

# STROKE EDUCATION

## PHYSICAL THERAPY

# ST. LUKE'S TEAM APPROACH

During your stay at St. Luke's you will experience our unique team approach that will assist you in your recovery. Our team of healthcare professionals work together to develop the best treatment plans to meet each patient's individual needs and goals. Your team includes:

- You and your family
- Doctors and Nurses
- Physical, Occupational, Recreational and Speech Therapists
- Therapy Aides
- Registered Dietitians and Respiratory Therapists
- Pharmacists
- Social Workers, Case Managers
- Psychologist
- Chaplain

# PHYSICAL THERAPIES ROLE

- Physical therapists evaluate and assist you to restore activities and skills like walking, balance, transferring in/out of a chair and getting in/out of bed.
- During your evaluation you and your physical therapist will set both long term and short term goals. We will review these goals frequently during your rehab stay at St. Luke's.

# EQUIPMENT OFTEN USED

Wheelchair



Half Lap Tray



Arm Trough



Front Wheeled Walker



Four Wheeled Walker



Quad Cane



Single Point Cane



Gait Belt



Ankle Foot Orthosis



- Some people may experience **paralysis** or **spasticity** following their stroke.
- Many stroke survivors experience one-sided paralysis, known as hemiplegia, or one-sided weakness, known as hemiparesis.

# PARALYSIS

- **Paralysis** is the inability of a muscle or a group of muscles to move on their own.
- Following a stroke, signals from the brain to the muscles often don't work right. Paralysis or weakness can effect any part of the body.

# TREATMENT OF PARALYSIS

- Your therapist will work with you to find the best treatment techniques which often include:
  - Strengthening and Range of Motion Exercises.
  - Electrical Stimulation or vibration techniques.
  - Positioning/Braces to maintain the integrity of the limb while you work on strengthening.
  - Sensory Integration Techniques if there has also been a lose or change in sensation.

# SPASTICITY

- **Spasticity** is a condition where muscles are stiff and resist being stretched. It can be found throughout the body and is common in the upper extremities and lower extremities.
- Depending on where it occurs, it can result in an arm being pressed against the chest, a stiff knee or a pointed foot that interferes with walking and performing activities of daily living.

# TREATMENT OF SPASTICITY

- Treatment for spasticity is often a combination of therapy and medicine. Therapy can include range-of-motion exercises, gentle stretching, positioning and splinting or casting.
- Medicine can treat the general effects of spasticity and act on multiple muscle groups in the body.
  - Botox: prevents the release of chemicals that cause muscle contraction. Usually given by injection.
  - Baclofen: comes in either a pill form or delivered via a pump directly to spinal fluid.
  - Surgery

# POSITIONING

- Some patients require positioning techniques to assist with paralysis or spasticity. You and your therapist will determine your needs on an individual basis.
- Common positioning devices include braces, splints, slings, arm trays on wheelchairs and pillows when laying in bed.

# PAIN

- Each person feels pain differently and sometimes the damage to the brain due to the stroke can make the sense of touch hurt .
- Pain can also be a result of tight muscles or muscle weakness.
- Many have chronic pain that was present previous to the stroke.
- Pain can occur right after a stroke or weeks or even months after a stroke.

# TREATMENT OF PAIN

- Positioning Techniques can often assist with pain reduction.
- Strengthening and Range of Motion
- Heat or Ice
- Medication

# MOBILITY FOLLOWING A STROKE

- Moving around safely and easily may not be something you think about, unless you've had a stroke.
- These problems range from a slight decrease in balance to the strength in an entire side of the body being affected.
- As a result, about 40 percent of stroke survivors have serious falls within a year of their strokes.

# MOBILITY TRAINING

- Transfers
- Bed Mobility
- Braces/Orthotics
- Walking/Wheelchair (Indoors and Outdoors)
- Stairs
- Strengthening
- Balance
- Floor Transfers

# TRANSFERS

- Depending on the amount of assistance needed your therapists will determine the safest techniques to use to assist you with transfers.
- Common transfer techniques you may see and participate in include:
  - Hoyer Lift
  - Sit to Stand Lift
  - Transfer Board
  - Stand Step with or without assistive device
  - Partial Stand Pivot
  - Depression Lift

