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# The Nurse's Role In Comprehensive Post-Stroke Care

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## Abstract

Stroke remains a significant public health issue and a leading cause of long-term disability in the United States. This article aims to provide primary care providers with evidence-based guidelines for post-stroke management, emphasizing the needs of the elderly population, particularly those aged 85 and older. The critical window for initiating rehabilitation is highlighted, with studies demonstrating that interventions implemented between two- and three-months post-stroke result in significantly improved motor function. The importance of early rehabilitation and individualized care plans in maximizing recovery outcomes and improving quality of life is emphasized. The article also explores the broader context of self-management in elderly stroke survivors, addressing challenges posed by limited social support, health literacy, and disparities in access to care. Gender differences in stroke recovery among older adults are discussed, with women facing unique challenges such as higher rates of post-stroke depression and social isolation. Quality of life indicators are highlighted as essential in evaluating the effectiveness of stroke management strategies in the elderly population. The article provides recommendations for managing hypertension, dyslipidemia, diabetes, and other comorbidities in older stroke patients, as well as guidance on antithrombotic therapy,

adverse drug events, and the management of dementia, osteoporosis, arthritis, and depression. The critical role of primary care providers in managing the care of stroke patients and the importance of collaboration with acute care providers and specialists are emphasized. Socioeconomic challenges faced by older stroke survivors, particularly women, are addressed, and the importance of developing an effective, actionable care plan in collaboration with the patient and their caregiver is highlighted.

**KEYWORDS**: Nurses, Nursing, Post-Stroke Care.

## Introduction

Stroke remains a prominent public health issue and is a leading cause of long-term disability in the United States. As of 2021, stroke accounted for 1 in 6 deaths related to cardiovascular disease, highlighting its significant impact on mortality rates. Among the more than 795,000 individuals in the United States who experience a stroke each year, approximately 610,000 are first-time strokes. Furthermore, about 87% of all strokes are ischemic in nature. Beyond the acute event, the repercussions of stroke are profound, particularly among older adults. More than half of stroke survivors aged 65 and older experience reduced mobility, which significantly impacts their quality of life and independence. The substantial burden of stroke has led to increased research efforts focusing on stroke management, with a primary emphasis on improving functional outcomes in adults. However, the focus of most research remains on individuals under the age of 85, leaving critical gaps in understanding and addressing the unique needs of the "oldest old" population.

This lack of sufficient research on individuals aged 85 and older creates challenges in tailoring effective stroke care for this demographic. Older adults in this age group face distinctive hurdles during their recovery journey, including increased frailty, multimorbidity, and a higher prevalence of cognitive and sensory impairments. These factors complicate not only their medical treatment but also their rehabilitation process and overall social and emotional well-being. While the acute phase of stroke care is critical, the post-acute phase, which focuses on maximizing function and recovery, becomes particularly significant for the oldest old. As life expectancy continues to rise and this demographic grows, the need to address these specific challenges has become increasingly urgent. Therefore, a more comprehensive understanding of stroke management in individuals over 85 years of age is essential for providing equitable and effective care.

This article aims to equip nurses with the latest evidence-based guidelines for post-stroke management, emphasizing the needs of the elderly population. Nurses play a vital role in addressing the multifaceted challenges faced by older adults recovering from stroke. By promoting early rehabilitation and individualized care plans, Nurses can help maximize recovery outcomes and improve quality of life. Early intervention in the rehabilitation process is particularly crucial, as it can significantly influence a patient's functional trajectory and their ability to regain independence. Moreover, understanding the importance of early rehabilitation enables nurses to adopt a proactive approach in addressing the unique physical, cognitive, and psychosocial needs of this population.

In addition to early rehabilitation, this article will explore the broader context of self-management in elderly stroke survivors. Self-management is an essential component of recovery, yet it poses significant challenges for older adults, particularly those with limited social support or health literacy. Health disparities among older adults recovering from stroke further complicate self-management efforts, with socioeconomic status, race, and geographic location contributing to inequities in access to care and rehabilitation services. Addressing these disparities is critical for ensuring that all stroke survivors have equal opportunities for recovery and improved quality of life.

Gender differences also play a significant role in stroke recovery among older adults and will be discussed in this article. Women, who represent a larger proportion of the elderly population due to their longer life expectancy, often face unique challenges following a stroke. These challenges may include higher rates of post-stroke depression, social isolation, and a greater likelihood of living alone, all of which can negatively

affect rehabilitation outcomes. Examining these gender disparities is vital for developing targeted interventions that address the specific needs of elderly women recovering from stroke.

