dynamic sitting balance, but it must be assessed carefully and methodically. Assess dynamic sitting balance by having your patient weight shift toward each side, beginning with the less involved side. Allow your patient to bear weight on an extended arm or forearm.

Most patients will brace with the less involved arm, broadening the base of support. Changing or narrowing a patient's base of support will challenge dynamic sitting balance and trunk control. To narrow their base of support, ask your patient to "Touch the top of your head" and observe trunk activity and balance.

If your patient is functioning at a higher level, challenge your patient with more information to the upper trunk and observe how your patient responds to outside forces. Ask them to "Hold the position" or say "Don't let me push you over."

An excellent way to observe and assess dynamic sitting balance is to have your patient do something functionally. Ask them to reach for an object such as the hairbrush. Begin by holding the object near midline and increase the challenge by moving it further away. Position the object higher or lower and note your patient's response.

Environmental factors must also be considered when assessing your patient's sitting posture and balance. Soft surfaces (such as an air mattress) do not provide the same support as firm surfaces, often making it more difficult for patients to shift or change position.

If at any time your patient becomes dizzy, tired or unable to participate, have them return to a supine position.

Sit to stand

In order to determine if your patient is ready to attempt sit to stand, assess the following:

- ability to sit at the edge of the bed
- midline orientation
- trunk control
- awareness of the involved side
- ability to follow verbal cues or gestures
- ability to feel the floor under their feet

Determine your own handling skills and your ability to stand a patient safely by yourself. Never attempt to stand a patient if you are unsure of your own ability. It is common for the therapist to ask for assistance from another therapist, nurse or assistant during the first attempt at standing.

Prepare the environment. Position the call light for the nurse close to you. Be aware of all IV lines, catheter lines, cardiac monitors or any equipment or monitors attached to your patient. Have your patient wear non-skid slippers or shoes. Have your patient stand next to the bed rail or a heavy, stable surface.

Many hospitals require their therapists to use a gait belt when standing a patient. If you use a gait belt, first check for precautions. Has your patient had abdominal surgery? Does your patient use an ostomy bag? Make sure the gait belt fits snugly. If it becomes loose during your task, adjust it as needed.

Observe the patient's size, facial expression and behavior. Is your patient fatigued or agitated? Tell your patient "Please let me know if you have any dizziness or nausea at any time."

If you are assessing sit to stand for the first time, you may have only one chance due to the patient's fatigue. One sit to stand is often all they can do, and a second attempt may be too much for the acute stroke survivor.

- Position yourself on the involved side.
- Have a second person assist, if needed.
- Observe how your patient prepares to come from sit to stand. What is the base of support? How are the feet positioned?
- From these observations, determine whether or not to proceed.

Continue your assessment.

- Identify how your patient shifts weight.
- Identify activation of trunk, hip and knee control.
- Note upper extremity and hand placement.
- Observe any compensatory strategies your patient may use.
- Observe changes in skin color, perspiration, facial expression.
- If, at any time you are unsure, have your patient return to a sitting position.
- Have your patient stand. Assist as necessary.

For step-by-step handling methods, turn to the chapter on "Practice Labs."

Standing

Stand securely on your patient's involved side. Be prepared to block the involved knee, as needed. Place your hands securely on your patient's trunk, placing one hand around the trunk and onto the hip of the less involved side. Your other hand may be at the involved hip, sternum or gait belt, as needed.

Strive for midline, bearing weight over both legs. Encourage bilateral hip extension by having your patient look at an object in the room. Maintain close contact at the trunk and pelvis.

Next, gently have your patient shift weight onto their involved leg and then back to midline. Be prepared to brace the knee. Assess the length of time your patient is able to stand and the amount of assistance required.

Standing is dependent on the strength, balance and endurance of the patient and the therapist. Have your patient return to sitting if you are tired.

Tips for the Assessment of Self-Care

The assessment of functional activities during self-care identifies the patient's ability to perform the actual tasks of dressing, grooming, hygiene and feeding. These functional tasks are inherently more complex, requiring many systems to work simultaneously. During the self-care assessment, you will be observing problems related to trunk control, upper and lower extremity strength, coordination, sensation, motor planning, visual perception, cognition, communication, memory and attention.

Precautions

Check for any precautions and follow medical guidelines before beginning the assessment of self-care activities. Here are a few common precautions seen in the acute care hospital.

Brushing teeth . . . . . aspiration precautions
Combing/brushing hair . . . . . surgical incisions on scalp (staples or sutures)
Shaving . . . . . anticoagulants (unless an electric shaver is used)
Washing face . . . . . nasogastric (ng) or oxygen tube
Washing limbs/trunk . . . . . IVs, EKG leads, surgical incisions
Upper extremity dressing . . . . . sternal precautions, precautions related to pacemakers

The order in which the various functional tasks are performed will be determined by the results of your previous assessments as well as any known precautions.

Begin your assessment with grooming and then continue with dressing. The assessment of grooming and hygiene can take place bedside, sitting at the edge of the bed or, for higher level patients, in standing at the sink. When moving from one position to the next, follow the guidelines established in the previous section on "Tips for the Assessment of Mobility."

Whether you are assessing dressing, grooming, hygiene or feeding, bring along all the supplies you will need and review all relevant precautions. Assess the amount of assistance required and identify all impairments that affect the patient's functional ability during self-care.

While your patient attempts functional activities:

- Note any environmental modifications or adaptive devices used.
- Note any compensatory techniques used.
- Note deficits in judgment or safety awareness.
- Note the use of one or both upper extremities, ability to grasp and reach for objects.
- Describe the quality of movement, strength and range of motion of both upper extremities.
- Observe motor planning abilities.

❖ VI. Intervention

During the sixth and final element in the continuum of acute care, the therapist transitions from assessment to intervention while continuing to follow each of the previous guidelines. The plan of intervention is specific to each stroke survivor, determined by the problem areas identified during the assessment.

Please turn to the next chapter, "Guidelines to Intervention in the Acute Care Setting" for more information on intervention of the stroke survivor in the acute care setting.

Guidelines to Intervention in the Acute Care Setting

In order to optimize each treatment session, the therapist must develop sharp observation skills and competent handling skills and must know how and when to make modifications during intervention. The safe and therapeutic plan of intervention must be specific to each stroke survivor, determined by their medical condition and by the problem areas identified during the assessment.

This chapter includes important information that will help you to be as successful as possible as you initiate intervention in the acute care setting. The chapter begins with general therapeutic guidelines and continues with helpful tips for time management, planning your intervention strategy, making modifications, improving patient comfort and general handling methods related to activities (mobility and self-care) and body functions and structures (facilitation of trunk and limb control) from the ICF model.


Calvin


Ellanora


Mary


Ben

After reading this entire chapter, turn to Disc 2 and observe therapists treating four patients in the acute care hospital: Mary, Calvin, Ellanora and Ben. You will need to complete a worksheet assignment for each patient. You can find the worksheets in the chapter “CEU Requirements.” Take out the worksheets and follow along.

After completing this chapter, turn to the next chapter: “Ideas for Therapeutic Intervention in the Acute Care Setting.” It includes specific treatment ideas that are organized according to the typical progression of intervention beginning with suggestions for working bedside with the patient in bed, sitting at the edge of the bed, sitting in a chair and ending with standing. Many of these suggestions are illustrated during the treatment videos of Mary, Calvin, Ellanora, and Ben.

Remember, during intervention safety is the number one concern and therefore it is critical that the four components of the **SAFE** guidelines continue to direct your patient care.

❖ Safety During Intervention

The medical condition of an acute stroke survivor can be life threatening and change hour by hour. Whether treating in the Intensive Care Unit or in the acute care unit, it is essential that you stay current with all information related to the patient's medical condition, such as recent test results, vital signs and medications. Be aware of contraindications related to the health condition and any necessary precautions. If your patient's vital signs are being monitored continually, note the readings for heart rate, blood pressure and oxygen saturation before beginning your treatment.

Symptoms of Acute Distress

- Is the patient cold or pale?
- Is perspiration on the forehead visible?
- Does the patient complain of light-headedness, dizziness or vertigo?
- Is the patient nauseated?
- Are there changes in respiration or is breathing labored?
- Does the patient have a 'glazed' look or a blank stare?
- Is the patient agitated, panicked or fearful?

If Symptoms of Acute Distress are Observed

If you notice any symptoms of acute distress or a change in your patient's vital signs, stop your therapy and return your patient to a resting position (sitting on the bed or chair or lying down in bed).

Observe and assess your patient. Do the symptoms resolve? If so, proceed with caution. If not, try to determine the stimuli that caused the change in vital signs or distress. Was it a change in your patient's position or effort required?

If you observe any of the following, contact a nurse immediately:

- blood (in stool or emesis)
- seizures
- loss of consciousness

Always consult the nursing staff if you have questions or are unsure of anything.

Sternal Precautions

Always check with the nurse and follow the guidelines and protocols established at your facility before working with a patient with sternal precautions.

Aspiration Precautions

Acute stroke survivors may have difficulty swallowing, which could lead to aspiration. Aspiration can be extremely serious and life threatening. Patients displaying symptoms of aspiration should be evaluated by a speech-language pathologist.

Symptoms of Aspiration

- coughing
- clearing the throat
- a wet or gurgly voice
- shortness of breath
- watering eyes

In addition, the following standard procedures for aspiration precautions should be followed:

- Elevate the head of the bed to the most upright position and use pillows to have the patient sitting at 90˚ during meals. Maintain this position for a minimum of 30 minutes following each meal. If safety allows, have the patient sit in a chair for betting alignment and position of the pelvis, trunk and head during meals.
- Elevate the head of the bed to 30˚ during NG tube feedings. If you are preparing to boost or scoot a patient up in bed, put the tube feeding on “hold” and lower the bed to a flat position. Once the patient has been scooted up in bed, return the tube feeding pump to “run”, or have the nurse assist.
- During oral hygiene, minimize the liquids in the mouth. Depending on the level of risk, use a suction toothbrush or a damp oral care sponge to take excess fluid out of the mouth. For patients who are at less risk, have them lean forward (to the basin or sink) and ask them to take small sips of water to rinse their mouth to minimize the potential for aspiration.

Always check the specific procedures for aspiration precautions at your hospital.

IV Infiltration

Stroke survivors may require an IV for fluids and medications during the first few days post stroke. The placement of the IV needle varies from patient to patient, but it is usually placed in the hand, wrist or arm.

When an IV is in place, infiltration sometimes occurs. The two most obvious symptoms of infiltration are swelling around the needle site or a small amount of blood in the line. Notify the nurse if you observe either symptom during therapy. Ask the nursing staff to consider changing the location of the IV.

Swelling can limit passive and active ROM (especially on the dorsum of the hand) and should be minimized. The swelling usually resolves within a few days, but elevation of the limb above the cardiac level can be helpful. Replacing the IV along the wrist or more proximal can allow for better use of the involved hand during therapy.

For specific information on equipment and monitors used in the hospital setting, turn to the chapter on the “Intensive Care Unit.”

❖ Examples of ICF Components, Domains & Categories

The ICF integrates the medical model with social perspectives in order to ultimately describe functioning in society. The inter-relational format of the ICF model is particularly useful in the comprehensive assessment and intervention of stroke survivors and will help us focus the intent of our therapeutic intervention.

The following list includes examples of ICF terminology that follow the specific scope of intervention used in this learning module for stroke survivors in the acute care setting.

COMPONENT	DOMAIN	CATEGORY
Body Functions	Neuromusculoskeletal and movement related functions	• muscle functions (power, tone, endurance) • movement functions (coordination of voluntary movements) • function of the joints and bones (mobility of scapula)
	Functions of the cardiovascular, hematological, immunological and respiratory systems	• heart functions (heart rate) • blood pressure functions (maintenance of blood pressure) • respiration functions (respiration rate)
Body Structures	Structures related to movement	• muscles of trunk • muscles of lower leg • joints of shoulder region
Activities	Mobility	• changing body position (lying down, sitting, standing) • carrying, moving and handling objects • walking
	Self-Care	• washing oneself (caring for teeth, hair) • toileting • dressing • eating
	Communication	• speaking • writing messages
	General tasks and demands	• undertaking a simple task (preparing, initiating and arranging the time and space required for a simple task) • carrying out daily routine

❖ Examples of Therapeutic Intervention

BEDSIDE	SITTING AT THE EDGE OF BED	SITTING IN A CHAIR	STANDING
Body Functions & Structures	**Body Functions & Structures**	**Body Functions & Structures**	**Body Functions & Structures**
• Facilitation of lower extremity control* • Scapular mobilization* • Facilitation of upper extremity control • Lower extremity ROM	• Facilitation of trunk control* • Upper extremity weightbearing* • •	• Facilitation of knee extension* • • •	• Facilitation of weight shift to the involved side with hip and knee control* • • •
Activities	**Activities**	**Activities**	**Activities**
Mobility • bridging and scooting* • rolling supine to sidelying* • sidelying to sitting* •	Mobility • Scooting to the edge of bed* • sitting to sidelying • •	Mobility • Sit to stand* • • •	Mobility • ambulation • • •
Self-Care • grooming and hygiene (washing face, brushing teeth) • • •	Self-Care • eating lunch • • •	Self-Care • dressing* • grooming & hygiene at the sink* • •	Self-Care • shaving • brushing hair at the sink* • •
General Tasks • reaching for the phone* • • •	Communication • filling out the menu card • • •	General Tasks • • • •	General Tasks • reaching for objects* • • •

**Found in this Workbook.*

❖ Determining a Plan of Intervention

Your plan of intervention generally reflects your patient's level of functioning and the impairments of body functions and structures identified during the initial assessment. As you determine your plan of intervention, several factors must be taken into consideration in order to create a safe and therapeutic treatment session.

Consider the patient's medical condition

What limitations, if any, are there related to your patient's diagnosis and subsequent medical condition? Are there any medications that may affect your patient's safety during mobility or self-care? Should oxygen saturation or blood pressure be monitored during your treatment session? Review your patient's medical record and ask your patient's nurse if additional information is needed regarding the medical condition.

Consider the patient's tolerance to activity

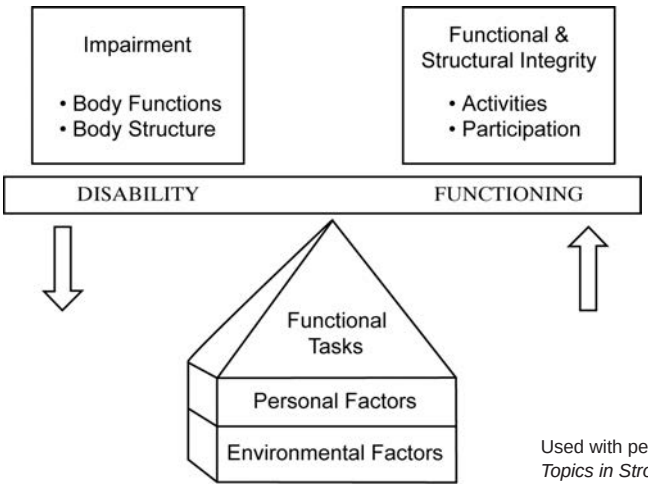
Your patient's level of endurance and tolerance to activity are extremely important when determining your plan of intervention. Whether your patient has a low tolerance or appears to have a fairly good tolerance to activity, carefully prioritize your treatment goals for each session. Maximize their level of participation related to your established goals by providing assistance with task components that have a lower priority.

Determine the length of the treatment session

The length of the session may be determined by your patient's tolerance to activity, or it may be determined by your patient's schedule. Since the average length of stay in the acute care hospital is approximately 4-5 days for stroke, many members of the team will be trying to schedule time with your patient. Your session may be cut short by your patient's schedule with other team members.

Select therapeutic methods that decrease impairment of body functions and structures

Impairments of body functions and structures such as decreased ROM, motor function, sensory impairment, cognitive deficits and visual impairment can significantly impede mobility, dressing, grooming and hygiene. Intervention that reduces impairment can facilitate your patient's ability to function. Carefully select therapeutic methods that are specifically designed to decrease your patient's areas of impairment. Teach your patient and their family how to protect body structures in order to minimize future complications that could prevent potential functional recovery.



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Use functional activities whenever possible

Urgent discharge planning and short length of stay increases the need for functional activities to be included during every treatment session. The training of functional activities such as dressing, grooming and hygiene, bed mobility and transfers are practiced so the therapist can make safe recommendations to the team, the patient and family members for discharge.

The use of functional activities can also address impairment of body functions and structures. Enriched environments are inherent in the activities of mobility and self-care and provide a multi-dimensional approach to treatment requiring the simultaneous skills of motor control, cognition, visual perception, sensation and motor planning. Rehabilitation science supports the use of functional tasks taken from real-life situations to improve performance in stroke survivors.

When utilizing functional activities during intervention, determine your primary objective for that treatment session and structure your plan accordingly. For example, is your primary objective functional independence or facilitation of motor control?