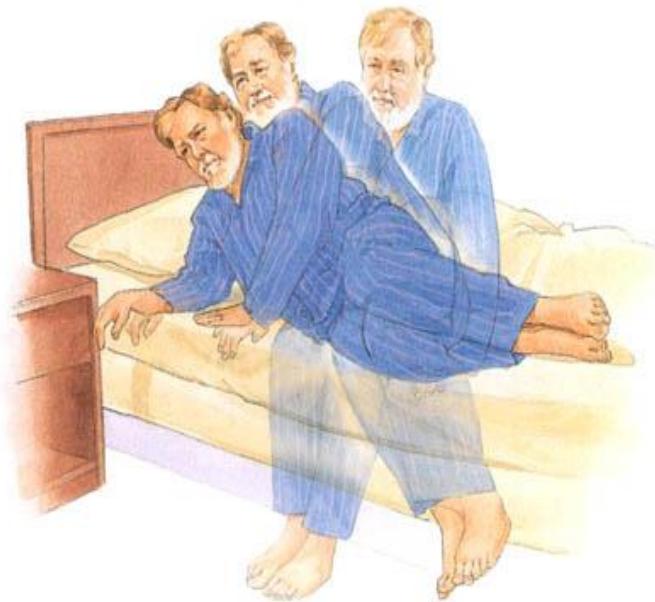
# MECHANICAL LIFTS

- Hoyer Lift
- Sit to Stand Lift



# BED MOBILITY

- Getting in/out of bed is specific to each person.
- A common technique involves moving from laying on your back to side lying and then coming to sit.
- This technique is useful if back pain is present and also in assisting to control a weaker side of the body.



# ORTHOTICS AND BRACES

- If needed braces can be used to improve the quality and safety of walking and mobility.
- Pictured are an AFO (Ankle Foot Orthosis) and a Toe-Up



# WALKING (GAIT)

- Parallel Bars
- Lokomat



- Gait training will be different for every patient depending on the severity of the stroke and what has been effected.
- Assistive devices are often used like a walker or cane.
- Others may have goals of being able to propel a wheelchair with increased independence.



# STAIRS

- Stair completion techniques also vary per patient and are taught with individual needs in mind.
- A common technique includes leading up the stairs with the stronger leg and coming down the stairs leading with your weaker leg.
- Railings are often recommended for safety



# RAMPS

- Ramps can be installed at home in some cases if stairs are unsafe to complete or if a wheelchair is being used.
- Your therapists will assist you in determining whether a ramp is necessary.



# OUTDOOR MOBILITY

- Mobility outdoors or over uneven surfaces can often be challenging.
- Some may use an assistive device with mobility outdoors when they wouldn't indoors due to increased balance and strength demands.

# FLOOR TRANSFERS

## Caregivers and Patients

- Before attempting to move or help a person stand up after a fall, make sure he/she has not been injured.
- If there are any cuts, bruises or painful areas, make the person comfortable on the floor while you get help.
- Do not attempt to move the individual until help arrives if there is concern that something is wrong.

## **Step 1**

- Assume a side-sitting position with the unaffected side close to a heavy chair or other object that will not move.



## **Step 2**

- Place the unaffected forearm on the seat of the chair and lean on the elbow or hand. Shift weight forward onto your knees and lift your hips until you are in a kneeling position.



## **Step 3**

- Supporting yourself with your unaffected arm, bring your unaffected foot forward and place it flat on the floor. Some assistance may be required to keep the affected limb in the kneeling position while placing the unaffected one in the position illustrated.



## **Step 4**

- Lift yourself up by pushing with your unaffected arm and leg. Twist your hips toward the chair and sit on the seat.



# HAVE A PLAN!

- Many find it useful to keep a cell phone or home phone within reach at all times in case there is a need to call for help.
- Some may be interested in getting an alert system (Life Alert) or other device to assist in calling for help.
- If you have questions or concerns speak with your therapist and they can help to provide you with further information.

