

# **SPINAL CORD MEDICINE**

## **HANDBOOK FOR PATIENT AND FAMILY**



### **Cognition, Communication and Swallow**



**Frazier Rehab Institute**

A service of Jewish Hospital & St. Mary's HealthCare

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## TABLE OF CONTENTS

### **Chapter 1 Comprehensive Rehab**

Your Spinal Cord Medicine Team  
After Discharge from the Rehab Hospital  
You and Your Family are Team Members

### **Chapter 2 Anatomy of Spinal Cord, Facts and Figures About Injury**

### **Chapter 3 Bowel Care**

The Digestive System and Bowel Function  
Bowel Management Program

### **Chapter 4 Bladder Care**

The Urinary System  
Bladder Programs  
Urinary Tract Infections

### **Chapter 5 Skin Care**

Risk Factors for Skin Breakdown  
Stages of Skin Breakdown  
Treatment  
Prevention of Skin Breakdown

### **Chapter 6 Medical Concerns**

Autonomic Dysreflexia  
Deep Vein Thrombus (DVT)  
Heterotopic Ossification (HO)  
Orthostatic Hypotension  
Spasticity

### **Chapter 7 Lung Care**

Normal Anatomy and Physiology  
Pathology  
Level of Injury and Respiratory Function  
Pulmonary Hygiene  
Warning Signs of Respiratory Problems

### **Chapter 8 Cognition, Communication and Swallow**

Cognition and Communication  
Swallowing  
Preventing Pneumonia  
Staying Hydrated  
Quality of Life

**Chapter 9 Nutrition**

Soon After Injury  
Once Medically Stable  
Ideal Body Weight After Injury  
Health Issues and Nutrition  
A Primer on Nutrients

**Chapter 10 Self Care and Activities of Daily Living**

Dressing  
Bathing  
Toileting  
Grooming and Hygiene  
Feeding

**Chapter 11 Mobility**

Range of Motion  
Pressure Relief  
Transfers

**Chapter 12 Equipment**

Wheelchairs and Cushions  
Splinting  
Assistive Technology

**Chapter 13 Home Modifications**

**Chapter 14 Psychological Care**

Grief and Loss  
How Families Can Help  
Family Members Struggle Too  
Caregivers  
Depression  
Substance Abuse  
Brain Injury

**Chapter 15 Human Sexuality**

For Females  
For Males  
Fertility

**Chapter 16 Recreation and Wellness**

**Chapter 17 Glossary**

**Chapter 18 Resource Guide**

## **THE PATIENT AND FAMILY HANDBOOK**

This Handbook is designed to give you the information to better understand spinal cord injury and the tools needed to manage your health care needs successfully. Information is intended for you and your family because, those who love you, will often be involved in assisting you with your care needs while in the hospital, and in the home environment. As you read through the Handbook, your rehab team at Frazier is available to address your questions and provide you more information pertinent to your needs.

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## **A BRIEF NOTE ABOUT THE FOUNDER OF FRAZIER REHAB INSTITUTE**

In her early 20's, Amelia Brown of Louisville sustained a spinal injury in a car accident in the 1940's. With no rehabilitation services in Louisville, she traveled to New York for treatment. After returning to Louisville, she married a physician, Dr. Harry Frazier. Believing Louisville needed its own rehabilitation facility, Mrs. Frazier founded the Frazier Institute of Physical Medicine and Rehabilitation in the early 1950s. Her son, Owsley Brown Frazier, served as Chairman of the Fund Raising Committee for Frazier's new building, named the Frazier Rehab and Neuroscience Center, which opened in 2006.

## **DISCLAIMER**

The information contained herein is intended to be used in accordance with the treatment plan prescribed by your physician and with the prior approval of your physician. You should not begin using any of the methods described in this publication until you have consulted your physician. Jewish Hospital & St. Mary's HealthCare, Inc. D.B.A. Frazier Rehab Institute, its affiliates, associates, successors and assigns, as well as its trustees, officers, directors, agents and employees are not liable for any damages resulting from the use of this publication.

NOTE: Words *italicized* in the text below are defined in the Glossary at the end of this Chapter.

## COGNITION, COMMUNICATION AND SWALLOW

After spinal cord injury or disease, you may experience difficulty thinking, speaking, understanding, reading, writing and/or swallowing. If this is true, a Speech Language Pathologist (SLP) may work with you in some or all of these areas.

### COGNITION AND COMMUNICATION

Thinking skills (cognition) may be impaired when an injury or illness affects the brain. The SLP may have you do exercises and activities to improve thinking and offer strategies to compensate for problem areas such as memory, problem solving or planning.

Injuries or illnesses affecting the brain can also cause speaking problems. Impaired speech, though, can be caused by other conditions of the spinal cord or the respiratory system. Speech and voice can be hard to produce because the muscles of the chest, throat, mouth, and face are either weak, paralyzed and/or uncoordinated. A person with any of these problems may not produce speech or voice that can be heard or understood.