Consider the following during task selection:

- Select a task that requires the same movement you are trying to facilitate.
- Select a task that uses simple, common objects.
- Select a task that requires repetition.
- Select a task that has light, easy movements.
- Select a task that requires problem solving.
- Select a task that does not require precision.
- Select a task that is meaningful to your patient.

For more in-depth information on choosing specific functional tasks, view the course *Functional Treatment Ideas and Strategies in Adult Hemiplegia.*

Tips for Using Items in the Hospital Room

Treating in the hospital room can be a challenge as therapeutic equipment and space are often limited. A bit of creativity may be needed to help therapists be more functional. Each hospital room is slightly different, but most therapists can use the following tips in their acute care setting.

Most therapists plan functional activities using the sink, the bathroom and the bedside table. However, when looking for tasks to facilitate movement and function, also consider the following.

- Use flowers, plants, balloons, or get well cards from loved ones. These items are meaningful and purposeful to the patient. They can be used for communication, visual tracking or upper extremity function.
- Books and magazines can give you an idea of areas of interest.
- Items on the bedside table may provide interesting and functional ideas. When working in standing, put the bedside table against the wall for better stability.
- Use the hospital menu and have your patient prepare for mealtime.
- The window and windowsill can be used when standing your patient. Have them look out the window and point to things. Or, have them clean the windows or pull the curtains.
- A hospital bed raised to its highest position can provide a stable support for your patient in standing. Have your patient face the bed and change the pillowcases or make the bed.
- A regular chair (next to the bed) can be used for transfer training and functional mobility. Turn the chair around and use the back of the chair as a stable support during standing.
- A commode chair with locking wheels can be a useful piece of equipment when a wheelchair is not available. With the lid down, it can be used to help patients sit for short periods of time in front of the sink to do grooming and hygiene.

❖ Basic Handling Principles

Position yourself for safety

Consider the task, the position of the patient and the patient's level of function when determining how best to be positioned during intervention. When working bedside, with the patient in supine or sidelying, position yourself on the involved side to help increase awareness of that side.

When working with patients in sitting or standing requiring 'hands on' assistance, position yourself on the patient's involved side or directly in front of the patient and maintain close contact. Contact support helps your patient feel safe.

Have equipment and supplies ready

Be prepared with any equipment you will need before beginning your treatment session. It can be unsafe to leave your patient's side once your patient is in a sitting position. Have the gait belt, cane or walker within reach for ambulation. Place the comb, brush, basin, washcloth, toothbrush and toothpaste on the bedside table for grooming and hygiene. Get any clothing or bathrobes from the closet for dressing and place them within reach.

Establish a good starting position

Whether you work with your patient bedside, in sitting or in standing, establish a good starting position. In supine, try to achieve a position of symmetry with the trunk, head and limbs.

In sitting, the proper position of the pelvis allows for more dynamic trunk control. Facilitate the pelvis out of a posterior pelvic tilt. Try to achieve equal weightbearing over both hips. Activate trunk extension and head righting.

Provide a good base of support

Provide a firm, stable surface when working with a patient in sitting. If your patient is sitting at the edge of the hospital bed, modify the environment if necessary. Lower the bed and position the feet flat on the floor. Provide a stool or chair, as needed. If your patient is on a very soft mattress, try using a sliding board padded with blankets to provide a firmer base of support. If your patient is positioned on an air mattress, maximize the pressure or deflate the air to provide a more stable support. If possible, transfer your patient to a chair for better support.

Assist as necessary

How much you assist and how much you let your patient try an activity on their own will be determined by the goal of the treatment session and the need to maintain a safe environment. If the primary goal of the session is to determine a patient's functional status, assist as necessary for safety. If the goal of the treatment session is to facilitate trunk and limb control and improve functional outcomes, give assistance as needed to encourage, facilitate and develop controlled movements.

When moving a patient or helping a patient change position, place your hands firmly on the trunk or pelvis. Never pull on the involved arm.

Observe your patient's response

Your patient may tire quickly. Observe facial expression, respiration, skin color and temperature. Provide safe opportunities for your patient to rest before they become distressed. Your patient can rest in a chair or you can support your patient while sitting at the edge of the bed.

Facilitate more efficient movements

Consider the position of the patient, the environment and facilitation methods used when trying to achieve efficient and controlled movements. If your patient is unable to move a limb against gravity, change the position of the patient to allow for a gravity-eliminated position of the limb. Check to see if environmental factors inhibit efficient movement. The friction or weight of the bedding or clothing can make movement of the limb difficult for patients. Change the position of the task to facilitate better movement or try different handling methods to facilitate more controlled movements.

Motivating factors

Patient participation during therapeutic intervention can significantly improve when the task 'makes sense' or is purposeful to the patient. Motivating factors can vary from patient to patient. Some patients enjoy activities and participate more when a game or competition is involved. Other patients respond well when tasks relate socially to family or friends.

Scheduling dressing, grooming and hygiene at the appropriate time of the day can give purpose to these tasks. Have patients get 'prepared for visitors' by brushing their hair, shaving or putting on make-up.

For exmple, one physical therapist had a rule for her higher level patients: before leaving the room to walk down the hallway, her patients had to go to their closet, don a robe and brush their hair. Another therapist emphasized the need to practice safe bed-to-commode transfers as a motivation to having the catheter removed.

Incorporate the involved upper extremity into functional activities

Make every attempt to incorporate the patient's involved upper extremity into tasks in order to maximize the potential for recovery. There are three ways a nonfunctional upper extremity can be incorporated into functional tasks.

1. You can guide the patient's hand, placing your hand over theirs.

2. You can put the patient's upper extremity in a weightbearing or stabilizing position.

3. You can have the patient use both hands together, bilaterally.

For more detailed information on utilizing the involved upper extremity into functional tasks, view the course *Functional Treatment Ideas and Strategies in Adult Hemiplegia.*

❖ Communicating Effectively with Your Patient

Stroke survivors in the acute care setting often have difficulty understanding what is expected of them. Your patient may be unable to follow your directions. Try to determine the source. It may be appropriate for a speech-language pathologist consultation to determine the underlying problem. At times a patient may refuse therapy. In that case, you must determine why.

Observe the patient's behavior. Some behavior can be misinterpreted as a refusal.

- Is the patient confused?
- Is there a hearing deficit?
- Is the patient unable to understand or comprehend language?

Many factors could contribute to this:

- hearing loss
- aphasia
- visual field deficits
- lethargy due to medications
- the new and unfamiliar hospital environment

The following suggestions may improve your patient's ability to understand and follow through with your directions.

Establish good eye contact

- Whether your patient is in bed or in a chair, position yourself so your patient can look directly at you. Raise the height of the bed, or lower yourself so they can more easily see your face.
- For patients with a visual field deficit, stand on their strong side while giving directions. Stand on their weak side during treatment if you want to encourage them to look that direction.

Simplify your verbal commands

- Speak clearly in simple, short sentences.
- Speak a little slower, if necessary. Give your patient time to respond.
- Do not speak loudly unless there is a hearing loss. If there is a hearing loss, make sure the hearing aid is in and it is adjusted correctly.

Add visual or tactile cues

- If your patient does not follow your verbal cues, add visual or tactile cues.
- Use simple gestures. Demonstrate what you'd like your patient to do.
- If you have asked them to do something (turn on the water at the sink) and they don't respond, guide their hand. You can guide their strong side or involved side, depending on their level of function.

❖ Managing Your Time

Scheduling time to work with the stroke survivor in the acute care setting can be difficult due to several factors. Diagnostic tests and medical procedures often take precedence over therapy schedules. With the acute onset of a stroke, most patients have limited endurance and tolerance to activity and therapists must adjust their schedules accordingly.

Check in with your patient to see if they are 'available' and if they give permission to begin treatment. It is not a productive use of time to do a complete chart review and talk with the nurse if your patient is already in a procedure, on the commode, bathing or working with another discipline.

In order to make the best use of your time:

- Come to your patient's room prepared with any necessary equipment.
- Work efficiently but safely.
- Observe and assess quickly and thoroughly.
- Be flexible; modify your schedule, if necessary.
- Be creative and take advantage of the unexpected.

Intervention with intention

Therapists must make the most of every minute spent with the patient, working quickly, efficiently and safely. Everything has a purpose. I call this *Intervention with Intention*. Assessment and intervention of your patient's motor control, cognition, and function can continue, even during interruptions.

If the phone rings, observe your patient's ability to reach for the phone, grasp it and bring the receiver to their ear. Observe balance and lower extremity movements if your patient needs to shift weight or change position. Describe how your patient replaces the receiver on the phone.

If the nurse brings medication during your therapy session, observe your patient's ability to take the medication. Observe fine motor and hand-eye coordination. Can your patient pick up the pill or hold the paper cup? Does your patient use one hand or two hands? Does your patient display any coughing or signs of aspiration? If so, a consultation with the speech-language pathologist might be indicated.

If your patient needs to use the commode, this is an ideal time to continue intervention of self-care activities. Toilet transfers, managing the hospital gown or clothing, and hygiene after toileting are all appropriate to integrate into your treatment session.

Whether your session is 15 minutes, 30 minutes or 45 minutes long, prepare your treatment plan accordingly and make every minute count. Think of dividing your time spent with your patient in thirds. Less experienced therapists are often unaware of the time needed to fully prepare the environment, perform therapeutic tasks, and return the patient to a safe and comfortable position.

❖ Modifying Your Plan of Intervention

The unexpected can occur during any treatment session and your patient responds in a way you had not anticipated. All of a sudden your patient isn't feeling well. Your patient becomes light-headed or nauseous or fatigue sets in. Perhaps your patient has suddenly become belligerent or impulsive. Your plan of intervention needs to be modified. What do you do?

When the treatment doesn't go as planned, modify your session based on safety.
Here are three recommendations:

1. *Discontinue treatment. Your safety or the patient's safety is compromised.*
   Stop and return your patient to a safe position. If you are standing or transferring your patient, return them to the chair or bed for safety, and then reassess your situation. If the event is related to their medical condition, notify the nurse immediately.

2. *Continue treatment, if safety is not a concern.*
   Even though your patient is performing a task in a way you had not anticipated, you determine your patient is safe and choose not to interrupt your patient. After your patient has completed the task, or a portion of it, you can then explain to your patient your preference for the way the task should have been done or could be modified in the future.

3. *Stop, make modifications and then continue.*
   Ask your patient to wait for a moment. If you didn't get the response you wanted, determine how the session could be modified for better results. Sharp observations, critical thinking and clinical reasoning help determine how you will modify your treatment. Modifications may include a change in:
   - the position of your patient
   - your handling methods
   - the amount of assistance you give
   - the task or the complexity of the task
   - the environment

And finally, always be prepared with a back up plan. If "Plan A" doesn't work, be ready with "Plan B." In fact, have ideas for plans "C", "D" and "E", too!

❖ Improving Patient Comfort

The unfamiliar environment of the acute hospital room may increase your patient's level of anxiety, making it difficult for them to fully participate during your treatment session. With a few simple, thoughtful actions therapists can improve patient comfort during intervention.

Keep your patient warm

Many patients are cold in their hospital room. During assessment and intervention, maintain comfort for your patient by only exposing the necessary area. For example, if you are working on the lower extremities, raise the bed covers from the foot of the bed.

Respect your patient's modesty

Some patients may be more willing to move if you give them a second gown to use as a bathrobe or cover them with a blanket.

Be aware of hypersensitivity to light

Patients in the ICU and acute hospital may develop sensitivity to bright lights. Before opening the window blinds and turning on the overhead lights, ask your patient for permission.

Put important objects within their reach

Before leaving the room, make sure your patient is comfortable. Put any necessary objects (phone, water, call light for the nurse) within their reach.

Move their personal items carefully and respectfully

This is your patient's temporary home. Patients often become anxious about their personal items. Be sure to let your patient know where you are placing items as you move them.

❖ Preventing Shoulder Pain

Shoulder pain is very common in stroke survivors however most shoulder pain can be prevented. The source of the shoulder pain is often difficult to determine. Standard clinical examinations for orthopedic problems (for example, a rotator cuff tear) are not possible for stroke survivors with a nonfunctional upper extremity. Physicians are reluctant to order expensive tests (such as an MRI) for a patient with a painful shoulder and a flaccid upper extremity.

Special care should be taken when moving or positioning your patient in order to avoid traumatic impingement. It is easier to prevent painful shoulders than it is to treat them.

Proper bed positioning

During bed rest, do not allow the patient to lie directly on the glenohumeral joint. In sidelying, position the patient on the scapula, not the humeral head. In supine, support the involved arm with a pillow or towel. Be careful not to raise the shoulder high enough to cause an anterior subluxation of the glenohumeral joint.

Proper positioning in the chair

When the patient is sitting in a chair, support the arm with a pillow or on a bedside table. A lap tray can be helpful for patients sitting in a wheelchair with armrests. Do not allow the arm to be pinned between the patient's trunk and the arm of the chair.

Moving the patient

Never pull on the involved arm when standing, transferring or moving your patient. Do not support the patient under the arms - always support the patient along the trunk, not the upper extremity.

Don't use overhead pulleys

The use of overhead pulleys is a proven cause of shoulder pain in patients with hemiplegia.

Scapular mobilization

The scapula has three planes of motion: elevation and depression, protraction and retraction and upward and downward rotation. All three planes of motion are critical for maintaining full, pain-free ROM of the shoulder. Maintain mobility of the scapula by performing scapular mobilization in supine, sidelying or sitting. This is easiest to do early on, before the patient develops increased tone or tightness of connective tissue structures.

Refer to the chapter "Practice Labs" for methods used in Scapular Mobilization.

For additional information, the course *Teaching Independence: A Therapeutic Approach* has an entire 30-minute video program dedicated to "Preventing Shoulder Pain."

❖ Improving Awareness of the Involved Side

Many stroke survivors have decreased awareness of the involved side. This condition, sometimes referred to as ‘disregard,’ can decrease overall safety and limit the potential for functional recovery. Visual field deficits, sensory impairment and perceptual deficits can contribute to this problem.

Therapists can be instrumental in helping stroke survivors learn to compensate for one-sided neglect. Family members, caregivers, nursing staff and other health care providers can help patients become more aware of the involved side by utilizing the following handling methods.

Tips for Improving Awareness of the Involved Side

- Approach your patient from the involved side. This encourages them to look in your direction.
- Ask your patient to make eye contact.

- If your patient has difficulty turning toward the involved side, gently place your hand on their chin and turn their head toward you. Your hand is firm but not forceful.

- Provide tactile information. Hold your patient’s hand and touch their arm or leg.

- Include the involved hand during simple tasks such as washing the face, brushing hair or holding an object. Place your hand over the involved hand and guide your patient through the movements.

Consider environmental factors. Provide interest to the involved side. Place the night stand, phone or other objects on the involved side to encourage your patient to look toward that side, improving awareness.

❖ Awakening the Lethargic Patient

Stroke survivors who are just days post stroke may have difficulty waking up for therapy sessions. Factors contributing to their lethargy may include:

- medical conditions related to the acute stroke
- lack of sleep
- medications

Try the following methods if your patient is difficult to arouse:

Speak to your patient

Use your patient's name. Observe your patient's facial expression.

Raise the head of the bed

Getting your patient in a more upright position may help increase alertness.

Reposition your patient in midline

Gently but firmly position your hands behind your patient's shoulder and bring the upper trunk and head into a midline position.

Rub the sternum

First check for precautions. Next, with a closed fist, gently rub the sternum.

Apply a cool washcloth to the face

Place a washcloth in your patient's uninvolved hand and guide the hand to the face. See if your patient begins to take over the movement. You can also try to have them hold the washcloth bilaterally, using both hands.

❖ Utilizing Passive Handling

Many stroke survivors do not have enough endurance to participate in every aspect of the treatment session. When that is the case it can be appropriate to 'passively handle' your patient during portions of your session. In other words, you will be intentionally requesting that your patient not participate.

The following are examples of passive handling which may be appropriate during intervention.

When tolerance to activity is extremely limited

When planning your treatment session, prioritize the tasks and determine which will be passive (you'll do the task for the patient) and which will be participatory (you'll ask the patient to attempt).

For example, if your goal is to work on transfers from bed to chair, you may choose to put the patient's slippers on, conserving their energy for the transfer. However, if your goal is ADL training, you would have your patient participate as much as possible.

When your patient is unable to participate

Acute stroke survivors may be able to participate in a portion of the task sequence but not the entire task. By providing partial or total assistance for those portions of the task, therapists can encourage patients to attempt higher level tasks.

Where help is needed

For example, during bed mobility, your patient may be able to roll from supine to sidelying but may not be able to go from sidelying to sitting. By helping your patient to come to a sitting position, the session can continue.

When the treatment session is complete

If possible, pace your session to encourage active participation from your patient until the treatment is fully complete, with your patient in a safe and comfortable position. However, once your patient is back in bed and positioned in supine, this may be difficult and full assistance may be required for the final aspects of bed mobility such as scooting up in bed.