Lastly, this article will highlight quality of life indicators and their importance in evaluating the effectiveness of stroke management strategies in the elderly population. Quality of life is a multidimensional concept that encompasses physical health, emotional well-being, social connections, and functional independence. For stroke survivors over the age of 85, maintaining or improving quality of life should be a primary goal of care. By integrating these considerations into clinical practice, nurses can better support the recovery and well-being of the oldest old, ensuring that this often-overlooked population receives the care and attention they deserve.

**The Critical Window and Rehabilitation**

The extent of damage caused by a stroke is as individual as the person experiencing it and is primarily influenced by the specific location of the brain injury. Factors such as co-morbid conditions, including hypertension, hyperlipidemia, Type II diabetes, and other forms of atherosclerotic disease, significantly impact the prognosis and the likelihood of a patient recovering to their pre-stroke functional status. The primary aim of rehabilitative care should be centered on a continuum of interventions designed to prevent secondary complications, optimize recovery, and enhance the individual's overall quality of life (Jenq & Tinetti, 2015).

The term "rehabilitation" originates from the Latin word "habilitas," meaning "to make able or fit again" (McArthur et al., 2011). The essence of rehabilitation lies in helping individuals achieve the highest level of functional independence that is realistically attainable. This approach prioritizes the positive—focusing on what the individual can accomplish—while minimizing emphasis on the limitations caused by stroke-related disabilities. Given that each patient presents unique capabilities and challenges, rehabilitation is delivered across varying levels of care, starting immediately upon admission to the acute care setting. Once a patient is medically stabilized and any required procedures are completed, an assessment is undertaken to determine the most appropriate setting for rehabilitation therapy. However, in many cases, decisions regarding placement are influenced by the patient's insurance coverage, financial resources, and the extent of support provided by programs such as Medicare and Medicaid. During this transitional period, therapy is often initiated at the bedside while further plans are being solidified.

Substantial research has been conducted to ascertain the optimal timing for initiating rehabilitation in stroke patients. A study presented in 2021, titled the "Critical Period After Stroke Study (CPASS)," revealed that interventions targeting upper extremity (UE) motor recovery, when implemented between two- and three-months post-stroke, resulted in significantly improved motor function compared to control groups without such interventions. Patients in the acute phase (≤30 days post-stroke) also demonstrated meaningful, albeit smaller, improvements over controls. In contrast, the chronic group (≥6 months post-stroke) exhibited no significant differences when compared with control participants. Importantly, the motor gains achieved during the acute and subacute phases were sustained for at least 12 months post-stroke, with the subacute group displaying clinically meaningful improvements in upper extremity motor function (Dromerick et al., 2021).

A related study conducted in 2018 further supported the concept of a prolonged critical period of neuroplasticity following stroke. This research indicated that even during late chronic stages, significant improvements in body function and structure could be achieved, marking the first report of an extended critical period for recovery. These findings highlight the potential for recovery well beyond the early phases of stroke rehabilitation (Edwardson et al., 2023).

The results of these studies underscore the importance of initiating therapy during critical time windows and extending rehabilitation to patients in chronic stages of recovery. If adopted into practice, these insights could reshape the current approach to rehabilitation, potentially yielding long-term benefits for stroke

survivors. Although further research is needed to implement widespread changes in clinical practice, these findings offer encouragement to patients by demonstrating that recovery can continue long after the initial rehabilitative interventions are completed.

The imperative of timely rehabilitation is clear: patients should be transitioned into acute, subacute, or home/outpatient therapy settings as soon as they are medically stable. The research cited earlier reinforces the value of early rehabilitation in achieving better outcomes. However, the process of recovery extends beyond the patient; psychosocial support is equally crucial for the family and broader support network. The aftermath of a stroke can profoundly affect the entire family, making their involvement in the rehabilitation process critical. Actively engaging family members in therapy sessions fosters continuity of care and ensures the momentum gained during formal rehabilitation is maintained once the patient transitions home.

