American Heart Association | American Stroke Association

life is why®

Together to End Stroke®

Implementation of AHA/ASA Guidelines for ADULT STROKE REHABILITATION & RECOVERY

Moving From Paper to Practice

Together to End Stroke™ is nationally sponsored by

Kindred Hospital Rehabilitation Services

INTRODUCTION

THE GUIDELINE'S AUTHORS

A GUIDELINE FOR HEALTHCARE PROFESSIONALS FROM THE AMERICAN HEART ASSOCIATION/AMERICAN STROKE ASSOCIATION

Endorsed by the American Academy of Physical Medicine and Rehabilitation and the American Society of Neurorehabilitation.

The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists and the American Congress of Rehabilitation Medicine affirms the educational value of these guidelines for its members.

Accepted by the American Speech-Language-Hearing Association.

WRITING GROUP MEMBERS

Carolee J. Winstein, PhD, PT, Chair; Joel Stein, MD, Vice Chair; Ross Arena, PhD, PT, FAHA; Barbara Bates, MD, MBA; Leora R. Cherney, PhD; Steven C. Cramer, MD; Frank Deruyter, PhD; Janice Eng PhD, BSc; Beth Fisher PhD, PT, Richard Harvey MD, Catherine E. Lang, PhD, PT; Marilyn MacKay-Lyons, BSc, MScPT, PhD; Kenneth J. Ottenbacher, PhD, OTR; Sue Pugh, MSN, RN, CNS-BC, CRRN, CNRN, FAHA; Mathew J. Reeves, PhD, DVM, FAHA; Lorie G. Richards, PhD, OTR/L; William Stiers, PhD, ABPP (RP); Richard D. Zorowitz, MD; on behalf of the American Heart Association/American Stroke Association Stroke Council, Council on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology and Council on Quality of Care and Outcomes Research

Guidelines Recommendations

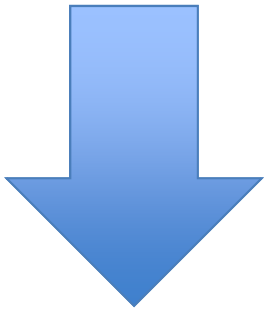
1. Winstein, Carolee J., Joel Stein, Ross Arena, Barbara Bates, Leora R. Cherney, Steven C. Cramer, Frank Deruyter et al. "Guidelines for adult stroke rehabilitation and recovery." Stroke 47, no. 6 (2016): e98-e169. https://doi.org/10.1161/STR.0000000000000098Stroke. 2016;STR.0000000000000098

INTRODUCTION

A GUIDELINE FOR HEALTHCARE PROFESSIONALS FROM THE AMERICAN HEART ASSOCIATION/AMERICAN STROKE ASSOCIATION

Number of individuals affected by stroke in the US annually.

800,000



Decline in the relative rate of stroke deaths from 2000 - 2010.

36%

Survivors who receive rehab services after hospitalization.

2/3s

This set of practice guidelines will present the most current recommendations in stroke rehabilitation, based on evidence and consensus opinion.

