



ICE LEARNING CENTER  
INTERNATIONAL CLINICAL EDUCATORS, INC.

*Stroke Help*<sup>®</sup>  
TREATMENT STRATEGIES IN THE  
ACUTE CARE OF STROKE SURVIVORS

By Jan Davis, MS, OTR/L

UNIVERSITY EDITION  
STUDENT WORKBOOK

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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.

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### About International Clinical Educators, Inc.

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

#### **StrokeHelp: Treatment Strategies in the Acute Care of Stroke Survivors**

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# TABLE OF CONTENTS

|                                                                                                                        |           |
|------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>How to Use this Learning Module</b> . . . . .                                                                       | <b>5</b>  |
| <b>Behavioral Objectives</b> . . . . .                                                                                 | <b>7</b>  |
| <b>Program Guide</b> . . . . .                                                                                         | <b>9</b>  |
| <b>Introduction to Acute Care</b> . . . . .                                                                            | <b>13</b> |
| <b>SAFE Guidelines for Optimal Care</b> . . . . .                                                                      | <b>15</b> |
| <b>ICF: The International Classification of Functioning, Disability &amp; Health</b> . . . . .                         | <b>17</b> |
| <b>Six Elements in the Continuum of Acute Care</b> . . . . .                                                           | <b>21</b> |
| I. Review Medical Information . . . . .                                                                                | 22        |
| II. Observe the Patient and the Environment . . . . .                                                                  | 23        |
| III. Initiate Patient Contact . . . . .                                                                                | 26        |
| IV. Assess Body Functions and Body Structures . . . . .                                                                | 28        |
| V. Assess Functional Activities . . . . .                                                                              | 31        |
| VI. Intervention . . . . .                                                                                             | 37        |
| <b>Guidelines to Intervention<br/>in the Acute Care Setting</b> . . . . .                                              | <b>39</b> |
| Safety During Intervention . . . . .                                                                                   | 40        |
| Examples of ICF Components, Domains & Categories . . . . .                                                             | 42        |
| Examples of Therapeutic Intervention . . . . .                                                                         | 43        |
| Determining a Plan of Intervention . . . . .                                                                           | 44        |
| Basic Handling Principles . . . . .                                                                                    | 47        |
| Communicating Effectively with Your Patient . . . . .                                                                  | 50        |
| Managing Your Time . . . . .                                                                                           | 51        |
| Modifying Your Plan of Intervention . . . . .                                                                          | 52        |
| Improving Patient Comfort . . . . .                                                                                    | 53        |
| Preventing Shoulder Pain . . . . .                                                                                     | 54        |
| Improving Awareness of the Involved Side . . . . .                                                                     | 55        |
| Awakening the Lethargic Patient . . . . .                                                                              | 56        |
| Utilizing Passive Handling . . . . .                                                                                   | 57        |
| Increasing Sitting Tolerance and Chair Selection . . . . .                                                             | 59        |
| Returning the Patient to Bed . . . . .                                                                                 | 61        |
| <b>Ideas for Therapeutic Intervention: Bedside</b> . . . . .                                                           | <b>63</b> |
| Facilitation of Lower Extremity Control . . . . .                                                                      | 63        |
| Scapular Mobilization in Elevation/Depression, Protraction/Retraction, Upward Rotation/<br>Downward Rotation . . . . . | 65        |
| Reaching for Objects from the Bedside Table . . . . .                                                                  | 67        |
| Bed Mobility: Bridging and Scooting in Bed . . . . .                                                                   | 68        |
| Bed Mobility: Rolling with Maximum Assistance . . . . .                                                                | 70        |
| Sidelying to Sitting with Maximum Assistance . . . . .                                                                 | 72        |

|                                                                                |            |
|--------------------------------------------------------------------------------|------------|
| <b>Ideas for Therapeutic Intervention:</b>                                     |            |
| <b>Sitting at the Edge of the Bed . . . . .</b>                                | <b>75</b>  |
| Mobility: Scooting to the Edge of the Bed . . . . .                            | 75         |
| Weightbearing Through the<br>Involved Upper Extremity . . . . .                | 77         |
| Facilitation of Trunk Control<br>with Lateral Weightshifts. . . . .            | 79         |
| Sitting to Sidelying with Moderate Assistance . . . . .                        | 81         |
| <b>Ideas for Therapeutic Intervention:</b>                                     |            |
| <b>Sitting in a Chair . . . . .</b>                                            | <b>83</b>  |
| Facilitation of Knee Extension . . . . .                                       | 83         |
| Grooming and Hygiene at the Sink . . . . .                                     | 85         |
| Dressing . . . . .                                                             | 87         |
| Mobility: Facilitation of Sit to Stand . . . . .                               | 89         |
| <b>Ideas for Therapeutic Intervention: Standing . . . . .</b>                  | <b>91</b>  |
| Facilitation of Reaching While Standing . . . . .                              | 91         |
| Facilitation of Trunk and Lower Extremity<br>Control During Grooming . . . . . | 93         |
| <b>The Intensive Care Unit . . . . .</b>                                       | <b>95</b>  |
| Introduction to the ICU. . . . .                                               | 95         |
| Managing Equipment in the ICU. . . . .                                         | 96         |
| <b>Discharge Planning and Recommendations . . . . .</b>                        | <b>99</b>  |
| <b>Family Considerations . . . . .</b>                                         | <b>101</b> |
| <b>Practice Labs . . . . .</b>                                                 | <b>103</b> |
| Bed Mobility: Scooting Side to Side . . . . .                                  | 104        |
| Bed Mobility: Rolling from Supine to Sidelying . . . . .                       | 107        |
| Bed Mobility: Sidelying to Sitting . . . . .                                   | 109        |
| Bed Mobility: Sitting to Sidelying . . . . .                                   | 111        |
| Mobility: Sit to Stand Normal Movement . . . . .                               | 113        |
| Mobility: Sit to Stand with Moderate Assistance . . . . .                      | 115        |
| Mobility: Sit to Stand with Maximum Assistance. . . . .                        | 117        |
| Mobility: Sit to Stand with Two Person Assist . . . . .                        | 119        |
| Scapular Mobilization: Elevation and Depression . . . . .                      | 121        |
| Scapular Mobilization: Protraction and Retraction. . . . .                     | 122        |
| Scapular Mobilization: Upward Rotation and Downward Rotation . . . . .         | 123        |
| <b>Worksheet Assignments . . . . .</b>                                         | <b>125</b> |
| Worksheet Assignment 1 . . . . .                                               | 127        |
| Worksheet Assignment 2 . . . . .                                               | 129        |
| Worksheet Assignment 3 . . . . .                                               | 131        |
| Worksheet Assignment 4 . . . . .                                               | 133        |
| Worksheet Assignment 5 . . . . .                                               | 135        |
| Worksheet Assignment 6 . . . . .                                               | 137        |

## 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.



## ❖ 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."*

## ❖ 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*.

# THE INTENSIVE CARE UNIT

## ❖ 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.