For example, your patient has participated fully during the morning treatment session, transferring from the bed to the chair and completing grooming and hygiene tasks. But during the transfer back to bed, your patient suddenly becomes dependent and maximum assistance is needed. Once in bed, your patient is unable to participate at all and the assistance of two is required to passively scoot your patient up in bed.

❖ Increasing Sitting Tolerance and Chair Selection

Tips for Increasing Sitting Tolerance

When sitting in a chair, some patients want to return to bed immediately. In order to encourage your patient to sit for longer periods of time in a chair, try the following:

- Raise the hospital bed to the highest position and put up all bed rails.
- Use this time while your patient is sitting in the chair to have the nursing staff (or yourself) put on fresh bedding.
- Place the chair near the door of the hospital room so your patient will be able to observe others outside of the room, for a more stimulating environment.
- Coordinate sitting in the chair with visits from friends and family members for increased socialization.
- Do functional activities while sitting in the chair. Position the chair at the sink for grooming and hygiene or schedule the treatment session during mealtime to encourage tolerance to sitting.
- Have your patient work on dressing while sitting in the chair instead of on the side of the bed. The firm support will encourage better weight shift and active trunk control.
- Schedule the next therapy session so your patient is asked to stay in the chair for a specific period of time (30 minutes to 60 minutes, depending on the level of the patient) until the next session begins.

Considerations for Chair Selection

The most important consideration when choosing a chair for your patient is adequate safety. The second most important consideration for the therapist is determining if an additional person is needed before transferring the patient.

Wheelchairs and straight-back chairs with arms are the two most commonly preferred chairs in the acute care setting. However, other chairs may need to be used. Determine which chair is best for your patient; a small upright chair may be best or, perhaps, a deep recliner chair.

Prepare or ‘dress’ the chair before transferring your patient. Add a blanket or sheet to provide warmth, comfort, protection against incontinence and safety. A blanket or draw sheet can be helpful when transferring your patient back to bed. Extra folded blankets placed on the seat of the chair can increase the height.

Bedside commode chair

The bedside commode (BSC) can be used as a chair when the lid is down. It may or may not be on wheels. A BSC on wheels can be used like a wheelchair and makes it easier to transfer the patient from bed to chair and then wheel the patient to the sink for self-care activities. The ease of moving the patient in the BSC is also helpful when transferring a patient to a preferred side. Caution: the brakes on the BSC are typically not as strong as the brakes on a wheelchair so you may need a second person to stabilize the chair.

Convertible stretcher chair

The convertible stretcher chair may be referred to as a ‘cardiac’, ‘neuro’, or ‘ortho’ chair. This chair may be a good selection for the lower-level patient that needs the benefit of sitting up in a chair for respiratory/lung health but cannot bear weight through the lower extremities.

Geri chair

The Geri chair is often used with more cognitively impaired patients who have difficulty following safety cues. It is sometimes considered a restraint because the patient is not able to release the tray table that crosses in front of the body. When using the Geri chair, follow your facilities policies regarding restraints.

Reclining wheelchair

A reclining chair may be more comfortable for patients with poor trunk or head control or for patients needing to sit for longer periods of time.

❖ Returning the Patient to Bed

Schedule enough time at the end of your treatment session to include returning your patient to bed. Try to have your patient be an active participant.

Prepare the bed by making sure all of the sheets and bedding are flat and smooth. This helps protect your patient's skin and helps out the nursing staff.

Once your patient is in bed, raise the foot of the bed before raising the head of the bed. This will keep your patient from sliding down in bed.

Position your patient comfortably and as symmetrically as possible. Follow guidelines for proper bed positioning.

Follow hospital protocols regarding precautions. Make sure bed alarms are on if indicated for patient safety.

Put the call light for the nurse on your patient's less involved side and within reach.

Return all equipment, lines and monitors to their original positions and for safety make sure the hospital bed is in the lowest position.

Before leaving the room, do a final check of

- patient alignment
- line placement
- position of the head of the bed (according to aspiration precautions)
- side rails

For more detailed information on specific handling used in "Bed Positioning and Mobility," view the course *Teaching Independence: A Therapeutic Approach.*

❖ Facilitation of Lower Extremity Control

ICF Component: Body Functions

Domain: Neuromusculoskeletal and movement related functions

Therapeutic Benefits
Prepares the patient for bed mobility, sitting and standing.

Precautions
Hip precautions related to arthritic joints, recent hip or lower extremity surgery.
Hypersensitivity to touch (could be related to diabetic neuropathy).

Starting Position
Begin with the patient in supine.

Handling

1. Raise the height of the bed to protect your back.
2. Stand on your patient's involved side.
3. Ask your patient to position the less involved leg into hip and knee flexion, with the sole of the foot flat on the bed. Assist as necessary.

4. Ask your patient to position the involved leg into hip and knee flexion, with the sole of the foot flat on the bed. Assist as necessary.
5. Have your patient try to open and close the space between the knees. Assist as necessary.

6. Have your patient move only the strong leg outward, maintaining the position of the involved leg in midline. This requires isometric, selective control of the involved lower extremity.
7. Have your patient move the involved leg outward, maintaining the position of the strong leg in midline.

Tips

When facilitating movement of the limb, encourage your patient to look at the limb. Tactile cues (such as tapping for low tone patients) and verbal cues help your patient to understand the movement you are trying to facilitate.

Modifications/Variations

Widen or narrow foot placement, changing your patient's base of support. Increase task difficulty by having your patient move the lower extremity through a larger arc of motion. Introduce bridging, either unilateral or bilateral, facilitating as needed. For higher-level patients, introduce combination movements such as a straight leg raise or raising the leg with a bent knee (bringing the knee to the chest and returning to a resting position).

Common Mistakes

Be sure to protect joint integrity at the hip. Don't allow the flaccid limb to fall into abduction/external rotation or overstretch. Be careful that your handling facilitates selective control at the knee and hip, not increased extensor tone.

❖ Scapular Mobilization in Elevation/Depression, Protraction/Retraction, Upward Rotation/Downward Rotation

ICF Component: Body Functions

Domain: Neuromusculoskeletal and movement related functions

Therapeutic Benefits
Maintains integrity of connective tissue structures and ROM necessary for functional activities such as combing and washing hair and upper extremity dressing. Maintaining scapular mobility prevents shoulder pain related to immobilization and prepares the structures of the upper extremity for full, active movement.

Precautions
Never force structures of the shoulder (or any other joint). Go only to the point of resistance or discomfort. If the structures of the shoulder are forced, impingement can occur. Refer to the page “Preventing Shoulder Pain.”

Starting Position
Begin with the patient in supine.

Handling

1. Stand facing your patient, on the involved side.
2. Place your patient’s involved arm between your humerus and your trunk.
3. Support the weight of the arm at the elbow. DO NOT pull on the elbow.
4. Place your other hand under the scapula.
5. With a flat, open hand, move the scapula into elevation. Your hand along the scapula does all of the work.
6. Go to the end range of scapular elevation (where you feel resistance or your patient experiences discomfort, no further). Hold for a few seconds and return to the resting position. Repeat until the scapula glides easily.

   If the scapula glides in elevation and depression, continue.

7. With a flat, open hand, move the scapula into protraction, bringing the medial border of the scapula away from the spine. Hold for a few seconds. Your hand along the scapula does all of the work. Do not pull on the elbow.

8. Combine the movements of elevation and protraction, making a circular motion of the scapula: elevation, protraction, depression and slight retraction.

   If the scapula glides in protraction, continue.

9. The hand along the scapula slides along the humerus and hooks on the epicondyles. Be sure to use a lumbrical grip, do not pinch with your fingertips.

10. Maintain traction of the scapula in protraction from the epicondyles.

11. Slide your hand (the one that had supported the arm at the elbow) up to your patient's hand (as if shaking hands). Support the hand along the base of the metacarpalphalangeal (MCP) joints. Do not hang on the fingers.

12. Bring the arm in forward flexion, maintaining traction at the hand and epicondyles.

13. Watch your patient's facial expression carefully as you slowly bring the arm over 90 degrees of shoulder flexion. Note any expression of discomfort or anticipation of pain.

14. Go only to the point of resistance or discomfort. DO NOT force ROM of any structures.

15. Slowly and gently lower the arm.

Modifications/Variations

Scapular mobilization can also be done with your patient in a sidelying position. Sidelying is a preferred position when the limb is difficult to manage due to weight or length.

Common Mistakes

Do not force structures. Go only to the point of resistance and no further. It is important to work within a pain-free range. Watch your patient's facial expression for any indication of pain.

Be sure to go to the end of pain-free range in scapular elevation, protraction and upward rotation. Most therapists are fearful of hurting the patient and do not take the limb through full, pain-free ROM.

For in-depth information related to the biomechanics of scapular mobilization, view "Preventing Shoulder Pain" from the course *Teaching Independence: A Therapeutic Approach.*

❖ Reaching for Objects from the Bedside Table

ICF Component: Activities

Domain: General tasks and demands

Therapeutic Benefits
When the bedside table is placed on the patient's involved side, the simple task of reaching for items (such as the phone) has several therapeutic benefits:

- Provides an opportunity for the patient to scan the environment and encourages awareness of the involved side.
- Encourages trunk rotation with weightbearing toward the involved side, plus increased ROM and reach.
- Encourages communication and requires cognitive, perceptual and visual function.

Starting Position
Begin with the patient in supine. If possible, have the bedside table positioned on the patient's involved side.

Handling
1. Have your patient roll to the side where the bedside table is positioned.
2. Use handling methods described in "Bed Mobility: Rolling."
3. Guide the involved hand (with hand-over-hand assist) to help your patient hold onto the receiver.
4. As you guide your patient's hand, support the weight of the upper extremity as needed.
5. Do the entire task: pick up the receiver, have your patient speak into the phone, and when the conversation is completed, return the receiver to the phone.
6. While your patient is speaking on the phone, note and facilitate any trunk movements required.

Tips
If your patient's phone happens to ring during your treatment session, incorporate this activity into your plan of intervention. You have two options: 1) answer the phone and ask the party to wait until your patient can get to the phone, or 2) tell the party that you will take their number and have your patient call them back. Then do the functional task together with your patient.

Modifications/Variations
If your patient is unable to roll to the side, decrease the complexity of the task by starting with the phone in your patient's lap. If your patient has visual impairment, enhance the environment by using a phone with larger numbers, most hospitals have them available. If your patient is hearing-impaired, adjust the volume or use an adaptive phone.

Common Mistakes
Don't do everything for your patient. Use this task as an opportunity for facilitating movement of the involved limb and trunk.

❖ Bed Mobility: Bridging and Scooting in Bed

ICF Component: Activities

Domain: Mobility

Therapeutic Benefits
Bridging and scooting requires hip extension with knee flexion and weightbearing through the foot. These components necessary for ambulation. This activity is safe and most stroke survivors will be able to do some aspect of scooting.

Precautions
Hip precautions related to arthritic joints, recent hip or lower extremity surgery.
Hypersensitivity to touch (could be related to diabetic neuropathy).

Starting Position
Begin with the patient in supine.

Handling

1. Have your patient bring the less involved leg into as much hip and knee flexion as comfortably possible, placing the sole of the foot flat onto the bed. Assist your patient, as needed.
2. Grasp the ball of the involved foot and bring the ankle into dorsiflexion with eversion.
3. Slowly bring the involved leg into hip and knee flexion.
4. Place the foot flat onto the bed.
5. Ask your patient to take care of the involved hand (if possible). Assist as necessary.
6. Facing your patient, place your hand (closest to your patient) onto the lower end of the femur, just above the knee.

7. Firmly bring the femur forward, aligning the knee over the foot and putting weight into the feet. It can be helpful to use your forearm, in addition to your hand, to give more input into the femur to bring the hips off the bed. This is especially true with larger or lower level patients.
8. With your other hand, support under the involved side. Ask your patient to unweight and extend the hips. Assist as needed.
9. As the hips come off the bed, cue your patient's hip to scoot to the side.
10. Allow the hips to return to the surface of the bed.
11. Reposition both feet in alignment with the knees and femurs.
12. Assist your patient to lift the head and shoulders off the pillow (if your patient is unable to lift the head, you can support the head and shoulders with the pillow).
13. Scoot the head and shoulders and align over the hips.
14. Repeat the sequence until your patient has scooted as far as needed.

Tips

Use tactile or visual input, as necessary. Simplify your verbal cues.

You can learn a lot about your patient's ability to participate and what to expect for future functional tasks while observing their trunk and limb control, their ability to follow commands and their level of endurance during this task. However, if too much time is spent on scooting, your patient may be too tired to do other functional mobility or self-care tasks.

Modifications/Variations

When passive handling is necessary, a draw sheet can be used to slide a patient over in bed or up in bed. Raise the height of the bed. With the assistance of a second person, one on each side of the bed, grasp the draw sheet close to your patient's shoulder and hip and slide your patient over in bed. Lessen your effort by passively placing the lower extremities in hip and knee flexion (shortening the lever arms). When passively sliding a patient up in bed, lower the head of the bed slightly (less than 10˚) to ease the slide up in bed.

Common Mistakes

If the foot slides forward, be sure to stabilize the foot and increase weightbearing through the foot during bridging. You might have your patient put on non-skid slippers before beginning the task.

This therapeutic method is demonstrated in the chapter "Practice Labs."

❖ Bed Mobility: Rolling with Maximum Assistance

ICF Component: Activities

Domain: Mobility

Therapeutic Benefits
The functional activity of rolling precedes sitting at the edge of the bed. Try to have your patient roll toward the involved side in order to increase weightbearing and awareness.

Precautions
Be careful that the patient does not roll onto the involved arm (this could cause traumatic impingement of the shoulder).

Starting Position
Begin with the patient in supine with the hospital bed flat. Use the assistance of a second person, if indicated.

Handling

1. Position yourself on the side of the bed, the direction your patient will be rolling toward.
2. Ask your patient to use the less involved hand and reach toward the involved side. Use visual and verbal cues. Assist as needed.
3. Allow your patient to use the bed rail, if necessary.

4. When assistance is needed, place your hands on your patient's scapula or pelvis.
5. Protect your patient's involved shoulder. Position the scapula forward and do not allow your patient to roll onto the humeral head.

6. Ask your patient to flex both hips and knees. Assist as needed.
7. Assist your patient in rolling over the trochanter.
8. Stabilize your patient in sidelying from the scapula and pelvis.

Tips

Look to see if there is anything in the environment that might block or keep your patient from rolling onto their side. It may be a pillow or even your patient's own arm.

Flexing the hips and knees helps to inhibit lower extremity extensor tone. Bringing the shoulders into flexion and scapular protraction before rolling onto the side helps your patient avoid rolling onto the head of the humerus. Provide as much assistance as necessary in order for your patient to complete the task.

Allow enough room when rolling from supine to sidelying in order to sit up at the edge of the bed. A good rule is to look at the length of the femur and allow that amount of room between your patient and the side of the bed. Then, when your patient rolls into sidelying, the lower extremities are well supported.

Modifications/Variations

When rolling toward the less involved side, be sure your patient doesn't leave the involved arm 'behind'. Ask your patient to clasp their hands together or, if they are unable, support the arm as they roll toward the less involved side.

This therapeutic method is demonstrated using moderate assistance in the chapter "Practice Labs."

❖ Sidelying to Sitting with Maximum Assistance

ICF Component: Activities

Domain: Mobility

Therapeutic Benefits
The functional activity of moving from sidelying to sitting requires trunk control, head righting, midline orientation.

Precautions
Hip precautions related to arthritic joints, recent hip or lower extremity surgery.

Starting Position
Begin with the patient in sidelying. Consider the need for a second person to assist, if necessary.

Handling
1. Stand in front of your patient with a wide base of support.
2. Place one hand on the upper trunk to maintain a sidelying position.
3. Bring the hips and knees into as much flexion as your patient can comfortably tolerate. This will help to inhibit extension of the lower extremities and shorten the 'levers,' making it easier to control the taller patients.
4. Slide your hand under the scapula and bring the involved arm into protraction and forward flexion, as close to 90˚ as possible.
5. Bring the upper trunk into flexion, closer to the edge of the bed. This will be better for your back and will also keep your patient from pushing back into extension.
6. Slide your patient's feet off of the bed, keeping your leg in front of their feet. Don't allow their legs to fall as this can cause stress at the hip.
7. At the same time, shift your weight from one leg (positioned toward the head of the bed) to the other leg (positioned toward the foot of the bed). This 'lunge' encourages use of your legs instead of your back.
8. Bring your patient's upper trunk upright into a sitting position, continually supporting the involved upper extremity.
9. For safety, stay directly in front of your patient. Continue to support the upper trunk.

Tips

Remember to gather everything you will need and prepare the environment before sitting your patient up at the side of the bed.