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

SIZE OF THE TREATMENT EFFECT

ESTIMATE OF CERTAINITY (PRECISION) OF TREATMENT EFFECT

	CLASS I BENEFIT > > > RISK PROCEDURE/TREATMENT SHOULD BE PERFORMED/ ADMINISTERED	CLASS IIA BENEFIT > > RISK *ADDITIONAL STUDIES WITH FOCUSED OBJECTIVES NEEDED* IT IS RESONABLE TO PERFORM PROCEDURE/ADMINISTER TREATMENT	CLASS IIB BENEFIT ≥ RISK *ADDITIONAL STUDIES WITH BROAD OBJECTIVES NEEDED; ADDITONAL REGISTRY DATA WOULD BE HELPFUL* PRODUCERE/TREATMENT MAY BE CONSIDERED	CLASS III NO BENEFIT OR CLASS III HARM 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
LEVEL A MULTIPLE POPULATIONS EVALUATED* DATA DERIVED FROM MULTIPLE RANDOMIZED CLINCIAL TRIALS OR META-ANAYLSES	Recommendation that procedure or treatment is useful/effective Sufficient evidence from multiple randomizied trials or meta-analyses	Recommednation in favor of treatment or procedure being useful/effective Some conflicting evidence from multiple randomized trials or meta-analyses	Recommendation's usefulnesss/efficacy less well established Greater conflicting evidence from multiple randomized trials or meta-analyses	Recommendation that procedure or treatment is not useful/effective and may be harmful Sufficient evidence from multiple randomized trials or meta-analyses
LEVEL B LIMITED POPULATIONS EVAULATED* DATA DERIVED FROM A SINGLE RANDOMIZED TRIAL OR NONRANDOMIZED STUDIES	Recommedation that procedure or treatment is useful/effective Evidence from single randomized trial or nonrandomized studies	Recommendation in favor of treatment or procedure being useful/effective Some conflicting evidence from single randomized trial or nonrandomized studies	Recommendation's usefulnesss/efficacy less well established Greater conflicting evidence from single randomized trial or nonrandomized studies	Recommendation that procedure or treatment is not useful/effective and may be harmful Evidence from single randomized trial or nonrandomized studies
LEVEL C VERY LIMITED POPULATIONS EVALUATED* ONLY CONSENSUS OPINION OF EXPERTS, CASE STUDIES OR STANDARD OF CARE	Recommendation that procedure or treatment is useful/effective Only expert opinion, case studies or standard of care	Recommendation in favor of treatment or procedure being useful/effective Only diverging expert opinion, case studies or standard of care	Recommendation's usefulnesss/efficacy less well established Only diverging expert opinion, case studies or standard of care	Recommendation that procedure or treatment is not useful/effective and may be harmful Only expert opinion, case studies or standard of care
SUGGESTED PHRASES FOR WRITING RECOMMENDATIONS	Should is recommended is indiciated is useful/effective/beneficial	is reasonable can be useful/effective/beneficial is probably recommended or indicated	may/might be considered may/might be reasonable usefulness/effectiveness is unknown/unclear/uncertain or not well established	COR III: No Benefit is not recommended is not indicated should not be performed/ adminstered/ other is not useful/ beneficial/ effective COR III: Harm potentially harmful causes harm associated with excess morbidity/ moratality should not be performed/ adminstered/other
COMPARATIVE EFFECTIVENESS PHRASES	treatment/strategy A is recommended/indicated in perference to treatment B treatment A should be chosen over treatment B	treatment/stategy A is probably recommended/indicated in preference to treatment B it is resonable to choose treatment Aover treatment B		

Stroke Rehabilitation Guidelines: By The Numbers

5/4/16
Date Published

18
Authors

72
Pages in Published Form

944
References

227
Specific Recommendations

78,000
Downloads as of August 2017

http://stroke.ahajournals.org/content/early/2016/05/04/STR.0000000000000098/tab-article-info

Categories of

RECOMMENDATIONS

THE REHABILITATION PROGRAM

Each year, stroke affects nearly 800,000 people in the U.S. More than 2/3 of stroke survivors receive rehabilitation services after hospitalization. This need for effective stroke rehabilitation is an essential part of stroke care. Several key recommendations from the 2016 Guidelines for Adult Stroke Rehabilitation and Recovery on post-stroke rehabilitation care are presented in this deck.

- Organization of Post-Stroke Rehab Care
- Rehab Intervention in the Inpatient Setting

PREVENTION AND MEDICAL MANAGEMENT OF COMORBIDITIES

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.

- Prevention of Skin Breakdown and Contractures
- Prevention of Deep Venous Thrombosis in Ischemic Stroke Patients
- Treatment of Bowel and Bladder Incontinence
- Assessment, Prevention and Treatment of Hemiplegic Shoulder Pain
- Prevention of Falls
- Post-Stroke Depression Including Emotional and Behavioral State
- Pharmacological Therapy

ASSESSMENT

Multiple areas of function are part of a complete post-stroke patient assessment. These include motor impairment, including ADL and IADL; communication, both expressive and receptive; dysphagia; cognition; memory and dysfunction of the special senses.