Rehabilitation is an ongoing process that does not end with discharge from formal therapy. A study conducted in Sweden and published in September 2023 demonstrated that increased physical activity is associated with functional improvements six months post-stroke. Importantly, the study emphasized that interventions targeting individuals who experience a decline in physical activity during the subacute phase of recovery may lead to better functional outcomes (Buvarp et al., 2023). This evidence underscores the necessity of maintaining consistent and tailored rehabilitative efforts, even during later stages of recovery.

One critical aspect of post-stroke rehabilitation that has remained consistent over time is the gradual shift of responsibility from the therapist, who initially leads the therapy program, to the patient, who ultimately becomes responsible for continuing their therapy independently. This transition is most effective when the patient's family or support network is involved from the outset, as their encouragement and assistance play a pivotal role in ensuring adherence to rehabilitation activities. Sustained involvement by the family can significantly enhance the likelihood of achieving optimal recovery outcomes.

Finally, one of the most important goals of rehabilitation is to prevent a subsequent stroke. By emphasizing lifestyle modifications, ongoing therapy, and sustained physical activity, healthcare providers can help reduce the risk of recurrent strokes. The long-term success of post-stroke rehabilitation relies on a collaborative effort between the patient, their family, and the healthcare team, all working together to support recovery and prevent future health complications.

**Health-Related Quality of Life (HRQoL) and Community Reintegration Post-Stroke**

Community reintegration is defined as the ability to effectively resume meaningful roles within community settings and is considered a key endpoint for rehabilitation and discharge. Stroke survivors often view successful community reintegration as the most desirable outcome of rehabilitation. Physical recovery typically progresses most rapidly during the first three months following a stroke; however, studies indicate that 65% of stroke survivors report limitations in physical activities that hinder their reintegration into the community at six months post-stroke. Challenges such as reduced endurance during walking and the necessity of assistive devices for ambulation are significant barriers to perceived success in reintegration. For stroke survivors, mobility symbolizes independence, and impairments in walking ability are among the most impactful contributors to disability, loss of autonomy, reduced community involvement, social isolation, and a subsequent decline in overall quality of life.

The importance of mobility and physical functioning in post-stroke recovery was emphasized in a 2017 study conducted by Cohen and colleagues (Cohen et al., 2018). This study examined the relationship between physical performance measures, such as strength, balance, and mobility assessed at discharge, and their ability to predict health-related quality of life (HRQoL) and community reintegration six months after discharge from rehabilitation. Although the study was limited by a relatively small sample size, the researchers noted that the diversity in participant abilities compensated for variability in their findings. The primary outcome of the study revealed that strength and mobility performance at discharge are strong predictors of HRQoL and successful community reintegration at six months post-stroke. These findings

underscore the importance of clinicians and therapists using discharge assessments to design tailored rehabilitation programs that address the specific needs of individual stroke survivors.

In contrast, patients with severe mobility impairments at discharge are at an increased risk of reduced HRQoL, often accompanied by psychological challenges such as depression and feelings of social isolation. This highlights the interplay between physical limitations and psychosocial outcomes, suggesting that comprehensive rehabilitation programs must address both domains to optimize recovery and community reintegration. As clinicians consider long-term recovery goals, prioritizing mobility-focused interventions could substantially improve outcomes in independence and quality of life for stroke survivors.

Furthermore, the study's findings advocate for ongoing support and monitoring beyond the rehabilitation phase to ensure sustained progress in mobility and community engagement. The integration of community-based rehabilitation programs, peer support groups, and ongoing therapeutic interventions can mitigate the challenges of social isolation and promote a more seamless transition back into community life. Addressing mobility limitations as early as possible and throughout the recovery process can lead to meaningful improvements in both physical and psychosocial outcomes for stroke survivors.

**Health Disparities in the Stroke Population**

Stroke does not discriminate by gender, age, or ethnicity, making it a global health concern. Across the world, research efforts are focused on reducing the impact of stroke, restoring lost functions, and enabling stroke survivors to reintegrate into their communities with the goals of preventing future strokes and maximizing functional independence.

A critical aspect of stroke prevention lies in identifying individuals at higher risk. Extensive research highlights the importance of addressing modifiable risk factors and promoting healthy lifestyle behaviors to reduce the likelihood of a first stroke or recurrence of additional events. Table 1 outlines the distinction between modifiable and non-modifiable risk factors for stroke (Keilman et al., 2024).