Speech is produced by the mechanical action of certain muscles. Additionally, an important part of speech is the message. The message that is spoken comes from our ability to use language. The words we use to communicate are part of our language. Partial or complete loss of language may occur when the brain is damaged from illness or trauma. When language is impaired, a person may have problems finding words or putting words together to express thoughts. A person with language impairment is likely to have some difficulty understanding other peoples' spoken words. Problems with language can also be found with a person's ability to understand written words when reading or ability to write words. The SLP is trained to work with all of these communication problems.

With help of the SLP, some patients will regain their communication abilities. Other patients will be trained to use alternative forms of communication to get their message across to listeners. Methods of alternative communication include low tech and high tech options. Advancements in computers have led to the development of devices that give a speaking voice to patients who have the language to communicate but lack the mechanical ability to speak.

A key feature of successful rehabilitation is collaboration amongst team members, for example between a SLP and Respiratory Therapist. Collaborating team members work with patients without voice who have tracheostomy (trach) tubes and/or are on ventilators. Their goal is to safely achieve voice that can be heard by applying a speaking valve.

## SWALLOWING

Swallowing problems (*dysphagia*) occur with some illnesses and injuries. The SLP can perform swallowing tests at the bedside or in the fluoroscopy suite in the Medical Imaging (X-ray) Department. The bedside test may involve the SLP watching you eat and drink a variety of foods and liquids. Some bedside tests may involve looking down in the throat with a fiberoptic scope while you swallow. The swallowing test in the fluoroscopy suite is a moving X-ray that also allows the SLP to view swallowing inside your body recorded on video tape. These tests provide the SLP and medical team with results that lead to a plan for improving swallowing and maintaining nutrition.

After injury or illness, the first step toward eating and drinking may be tube feedings through the nose to the stomach (*nasogastric tube*), or through the abdominal wall directly to the stomach (gastric tube). Regular, thin liquids often cause difficulties for you if you have swallowing problems. Thin liquids may be more likely to fall into the lungs instead of the esophagus (food tube). Liquids that have been thickened may be offered to you. Softer or pureed foods may be recommended also. It is our goal for you to be able to eat and drink as normally and quickly as possible. The SLP will help you achieve these safe-swallowing goals through exercises, swallow practice and compensations as well as changes in your diet.

## PREVENTING PNEUMONIA

If you have swallowing problems that cause saliva, liquids or food to enter the lungs, you are at risk for getting pneumonia. Good oral hygiene is one of the best ways to prevent pneumonia because bacteria in the mouth that is not cleaned either by you or your caregiver can mix with saliva resulting in an infection causing pneumonia. Another pneumonia preventive measure is ensuring you are carefully fed if you are unable to feed yourself. Meals that are fed too quickly or bites that are too large can cause food to go into your lungs. If a swallowing problem is present, your chances of avoiding pneumonia are also better when you are out of bed and active.

## STAYING HYDRATED

Our bodies need eight to ten cups of fluid per day to stay hydrated. There are a variety of medical conditions that place people at risk for dehydration. Dehydration can lead to medical complications including: changes in drug effects, infections, poor wound healing, pressure sores, decreased urine volume, urinary tract infections, confusion, lethargy, constipation, altered cardiac function, acute kidney failure, weakness and declining nutritional intake. The likelihood of dehydration can also increase if you have a tendency to avoid drinking unappealing thickened liquids.

Frazier Rehab Institute pioneered the Frazier Water Protocol that permits people who have difficulty swallowing thin liquids to: (1) have water between meals or (2) have water anytime if receiving nutrition via tube feedings, even though the water might enter the lungs. This is a safe practice because our bodies are composed of more than 65% water and water that

enters the lungs is quickly absorbed into the bloodstream without harmful effect. The Frazier Water Protocol has gained wide acceptance internationally but is not practiced in all health care settings.

The SLP watches patients swallow water and progresses therapy based on demonstrated improvements. Patients express great satisfaction with being able to drink water as thirst is quenched and quality of life is enhanced. All rehabilitation team members offer patients water and assist them to drink water when help is needed.

## **QUALITY OF LIFE**

Injury and illness often change yours and your family's life. Common daily functions such as speaking and swallowing, that are usually taken for granted before hospitalization, might present a great challenge for you and your family now. The goals of the SLP are aimed at improving your quality of life by helping you achieve the greatest outcomes possible.

## **RESOURCES**

<http://www.emedicine.com/pmr/topic152.htm> - Swallowing

<http://www.mayoclinic.com/health/difficulty-swallowing/DS00523> - Swallowing

## **GLOSSARY**

DEHYDRATION - Excessive loss of water.

DYSPHAGIA - Difficulty swallowing.

GASTRIC TUBE - Feeding tube surgically implanted through the abdominal wall into the stomach.

NASOGASTRIC TUBE - Feeding tube from nose to the stomach.

PNEUMONIA - Infection in the lungs