- ADL, IADL and Disability Measurement
- Assessment of Communication Impairment
- Dysphagia Screening

SENSORIMOTOR IMPAIRMENTS AND ACTIVITIES

Sensorimotor deficits affect nutrition, communication, cognition, memory, vision and gross and fine movement and coordination.

- Dysphagia Management and Nutritional Support
- Non-pharmacological Therapies for Cognitive Impairment and Memory
- Cognitive-Communication Disorders
- Aphasia
- Motor Speech Disorder: Dysarthria and Apraxia
- Spasticity
- Balance and Ataxia
- Mobility
- Eye Movement Deficits
- Upper Extremity Activity
- Deconditioning and Fitness

TRANSITIONS IN CARE AND COMMUNITY REHABILITATION

A great deal of information must be transmitted in tact from one treatment setting to the next. Accuracy and completeness are necessary to insure continuity of care. In addition, new areas of concern appear, such as family and caregiver support, community resources for recreation and leisure activities, sexual function and driving.

- Ensuring Medical and Rehab Continuity Through the Rehab Process and Into the Community
- Social and Family Caregiver Support
- Referral to Community Resources
- Rehab in the Community
- Recreational and Leisure Activity
- Sexual Function
- Driving

The Rehabilitation Program:

AN IN-DEPTH REVIEW

REHABILITATION INTERVENTIONS IN THE IN-PATIENT SETTING

- Unfortunately, most large randomized clinical trials in stroke recovery and rehab have focused on **the chronic recovery phase**. Studies on interventions in the acute rehab phase are generally small and more limited.
- **Timing** and **intensity** of acute rehab are important issues, but remain controversial.
  Example: Early mobilization after stroke -- recommended in many practice guidelines, but one meta-analysis in 2009 had insufficient evidence to support or refute its efficacy, and another randomized controlled trial (AVERT) showed high dose mobilization within 24 hours of stroke was detrimental to achieving a favorable outcome at 3 mos.

- Stroke survivors should receive rehab at an intensity commensurate with anticipated benefit and tolerance. *(Class I, LOE B)*
- High dose, very early mobilization within 24 hours of stroke onset can reduce the odds of a favorable outcome at 3 months and is not recommended. *(Class III, LOE A)*

ORGANIZATION OF POST-STROKE REHABILITATION CARE: THE DREAM TEAM

Ideally, the team has the following components:

- Physician-leader(s) trained in Physical Medicine and Rehabilitation (physiatry) or trained Neurologists
- Rehabilitation nursing
- Physical therapy
- Occupational therapy
- Speech and language therapy
- Social work
- Psychology
- Psychiatry
- Counselors

Miller EL, Murray L, Richards L, Zorowitz RD, Bakas T, Clark P, Billinger SA; on behalf of the American Heart Association Council on Cardiovascular Nursing and the Stroke Council. Comprehensive overview of nursing and interdisciplinary rehabilitation care of the stroke patient: a scientific statement from the American Heart Association. *Stroke*. 2010;41:2402-2448.

THE REHABILITATION PROGRAM: AN IN-DEPTH REVIEW

ORGANIZATION OF POST-STROKE REHABILITATION CARE: SETTINGS

INPATIENT REHABILITATION FACILITIES (IRF)

The most intense, 24/7 hospital-level care

- For patients likely to return to the community, rather than a SNF or long-care facility.
- CMS regulations generally specify providing at least 3 hours/day of therapy, at least 5 days/week.

SKILLED NURSING FACILITIES (SNFs)

- For patients requiring skilled nursing service to maintain or prevent deterioration.
- CMS regulations generally specify RNs on site a minimum of 8 hours/day No requirement for daily supervision by a physician. Therapy typically provided 0.5-1.5 hours/day.
- Medicare will generally cover up to 100 days in a SNF.
- Not all SNF's are the same in terms of hours of care.

Nursing Homes

- Long-term residential care for individuals unable to live in the community.
- Longer term care generally paid out of pocket, by long-term insurance, or through the Medicaid program.

LONG-TERM ACUTE CARE HOSPITALS

- Extended care to stroke patients with complex medical needs due to a combination of acute and chronic conditions. Average LOS 25+ days.

HOME

- Provided by Home Health Care Agencies or in outpatient clinics.