**Table 1. Risk Factors for Stroke**

| Factors That Cannot Be Changed | Factors That Can Be Changed |
|---|---|
| Gender | Dietary Intake |
| Heredity and Race | Tobacco/Recreational Drug/Alcohol Use Cessation |
| Advancing Age | Diabetes |
| Prior Stroke | Hypertension or Other Vascular Diseases |
| | Medication Compliance |
| | Atrial Fibrillation |
| | Physical Activity |

While non-modifiable factors, such as gender, heredity, and age, are beyond the control of the individual, addressing modifiable factors provides a significant opportunity for stroke prevention. For instance, adherence to a healthy diet, regular physical activity, smoking cessation, and management of chronic conditions such as diabetes and hypertension can greatly reduce stroke risk. Ensuring medication compliance, particularly in individuals with atrial fibrillation or other cardiovascular conditions, is also essential for minimizing the likelihood of future strokes.

Health disparities also play a pivotal role in stroke outcomes and recovery. Socioeconomic status, access to healthcare services, and cultural beliefs about health can influence an individual's ability to manage risk factors or access timely medical care. Disparities in healthcare delivery can lead to unequal outcomes in stroke prevention, treatment, and rehabilitation. Understanding these disparities is essential for healthcare providers to develop equitable strategies that address the unique needs of diverse populations.

Efforts to reduce health disparities in stroke prevention and recovery must include targeted education programs, improved access to primary care, and culturally sensitive approaches to healthcare delivery. These interventions should aim to empower individuals in high-risk groups to make informed decisions about their health while addressing systemic barriers to care. By prioritizing both individual and population-level strategies, the burden of stroke can be significantly reduced, and outcomes for survivors can be improved globally.

In conclusion, recognizing the multifaceted nature of stroke risk factors and addressing disparities in stroke prevention and treatment are critical for achieving equitable and effective outcomes. By focusing on individualized care and promoting healthy lifestyles, healthcare providers can play a key role in reducing the impact of stroke and supporting survivors in their journey toward recovery and reintegration into their communities.

**Special Populations: The Elderly**

Limited research has been conducted on stroke prevention specifically in the elderly population, particularly individuals aged 85 years and older. However, evidence suggests that "aging is the strongest non-modifiable risk factor for the morbidity and mortality of stroke" (Lui & Nguyen, 2018). Older adults account for more than 70% of stroke-related deaths. Furthermore, between 55% and 98% of individuals in this age group have multiple chronic diseases (MCDs) prior to experiencing a stroke. The combination of the natural aging process and the prevalence of MCDs significantly increases the likelihood of stroke pathogenesis in this population.

Hypertension emerges as the most prevalent condition associated with stroke in elderly individuals, with diabetes ranking second. Additional conditions, such as atrial fibrillation and chronic kidney disease, are also closely linked to stroke incidence in this group. These comorbidities contribute to the complexity of stroke prevention and management in the elderly.

Social isolation further compounds the risks faced by elderly individuals, as it is associated with a higher likelihood of poor outcomes following a stroke. Research indicates that pre-stroke social isolation correlates with a 40% higher incidence of adverse outcomes in stroke survivors (Liu et al., 2021). Consequently, post-stroke interventions aimed at preventing secondary strokes and improving rehabilitation outcomes should focus on helping elderly clients engage in social activities while managing their MCDs. Promoting community involvement and addressing the multifactorial risks unique to the elderly population are essential for reducing stroke incidence and improving recovery outcomes.

**Special Populations: Women**

Women are disproportionately affected by stroke, both in terms of incidence and outcomes. A 2015 study revealed that among individuals aged 75 years and older, risk factors for stroke differed significantly between men and women (Hilton, 2002). Women in this age group were more likely to have obesity, hypertension, diabetes mellitus, and dyslipidemia as risk factors, while men were more commonly affected by smoking and alcohol consumption. Notably, although men had a higher stroke mortality rate at 12 months post-stroke, elderly women were at greater overall risk of experiencing a stroke after the age of 85.

In addition to the higher stroke risk observed in elderly women, their post-stroke outcomes tend to be poorer than those of men. Women are more likely to experience hemorrhagic strokes and report higher levels of depression and lower expectations for quality of life following a stroke. Functional outcomes also tend to

be worse for women, with greater levels of disability in performing activities of daily living (ADLs) during the acute phase and at three to six months post-stroke. Furthermore, elderly women are more likely to be discharged to assisted-living facilities or hospices following hospitalization, compared to their male counterparts.

