

# PREVENTION AND MEDICAL MANAGEMENT OF COMORBIDITIES

## ADULT STROKE REHABILITATION & RECOVERY GUIDELINES

Residual deficits from a stroke include reduced mobility, cognitive impairment and emotional instability. These in turn lead to a variety of comorbidities. Among the most common are skin breakdown, contractures, venous thrombosis, excretory incontinence, falls, pain syndromes and depression.

Here are key recommendations from AHA/ASA's stroke rehab & recovery guidelines that provide the best clinical practices for adults recovering from stroke.

The information covered here addresses one of five major recommendation topics within the guidelines:

- The Rehabilitation Program
- Prevention and Medical Management of Comorbidities
- Assessment
- Sensorimotor Impairments and Activities
- Transitions in Care and Community Rehabilitation

### PREVENTION OF SKIN BREAKDOWN AND CONTRACTURES

- Resting hand/wrist splints along with regular stretching and spasticity management in patients lacking active hand movement may be considered. (Class IIb, LOE C)
- Resting ankle splints used at night and during assisted standing may be considered for prevention of ankle contracture in a hemiplegic limb. (Class IIb, LOE B)

### PREVENTION OF DEEP VENOUS THROMBOSIS IN ISCHEMIC STROKE PATIENTS

- Prophylactic-dose subcutaneous heparin (UFH or LMWH) should be used for the duration of the acute and rehabilitation hospital stay or until the stroke survivor regains mobility. (Class I, LOE A)

### TREATMENT OF BOWEL AND BLADDER INCONTINENCE

- Assessment of urinary retention through bladder scanning or intermittent catheterizations post voiding while recording volumes is recommended for patients with urinary incontinence or retention. (Class I, LOE B)
- Removal of the foley catheter (if any) within 24 hours after admission for acute stroke is recommended, based on the CDC recommendations for all hospitalized patients. (Class I, LOE B)

## ASSESSMENT, PREVENTION AND TREATMENT OF HEMIPLEGIC SHOULDER PAIN

- Neuromuscular electrical stimulation (NMES) may be considered (surface or intramuscular) for shoulder pain. (Class IIb, LOE A)

## PREVENTION OF FALLS

- It is recommended that persons with stroke discharged to community participate in exercise programs with balance training to reduce falls. (Class I, LOE B)
- It is recommended that persons with stroke be provided a formal fall prevention program during hospitalization. (Class I, LOE A)

## POST-STROKE DEPRESSION INCLUDING EMOTIONAL AND BEHAVIORAL STATE

- Administration of a structured depression inventory, such as the PHQ-2, is recommended to routinely screen for post-stroke depression. (Class I, LOE B)

## PHARMACOLOGICAL THERAPY

- Patients diagnosed with post-stroke depression should be treated with antidepressants in the absence of contraindications and closely monitored to verify effectiveness. (Class I, LOE B)

**Stroke rehabilitation requires a sustained and coordinated effort from a large team** with the patient and the patient's goals at the center. In addition to the patient, the team includes family and friends, other caregivers (e.g. personal care attendants), physicians, nurses, physical and occupational therapists, speech/language pathologists, recreation therapists, psychologists, nutritionists, social workers and others.

**Communication and coordination among these team members is paramount** in maximizing the effectiveness and efficiency of rehabilitation and underlies the entire stroke rehabilitation and recovery guidelines.