THE REHABILITATION PROGRAM: AN IN-DEPTH REVIEW

TRENDS IN UTILIZATION OF ACUTE AND POST-ACUTE STROKE REHAB IN THE US

Data strongly suggests that there are benefits to starting rehab as soon as the patient is ready and can tolerate it. Prior to discharge from the hospital, all patients should undergo a formal assessment of the patient's rehabilitation needs.

Multiple transitions in care are typical for stroke survivors, and pose particular **challenges** to maintain continuity of care and avoid lapses in the rehab program.

Major changes in Medicare reimbursement policies since the 1990s have dramatically impacted utilization patterns. Currently, ~70% of Medicare beneficiaries discharged for acute stroke use Medicare-covered post-acute services.

The 1st setting following acute hospitalization:

SNF (32%)

IRF (22%)

Home Health (15%)

1. Prvu Bettger JA, Kaltenbach L, Reeves MJ, Smith EE, Fonarow GC, Schwamm LH, Peterson ED. Assessing stroke patients for rehabilita- tion during the acute hospitalization: ndings from the Get With The Guidelines-Stroke program. *Arch Phys Med Rehabil.* 2013;94:38–45. doi: 10.1016/j.apmr.2012.06.029.

2. Buntin MB, Colla CH, Escarce JJ. Effects of payment changes on trends in post-acute care. *Health Serv Res.* 2009;44:1188–1210. doi: 10.1111/j.1475-6773.2009.00968.x.

THE REHABILITATION PROGRAM: AN IN-DEPTH REVIEW

ORGANIZATION OF POST-STROKE REHABILITATION CARE

- Stroke patients who are candidates for post-acute rehab should receive organized, coordinated, inter-professional care (Class I, LOE A)
- Stroke survivors who qualify for and have access to IRF care should receive treatment in an IRF in preference to a SNF (Class I, LOE B)

- Organized community-based and coordinated inter-professional rehab is recommended in the outpatient and/or home-based settings (Class I, LOE C)
- Early Supported Discharge (ESD) services may be reasonable for people with mild to moderate disability (Class IIb, LOE B)

THE REHABILITATION PROGRAM: AN IN-DEPTH REVIEW

IRF VS. SNF: PROVIDING THE RIGHT CARE FOR EACH PATIENT

IRF

What does the "3 hours of therapy" required for IRF participation really mean?

- Includes work on activities of daily living (ADL's) with an Occupational Therapist, such as dressing, brushing teeth
- May include speech therapy
- Does not mean 3 hours of aerobic exercise in the gym!

SNF

Who is appropriate for SNF (subacute) rehab?

- Unable to tolerate intensive rehabilitation (i.e. more than 3 hours a day)
- Don't require an intensive rehabilitation program
- Lack geographic access to IRF care
- Have completed a course of rehabilitation in an IRF, but unable to return directly home.

READING BETWEEN THE LINES

Bladder management:

- ✓ Assess pre-stroke urological issues and remove the foley catheter within 24 hours *(Class I, LOE B)*
- ✓ Cognition plays a part and prompted voiding and pelvic floor muscle training may be reasonable to try *(Class IIa, LOE B)*

Between the lines:
We need to determine if the incontinence is truly neurogenic or a cognitive attention related issue. At this time, we should use best practices for adult incontinence and study what works best in the stroke patient.

Bowel management:

- ✓ No evidence stronger than IIb: Assess prior bowel patterns *(Class IIb, LOE C)*

Between the lines:
We need to again asses for neurogenic bowel or cognitive attention issues. We can also consider nutrition that results in constipation or loose stools, the amount of fluid intake the patient takes in. Again, best practice for stool continence in the adult.

We have a need for research – specifically related to stroke patients.

READING BETWEEN THE LINES

Follow up care – what the follow up includes:

- Include the family or support in any training/education. *(Class IIb, LOE A)*
  - This is a IIb level of evidence, but we would all agree this is very important.
- Acute care hospital should provide community resources that family and patient should help participate in the choice of resources and should follow up to make sure the patient received or followed up with the resources. *(Class I, LOE C)*

Between the lines:
Which resources need to be set up or given is what is not defined.