Social and psychological factors play a significant role in the post-stroke experience for women. Depression is reported more frequently in women than men after a stroke, and elderly women are more likely to live alone, which limits their access to social support. This lack of social support contributes to a higher likelihood of institutionalization or the need for community care services. Addressing these psychosocial factors is critical for improving outcomes and quality of life in elderly female stroke survivors.

Gender differences in stroke prevention, treatment, and recovery have also been observed in the utilization and response to medications. Hormonal differences, variations in social support networks, and disparities in the prevalence of comorbid conditions may all contribute to these differences. As research continues to explore the role of gender in post-stroke care, these differences are increasingly recognized as important considerations in tailoring rehabilitation strategies (Li et al., 2015).

Financial and geographical barriers also play a role in the challenges faced by female stroke survivors. Although Medicare and other insurance programs provide coverage for a limited duration of rehabilitation therapy, the services often do not extend long enough to meet the needs of the client. Stroke-related disabilities impose significant financial burdens, with resources frequently being insufficient or inaccessible. For elderly women managing both chronic illnesses and stroke-induced disabilities, the challenges can be particularly overwhelming.

Many women with pre-existing chronic conditions, such as hypertension or diabetes, may perceive themselves to be in generally good health until a stroke occurs. However, the disabilities imposed by a stroke often transform the life of an independent elderly woman into one of dependency, with substantial physical, emotional, and social challenges. Addressing these issues requires a comprehensive approach that incorporates prevention, rehabilitation, and support tailored to the unique needs of this population.

**Current Treatment Guidelines for the Elderly Post-Stroke**

The management of stroke for individuals of any age should include several essential components. These include dietary modifications, physical exercise or rehabilitation to improve mobility and strength, adherence to prescribed medications, management of hypertension and diabetes, cessation of tobacco use, recreational drug use, and alcohol consumption, evaluation for depression and cognitive or behavioral changes, and the use of antiplatelet or anticoagulant therapy when indicated. These aspects form the foundation of effective post-stroke care and recovery.

For elderly clients, additional considerations are necessary to address the unique challenges they face post-stroke. The following recommendations, based on guidelines from the American Heart Association (AHA), the American Stroke Association (ASA), and the American College of Clinical Pharmacy (ACCP), are modified to account for the frail elderly population (Bushnell & Colón-Emeric, 2009).

**Hypertension**: Managing blood pressure is crucial for older stroke patients. However, care should be taken to implement adjustments that minimize the risk of orthostatic hypotension, which can lead to dizziness and falls.

**Dyslipidemia**: Advancing age alone does not necessarily increase the risk of severe adverse effects from dyslipidemia treatments. Before initiating statins, clinicians should assess risks for coronary artery disease, intracerebral hemorrhage, myotoxicity, and hepatotoxicity. If no significant risks are identified, statin therapy can be started as appropriate.

**Hyperhomocysteinemia**: Elevated homocysteine levels may triple the risk of stroke. This condition can be managed with B vitamin supplementation, though evidence is insufficient to routinely recommend vitamin supplements for reducing cardiovascular events or stroke risk. Nevertheless, if low B12 levels are detected, supplementation should be provided to prevent complications associated with deficiency.

**Tobacco Use**: Older clients over the age of 75 who smoked at the time of their stroke were found to have higher rates of smoking cessation attempts and successes within the first three years post-stroke compared to younger individuals. Smoking cessation should be strongly encouraged as part of post-stroke care.

**Diabetes**: Diabetes is independently associated with a nearly 60% increased risk of recurrent stroke. Effective diabetes management is essential for preventing secondary strokes in this population.

**Antithrombotic Therapy for Transient Ischemic Attack (TIA) and Non-Cardioembolic Stroke**: Aspirin remains the standard therapy for secondary stroke prevention, reducing the relative risk of cardiovascular events by 22%. Clopidogrel is also an acceptable alternative, though its advantages over aspirin are modest. The combination of aspirin and clopidogrel is not routinely recommended due to increased bleeding risks, particularly in older individuals. The risk-benefit ratio generally favors antiplatelet therapy for most elderly clients, but careful monitoring is required.

**Adverse Drug Events**: Adjustments to medications should be made gradually, with close monitoring for adverse effects when initiating or discontinuing secondary prevention therapies. This is especially important in older clients to avoid complications.