When determining which side of the bed to come up from, consider the following:

- The placement of lines and monitors connected to your patient.
- The task that could follow after your patient is sitting upright. For example, will you transfer to the commode? Walk to the sink? Stand at bedside?
- The amount of space in the room. If you need to sit on a chair in front of your patient, is there enough room for you?

Modifications/Variations

When the maximum assistance of two persons is required, the second person can use the draw sheet to help your patient roll onto their side.

Common Mistakes

Therapists must be careful to avoid using poor body mechanics. Widen your base of support. Shift your weight from one leg (toward the head of the bed) to the other leg as your patient pivots into a sitting position. Think of this motion as a pendulum (the weight of the feet being lowered to the floor helps the upper trunk and head come into a vertical position).

This therapeutic method is demonstrated in the chapter "Practice Labs."

Ideas for Therapeutic Intervention: Sitting at the Edge of the Bed

❖ Mobility: Scooting to the Edge of the Bed

ICF Component: Activities

Domain: Mobility

Therapeutic Benefits
This activity facilitates weight shift from side to side as well as selective control of the trunk and pelvis, preparing the patient for ambulation.

Precautions
Hemodynamic instability. Signs of distress. Indications of pain.

Starting Position
Sitting position with legs over the side of the bed.

Handling

1. Sit or stand in front of your patient.
2. Ask your patient to extend their trunk.
3. Place one hand on the upper trunk of the involved side. This allows your patient to shift weight to that side more safely.
4. Ask your patient to shift weight toward the involved side, unweighting the less involved side. The larger your patient, the more weight shift is needed.
5. Ask your patient to bring the less involved leg forward. Assist as needed.
6. Repeat the procedure with the other side, changing your hand placement on the trunk, shifting weight and assisting the involved leg forward.
7. Repeat side-to-side weight shifts until both feet are flat on the floor.

8. If your patient needs maximum assistance, use the draw sheet or Chux to bring your patient's leg forward.

9. If your patient's feet don't reach the floor (because they are short or because the hospital bed is too high), provide an alternative support (a footstool, chair or even the wastebasket placed on its side).

Tips

Don't 'hurry' through this activity. Instead, take advantage of this excellent opportunity to facilitate movement of the trunk and limbs.

Observe how your patient attempts to scoot forward. Your observations will give you information on how to proceed in planning your intervention strategies.

- How does your patient respond to verbal commands or gestures?
- Can your patient maintain an upright posture?
- Can your patient shift weight from side to side and return to a midline position?
- Can your patient use either upper extremity for weightbearing or protective extension?
- What lower extremity movement is available to scoot forward?

Modifications/Variations

Have your patient scoot back onto the bed, reversing the movement components. Facilitate at the hip or pelvis. Do not lift from under the leg. This could cause your patient to fall back into bed.

Common Mistakes

Do not have your patient scoot to the very edge of the bed. This can be dangerous. Always maintain support of at least 1/3 of the femur.

❖ Weightbearing Through the Involved Upper Extremity

ICF Component: Body Functions

Domain: Neuromusculoskeletal and movement related functions

Therapeutic Benefits

Maintains ROM of the wrist and hand by maintaining length of connective tissue structures. Provides sensory information and improves awareness of the involved side. Facilitates dynamic trunk control in lateral weight shifts.

Combine this activity with functional tasks such as washing the face or combing hair.

Precautions

IV located in the dorsum of the hand.

Wrist pain caused by malalignment of the carpals.

Swollen hand or painful shoulder.

Sternal precautions.

Starting Position

Have your patient sitting at the edge of the bed with the feet well supported.

Handling

1. Sit next to or in front of your patient.
2. Position the involved hand on your femur, just above your knee (this allows you to feel the amount of weight your patient is actually putting into the involved upper extremity).
3. Place your hand behind the involved elbow, giving a slight amount of extension and external rotation of the arm.
4. Ask your patient to shift toward the involved side, putting weight through the arm and into the hand.
5. Observe the angle of the wrist. Be careful not to allow extreme extension of the wrist.
6. Hold the position for a few seconds, then allow your patient to shift back to midline.

Tips

Giving a purpose to this activity encourages greater weight shift toward the involved side and into the involved upper extremity. Have your patient reach for a hairbrush, washcloth or any other purposeful object.

A white washcloth placed on a white sheet can be difficult for your patient to see. Enhance the environment by using objects with contrasting colors or change the placement of the object.

Modifications/Variations

Precautions, such as placement of the IV or swelling of the hand, may prevent weightbearing through the hand. If this is the case, modify this task by having your patient bear weight through the forearm, instead.

Common Mistakes

Do not allow your patient to ‘hang’ on the joint as this can cause malalignment and overstretching of the joint capsule. Be sure that the shoulder (glenohumeral joint) is in good alignment as your patient shifts weight over the involved upper extremity.

For more indepth information on facilitation of weightbearing through the upper extremity, view the course *Functional Treatment Ideas and Strategies in Adult Hemiplegia.*

❖ Facilitation of Trunk Control with Lateral Weightshifts

ICF Component: Body Functions

Domain: Neuromusculoskeletal and movement related functions

Therapeutic Benefits
Active, dynamic trunk control is necessary for all functional activities, including hygiene after toileting, dressing, standing up and sitting down.

Precautions
Patients with poor trunk control may be at risk for falling. Never leave the patient unattended, even for a moment.

Starting Position
Begin with the patient sitting at the edge of the bed, out of a posterior pelvic tilt. The feet can be on the floor (for a broader base of support) or unsupported (for a narrower base of support).

Handling
1. Position yourself next to or in front of your patient.
2. Have your patient shift weight to the less involved side and bear weight on the forearm.
3. Check the position of the head. Encourage head righting (the head perpendicular to the floor).
4. Have your patient shift weight toward the involved side, putting weight onto the forearm. Give support at the shoulder. Do not allow your patient to ‘hang’ on the glenohumeral joint.
5. Repeat, shifting weight from the involved side to the less involved side.
6. Introduce functional tasks such as reaching for objects to encourage greater weight shifts.

Tips

Patients with poor trunk control may ‘brace’ or ‘push’ with the less involved arm. Discourage this by asking them to turn their hand ‘palm side up.’ This will keep them from pushing or bracing with the strong upper extremity.

When you need to have a free hand available to reposition lines or the IV pole or to reach for the call light, have your patient shift weight onto the less involved lower arm. This is a safe position.

Modifications/Variations

Tall patients with long trunks may have difficulty leaning far enough laterally to be able to place their forearm on the bed. Use pillows, folded towels or blankets to raise the height of the surface, reducing the need for excessive lateral trunk flexion.

❖ Sitting to Sidelying with Moderate Assistance

ICF Component: Activities

Domain: Mobility

Therapeutic Benefits
Learning how to return to bed from a sitting position is an excellent way to work on selective, eccentric control of the trunk.

Precautions
Hip precautions related to arthritic joints, recent hip or lower extremity surgery.

Starting Position
The patient is sitting on the side of the bed, the feet may or may not be supported.

Handling
1. Stand in front of your patient and place your patient's involved arm between your humerus and trunk.
2. Place your hand on the scapula to support the weight of the upper trunk. Stay directly in front of your patient, not ahead or behind, to avoid unnecessary strain on the shoulder.
3. Ask your patient to reach across their body with the less involved arm. Have your patient ease their weight and lower down to the bed in sidelying.
4. As your patient shifts their weight toward the weak side, ask them to bring the less involved leg up onto the bed. Assist as needed.
5. Assist your patient in bringing the involved leg onto the bed.
6. Gently lower your patient onto the involved side. Keep the upper extremity forward, having your patient lie down on the scapula, not the humeral head.
7. Once your patient is in sidelying, have them slowly roll into supine, making sure the arm is brought into a good position of alignment, not into horizontal abduction.

Tips
Encourage fearful patients to lie down over the involved side. Show them the pillow by fluffing it and ask them to lie down. This will help your patient to initiate weight shift toward the involved side.

Common Mistakes
Patients are tired at the end of the treatment session and 'fall' back into bed (instead of coming into a sidelying position). Be careful to keep your patient forward, in a sidelying position. Rolling quickly away into a supine position could cause a traction injury at the shoulder.

This therapeutic method is demonstrated in the chapter "Practice Labs."

Ideas for Therapeutic Intervention: Sitting in a Chair

❖ Facilitation of Knee Extension

ICF Component: Body Functions

Domain: Neuromusculoskeletal and movement related functions

Therapeutic Benefits
Improved control of the quadriceps and surrounding muscles of the knee and hip prepare the patient to move from sit to stand, maintain safe stance phase in gait and bring lower limb through on swing phase of gait.

Precautions
Any premorbid conditions such as pain, arthritis or surgical procedures such as total knee replacements.

Starting Position
Begin with the patient sitting in a chair (or at the edge of the bed) with both feet flat on the floor.

Handling

1. Position yourself in front of or next to your patient, on the involved side.
2. Begin with the less involved leg, to help your patient better understand what is expected.
3. Ask your patient to move the lower leg into extension. Use cues such as “Pretend you are kicking a ball” or “Try and kick my hand”.
4. Have your patient move the involved leg. If your patient is unable to initiate any movement, provide tactile cues over the quadriceps at the distal portion of the femur, just above the knee.
5. If more assistance is required, place a hand behind your patient’s involved heel. Slide the foot forward and assist the knee into extension.
6. Change to a gravity eliminated position and follow facilitation principles of concentric, eccentric and isometric if necessary to activate the quadriceps.

Tips

For better knee extension, reduce friction from the floor by using a soft slipper or sock or by placing a washcloth under the involved foot. Give your patient a goal or object (trash can, box of tissues) to touch or kick with the foot.

Modifications/Variations

Work on speed, control and coordination for higher-level patients who hope to return to driving soon. Look for precision and accuracy. Simulate brake and gas pedals and increase task difficulty by changing location of objects, working in larger arcs, using faster repetitions and removing visual cues.

Common Mistakes

If the seat is too low, poor alignment of hip, knee and trunk can make knee extension difficult. If working on the side of the bed (instead of a chair), consider raising the height of the bed slightly for better alignment of the hip and pelvis.

❖ Grooming and Hygiene at the Sink

ICF Component: Activities

Domain: Self-Care

Therapeutic Benefits
Prepares the patient for functional independence. Incorporating the involved upper extremity into self-care activities helps increase awareness of the involved side and helps maintain functional ROM and integrity of soft-tissue structures.

Precautions
For more information on precautions related to self-care, see “Tips for Assessment of Self-Care.”

Starting Position
Begin with the patient sitting in a chair with feet flat on the floor.

Handling


1. Position yourself on your patient’s involved side.
2. Facilitate trunk extension by encouraging your patient to sit upright.
3. Facilitate sitting with the pelvis in a neutral or slightly anterior position (discourage your patient from sitting in a posterior pelvic tilt).
4. Always incorporate the involved arm into the functional task in one of the following three ways:

   Weightbearing/stabilizer
   Position the involved upper extremity on the sink or bedside table. If possible, incorporate the hand into the activity, as a stabilizer.

   Guiding
   Place your hand over your patient’s involved hand (don’t grab the wrist). Support the weight of the arm at the elbow, if necessary. Assist your patient in reaching for and holding objects (turning on the water or reaching for the toothpaste, toothbrush, electric shaver, drinking glass) as needed. Try to move the hand and arm as ‘normally’ as possible.

Bilateral
Some activities, such as holding the washcloth or electric razor, can be done bilaterally, incorporating the less involved hand into the task. Have your patient hold the object with the involved hand and then cup the less involved hand over the other. Give assistance at the elbow, if necessary.

5. Facilitate weight shift and dynamic trunk control as needed during the task.

Tips
If your patient is not able to walk to the sink and a wheelchair is not available, try using the commode chair with wheels. Your patient can transfer to the commode chair and you can wheel it up to the sink. Your patient can be positioned in a chair at the sink, or you can “bring the sink to your patient” by using the bedside table.

Modifications/Variations
Increase the complexity of the task as appropriate. For example, if your patient wants to put on make-up, instead of handing her the lipstick, offer her the purse and have her open it and find it. This is a good bimanual task and is very automatic for patients.

Common Mistakes
Don’t forget to include the involved hand into all aspects of the task. Even a non-functional upper extremity should be included into every activity.

In addition, the correct position of the pelvis helps to keep the involved arm in a weightbearing position on the sink. When patients are sitting in a posterior pelvic tilt, the arm tends to ‘pull back’ or fall into the lap.

❖ Dressing

ICF Component: Activities

Domain: Self-Care

Therapeutic Benefits
Dressing involves motor planning, sequencing, cognition and perception and requires balance, weight shift from side to side, postural control and fine motor coordination.

Precautions
Dressing is one of the hardest activities we ask our patients to do. Patients can become exhausted and frustrated. Grade the activity as needed. Patients with sternal precautions or a craniotomy must carefully follow protocols.

Starting Position
Have your patient sit in a chair, feet on the floor. For safety, kneel beside your patient if the chair does not have arms or if the patient is unsafe in sitting. You may kneel in front of your patient if the chair has arms or your patient is functioning at a higher level.

Handling
Donning Pants

1. Begin dressing with the involved side.
2. Have your patient cross the involved leg over the less involved leg. Assist as needed.
3. Put the pant leg over the foot, uncross the leg.
4. Have your patient place the less involved foot into the pant leg. This step is often difficult because your patient must transfer weight to the involved side in order to pick up the less involved foot. Assist as needed.
5. Your patient pulls the pants up to their knees.

6. Assist your patient in standing while the pants are pulled up over the hips.
7. Assist your patient from standing to sitting.

Donning a Shirt

1. Position the shirt across your patient's knees with the armhole visible and the sleeve dropped between your patient's knees.
2. Have your patient bend forward at the hips and place the involved hand in the sleeve. While still in forward flexion, have your patient bring the collar up to the neck.

3. As your patient sits upright, the less involved arm can be put into the sleeve.

4. Buttoning the shirt from the bottom to the top helps to keep it straight and keep the buttons in proper alignment.

Tips

Patients with cognitive perceptual impairment have trouble motor planning and sequencing during dressing tasks. Know when to help and when to allow your patient the opportunity to problem solve. Observe and intervene, as necessary.

Consider asking family members to bring in v-neck t-shirts instead of crew neck t-shirts. V-neck t-shirts are easier to don and allow more room for patients with tracheostomies, craniotomies or ventilator tubes.

For more indepth information on on dressing, undressing and one-handed shoe tying, view the course *Teaching Independence: A Therapeutic Approach.*

❖ Mobility: Facilitation of Sit to Stand

ICF Component: Activities

Domain: Mobility

Therapeutic Benefits
The ability to move from sitting to standing prepares the patient for ambulation and enables the patient to manage clothes during dressing and after toileting.

Precautions
Hip precautions due to surgery, fractures/injury or arthritis.

Starting Position
Begin with the patient sitting in a chair or at the edge of the bed. Have the patient wear shoes and socks or non-skid slippers.

Handling

1. Stand on the involved side, next to your patient.
2. Position your patient's feet flat on the floor, parallel and about shoulder width apart.
3. Make sure the distal 1/3 of the femur is unsupported. Have your patient scoot forward, if necessary.

4. Position the feet behind the knees. Remember, the taller the patient, the further back the feet should be positioned. Tip: As you bring your patient forward, observe the less involved foot. If your patient repositions the strong foot, position the involved foot symmetrically.
5. Ask your patient to place their hands on their thighs or clasp them together. This helps your patient to be more aware of the involved arm and move more symmetrically.

6. Position yourself so that your shoulder is behind and in contact with your patient's involved shoulder. This will help cue your patient to come forward and, at the same time, keep your patient from pushing back into extension.
7. Place your hand around your patient, onto the less involved hip. Your forearm will be along your patient's lumbar spine.

8. Place your other hand firmly on the femur, just above (not on) the involved knee. Give your patient a cue to bring the femur forward and put weight into the involved foot.
9. Cue your patient to come forward at the shoulder and at the hips, just until the hips leave the chair. As the hips clear the chair, don't give any more forward information.

10. As your patient stands, slide your hand along the femur and place your hands firmly on the illiac crests of the pelvis.
11. Move your body closer to your patient, making contact along the involved hip.

Tips

Patients who learn to stand up by shifting their weight forward (instead of using a grab bar or pushing off the armrests of the chair) will eventually become more independent with self-care skills. However, if your patient needs equipment at home for safety, make sure that they have it.

Avoid pulling your patient up by the involved arm, instead support your patient at the trunk. Traumatic impingement to the shoulder can become painful and take weeks or months to heal.

Common Mistakes

Some patients may have difficulty coming forward to stand up. Give more cues to the patient from the shoulder, hips and femur to shift the patient's weight forward in order to stand up. As your patient stands up, watch the toes. If the toes come up from the floor, the patient's weight is too far back.

The feet are not in the correct position (not far enough behind the knees). Remember: the taller the patient and the lower the surface, the further the feet should be positioned behind the knees.

If your patient avoids putting weight onto the involved foot, make sure the involved foot is placed parallel with the less involved foot. Many stroke survivors stagger their feet, placing the involved foot in front of the less involved foot (avoiding weightshift to the involved side).

