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## What predicts a poor outcome in older stroke survivors? A systematic review of the literature.

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### Abstract

**PURPOSE:** To identify factors in the early post-stroke period that have a predictive value for a poor outcome, defined as institutionalization or severe disability.

**METHODS:** MEDLINE, PSYCINFO, EMBASE and CINAHL were systematically searched for observational cohort studies in which adult and/or elderly stroke patients were assessed  $\leq$  1 month post-stroke and poor outcome was determined after a follow-up of  $\geq$  3 months.

**RESULTS:** Thirty three articles were selected from 4063 records, describing 27 independent cohort studies. There are rather consistent findings that greater age, a more severe stroke (measured through a clinical evaluation scale), the presence of urinary incontinence (with impaired awareness) and a larger stroke volume (measured through brain imaging techniques) predict poor stroke outcome. In contrast to clinical expectations, the prognostic value of ADL-dependency and impaired cognition remains unclear, and factors in the domains of emotional and communicative functioning rarely feature. Studies using a selected group of stroke patients tended to identify different predictors.

**CONCLUSIONS:** The current evidence is insufficient for the development of a clinical prediction tool that is better than physicians' informal predictions. Future research should focus on the selection of optimal screening instruments in multiple domains of functioning, including the timing of assessment. We suggest developing prediction tools stratified by more homogeneous, clinically distinguished stroke subtypes.

**IMPLICATIONS FOR REHABILITATION:** A reliable prognosis soon after a stroke is highly relevant to patients who ultimately have a poor outcome, because it enables early planning of care tailored to their needs. In view of the development of a clinical prediction tool that is better than physicians' informal predictions, future research should focus on optimal screening instruments in multiple domains of functioning, including emotional and communicative functioning. Clinical prediction tools stratified by more homogeneous, clinically distinguished stroke subtypes, could enable more accurate prognosis in individual stroke patients.

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