**Dementia**: Stroke increases the likelihood of developing dementia by five to six times. Periodic evaluations for cognitive function and impairment should be conducted post-stroke. However, the use of antiplatelet or anticoagulant agents can heighten the risk of hemorrhages in clients with beta-amyloid deposits in cerebral vasculature. An MRI of the brain is recommended prior to initiating such therapies.

**Osteoporosis**: Osteoporosis is both a risk factor for stroke and a condition that worsens post-stroke, particularly on the affected side. Bone density loss increases the risk of fractures, especially in women and predominantly hip fractures. Bone mineral density assessments and appropriate treatment for osteoporosis should be part of post-stroke care, both as preventive and rehabilitative measures.

**Arthritis**: The use of non-steroidal anti-inflammatory drugs (NSAIDs) and Cox-2 inhibitors in older stroke clients must be carefully evaluated due to the high risk of gastrointestinal bleeding, especially in those concurrently taking warfarin or aspirin.

**Depression**: Approximately 34% of stroke survivors experience depression, irrespective of age or gender. Prompt treatment of depression is crucial, though selective serotonin reuptake inhibitors (SSRIs) may increase the risk of upper gastrointestinal bleeding, particularly when combined with antiplatelet therapy or NSAIDs. SSRIs may also prolong the effects of warfarin, heightening bleeding risks. Alternative antidepressants or the use of proton pump inhibitors (PPIs) or H2 receptor antagonists for gastrointestinal protection should be considered when treating depression in post-stroke clients.

**Discontinuation of Secondary Prevention Strategies**: In many cases, elderly stroke survivors are not offered secondary prevention strategies or are prematurely taken off them. Evaluating the necessity of these interventions is essential, especially since the risk of secondary stroke is highest within six months of the initial event. Discontinuing lipid-lowering therapy, for instance, can precipitate vascular events and worsen outcomes during the acute post-stroke period. However, for clients receiving palliative or hospice care, or those with frequent falls or gastrointestinal bleeding, a thorough discussion of the risks and benefits of continued secondary prevention treatments is warranted. Such decisions should be made collaboratively with the client and their family to ensure alignment with their goals of care.

**The Primary Care Connection**

In 2021, the American Heart Association (AHA) and American Stroke Association (ASA) released a scientific statement addressing the primary care of adult patients who have experienced a stroke. This statement provides nurses with a comprehensive outline of current post-stroke care guidelines, templates, and recommendations for secondary stroke prevention. The authors emphasized the critical role of nurses in managing the care of stroke patients, recognizing that stroke leads to life-long changes for both the individual and their family. To optimize patient outcomes, it is vital for all healthcare providers involved in stroke care to adhere to consistent clinical guidelines.

A crucial aspect of primary care for stroke patients is discussing the impact of the stroke on the client and their support system, as this significantly influences the client's rehabilitation outcomes (Kernan et al., 2021). During the initial visit, it is important to listen to the client's account of the event and their understanding of what transpired. Equally significant is the provider's comprehension of the stroke's pathogenesis, as this knowledge underpins effective secondary stroke prevention. Often, not all the details of the client's stroke are immediately available or are pending further diagnostic testing. Collaboration with acute care providers and/or neurologists is essential for continuing or adjusting the treatment plan established during the acute phase, as the client transitions back into their daily life. During the first visit, a thorough evaluation of medications is necessary to confirm the use of prescribed antiplatelet agents and to monitor for any adverse effects. Additionally, the provider should assess the client's multiple chronic diseases (MCDs) to ensure adherence to current treatment regimens.

Tracking changes experienced by the client between visits is vital in stroke care. Functional changes can significantly impact the client's physical, psychological, and social relationships. Approximately 60% of stroke survivors experience some level of neurologic changes, and between 5% and 50% face moderate disabilities requiring assistance with basic life needs and activities of daily living (ADLs).

On every visit, screenings should be conducted to identify potential complications and unmet needs. Complications may include anxiety, depression, bone fractures, osteoporosis, falls, fatigue, shoulder pain due to hemiplegia, spasticity, thromboembolism, pressure ulcers, or seizures. Some of these issues can be managed within primary care, while others may require referrals to specialists. Notably, readmissions within 30 days after a stroke are often related to medical rather than neurological issues and could be reduced or avoided if a nurse evaluates the client within 1–2 weeks post-discharge.