This therapeutic method is demonstrated in the chapter "Practice Labs."

❖ Facilitation of Reaching While Standing

ICF Component: Activities

Domain: General Tasks

Therapeutic Benefits
Facilitates postural control and proximal stability in preparation for upper extremity function during standing. Encourages midline orientation, visual tracking and balance.

Precautions
Orthostatic hypotension due to a change in position (from sit to stand).

Starting Position
Have your patient stand in front of a window, mirror or white board fixed to the wall. Position yourself on the patient's involved side and place a chair or wheelchair behind the patient.

Any number of tasks can be done while your patient works in standing. Write numbers on sticky notes and place them on the wall, window or mirror. Ask the patient to tap or touch each in order. Place the sticky notes in a more difficult order or on the involved side to encourage visual scanning.

Handling
1. Position yourself on your patient's involved side, making contact at the hip and hands placed on each side of your patient's pelvis.
2. Pay close attention to the involved lower extremity, especially the knee. Support as necessary.
3. Begin by having your patient weightbear equally over both lower extremities.
4. Ask your patient to reach up (in forward flexion) with the less involved arm, place the hand on the wall and bear weight.
5. Ask your patient to reach up (in forward flexion) with the involved arm, place the hand on the wall and bear weight. Assist your patient, as needed, supporting at the elbow and hand.
6. Bear weight through both arms, leaning into the wall, and continue to support at the elbow and hand, as needed.
7. Increase task difficulty and challenge your patient by using the less involved hand to reach for the sticky notes or other objects, maintaining the involved hand in a weightbearing position. Encourage stability of the muscles acting on the scapula and shoulder.
8. Reverse the task. Have your patient weightbear through the less involved arm and reach with the involved hand. Assist as necessary.

9. Maintaining contact at the hip and with your hands on your patient's pelvis, encourage your patient to gradually shift weight toward the involved side. Do not move quickly.
10. If your patient has enough knee control, shift your patient until he is fully weightbearing on the involved lower extremity, no further.

Tips

- Before bringing the involved arm to 90˚ of shoulder flexion, make sure the scapula is gliding. Do scapular mobilization in elevation, protraction and upward rotation, as needed.
- Begin with a broader base of support (weightbearing through both lower and upper extremities) and increase task difficulty by narrowing your patient's base of support (weightbearing through one arm).
- Begin with your patient standing in midline and progress by moving in small increments of weight shift away from the midline position.
- Find ways to make the activity challenging and fun for your patient.

Modifications/Variations

Decrease task difficulty by having your patient sit instead of stand. Or, change the level of the task, making it less difficult. Have your patient hang cards with tape, write on white board or wipe the windows. Have necessary supplies ready before beginning your treatment.

Common Mistakes

This task is for higher level patients. Don't ask your patient to do tasks that are too difficult. Assist with lower extremity, upper extremity and trunk control as needed.

❖ Facilitation of Trunk and Lower Extremity Control During Grooming

ICF Component: Activities

Domain: Self-Care, Mobility

ICF Component: Body Functions

Domain: Neuromusculoskeletal and movement related functions

Therapeutic Benefits
Facilitates trunk, hip and knee control in preparation for ambulation and self-care activities in standing.

Precautions
Note any observations related to hemodynamic instability or distress.

Starting Position
The patient should be positioned in standing, feet comfortably apart, in front of the sink. A chair should be positioned directly behind the patient for safety.

Handling
1. Position yourself on your patient's involved side, making contact at the hip and hands on each side of your patient's pelvis.
2. Maintaining contact at the hip and with your hands on your patient's pelvis, encourage your patient to gradually shift weight toward the involved side. Do not move quickly.
3. If your patient has enough knee control, shift your patient until he is fully weightbearing on the involved lower extremity, no further.
4. Include the involved hand into the task with guiding. Place your hand over your patient's hand. Stand with your other hand around your patient's trunk, to the less involved side. Maintain contact of your hip against your patient's hip.

Tips

Observe the position of the feet. If the feet are too close together, have your patient shift weight onto the involved foot. Next, have your patient move the less involved lower extremity in abduction and place the foot for a stance of approximately shoulder width.

Modifications/Variations

If your patient does not have enough knee control to keep from buckling, change your position. Stand on the involved side, perpendicular to your patient. Do not push the knee into extension. Instead, place your leg directly in front of your patient's knee to keep it from bending. Wrap your arm around your patient, in a bear hug.

For higher level patients, have them try reaching into the medicine cabinet or for objects at shoulder level or higher. This will require more dynamic trunk control. Be prepared to give more assistance at the hips and pelvis.

Common Mistakes

It is common for therapists to bring the patient back slightly, toward themselves. The therapist feels safer but your patient is off balance. To make sure your patient is not leaning back, observe your patient's toes. If the toes come up from the floor, your patient's weight is too far back. Maintain contact at the hip and pelvis and allow your patient to move forward until the toes are not lifting up from the floor. Your patient will be more balanced.

❖ Introduction to the ICU

The initial assessment and early intervention of a stroke survivor often begins in the intensive care unit (ICU). To be effective in the ICU requires both knowledge and skill. A patient's unstable medical condition can change your plans on a daily, or even an hourly, basis.

The first time working in the ICU environment can be overwhelming. Your patient is very ill and the room is full of complicated and unfamiliar equipment. The numerous lines can appear as a tangled web.

Therapists should feel safe when working in the ICU. A nurse is always nearby and the monitors will sound an alarm if there is any problem.

- When an alarm goes off, try to determine why.
- If it's a mechanical issue, correct it and proceed.
- If it's related to a change in your patient's status, follow proper medical guidelines.
- Always work within the parameters of proper medical guidelines. Don't hesitate to consult with your nurses to clarify any questions you may have.

The therapeutic methods used for the assessment and intervention of a stroke survivor in the ICU are basically the same as described throughout this learning module. You may have more equipment or different monitors to deal with, but you can use all of the previous treatment ideas. Follow all medical guidelines and protocols in your ICU.

Monitor your patient's vital signs at the beginning of your session to determine a baseline. Patients in the ICU may experience a hypersensitivity to visual, tactile or auditory stimulation. Be sensitive and make adjustments as necessary.

Let your patient know what you are doing in the room. Move their personal items carefully and respectfully. Your patient's room is their personal space and their home for the time being.

When preparing to change the position of your patient (into a sitting position or a transfer), many decisions must be made prior to moving your patient. For example, when preparing your patient for sitting at the edge of the bed, which side is best? The decision is often based on the length and location of the lines.

❖ Managing Equipment in the ICU

Become familiar with the actual equipment used in your ICU as yours may be slightly different. Each hospital has its own protocols and precautions related to equipment in the ICU.

Manage and organize the lines. A general rule before moving a patient: "You are limited by your shortest line." Enhance the environment. Condensing all lines to one IV pole makes it easier for you to move all of the lines necessary before sitting, standing or transferring your patient. With practice you will feel more comfortable doing this.

Ventilator

A ventilator may be attached to the tracheostomy tube or endotracheostomy tube. Be mindful not to let the condensation in the tubing roll back into your patient's airway. Don't lift the tubes above the site where the tracheostomy enters the body (at the stoma or mouth). Try not to twist or move the tubing near the tracheostomy site or mouth as it causes your patient to cough. Assure there is no tugging or pulling. Remember to visualize or walk through your treatment to determine line-length needs prior to moving your patient.

Suction Catheter

When patients have difficulty with swallowing or clearing secretions in their mouth, a suction catheter can be used. It can also be used around the stoma of a tracheostomy. Be cautious when using a tonsil-tip suction catheter as a patient who is not alert might bite down on it or, if it goes too far back in the throat, you might trigger a gag reflex.

Ventriculostomy

If your patient is on a ventriculostomy, it is extremely important to ask the nurse what is and isn't allowed during your treatment session. Before changing the height of the bed, raising the head of the bed or moving your patient, the ventriculostomy needs to be clamped by the nurse. Manage or move any line that is inserted into the skull or spine with extreme care.

EKG Telemetry Monitor

Inspect your patient's chest and note where the EKG leads are placed. Follow all lines from origin to insertion. Note baseline readings of the cardiac monitor before beginning therapy.

Foley Catheter

Use care and do not allow a catheter tube to tug or pull during therapy. Always monitor the location of the catheter before changing a patient's position in bed or transferring from the bed to a chair.

Foley Catheter with Temperature Sensor

A patient's core temperature can be monitored on a continual basis with a sensor attached to a probe from the Foley catheter. Often the temperature line can be detached during treatment, once a baseline has been noted. Be sure to reattach the temperature sensor at the end of your treatment session.

Pulse Oximeter

Oxygen saturation is measured with the pulse oximeter. It is usually attached to a finger, but can also be attached to your patient's ear, forehead or toe. It reads how much oxygen is on the hematocrit molecule.

Discuss with the nurse what is an acceptable oxygen saturation level for your patient. Observe the monitor to establish a baseline. Typically the oxygen saturation level should be above 92. If the saturation level drops below 90, stop your treatment, have your patient lie down and allow your patient to rest. Check with the nurse to determine if the oxygen can be increased.

Central Line

Be extremely careful working with patients who have a central line because the lines are harder to replace when dislodged (usually done in the operating room with a physician). Assure that there is no tugging or pulling on the central line. Visualize or 'walk through' your treatment to determine the length of the line needed prior to moving your patient.

Discharge Planning and Recommendations

The medical management of the stroke survivor is fundamental to therapeutic intervention in the acute care setting. An equally important role is to determine where the patient will be discharged after they are medically stable (home, skilled nursing facility, assisted living center or inpatient rehabilitation). Although the average length of stay in the acute care hospital is 4-5 days, it is not uncommon for stroke survivors to be transferred from the acute care hospital within 24-48 hours of admission.

Therapists play a key role in discharge planning and are often asked to give their recommendations to the team after one or two sessions with the patient. This requires expertise in assessment and clinical reasoning as well as handling skills.

Therapists should be prepared to give recommendations about:

- discharge plans
- future therapy
- adaptive equipment
- environmental modifications
- safety
- family or caregiver instruction
- prognosis of future functional gains

Several factors help determine which placements would be the most appropriate at this time:

- ability to participate
- ability to learn
- behavior (for example, is the patient agitated or belligerent?)
- tolerance to activity
- family, friend, or caregiver support system
- progress to date
- medical status
- financial considerations

Preparing the patient for transfer to inpatient rehabilitation

Early identification of potential inpatient rehabilitation candidates is important. During initial recovery, a more structured schedule allows patients to be better prepared for the transition to inpatient rehabilitation.

It's never too early to start preparing the family and patient for the road ahead. Scheduling sets expectations and helps structure the environment for the patient, the family members and the staff. Schedules related to mealtime, toileting, sleep/wake periods and rest breaks help to simulate real life and provide structure to the patient as well as the staff.

Pacing is important and rest breaks are incorporated into the program. Toileting should also be incorporated into every program. The following schedule can help acute care patients be better prepared for the transfer to inpatient rehabilitation.

Typical Schedule

0630 Wake up. Take medications, toileting.

0700 Breakfast. The patient should be positioned properly in bed or in the chair, if able.

0800 OT for self-care training performed at the side of the bed or at the sink (grooming and hygiene, changing gown, donning robe, shoes or nonskid slippers).

0845 PT is scheduled directly following OT. PT works on transfer training back to bed, donning/doffing the robe, ambulation or standing depending on level of ability.

0930 Rest until lunch.
Patient will rest either in the chair or in bed. Nursing transfers the higher-level patients to and from the chair to the bed. PT assists with lower-level patient transfers and may split their sessions to accommodate the patient's schedule.

1200 The speech-language pathologist works with the patient during their lunch meal.

1300 Rest.

1400 OT and PT scheduled back to back or with a little break in between.

1530 Rest break prior to dinner, as sometimes the patient may be too tired to eat.

Nursing Continues the Program

1700 Dinner with nursing. The patient should be positioned properly in bed or in chair, if able.

1900 Patient returns to bed.

Family Considerations

This is a very stressful time for patients and families who are experiencing the initial effects of stroke. Establish a rapport with family members as soon as possible. Family members are often able to give an account of the events leading up to the stroke and hospitalization. They are often able to provide critical information about the patient's prior level of function, home environment and medical history that will be helpful during discharge planning.

When family members are present, encourage them to remain in the room during your treatment session. Begin to assess their level of involvement and potential as caregivers. Observe their interactions with the stroke survivor. Determine their ability and whether they can safely follow through with instruction.

Allowing family members to observe therapy gives them a concrete visual of how their loved one is doing. Sometimes it is helpful for family members to see the reality of the situation.

Begin family teaching. Early instruction offers empowerment by way of participation in the rehabilitation process. Families can choose how involved they will be in the patient's recovery. Assessing this level of involvement as well as the family's abilities is important for making the discharge decision: do they feel competent and safe enough to help the patient at home?

If family members are disruptive during your treatment session or if the room is too small, ask them to wait outside. Be sure to find them afterwards and explain what you have been doing and be available for them to ask you questions.

Family members may ask for specific recommendations regarding equipment and home modifications. If the stroke survivor is not going directly home, they may want to visit skilled nursing or rehab facilities to find one that fits their needs.

Most importantly, don't expect family members to take over your role as the therapist. Their most important role is to be the loved one for the stroke survivor. If they can also be therapeutic, then that is a bonus.

Practice Labs

The individual practice labs in this learning module are extremely important and were carefully chosen to address the therapeutic needs of the majority of stroke survivors with hemiplegia. Wear comfortable clothes when practicing the handling methods. Sleeveless tops or tank tops make it easier to practice scapular mobilization techniques.

Refer to the written material on each practice lab before viewing the video segment. Once you have viewed the practice lab on video, practice the handling method with a partner. When handling your patient, your hands should be firm but never forceful. Your handling will improve as you and your practice partner share information and give each other feedback.

The handling methods described in the following practice labs are intended to facilitate motor control of the trunk, upper extremities and lower extremities. If your patient is able to participate for only a portion of the activity, allow your patient to do what they can and then give as much assistance as needed in order to complete the task. Modify your handling and the amount of assistance given each time you have your patient attempt the task.

The following handling methods and guidelines may need to be modified if your patient has secondary complications or medical conditions that interfere.

Note: The procedures in several of the following Practice Labs are similar to those presented in "Ideas for Therapeutic Intervention." They are repeated here for your convenience.

❖ Practice Lab

Bed Mobility: Scooting Side to Side

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere. This method is useful for patients requiring moderate assistance.

Starting Position

The patient is lying in supine.

Handling

1. Have your patient bring the less involved leg into as much hip and knee flexion as comfortably possible, placing the sole of the foot flat onto the bed. Assist your patient, as needed.
2. Grasp the ball of the foot and bring the ankle into dorsiflexion with eversion.

3. Slowly bring the involved leg into hip and knee flexion.
4. Place the foot flat onto the bed.
5. Ask your patient to take care of the involved hand (if possible). Assist as necessary.

6. Reposition your hand onto the lower end of the femur, just above the knee.
7. Firmly bring the femur forward, bringing the knee over the foot and putting weight into the feet. It can be helpful to use your forearm, in addition to your hand, to give more input into the femur to bring the hips off the bed. This is especially true with larger or lower level patients.

8. With your other hand, support under the involved side, unweighting and extending the hips.
9. As the hips come off the bed, cue your patient's hip to scoot to the side.
10. Allow the hips to return to the surface of the bed.
11. Reposition both feet in alignment with the knees and femurs.

12. Assist your patient to lift the head and shoulders off the pillow (if your patient is unable to lift the head, you can support the head and shoulders with the pillow).

13. Scoot the head and shoulders and align over the hips.
14. Repeat the sequence until your patient has scooted as far as needed.

Tips

The following guidelines can help you determine how far to scoot the patient in bed:

- If you are having your patient scoot in order to be positioned in sidelying, scoot your patient as far to the edge of the bed as possible. This will be helpful in proper bed positioning.

- If you are scooting your patient over in preparation to come from sidelying to sitting, measure the length of the femur. This is approximately the distance that your patient should be from the edge of the bed.

Variations

Some patients need more assistance. It may be necessary for you to assist in bringing both femurs forward in order to bridge and scoot.

When passive handling is necessary, a draw sheet can be used to slide a patient over in bed or up in bed. Raise the height of the bed. With the assistance of two people, one on each side of the bed, grasp the draw sheet and slide the patient over in bed. When sliding up in bed, take care to protect your patient's skin.

Common Mistakes

Most patients have difficulty scooting from side to side for two reasons:

- First, they have difficulty bridging (lifting their hips off the bed.)
- Second, due to poor hip and knee control, they have difficulty maintaining position of the hip and foot.

❖ Practice Lab

Bed Mobility: Rolling from Supine to Sidelying

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere.

Starting Position

The patient is lying in bed, supine.

Handling

1. Have your patient clasp their hands together. This helps them to be more aware of the involved side and encourages your patient to “take care of it.”