# RATING OF THE EVIDENCE: CLASSIFICATION OF RECOMMENDATIONS AND LEVELS OF EVIDENCE

SIZE OF THE TREATMENT EFFECT

	CLASS I	CLASS IIA	CLASS IIB	CLASS III NO BENEFIT OR CLASS III HARM									
	<p style="text-align: center;"><b>BENEFIT &gt;&gt;&gt; RISK</b></p> <p style="text-align: center;">PROCEDURE/TREATMENT SHOULD BE PERFORMED/ ADMINISTERED</p>	<p style="text-align: center;"><b>BENEFIT &gt;&gt; RISK</b></p> <p style="text-align: center;">ADDITIONAL STUDIES WITH FOCUSED OBJECTIVES NEEDED</p> <p style="text-align: center;"><b>IT IS REASONABLE TO PERFORM PROCEDURE/ADMINISTER TREATMENT</b></p>	<p style="text-align: center;"><b>BENEFIT ≥ RISK</b></p> <p style="text-align: center;">ADDITIONAL STUDIES WITH BROAD OBJECTIVES NEEDED; ADDITIONAL REGISTRY DATA WOULD BE HELPFUL</p> <p style="text-align: center;">PROCEDURE/TREATMENT MAY BE CONSIDERED</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">PROCEDURE /TEST</th> <th style="text-align: center;">TREATMENT</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">COR III: NO BENEFIT</td> <td style="text-align: center;">NOT HELPFUL</td> <td style="text-align: center;">NO PROVEN BENEFIT</td> </tr> <tr> <td style="text-align: center;">COR III: HARM</td> <td style="text-align: center;">EXCESS COST W/O BENEFIT OR HARMFUL</td> <td style="text-align: center;">HARMFUL TO PATIENTS</td> </tr> </tbody> </table>		PROCEDURE /TEST	TREATMENT	COR III: NO BENEFIT	NOT HELPFUL	NO PROVEN BENEFIT	COR III: HARM	EXCESS COST W/O BENEFIT OR HARMFUL	HARMFUL TO PATIENTS
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<p><b>LEVEL A</b></p> <p style="text-align: center;">MULTIPLE POPULATIONS EVALUATED*</p> <p style="text-align: center;">DATA DERIVED FROM MULTIPLE RANDOMIZED CLINICAL TRIALS OR META-ANALYSES</p>	<p>Recommendation that procedure or treatment is useful/effective</p> <p>Sufficient evidence from multiple randomized trials or meta-analyses</p>	<p>Recommendation in favor of treatment or procedure being useful/effective</p> <p>Some conflicting evidence from multiple randomized trials or meta-analyses</p>	<p>Recommendation's usefulness/efficacy less well established</p> <p>Greater conflicting evidence from multiple randomized trials or meta-analyses</p>	<p>Recommendation that procedure or treatment is not useful/effective and may be harmful</p> <p>Sufficient evidence from multiple randomized trials or meta-analyses</p>									
<p><b>LEVEL B</b></p> <p style="text-align: center;">LIMITED POPULATIONS EVALUATED*</p> <p style="text-align: center;">DATA DERIVED FROM A SINGLE RANDOMIZED TRIAL OR NONRANDOMIZED STUDIES</p>	<p>Recommendation that procedure or treatment is useful/effective</p> <p>Evidence from single randomized trial or nonrandomized studies</p>	<p>Recommendation in favor of treatment or procedure being useful/effective</p> <p>Some conflicting evidence from single randomized trial or nonrandomized studies</p>	<p>Recommendation's usefulness/efficacy less well established</p> <p>Greater conflicting evidence from single randomized trial or nonrandomized studies</p>	<p>Recommendation that procedure or treatment is not useful/effective and may be harmful</p> <p>Evidence from single randomized trial or nonrandomized studies</p>									
<p><b>LEVEL C</b></p> <p style="text-align: center;">VERY LIMITED POPULATIONS EVALUATED*</p> <p style="text-align: center;">ONLY CONSENSUS OPINION OF EXPERTS, CASE STUDIES OR STANDARD OF CARE</p>	<p>Recommendation that procedure or treatment is useful/effective</p> <p>Only expert opinion, case studies or standard of care</p>	<p>Recommendation in favor of treatment or procedure being useful/effective</p> <p>Only diverging expert opinion, case studies or standard of care</p>	<p>Recommendation's usefulness/efficacy less well established</p> <p>Only diverging expert opinion, case studies or standard of care</p>	<p>Recommendation that procedure or treatment is not useful/effective and may be harmful</p> <p>Only expert opinion, case studies or standard of care</p>									
<p><b>SUGGESTED PHRASES FOR WRITING RECOMMENDATIONS</b></p>	<p>Should</p> <p>is recommended</p> <p>is indicated</p> <p>is useful/effective/beneficial</p>	<p>is reasonable</p> <p>can be useful/effective/beneficial</p> <p>is probably recommended or indicated</p>	<p>may/might be considered</p> <p>may/might be reasonable</p> <p>usefulness/effectiveness is unknown/unclear/uncertain or not well established</p>	<p><b>COR III: No Benefit</b></p> <p>is not recommended</p> <p>is not indicated</p> <p>should not be performed/ administered/ other</p> <p>is not useful/beneficial /effective</p>	<p><b>COR III: Harm</b></p> <p>potentially harmful</p> <p>causes harm</p> <p>associated with excess morbidity /mortality</p> <p>should not be performed/ administered/ other</p>								
<p><b>COMPARATIVE EFFECTIVENESS PHRASES</b></p>	<p>treatment/strategy A is recommended/indicated in preference to treatment B</p> <p>treatment A should be chosen over treatment B</p>	<p>treatment/strategy A is probably recommended/indicated in preference to treatment B</p> <p>it is reasonable to choose treatment A over treatment B</p>											

ESTIMATE OF CERTAINTY (PRECISION) OF TREATMENT EFFECT