Unmet needs are defined as "remediable gaps between what a patient would like to be able to do or experience and what they are currently doing or experiencing". These unmet needs, as highlighted in the AHA/ASA scientific statement, include communication assistance, cognitive impairment screening, depression management, addressing fear of falling, promoting independence in ADLs, improving mobility, pain management, physical rehabilitation, assistance with returning to work, evaluating driving abilities, enhancing sexual performance, and managing urinary or bowel incontinence. These aspects should be systematically addressed during the client's follow-up care to support their recovery and quality of life.

**Socioeconomic Challenges in Post-Stroke Care**

Socioeconomic issues that arise after a stroke often become apparent as the client is followed in primary care. Barriers such as limited access to healthcare, food insecurity, and lack of transportation caused or exacerbated by the stroke significantly affect the survivor's quality of life. These challenges are particularly pronounced in older adults over 85 years of age and in females, as previously discussed. In such situations, referral to a social worker is essential to assist the advanced practice registered nurse (APRN) in supporting the client in making informed decisions.

Collaboration between the APRN provider and the stroke survivor or their caregivers is crucial to developing an effective care plan. While the APRN may prioritize managing hypertension or mitigating fall risks, the client may have more immediate concerns, such as their caregiver's ability to assist with tasks like

getting in and out of the shower. A successful plan of care requires input and agreement from both the provider and the client to ensure all priorities are addressed.

When the stroke survivor leaves the primary care office, there should be a clear, actionable care plan in place for both the client and their caregiver. This plan will guide their self-management efforts, which are essential for achieving positive health outcomes. The process begins with the initial post-stroke discussion and is built upon through ongoing education about self-care techniques, supported by caregiver assistance. Self-monitoring of blood pressure, blood sugar, and weight is now a standard component of stroke care. Clients should be provided with the necessary tools and education to perform these tasks effectively. Self-monitoring fosters self-management and can positively reinforce progress when desired outcomes are achieved. Follow-up appointments should be scheduled at appropriate intervals based on the client's condition and stability to support their progress toward established goals.

The critical period for maximizing functional recovery after a stroke has been previously discussed. Three key questions can help assess the client's level of impairment: (1) What activities could the patient perform before the stroke that they are unable to do now? (2) What does the patient aspire to regain the ability to do? (3) Has the patient achieved their full potential?. These answers may be evident during the initial examination or may require input from family members or caregivers. Screening for fall risks should be conducted at each visit. Recommended tools by the AHA/ASA for assessing fall risk include the Berg Balance Scale and the Morse Scale. Mobility can be evaluated using the Timed Up and Go (TUAG) test or the 10-meter walk test. Cognitive function should be assessed using the Mini-Mental State Examination or the Montreal Cognitive Assessment.

Physical, occupational, and speech therapy may be required during the initial rehabilitation phase, depending on the severity of the disability identified through these screenings. Research indicates that stroke survivors demonstrate the most significant improvements in response to therapy within the first three to six months post-stroke, with slower progress noted as the first year progresses. However, equipping stroke survivors and their caregivers with the tools and strategies for ongoing rehabilitation can enable them to independently continue therapeutic activities indefinitely. The primary care setting, guided by the APRN, is vital for ensuring continuity of care, with the ultimate goal of reintegrating the stroke survivor into their community, achieving self-management of their condition, and preventing secondary strokes.

## Conclusion

The pathogenesis of stroke and the journey to recovery involve numerous factors, with each stroke survivor having a unique response to both the event and the rehabilitation process. Ongoing research at all levels of care aims to optimize outcomes for stroke survivors.

Female stroke survivors often face challenges that are more socioeconomic in nature compared to their male counterparts, as previously outlined. Therefore, particular attention should be directed toward evaluating and supporting the woman's social support system. In cases where support is lacking, social services should play an active role in care planning.

Although further research is needed regarding secondary prevention in the oldest-old population after ischemic stroke, there is no justification for withholding the full spectrum of treatment options available to younger stroke patients. Factors such as the severity of the stroke, the client's functional status before and after the event, the presence of multiple chronic conditions, and the client's goals and preferences should guide post-stroke care strategies, rather than focusing solely on the client's age. Older adults are at greater risk for adverse drug events, drug-drug interactions, and drug-disease interactions, making careful consideration of the treatment plan essential in this population. Nonetheless, implementing the treatment approaches recommended for younger stroke patients may result in meaningful improvements in outcomes for older stroke survivors.

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