2. Bring your patient’s hips and knees into flexion.
3. Place the feet flat onto the bed.
4. Assist your patient to bring both arms into shoulder flexion and protraction.

5. Assisting at the knees and arms, roll your patient onto their side.
6. You may need to cue or physically assist your patient to roll over the trochanter. This will increase the comfort of your patient in sidelying.

Tips

Flexing the hips and knees helps to inhibit lower extremity extensor tone. Bringing the shoulders into flexion and scapular protraction before rolling onto the side helps the patient avoid rolling onto the head of the humerus avoiding trauma to the glenohumeral joint. Provide as much assistance as necessary in order for your patient to complete the task.

Variations

Facilitate dissociation of pelvis and shoulder girdle during rolling.

1. Follow steps #1 - #4, above.
2. Initiate rolling with the upper extremities, then follow with the lower extremities, separating the upper and lower trunk during rotation.

Facilitate rolling by externally rotating the involved lower extremity.

1. Position your patient in supine with both lower extremities in extension.
2. Assist your patient to bring both arms into shoulder flexion and protraction.
3. Place your hand on the femur of the involved leg.
4. Gently but firmly bring the femur into external rotation.
5. Ask your patient to roll toward the involved side, using the strong leg to roll.

❖ Practice Lab

Bed Mobility: Sidelying to Sitting

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere.

Starting Position

The patient is lying in bed on the involved side.

Handling

1. Place your patient's lower arm between your humerus and trunk. Maintain this support.
2. Slide your hand under the scapula and bring the involved arm into protraction and forward flexion, as close to 90˚ as possible.

3. Bring the upper trunk into flexion, closer to the edge of the bed. This will be better for your back and will also keep your patient from pushing back into extension.

4. Bring the hips and knees into as much flexion as your patient can comfortably tolerate. This will help to inhibit extension of the lower extremities and shorten the 'levers,' making it easier to control the taller patients.
5. Stand in front of your patient with a wide base of support.

6. Assist your patient to reach across with the less involved arm and ask them to ‘push up’ from the bed. This hand placement also helps keep them forward and discourages them from falling back onto the bed.
7. Slide your patient’s feet off of the bed, keeping your leg in front of their feet. Don’t allow their legs to fall as this can cause stress at the hip.

8. Place one hand on your patient’s illiac crest, bringing the pelvis down and slightly back. This facilitates trunk activity on the less involved side.
9. At the same time, shift your weight from one leg (positioned toward the head of the bed) to the other leg (positioned toward the foot of the bed). This ‘lunge’ encourages use of your legs instead of your back.
10. Bring your patient’s upper trunk upright into a sitting position, continually supporting the involved upper extremity.

Tips

Consider the following prior to sitting your patient at the edge of the bed.

- ability to follow directions
- level of alertness
- sensation and function of the less involved side
- lower extremity ROM

In addition, check for any indication of pain.

Common Mistakes

Don’t forget to slide the feet off the bed (step #7) before coming to a sitting position. Facilitation of the pelvis (step #8) and the lunge weight shift (step #9) are extremely important so that you don’t use your back to lift the patient.

❖ Practice Lab

Bed Mobility: Sitting to Sidelying

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere.

Starting Position

The patient is sitting on the side of the bed, the feet may or may not be supported.

Handling

1. Stand in front of your patient and place your patient's involved arm between your humerus and trunk.

2. Place your hand on the scapula to support the weight of the upper trunk. Stay directly in front of your patient, not ahead or behind, to avoid unnecessary strain on the shoulder.
3. Ask your patient to reach across their body with the less involved arm. Have your patient ease their weight and lower down to the bed in sidelying.
4. As your patient shifts their weight toward the weak side, ask them to bring the less involved leg up onto the bed. Assist as needed.

5. Assist your patient in bringing the involved leg onto the bed.
6. Gently lower your patient onto the involved side. Keep the upper extremity forward, having your patient lie down on the scapula, not the humeral head.
7. Once your patient is in sidelying, have them slowly roll into supine, making sure the arm is brought into a good position of alignment, not into horizontal abduction.

Tips

Many patients are afraid to lie down over the involved side. To reduce fear, point to the pillow and ask them to lie down. This will help your patient to initiate weight shift toward the involved side.

Common Mistakes

Patients are tired at the end of the treatment session and often 'fall' back into bed (instead of coming into a sidelying position). Be careful to keep your patient forward, in a sidelying position. Rolling quickly away into a supine position could cause a traction injury to the shoulder.

❖ Practice Lab

Mobility: Sit to Stand Normal Movement

Self Experience

1. Sit comfortably in a chair.
2. Observe the movement of your lower extremities, trunk, head and upper extremities as you prepare to go from sit to stand. What do you do first, second, third and fourth in order to stand up?
3. Note the placement of your feet. Where are they positioned?
4. As you stand up, how far forward do you flex your trunk? Or, another way of putting it: at what point do you stop coming forward?

5. How is your weight distributed over your feet and lower extremities?
6. Do you use your upper extremities?
7. Did you scoot to the edge of your chair?
8. Place your feet an inch forward of your preferred foot position and try standing up again. What do you notice?

Observe Others

1. Observe another person go from sit to stand.
2. Follow the same observations listed above.
3. Do you note any differences from your own experience?
4. If so, which of the following factors may have contributed to those differences?
    - height and build
    - joint flexibility
    - strength
    - previous injuries or orthopedic limitations
    - environmental factors (e.g., height of surface)

Analysis of Normal Movement

1. Our feet are placed parallel on the floor, usually about shoulder width apart.
2. Our feet are positioned behind our knees. The taller the person, the further the feet are behind the knees and the shorter the person, the closer to 90˚ of knee flexion.
3. The majority of people do not scoot to the edge of the chair. People scoot forward if their feet don't touch the ground or if their femurs are fully supported. (Normally the distal third of our femur are unsupported when coming from sit to stand.)
4. We then lean forward, far enough to shift our base of support from our hips to our feet (until the hips clear the chair) and no further.
5. As we lean forward and begin to stand, our femurs come slightly forward.
6. Our knees, hips and trunk extend until we are in full standing.

❖ Practice Lab

Mobility: Sit to Stand with Moderate Assistance

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere.

Starting Position

The patient is seated in a chair or wheelchair with feet flat on the floor.

In order to determine where to position the feet and how much forward flexion is necessary for your patient, observe the following:

- Is your patient short or tall?
- Is your patient large (will bending forward be difficult)?
- What is the height of the surface? Is it higher or lower than normal?
- Does your patient have any secondary condition or diagnosis (hip replacement, back injury, Achilles tightness) that makes leaning forward difficult?

Handling

1. Stand on the involved side, next to your patient.
2. Position both feet flat on the floor, parallel and about shoulder width apart.
3. Make sure the distal 1/3 of the femur is unsupported. Scoot forward in the chair, if necessary.
4. Position the feet behind the knees. Remember, the taller the patient, the further back the feet should be positioned. Tip: As you bring your patient forward, observe the less involved foot. If the patient repositions the strong foot, position the involved foot symmetrically.
5. Ask your patient to place their hands on their thighs or clasp them together. This helps your patient to be more aware of the involved arm and move more symmetrically.
6. Position yourself so that your shoulder is behind and in contact with your patient's involved shoulder. This will help cue your patient to come forward and, at the same time, keep your patient from pushing back into extension.
7. Place your hand around your patient, onto the less involved hip. Your forearm will be along your patient's lumbar spine.
8. Place your other hand firmly on the femur, just above (not on) the involved knee. Give your patient a cue to bring the femur forward and put weight into the involved foot.

9. Cue your patient to come forward at the shoulder and at the hips, just until the hips leave the chair. As the hips clear the chair, don't give any more forward information.
10. As your patient stands, slide your hand along the femur and place your hands firmly on the illiac crests of the pelvis.
11. Move your body closer to your patient, making contact along the involved hip.

Tips

Patients who learn to stand up by shifting their weight forward (instead of using a grab bar or pushing off the armrests of the chair) will eventually become more independent with self-care skills. However, if your patient needs equipment at home for safety, make sure that they have it.

If your patient is unable to clasp their hands due to arthritis or edema, this is a nice alternative. Have your patient place the thumb in the palm of the involved hand and support the wrist

Common Mistakes

The therapist does not give enough cues from the shoulder, hips and femur to bring the patient forward. As the patient stands up, watch the toes. If the toes come up from the floor, the patient needs more information to shift their weight forward.

The feet are not in the correct position (not far enough behind the knees). Remember: the taller the patient and the lower the surface, the further the feet should be positioned behind the knees.

Avoid pulling the patient up by the involved arm. This can cause traumatic impingement that can take weeks or months to heal.

❖ Practice Lab

Mobility: Sit to Stand with Maximum Assistance

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere.

Starting Position

The patient is sitting in a wheelchair, a regular chair or on the bed. Never put yourself in an unsafe position. If at any time you feel unsafe or unsure of your handling skills, be sure and get assistance.

Handling

1. Stand on the involved side, next to and facing your patient.
2. Position your patient's feet flat on the floor, parallel and approximately shoulder width apart.
3. Scoot your patient forward in the chair, if necessary, in order for the feet to reach the floor or for the distal third of the femur to be unsupported.
4. Position your leg so it will be directly in front of your patient's knee.
5. Place your open hand on your patient's sternum and gently bring your patient into trunk flexion. Be careful not to slide your hand up your patient's neck.

6. Place your other hand around your patient and under the less involved hip. This hand will cue your patient to come forward and, at the same time, allow you to feel when your patient's hips leave the chair.
7. Using three points of control (knee, sternum and hip), rock your patient forward, shifting the weight from the hips to the feet. Shift your patient's weight forward - do not lift your patient into standing.
8. As your patient's hips clear the surface, don't give any more forward information.

9. Gently but firmly press the sternum, knee and hips together. Your patient will come into extension.

10. Once your patient is standing, slide your hands around your patient's pelvis (not the waist) and continue to position your leg directly in front of your patient's knee.

Tips

As you bring your patient into forward flexion, observe the less involved leg. Patients often bring the strong foot further back, behind the knee. If this happens, stop and reposition the involved foot, parallel with the less involved foot.

Fearful patients often stand better in front of heavy, solid surfaces such as the bathroom sink or hospital bed.

❖ Practice Lab

Mobility: Sit to Stand with Two Person Assist

The following guidelines may need to be modified if your patient has secondary complications or medical conditions interfere.

Starting Position

The patient is sitting in a wheelchair, regular chair or on the bed. Never put yourself in an unsafe position. If, at any time, you feel unsafe or unsure of your handling skills, be sure and get assistance.

Handling

Patients usually require the maximum assistance of two persons due to size, poor control of trunk and lower extremities or lethargy.

1. The second person assisting stands on the less involved side, next to and facing the patient (mirroring the first therapist).
2. Position your patient's feet flat on the floor, parallel and approximately shoulder width apart.

3. Scoot your patient forward in the chair, if necessary, in order for the feet to reach the floor or for the distal third of the femur to be unsupported.
4. Each therapist positions their leg so it will be directly in front of each of your patient's knees.

5. The first therapist places an open hand on the patient's sternum. The second therapist places her hand over the first therapist's hand. The two therapists gently and simultaneously bring the patient into trunk flexion. Be careful not to slide your hand up your patient's neck.

6. Each therapist places a hand under the hip that is closest to them. This hand will cue your patient to come forward and, at the same time, allow you to feel when your patient's hips leave the chair.

7. Using three points of control (knee, sternum and hip) and synchronizing your weightshifts, rock your patient forward, shifting the weight from the hips to the feet. Shift your patient's weight forward - do not lift your patient into standing.
8. As your patient's hips clear the surface, don't give any more forward information.
9. Gently but firmly press the sternum, knee and hips together. Your patient will come into extension.

❖ Practice Lab

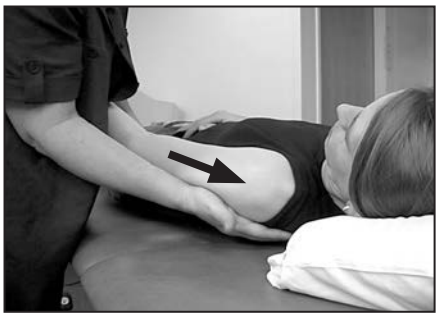
Scapular Mobilization: Elevation and Depression

Starting Position
Position the patient in supine. Elevate the bed for body mechanics.

Handling

1. Stand facing your patient, on the involved side.
2. Place your patient's involved arm between your humerus and your trunk.
3. Support the weight of the arm at the elbow. DO NOT pull on the elbow.
4. Place your other hand under the scapula.

5. With a flat, open hand, move the scapula into elevation. Your hand along the scapula does all of the work.



6. Hold for a few seconds and return the scapula to the resting position.

Variations
If your patient has a heavy arm, reposition your patient in sidelying on the less involved side. The involved side is more accessible and easier to mobilize.

Common Mistakes
The most common mistake made in doing scapular elevation is that therapists don't take the patient's scapula to end range. They are afraid they will hurt the patient. In order for the patient to fully benefit from scapular mobilization, take the scapula to end range of elevation – but always within a pain free range.

To learn scapular mobilization in a sitting postion, view the course *Teaching Independence: A Therapeutic Approach.*

❖ Practice Lab

Scapular Mobilization: Protraction and Retraction

Starting Position
Position the patient in supine. Elevate the bed for body mechanics.

Handling

1. Stand facing your patient, on the involved side.
2. Place your patient's involved arm between your humerus and your trunk.
3. Support the weight of the arm at the elbow.
4. Place your other hand under the scapula.

5. With a flat, open hand, move the scapula into protraction, bringing the medial border of the scapula away from the spine. Your hand along the scapula does all of the work—do not pull on the elbow.
6. Go to the end range of scapular protraction (where you feel resistance or the patient experiences discomfort, no further). Hold for a few seconds and return to the resting position.
7. Combine the movements of elevation and protraction, making a circular motion of the scapula: elevation, protraction, depression and slight retraction.

Variations
If your patient has a heavy arm, reposition the patient in sidelying on the less involved side. The involved side is more accessible and easier to mobilize.

Common Mistakes
Don't curl your fingers around the medial border of the scapula. Use a flat, open hand and curve your fingers just enough to match the curved contour of the scapula.

❖ Practice Lab

Scapular Mobilization: Upward Rotation and Downward Rotation

Starting Position
Position the patient in supine. Elevate the bed for body mechanics.

Handling

1. Stand facing your patient, on the involved side.
2. Place your patient's involved arm between your humerus and your trunk.
3. Support the weight of the arm at the elbow.
4. Place your other hand under the scapula.

5. With a flat, open hand, move the scapula into elevation and protraction, in a circular motion. Your hand along the scapula does all of the work.

6. The hand along the scapula slides along the humerus and hooks on the epicondyles. Use a lumbrical grip.
7. Maintain traction of the scapula in protraction from the epidondyles.

8. Slide your hand (the one that had supported the arm at the elbow) up to your patient's hand as if shaking hands. Support the hand along the base of the metacarpalphalangeal (MCP) joints. Do not hang on the fingers. Make sure the arm is in external rotation.
9. Watch your patient's facial expression carefully as you slowly bring the arm over 90˚ of flexion. Note any expression of discomfort or anticipation of pain.

10. Bring the arm in forward flexion, maintaining traction at the hand and epicondyles.

11. Go only to the point of resistance or discomfort. DO NOT force ROM or any structures.
12. Gently and slowly lower the arm. Lowering the arm too quickly can cause pain.

Variations

If your patient has a heavy arm, reposition your patient in sidelying on the less involved side. The involved side is more accessible and easier to mobilize.

Factors to Consider

If your patient does not have full ROM in scapular excursion, check the less involved shoulder. If the limitation is bilateral, most likely the loss of ROM was prior to the stroke.

Factors which may contribute to loss of range:

- soft-tissue tightness
- increased muscle tone of those muscles acting on the scapula
- premorbid conditions

Faculty Guide

This *Faculty Guide* includes the following:

- Suggestions for teaching information found in this learning module.
- Suggestions for teaching the 10 practice lab sessions.
- Suggested answers for the seven worksheet assignments.
- A multiple-choice test with answers.

Treatment Strategies in the Acute Care of Stroke Survivors

Treatment Strategies in the Acute Care of Stroke Survivors is a multimedia clinical education program designed to provide guidelines for the assessment and intervention of stroke survivors within the hospital setting. The entire program includes 4 hours of video, 10 Practice Labs, 7 Worksheet assignments and a multiple-choice test.

This program is designed to be interactive. For the most benefit, the written information presented in this Workbook should be read and reviewed before watching the corresponding video segments or completing the practice labs.

The online video format allows you flexibility in teaching this information. The learning module can be taught in a progression from start to finish, or you can choose individual segments to be used in your class. The Program Guide (pages 9-11) provides the full program menu. The Table of Contents provides the organization of all written material. Keeping this in mind, if you want to teach a section on equipment commonly seen in the Intensive Care Unit, turn to that chapter in this Workbook and then watch the 16 minute video segment “Managing Equipment in the ICU”.