# RANGE OF MOTION & STRETCHING

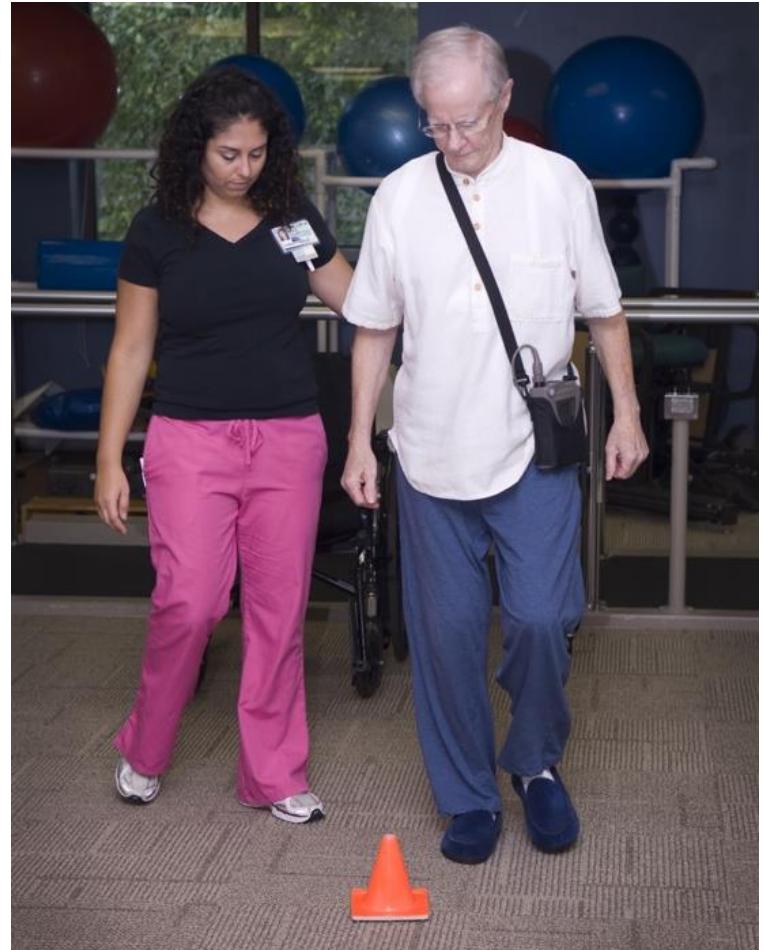
- Range of motion is important to maintain flexible joints and prevent joint contracture.
- Joint contractures occur when there are structural changes to the soft tissue such as tightening or shortening of muscles and tendons that restrict movement.
- It is important to perform range of motion exercises even if you have experienced total paralysis because a contracture can predispose ones to skin breakdown, tissue irritation, pain, decreased blood flow, and prevent one from moving a limb if muscle function does return.

# BALANCE

- If balance is affected, one of the first things a patient must learn in stroke rehab is the ability to maintain their balance in sitting.
- Sitting balance exercises focus on strengthening the core or trunk musculature and becoming aware of where your body is in space.



- Standing balance exercises will help improve a patient's ability to stand in place as well as walk or perform activities without loss of balance.
- Balance exercises are important in helping prevent falls.



# STRENGTHENING

- A stroke can reduce your strength, resulting in poor balance, affected walking (gait), difficulty with stairs and difficulty changing positions (sitting to standing).
- Physical therapy will tend to work more towards lower body and trunk strengthening.
- Strengthening exercises have more benefit to everyday life when they are specific to what we want to improve.
- Exercises are often in combination with mobility training.

# CAREGIVERS AND DISCHARGE PLANNING

- Your Physical Therapy team will help to train caregivers to assist with mobility if needed.
- They will also assist with discharge planning and ordering of any equipment needed for your journey forward.



# USEFUL LINKS

- **National Stroke Association**

1-800-STROKES

1-800-787-6537

9707 E. Easter Lane, Suite B  
Centennial, CO 80112

[www.stroke.org](http://www.stroke.org)

- **American Stroke Association**

1-888-4-STROKE

1-888-478-7653

1-888-474-VIVE

7272 Greenville Ave.  
Dallas, TX 75231

- **The Internet Stroke Center**

214-648-3111

UT Southwestern Medical Center  
Department of Neurology and  
Neurotherapeutics  
5323 Harry Hines Blvd  
Dallas, Texas 75390  
[www.strokecenter.org](http://www.strokecenter.org)

[www.strokeassociation.org](http://www.strokeassociation.org)



# ST. LUKE'S STROKE SUPPORT GROUP

- Who: Current or past patients/families and all those who are interested from the community.
- When: Every Third Thursday of the month
- Time: 3-4 p.m.
- Where: St. Luke's Main Campus. Please call the support group hotline at 473-6681 for details.

# IN SUMMARY

- You may find all of the areas discussed as part of your therapy plan while at St. Luke's or only a portion.

Any Questions?