- American Heart Association/American Stroke Association has great educational resources
- Rehabilitation resources, Home healthcare agencies, Driving referrals*, etc

READING BETWEEN THE LINES

Follow-Up on appointment content

- Between the lines:
- Follow up on recommendations of acute care hospitalization or rehabilitation setting?
- Is the patient falling? It is a Class I level B recommendation that patients participate in a community exercise program with balance training to reduce falls. *(Class I, LOE B)*

Evaluate for social isolation

- Return to work. Recommendations made in guidelines. Vocationally-targeted therapy or vocational rehabilitation. *(Class IIa, LOE C)* / An assessment of cognitive, perception, physical, and motor abilities *(Class IIb, LOE C)*

Between the lines:
-Are there cultural concerns?

Evaluate for post stroke depression and evaluate for anxiety

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

Between the lines:
- Which tool do you use to evaluate?
- What do you do when you discover an issue?

READING BETWEEN THE LINES

Sexuality

Discuss issues before discharged from hospital and again after transitioned home – Class IIb evidence. *(Class IIb, LOE B)*

Between the lines: topics of review suggested are:
-Safety concerns
-Changes in libido
-Physical limitations
-Emotional consequences of stroke
-What do you do with these findings?

READING BETWEEN THE LINES

Patient & Family Caregiver/Support

Patient and family need support and follow up on this support *(Class IIb, LOE A)*

Between the lines:
Successful transitions to the community and ongoing success in the community takes ongoing support. This support should likely include at a minimum:
-Education
-Training
-Counseling
-Development of a support structure (Patient and Caregiver)
-Financial assistance

Specifics to this are vague and we need more research to better understand this.

THE REHABILITATION PROGRAM: AN IN-DEPTH REVIEW

READING BETWEEN THE LINES

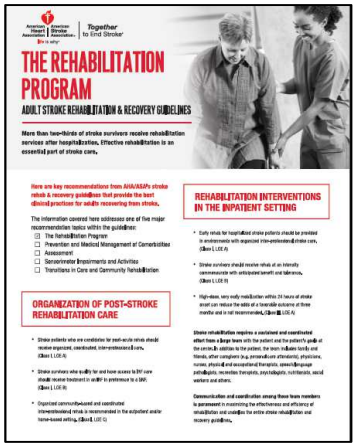
Selection of Follow-up Rehabilitation Care

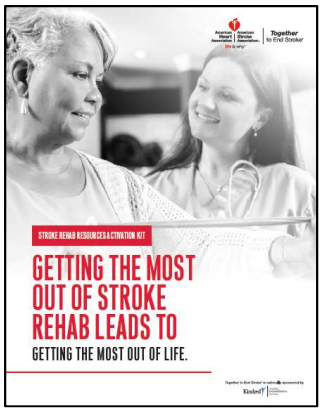
Between the lines:
-AHA/ASA Patient Decision-Making Guide
- Visit the facilities or settings
- Understanding what insurance will cover and what won't be covered
- Close to home vs. comprehensive services?

STROKE REHABILITATION AND RECOVERY GUIDELINES

AHA/ASA TOOLS FOR PROFESSIONALS AND PATIENTS

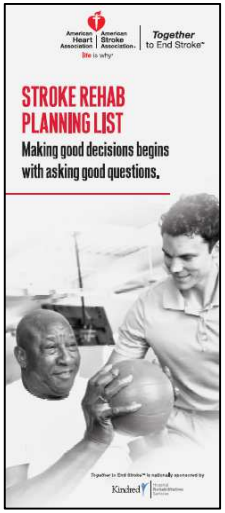
HCP Quick Sheets





Activation Kit

Patient Planning List



Patient Decision-Making Guide

Together to End Stroke™ is nationally sponsored by Kindred Hospital Rehabilitation Services

www.strokeassociation.org/recovery

American Heart Association | American Stroke Association. *Together* to End Stroke®
life is why®

CONCLUSION

STROKE REHABILITATION REQUIRES A SUSTAINED AND COORDINATED EFFORT FROM A LARGE TEAM

including the patient and his or her goals, 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 this entire guideline.