The Acute Care Setting

Students and newly trained therapists can be overwhelmed at the thought of treating acute stroke survivors in the hospital setting. Faculty have reported that, due to fear, many students are choosing to avoid working in hospital settings altogether.

This learning module will help familiarize students to the hospital environment before beginning their clinical experiences and provide essential guidelines for safe and effective care. The guidelines, illustrations and tips are suggestions for a treatment strategy organized in a progression of care beginning with assessment and continuing through intervention. Use these guidelines to supplement your curriculum in assessment and intervention strategies.

Tips for Teaching Practical Labs

Whenever I teach practical labs, I keep in mind the following 6 rules:

1. **Information: Time Ratio**
   The amount of information presented should be appropriate for the amount of time. Don't try to cover too much information, especially if the goal of the experience is to teach specific handling skills. The effectiveness will be lost.
2. **Prioritize**
   For each class session, pick 2 or 3 key topics or methods you want to teach and prioritize them. Priorities for first-year students will be different than priorities for more experienced students.
3. **Select Useful Skills**
   Pick topics that can be immediately used. Students will retain the information better if they can apply or use the skills after training.
4. **Supply Written and Visual Materials**
   For the most effective training, support your teaching with good written and visual aides. Make them concise and specific. List key points. Make sure the visuals are clear and easy to follow, and the images pertain directly to the points that you are teaching.
5. **Participate and Practice**
   We all know that we learn best by "doing," especially when learning a skill. Condense the information, make sure you have plenty of practice time, elaborate, and add more information only if time permits after practicing.
6. **Give Resource Lists**
   Provide lists of resources for those students wanting more "in depth" information. This list may include contact information of organizations, articles for reference, and Web sites. You may want to include (as appropriate) medical/hospital libraries, equipment vendors, or specialists in the area who may be helpful.

Whether the material you are teaching is basic or advanced, *remember these 3 things before you start:*

1. **Don't teach a skill you can't do successfully.**
   No one will be "sold" on your new ideas - or use them - if you can't get them to work. It is best to practice and develop your expertise before presenting new information to your students.
2. **Choose your words carefully.**
   Make sure that you present the information at a level that is appropriate for your students.
3. **Don't have your students "pretend."**
   When teaching a skill, try to work in the environment closest to the "real thing." Bed mobility is a lot harder on a hospital bed than on the raised mat table in class. If you are instructing students, use the "real" equipment and don't take shortcuts. When analyzing movement components during a functional task, such as dressing, have the student's use actual clothing. Their movement will be more normal.

How to Teach a Skill

1. **Demonstrate the Skill**
    - at normal speed (without stopping or slowing down)
    - view from all sides (from the front, the back, as appropriate)
    - demonstrate more than once, if necessary
    - Don't give other options here; wait. Demonstrating variations at the beginning is only confusing for the student. Have them learn the skill first, then show variations.
2. **Explain the Importance of the Skill**
    - explain the functional application(s)
    - explain any benefits
    - give illustrations, if necessary
3. **Demonstrate the Skill** *Again*
    - go slowly, be exact
    - describe each point required for success
    - 3 to 5 points are enough
    - While you are demonstrating, be sure to explain what **you** are doing and what the **patient** is doing.
4. **Have the Students Try It**
    - repetition is good
    - provide help as needed
    - encourage feedback
    - Learning a skill takes a lot of repetition. This is especially true for the learning of complex skills or when teaching students with all new information.
5. **Any Problems?**
    - this is **your** time to problem solve!
    - make corrections
    - give tips or necessary modifications
    - This is what "makes it or breaks it." Your role, when your students try a skill, is to help them when things go wrong. You need good observation skills and good problem-solving skills. What exactly do they need to know so they have success?
    - Have you ever had a ski lesson or a golf lesson? A good instructor will find the one component, which makes the difference in your performance. A less effective instructor will give so much information - or give so many variables - that it becomes nearly impossible to learn.

6. **Demonstrate with an Actual Patient**
    - or with photos or videos
    - give clarity to points in #3
    - *Tips on using visuals.* Be consistent with the words you are using and the wording on visuals or written materials. It can be confusing for the learner to hear one thing as their eyes see another. Read it exactly as is, then say it again (rephrased) if necessary for more clarification.

7. **Add Variations**
    - *now* add more options
    - modify as needed
    - teach them problem solving!

Suggestions for Acute Care Practice Labs

Have your students wear comfortable clothes that are appropriate for practicing handling skills. Comfortable pants are good for bed mobility, sleeveless tops or tank tops make it easier to practice scapular mobilization.

Refer to the written material (previously described in the chapter 'Practice Labs') before viewing each video practice lab.

Prior to practicing each lab, ask your students to give their practice partners feedback. For example, when the student is in the role of 'the patient', have them share how it felt to be moved by their practice partner. Was the handling firm enough? Too forceful? Too light? Not enough? Did their partner give enough information to know what was expected? With practice the students will become more comfortable giving feedback to each other. This feedback will help improve the student's handling skills and help them better understand what a patient might experience.

In addition to the 10 labs demonstrated, you may choose to teach additional practice labs based on the information presented in the chapter 'Ideas for Therapeutic Intervention'.

Tips for Teaching Bed Mobility

The therapeutic significance of bed mobility is, unfortunately, minimized in many treatment settings. Some therapists consider bed mobility merely a nursing procedure. However, proper handling during bed mobility encourages trunk and limb control and facilitates movements necessary for higher levels of function.

The following practice labs utilize handling methods based upon normal movement. Have your students demonstrate and analyze normal movement for each of the following practice labs (scooting from side to side, rolling from supine to sidelying, sidelying to sitting and sitting to sidelying) before attempting the handling methods with a practice partner. The better your students are able to analyze typical components of movement during bed mobility, the greater their understanding of facilitation methods.

Students can practice bed mobility on a mat table, treatment plinth or hospital bed. The environmental considerations (height, width, and type of surface) of each will affect the performance of functional mobility. Also, remind your students to raise the height of the surface to improve their body mechanics and prevent back injuries.

Bed Mobility: Scooting Side to Side

During this practice lab, encourage your students to focus on each facilitation method used. Students often look at this activity as "just scooting over", but scooting side to side includes important elements necessary for selective trunk and limb control as well as preparation for gait such as:

- weightbearing through the involved foot
- hip extension with knee flexion
- selective motor control (out of a synergy pattern)

After practicing this lab observe Patient #4: Ben trying to scoot from side to side.
I assist the therapist to give her more specific handling tips to help Ben be more successful.

Bed Mobility: Rolling from Supine to Sidelying

For stroke survivors, rolling in bed can be much more difficult than it looks. Most nurses and therapists passively assist the patient and, therefore, miss important opportunities to facilitate active trunk and limb control.

I demonstrate two variations in the Practice Lab, Bed Mobility: Rolling. The handling methods I demonstrate require the patient to roll without the use of bed rails. However, bed rails are sometimes used to help a patient requiring maximum assistance to roll onto their side. Observe the therapist use other methods to help Patient #3: Ellanora roll onto her side. Two therapists help Tom roll onto his side during his co-treatment in the ICU.

Bed Mobility: Sidelying to Sitting

This practice lab will enable students to be successful in helping a patient requiring moderate or maximum assistance. Remind your students that the steps must be done correctly and in the proper sequence in order to be successful. Hand placement, weightshift and proper body mechanics are critical to safe and effective bed mobility in bringing a patient from sidelying to sitting.

Bed Mobility: Sitting to Sidelying

As in the previous practice lab, remind your students that the steps must be done correctly and in the proper sequence to be most successful. Their hand placement, weightshift and proper body mechanics are critical to the safe and effective bed mobility in bringing a patient from sitting to sidelying.

Make sure that your students take particular care of the hemiplegic shoulder during this therapeutic method. Protect the shoulder by lowering the patient onto the scapula (not the humeral head). Many patients flop into supine as soon as their head hits the pillow. Be sure to slow them down and keep the trunk and shoulder in good alignment.

Tips for Teaching Sit to Stand

The following four practice labs are designed to help your students feel safe and comfortable while they begin functional standing with a stroke survivor. Many students and new therapists do not feel safe and avoid standing their patients.

Practice in a large, open room (away from tables and desks). Have the students form a large circle with their chairs. Chairs without armrests are nice, but not necessary.

Mobility: Sit to Stand Normal Movement

Take the time to analyze this practice lab in detail. By doing so you will lay the foundation of how much detail you will expect from students during future practice labs.

Before you tell them to analyze the movement of sit to stand, ask them to “freeze”. Now, have them begin their analysis from this point forward. In doing so, they will become more aware of proper foot placement. Foot placement is critical in facilitating sit to stand.

Have your students go from sit to stand 3 or 4 times and analyze their own patterns of movement. Ask the students to identify each component of movement, in the correct order. Note the differences between students.

- "What did you do first?" (position feet)
- "Where are your feet positioned?" (behind the knees)
- "How far behind the knees" (depends on the height of the student and the height of the chair)
- "What did you do next?" (lean forward)
- "How far forward do you lean in order to stand up?" (until they shift their base of support from their hips to their feet. Or, when their hips clear the chair)
- "What happens if you continue leaning forward after your hips leave the chair?" (they feel like they are falling forward)
- "After your hips leave the chair, what did you do?" (extend knees, stand up)
- "How many of you scooted forward in your chair?" (very few will answer yes)
- "Those of you who scooted forward, why?" (to place their feet on the floor or to unweight the distal third of the femur)
- "How many scooted to the edge of the chair?" (almost no one)

Mobility: Sit to Stand with Moderate Assistance

The written guidelines in this Workbook are comprehensive for this practice lab. You may need to describe to your students how to 'be a moderate assist' patient so they know how act during this lab. I usually tell them that as a patient requiring moderate assistance, they have some trunk activity, some control of the non-involved side and can follow directions.

Mobility: Sit to Stand with Maximum Assistance

This practice lab is a good example of how the components of normal movement are the foundation for facilitating sit to stand even though maximum assistance is required. Tell your students to be 'maximum assist' but not dead weight! Some students (and therapists) will make it nearly impossible for their partner to practice this technique.

Mobility: Sit to Stand with Two Person Assist

Students and therapists alike are always surprised to see just how easy it is to learn this handling method. It looks more difficult than it actually is.

Practice this lab until your students feel comfortable. The long term benefits for both students and patients are significant. Students and therapists will protect their own backs because they aren't lifting the patient out of the chair. Using this method also protects the patient's shoulders, as they are not being lifted into standing. Patients requiring the maximum assistance of two persons respond well to this method because it is based on normal movement.

Important: When practicing this lab, teach your students to shift the patient's weight forward, from their hips to their feet in order to stand up. Do not have the students lift the patient into a standing position.

Tips for Teaching Scapular Mobilization

It is extremely important for every student to learn how to mobilize the scapula properly. Proper handling of the shoulder will help protect the patient's shoulder from trauma preventing shoulder pain.

I always teach these three practice labs in the following order: 1) elevation/depression, 2) protraction/retraction and 3) upward rotation/downward rotation.

Remind your students to wear sleeveless shirts or tank tops. As you observe the students practicing each mobilization technique, find one or two that are hypermobile in scapular gliding and an example or two of students that have less mobility. It is important for students to see that there is a wide range of scapular mobility in the general population. Have the students try to determine possible reasons for the differences in scapular gliding.

During the practice lab, teach your students to go only to the point of discomfort or resistance. No further. The most common mistake that students make is not taking their partner's shoulder to end range. The students are afraid they will hurt their partner's shoulder. Remind them that their partner will give them feedback. It is extremely important to maintain shoulder ROM following a stroke and to do it carefully.

Scapular Mobilization: Elevation and Depression

I begin with scapular mobilization in elevation because it is so safe. Impingement of the glenohumeral joint is nearly impossible. Follow the directions for scapular mobilization in supine and then have your students try it again with the patient in sidelying.

Remind your students to take the scapula to the end range of scapular elevation. Students often ask "How many times should I do this?". The answer is twofold. First, you are evaluating the excursion of the patient's scapula. It may take 3 or 4 times to find the end range of scapular elevation. Second, you are preparing the scapula in elevation and depression for better upper extremity movement.

Scapular Mobilization: Protraction and Retraction

This handling method can be done with the patient in supine, sidelying or sitting.
Sidelying is often the easiest to demonstrate because it is easy for the student to see the scapula gliding. The movements should be slow and never forceful.

It is extremely important to teach your students about the alignment of the shoulder girdle. Review the biomechanics of the glenohumeral joint and the scapulohumeral rhythm. Remind your students to keep the humerus below 90 degrees of shoulder flexion until the scapula has been fully mobilized and prepared.

Scapular Mobilization: Upward Rotation and Downward Rotation

Of the 3 methods demonstrated in scapular mobilization, this method has the greatest potential to cause impingement if not done correctly. The proper alignment of the structures of the shoulder is extremely important.

As the student begins shoulder flexion and upward rotation of the scapula, have them maintain the scapula in a position of protraction, giving the patient slight traction on the scapula.

As the shoulder increases in range, over 90˚, the students must be very careful to feel for any resistance. If resistance is felt, stop. Do not force ROM. It could be an indication that the scapula is no longer gliding and has reached end range.

Worksheet Assignments

The 6 worksheet assignments found in this Workbook are designed to help students integrate the written and visual information related to acute care of the stroke survivor. Choose one or more of the assignments, depending on your curriculum. You are encouraged to modify the questions or answers of any assignment to meet the needs of your educational program.

Worksheet Assignments #1 - #6

In an attempt to improve the student's observation and clinical reasoning skills, the items selected for each worksheet are relevant to a specific patient. First have your students read each worksheet assignment, then observe the corresponding DVD segment and finally complete the worksheet.

Worksheet #1 "Observation of a Patient Assessment"
Worksheet #2 "Patient #1: Mary"
Worksheet #3 "Patient #2: Calvin"
Worksheet #4 "Patient #3: Ellanora"
Worksheet #5 "Patient #4: Ben"
Worksheet #6 "Therapeutic Intervention in the ICU (Tom)"

❖ Worksheet Assignment 1

Observation of a Patient Assessment

Name Date

Observe the patient and the environment

1. **List any medical equipment being used by the patient.**

   • The patient is receiving oxygen through a nasal cannula.
   • The patient is wearing sequential compression devices on both lower extremities.
   • The patient has an IV needle in the left upper extremity (no line attached).
   In addition:
   • A gait belt was used during ambulation.
   • The patient uses hearing aids, bilaterally.

Assessment of body functions and structures

2. **Describe the motor function of the right upper extremity (as observed during the assessment).**
   The patient exhibits impaired coordination throughout the left upper extremity.
   - **Shoulder:** The patient has active shoulder flexion and abduction to 90˚.
   - **Elbow:** The patient has full active elbow flexion and extension.
   - **Forearm:** The patient is able to pronate and supinate the forearm.
   - **Wrist:** The patient has active wrist flexion and extension.
   - **Hand:** The patient has active finger flexion and extension.

3. **Describe the results of the right lower extremity assessment regarding:**
   - **Sensation:** Light touch and deep pressure appear absent; proprioception appears impaired.
   - **Tone:** No abnormal tone observed.
   - **Motor function:**
     In supine:
     Toes: active flexion and extension.
     Ankle: active plantarflexion and dorsiflexion.
     Hip: active flexion and extension.
     Hip: active external rotation.

     In sitting
     Hip: flexion against resistance.
     Knee: extension against resistance.
   - **ROM:** Within functional limits throughout the right lower extremity.

Assessment of functional activities

4. **Name 4 functional activities that you observed the patient perform during the assessment. How much assistance was required for each task?**

   Activity #1
   Bed mobility: rolling toward the less involved and more involved side.
   No assistance required.

   Activity #2
   Bed mobility: sidelying to sitting.
   Used bed rail as an assist.

   Activity #3
   Scoots to edge of bed.
   No assistance required.

   Activity #4
   Sit to stand and stand to sit.
   Minimal assist with light contact.

   Activity #5
   Ambulation
   Moderate assistance of two required.

5. **How would you describe the patient's key problem area?**
   Severe sensory impairment of the right upper extremity and right lower extremity.

6. **How might the identified key problem affect the patient's ability to function?**
   Due to decreased awareness of the involved side, safety is the major concern.
   Patient will have trouble with foot placement during tasks such as ambulation or stair climbing.
   The patient will have difficulty with self-care tasks that require two hands due to sensory impairment.

   Describe your plan of intervention based on this assessment.
   The plan should include:
   Increase awareness of the right upper and lower extremities.
   Teach compensatory strategies for sensory impairment.
   Assess the need for an orthotic device to maintain correct alignment of the ankle.

