

Idiopathic normal pressure hydrocephalus outcome

Mild preoperative [Idiopathic normal pressure hydrocephalus](#) severity, shorter preoperative [symptom](#) duration, good [tap test](#) response, and complete [disproportionately enlarged subarachnoid space hydrocephalus \(DESH\)](#) were associated with good short-term postoperative outcome at 1 year. These positive factors may be useful for prediction of short-term surgical outcome in iNPH patients ¹⁾

Comorbid conditions interfere with the ability to assess progression of iNPH and the effectiveness of the shunt. Patient [caregivers](#) play a large role in decision-making and clinical course, and should be included when counseling patients ²⁾.

A 2001 meta-analysis of outcomes reported the [Idiopathic normal pressure hydrocephalus treatment](#) to have a 29% rate of significant improvement and a 6% significant complication rate ³⁾.

A study in 2005 revealed greater improvements, with 75% of patients (n = 132) seeing postoperative improvements within 24 months of surgery ⁴⁾, 68% of patients experiencing “very good” or “good” outcomes in a prospective study ⁵⁾, and 69%–84% of patients seeing improvements by 1 year after surgery in a prospective multicenter study ⁶⁾.

Studies that have established fixed protocols for follow-up have shown that short- and long-term periods after shunting are determined by many factors. Whereas short-term results were more likely to be influenced by shunt-associated risks, long-term results were independent of factors inherent to the shunt procedure and shunt complications, i.e., death and morbidity related to concomitant cerebrovascular and vascular diseases ⁷⁾.

In 2013 a total of 64 studies of 3,063 patients were reviewed. Positive improvement following shunt insertion was reported in an average of 71 % of patients with an average 1 % mortality. Results from studies published in the last 5 years showed 82 % improvement following shunt insertion, mortality of 0.2 %, and combined common complications rate of 8.2 % ⁸⁾.

Analysis of the efficacy of shunts for possible iNPH conducted in Japan indicated a significant improvement in the mRS grade between baseline and outcome within 1 year, regardless of the surgical technique, and shunt intervention was found to be effective ⁹⁾.

Clinically, patients presenting with early or severe dementia have worse outcome, while those with a primary gait disturbance feature have better results ^{10) 11)}.

Clinical improvement of patients with iNPH can be sustained for 5-7 years in some patients, even if shunt revision surgery is needed multiple times. With earlier diagnosis and treatment and the increasing lifespan of the ageing population, the need for long-term follow-up after shunt surgery may be greater than it was in the past. Monitoring, identification and treatment of shunt obstruction is a key management principle ¹²⁾.

Gait and Incontinence

Postoperative improvement of Gait and Urinary incontinence is obtained at an early stage^{13) 14)}. In contrast, Dementia tends to improve gradually from after the third postoperative month. The family satisfaction increases as the symptom of Dementia improve. The satisfaction of the medical personnel tends to remain high after the first postoperative month¹⁵⁾.

Independent predictors

Independent predictors of improvement are the presence of gait impairment as the dominant symptom and shorter duration of symptoms¹⁶⁾.

Caregiver Burden

see [Caregiver burden in idiopathic normal pressure hydrocephalus](#).

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