❖ Worksheet Assignment 2

Patient #1: Mary

Name Date

Health condition

1. **Describe Mary's medical history.**
   84 year old married woman in good health prior to admission 2 days ago for a stroke of the right middle cerebral artery

Observe the patient and the environment

2. **Name 2 pieces of equipment used during intervention.**
   • Gait/safety belt
   • Commode chair for sitting

Observations of body functions and structures

3. **Describe your observations related to ROM and motor function of the left upper extremity.**
   Full passive ROM of the shoulder, elbow, hand and wrist.
   No voluntary movement of the left upper extremity. Increase in tone noted in elbow flexion with change in temperature (cold washcloth).

4. **Describe your observations of ROM and motor function of the left lower extremity.**
   No obvious ROM deficits; within functional limits.
   Motor function is difficult to assess due to lack of participation and the patient's inability to understand cues.
   Strength is less than fair throughout.
   In sitting, the patient begins to initiate hip abduction and adduction with facilitation.

Observations of functional activities

5. **Which of the following activities were observed? How much assistance was required for each activity?**

   - **Rolling:** not observed

   - **Sidelying to sitting:** maximum assist required

   - **Sit to stand:** 2 person maximum assist required

   - **Transfer from bed to chair:** 2 person maximum assist required

6. **What 2 goals were stated for Mary's treatment session?**
   The therapists stated that they wanted to attempt sit to stand and bed to chair transfer.

7. **Name 2 key problem areas for Mary.**
   1. Decreased awareness of the left upper extremity
   2. Weakness throughout the left upper and lower extremities
   3. Left sided disregard (doesn't turn her head past midline)
   4. For decreased mobility; maximum assistance required for bed mobility, transfers and sitting.

8. **How were these problems addressed during her treatment session?**
   1. Decreased awareness of the left upper extremity
   The therapist has Mary find her left upper extremity.

   2. Weakness throughout the left upper and lower extremities
   The therapist worked on lower extremity facilitation while Mary was sitting on the commode chair.

   3. Left sided disregard (doesn't turn her head past midline)
   The therapist turns Mary's head gently but firmly to the left.

   4. Decreased mobility
   The therapists worked on bed mobility, sit to stand and transfers.

❖ Worksheet Assignment 3

Patient #2: Calvin

Name Date

Health condition

1. **Describe Calvin's medical history.**
   78 year old married male. Nine days post surgery for coronary artery bypass graft with subsequent left-sided weakness. Prolonged ventilator support for four days. Patient was evaluated by therapy on the sixth day post-op.

Observe the patient and the environment

2. **Name 4 devices or pieces of medical equipment used with Calvin that could indicate important precautions.**
   IV and line
   Cardiac monitor
   Side rails on the bed
   Gait/safety belt

3. **Why did Calvin appear to refuse therapy?**
   Calvin had difficulty understanding the therapist. This appears to be related to hearing loss. Calvin also appears to have increased confusion and is unable to follow commands.

4. **Describe Calvin's posture while sitting at the edge of the bed.**

   Include head, trunk, upper extremities and lower extremities
   Calvin sits at the edge of the bed using his right upper extremity for balance and support. He also uses his left upper extremity at times.
   His head is turned toward the right (less involved) side.
   The trunk is flexed and the pelvis is in a posterior pelvic tilt.

5. **Name 2 key problem areas for Calvin.**
   Difficulty understanding and following commands
   Sensory impairment of the involved side
   Disregard of the left side
   Impaired motor control of the left upper and lower extremities

6. **What would be your discharge recommendation?**
   Interim care facility.

   Why? (Support your decision)
   An interim care facility is an appropriate discharge recommendation due to the patient's decreased ability to participate functionally in therapeutic tasks due to cognitive deficits.

❖ Worksheet Assignment 4

Patient #3: Ellanora

Name Date

Health condition

1. **Describe Ellanora's medical history.**
   This 80 year old unmarried woman had been living in an assisted living center until three days ago when she was admitted to the hospital with ischemic stroke. Her history includes congestive heart failure, arthritis and bilateral knee replacements. Patient had limited ambulation prior to her stroke.

Observe the patient and the environment

2. **List 3 observations of equipment in Ellanora's room that identify possible precautions.**
   Bed rails up, seizure pads in place, aspiration precautions over the bed.

3. **Name 4 other devices (i.e., monitors, lines or other medical equipment) where the therapist must take care during intervention.**
   Cardiac monitor, sequential compression devices, IV line in left upper extremity, catheter, NG tube.

4. **List 4 observations of how the therapist prepared the environment for treatment.**
   Lowered the head of the bed.
   Raised the height of the bed.
   Lowered the bed rails.
   Removed sequential compression devices.
   Removed pillows.
   Moved catheter to the head of the bed.
   Covered the patient with a blanket.

5. **How would you describe Ellanora's posture in bed (as treatment begins)?**
   Head flexed and turned away from the involved side. Facial asymmetry.
   Trunk rotated toward the involved side.
   Left hip flexion with external rotation and knees in slight flexion.
   Left upper extremity in internal rotation, adduction and flexion.

Observations of functional activities

6. **Describe how Ellanora performed each of the following activities.**

   How much assistance was required for each activity?

   - **Rolling**
     The patient was able to initiate turning her head in order to roll to the involved side.
     Maximum assistance was needed to roll toward the involved side.
     The therapist guided the patient to reach for the rail.
     The second therapist had her reach for her hand, instead of the rail.
     The therapist assisted in bringing patient's legs into flexion.

   - **Sidelying to sitting**
     The patient initiated head righting.
     Maximum assistance was required.
     The therapist assisted the patient bringing the legs over the side of the bed.
     The therapist assisted the patient coming into a sitting position.

   - **Scooting to the edge of the bed**
     Maximum assistance was required.
     The therapist used the draw sheet to help the patient scoot to the edge of the bed.

   - **Sit to stand**
     The patient was unable to perform sit to stand.
     She was unable to move her base of support from her hips to her feet.

   - **Transfer from bed to chair**
     The therapist did not have the patient attempt a transfer from bed to chair.

   - **Scooting up in bed (at the end of the session)**
     Maximum assistance of two was required, using a draw sheet.

7. **Name two improvements that were observed at the end of Ellanora's treatment session.**
   The patient was able to initiate active trunk extension from lateral flexion to a more upright posture.
   While siting at the edge of the bed, the patient was able to bear weight onto her right forearm.
   Movements were easier, lighter and the patient demonstrated more trunk control.

Intervention of body functions and structures and functional activities

8. **Describe a plan of intervention (for Ellanora's next session) based on your observations. Delineate tasks related to impairments of body functions and structures from tasks related to functional activities.**
   Tasks related to impairment of body functions and structures could include:
   Strengthening the trunk and lower extremities in supine and sitting.

   Tasks related to activities could include:
   Rolling both directions, bridging in supine, or sitting balance during self-care tasks.

❖ Worksheet Assignment 5

Patient #4: Ben

Name Date

Health condition

1. **Describe Ben's medical history.**
   The patient is one month post stroke. The admitting diagnosis included Micotic anneurysm, infarct of the left middle cerebral artery, infective endocarditis and mitral valve vegetation. Surgery was required for mitral valve replacement.

Observe the patient and the environment

2. **List 6 observations of Ben and his hospital room that indicate possible precautions.**
   Postings re: aspiration precautions
   NG tube
   Sternal surgical scar
   IV in left upper extremity
   Bed rails

3. **How would you describe Ben's behavior?**
   Ben becomes frustrated and agitated easily.
   Ben has difficulty following instructions.

   What would you consider to be the source of this behavior?
   Ben's frustration and agitation are most likely a result of deficits in auditory comprehension and motor planning.

4. **Why was Ben's blood pressure monitored during his physical therapy session?**
   The therapist monitored Ben's blood pressure because he had been on prolonged bed rest.

   What effect did the positions of supine, sitting and standing have on his blood pressure?
   The baseline blood pressure was taken in supine.
   Blood pressure in sitting was slightly higher, but fine.
   Blood pressure in standing wasn't taken. The patient felt dizzy and sat down before it was taken.

5. **What recommendations would you give to Ben's family to help decrease his level of frustration?**
   Choose different clothing
   Limit auditory stimulation
   Speak clearly in short simple sentences

❖ Worksheet Assignment 6

Therapeutic Intervention in the ICU

Name Date

Health condition

1. **Describe Tom's medical history.**
   Tom is a 44 year old married male admitted to the hospital one week ago. He had a craniotomy due to a right hemorrhagic stroke.

Observe the patient and the environment

2. **List all of the monitors, lines or devices connected to Tom.**
   - Central line in his neck
   - blood pressure cuff
   - oxygen saturation monitor (pulse oximeter)
   - cardiac monitor
   - foley catheter with temperature sensor
   - sequential compression device for both lower extremities
   - pressure reducing ankle and foot orthosis (boot) for left foot

   Which of the monitors/devices were disconnected during therapy?
   - blood pressure cuff
   - oxygen saturation monitor
   - sequential compression device
   - pressure reducing ankle and foot orthosis (boot)
   - temperature sensor for foley catheter (during co-treatment)

3. **List any known precautions.**
   Craniotomy, aspiration precautions.

Observations of body functions and structures

4. **Describe your observations related to Tom's left upper extremity.**

   (Temperature, edema, sensation, motor function)
   Swelling noted of the hand, elbow and upper arm. Increase in temperature (warm to touch) noted around the elbow. No motor function observed.

5. **Describe your observations related to Tom's left lower extremity.**

   (ROM, sensation, motor function)
   ROM is within normal limits. Sensation appears to be absent. Tom exhibits increased tone in lower extremity internal rotation. While in supine, Tom maintains the position of his hip and knee in flexion with foot on bed while moving the right lower extremity into abduction and adduction. No active motion noted.

6. **Describe Tom's level of awareness and ability to follow directions.**
   Inconsistent. Tom is able to follow some directions. He tries to communicate (asked for his glasses and asked to use the commode). He nods yes, thumbs up and thumbs down. He is able to follow directions when asked to move his right upper extremities and lower extremities.

7. **As the therapist helped Tom move from sidelying to sitting, she noticed an alarm on the monitor. What was the change in status that caused the alarm and what did the therapist do as a result?**
   Tom's heart rate increased. She had him rest in a sitting position and waited for his heart rate to return to baseline.

Student Exam Competency Evaluation

Treatment Strategies in the Acute Care of Stroke Survivors

Print the letter of the correct answer on the enclosed answer sheet.

1. The medical management of the acute stroke survivor must focus on:
a. diagnosing & minimizing the progression of the stroke
b. treating secondary complications
c. identifying the cause to prevent recurrent strokes
d. all of the above

2. Which of the following is not one of the SAFE guidelines?
a. Sharpen your observation skills
b. Acquire necessary handling skills
c. Formulate a discharge plan
d. Enhance the environment

3. The patient's medical chart should be reviewed prior to each therapy session.
a. true
b. false

4. The International Classification of Functioning, Disability and Health (ICF) was officially accepted by which organization in 2001?
a. the Center for Disease Control
b. the World Health Organization
c. the International Red Cross
d. none of the above

5. The ICF is important because it is used in hospitals for
a. documentation
b. diagnostic codes
c. reimbursement
d. all of the above

6. The assessment of ROM, motor function and sensation belongs to which component of the ICF model?
a. health condition
b. activities
c. body functions and body structures
d. environmental factors

7. The assessment of bed mobility, self-care and communication belongs to which component of the ICF model?
a. health condition
b. body functions and body structures
c. activities
d. environmental factors

8. Which of the following is not one of the six elements in the continuum of acute care?
a. review medical information
b. observe the family and home environment
c. assess body functions and structures
d. intervention

9. Where should the call light for the nurse be placed during your treatment session?
a. within your reach
b. within reach of the patient
c. on the bedside table
d. on the wall

10. A decrease in your patient's cognitive function or level of confusion could be an indication of
a. a lack in family support
b. poor nutrition
c. a change in the patient's medical status
d. none of the above

11. Raising the height of the bed when treating your patient bedside
a. improves eye contact with your patient
b. provides poor body mechanics
c. allows family members to observe
d. none of the above

12. During the assessment of body functions and structures, begin with the less involved side to
a. determine a baseline and help the patient understand your commands
b. observe visual field deficits
c. practice your handling skills before moving to the involved side
d. all of the above

13. When should oral hygiene take place?
a. in the morning, preceding meals and medications
b. after each meal
c. before going to sleep at night
d. all of the above

14. Which of the following is not a factor in determining a plan of intervention?
a. patient's medical condition
b. environment stimulation
c. urgent discharge planning
d. time restrictions

15. "Intervention with intention" means:
a. make the most of every minute during therapeutic intervention.
b. document each action taken during intervention.
c. intend to treat with respect.
d. require family teaching.

16. During assessment and intervention of the stroke survivor in the acute care setting allow enough time to
a. prepare the environment
b. perform therapeutic tasks
c. return the patient to a safe position
d. all of the above

17. Mary's medical history includes which of the following?
a. bilateral hip replacements
b. pulmonary emboli
c. spinal stenosis
d. none of the above

18. Which techniques can be used to increase a patient's level of alertness?
a. vibration with tactile stimulation
b. raise the head of the bed and apply a cool washcloth to the face
c. lower the bed and apply deep pressure to the sternum
d. all of the above

19. When sitting at the edge of the bed, how much of the patient's femur should be supported on the bed?
a. all
b. one half
c. two thirds
d. none

20. Make sure your patient has a solid base of support (through both feet) while sitting at the edge of the bed.
a. true
b. false

21. When a patient reaches toward her involved side for a hairbrush, it helps to
a. initiate visual tracking toward the involved side
b. broaden the patient's base of support, requiring less trunk control
c. focus on self-care activities
d. encourage sit to stand

22. How much assistance was required for Ellanora to scoot to the edge of the bed?
a. maximum assistance
b. moderate assistance
c. minimal assistance
d. no assistance required

23. Which of the following considerations help determine whether to proceed with a transfer?
a. patient's ability to follow commands
b. lower extremity movement
c. pain, distress or other medical issues
d. all of the above.

24. Where did Ben exhibit pain during the assessment of passive ROM?
a. forearm supination
b. ankle dorsiflexion
c. scapular protraction
d. knee extension

25. Which of the following is not a symptom of orthostatic hypotension?
a. tremors
b. clammy
c. dizzy
d. pale

26. During upper and lower extremity dressing, always start with
a. the involved side
b. the hospital gown and robe
c. the less involved side
d. none of the above

27. At the end of a treatment session,
a. dim the overhead lights
b. disconnect unnecessary monitors or lines
c. return all equipment to the original position
d. check the patient's vital signs

28. How can a nonfunctional upper extremity be incorporated into a task?
a. use guiding, weightbearing and bilateral
b. use tactile stimulation, joint approximation, weightbearing
c. use guiding, quick stretch, deep pressure
d. use an overhead sling or Swedish arm support

29. When is Passive Handling appropriate?
a. when the patient experiences extreme pain
b. when the patient is able to participate in only a portion of the task
c. when family member want to help
d. when stroke survivors are depressed

30. In order to improve awareness of the involved side, the therapist should
a. gently turn the patient's head toward the involved side
b. during bed mobility, roll the patient toward the involved side
c. sit or stand on the involved side
d. all of the above

31. Before initiating patient treatment you should always
a. read the medical chart, get patient consent and wash your hands
b. speak with the nurse and monitor the patient's vital signs
c. read the patient's wrist band and ask the family for consent
d. all of the above

32. Which of the following equipment in the ICU can be disconnected during therapy?
a. the ventilator
b. the ventriculostomy
c. the EKG telemetry monitor
d. none of the above

33. The ventilator is connected to the patient through
a. the tube inserted into the thorasic wall
b. the tonsil-tip suction catheter
c. the sequential compression device
d. the endotrachial tube in the mouth or tracheostomy in the throat

34. The ventriculostomy is a drain for
a. cardiopulmonary precautions
b. pneumonia
c. cerebrospinal fluid
d. none of the above

35. The oxygen saturation level of a patient, measured by the pulse oximeter, is best when it stays above 92 during therapy
a. true
b. false

36. Why should a chair be prepared before transferring the patient from bed?
a. To eliminate the need for a Hoyer lift.
b. To encourage the patient to transfer.
c. To provide warmth, comfort and protection against incontinence.
d. To facilitate scooting to the edge of the chair.

Student Exam Competency Evaluation Answers

Treatment Strategies in the Acute Care of Stroke Survivors
For Faculty Use Only

Mark the correct letter for each question, next to the test question number.
There is only one answer per question.

1. D
2. C
3. A
4. B
5. D
6. C
7. C
8. B
9. A
10. C
11. A
12. A
13. D
14. B
15. A
16. D
17. D
18. B
19. C
20. A
21. A
22. A
23. D
24. A
25. A
26. A
27. C
28. A
29. B
30. D
31. A
32. D
33. D
34. C
35. A
36. C

Student Exam Competency Evaluation Answer Sheet

Treatment Strategies in the Acute Care of Stroke Survivors

Mark the correct letter for each question, next to the test question number.
There is only one answer per question.

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