

Penn Acoustic Neuroma Quality of Life scale

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Two disease-specific Quality of Life instruments have been developed for sporadic vestibular schwannoma: the Penn Acoustic Neuroma Quality of Life Scale in [2010](#), and the Mayo Clinic Vestibular Schwannoma Quality of Life Index in [2022](#).

Shaffer et al. developed the first validated disease-specific quality-of-life instrument for patients with acoustic neuromas. Given the lack of a validated equivalent, this tool has the potential to become a critical outcome measure for studies evaluating the treatment of patients with acoustic neuromas ¹⁾.

PANQOL-It presented more than acceptable psychometric properties and its adoption is justified for both clinical and research purposes ²⁾.

Patients undergoing SRS or [observation](#) report a better total [Penn Acoustic Neuroma Quality of Life scale](#) (PANQOL) and higher PANQOL facial, balance, and pain subdomain scores than those undergoing microsurgical resection. However, the differences in health-related QOL outcomes following SRS, observation, and microsurgical resection are small. Long-term QoL in patients with VS < 3 cm in diameter was higher in those having gross total resection (GTR) than those with less than GTR despite having similar rates of facial nerve and hearing preservation. This may be due to psychological factors. Notwithstanding, functional preservation should be prioritized.

A nationwide online survey was distributed to 24 community organizations. The inclusion criteria were a diagnosis of AN irrespective of the treatment approach. There were 52 respondents. Mental well-being was assessed using the Hospital Anxiety and Depression Scale (HADS), and quality of life was assessed using Penn Acoustic Neuroma QOL scale (PANQOL).

Results: The most frequently reported symptoms reported were poor balance, tinnitus, hearing loss,

and headache. Preliminary analyses suggested that headaches, tinnitus, and mental well-being were significantly correlated with QOL. Hierarchical regression revealed that these two symptoms and mental well-being accounted for 18.7% and 51.1% of the variance in QOL, respectively. In addition, there was a significant difference in depression scores between management types, with the surgery group having a significantly higher depression score than the radiation group.

Symptoms and mood contribute to QOL for those diagnosed with AN. This can be understood through the common-sense model and fear of cancer recurrence. Screening for psychological difficulties should be provided from the point of diagnosis to post-treatment to allow for targeted management plans to mitigate the effects of these on QOL ³⁾

Data on sex-specific, pre- and post-surgically quality of life (QoL) are rare. The objective of the present study was to determine sex-specific aspects of QoL in VS. Health-related QoL was analyzed in 260 patients (112 male/148 female) with unilateral sporadic VS using general (SF-36: general Short-Form Health Survey), disease-specific (PANQOL: Penn Acoustic Neuroma Quality-of-Life Scale, PANQOL) and symptom-specific (DHI: Dizziness Handicap Inventory; HHI: Hearing Handicap Inventory; THI: Tinnitus Handicap Inventory; FDI: Facial Disability Index) QoL questionnaires. Sex differences were evaluated pre- and postoperative by multi- and univariate analyses based on 200 preoperative and 88 postoperative questionnaires. Female patients were significantly more affected by dizziness, headaches, reduced energy, and anxiety. Energy and balance changed similarly in both sexes after surgery. However, postoperative women tended to be more affected by facial palsy and headaches than men. Despite the greater physical impairment, general health improved equivalently or even more in female patients than in males. In conclusion, self-rated QoL in VS is significantly affected by sex and surgery. This should be taken into account when counseling VS patients regarding observation, radiotherapy, and surgery ⁴⁾.

Physical health (PH) and mental health were assessed in a prospective cross-sectional study including 226 patients with unilateral sporadic VS before and after surgical removal (SURG). Quality-of-life (QoL) was estimated by self-rating questionnaires: general Short-Form Health Survey (SF-36), Penn Acoustic Neuroma Quality-of-Life Scale (PANQOL), Dizziness Handicap Inventory (DHI), Hearing Handicap Inventory (HHI), Tinnitus Handicap Inventory (THI), and Facial Disability Index (FDI). QoL changes over time as well as predictive factors were accessed by multivariate analyses of covariance (MANCOVA).

In total, 173 preoperative and 80 postoperative questionnaires were analyzed. There was a significant PH deterioration related to facial function (FDI, PANQOL-face) after surgery. In line with facial rehabilitation, however, FDI improved within the first five years after surgery and did not differ compared to the preoperative patient cohort, eventually. In contrast, MH (i.e., PANQOL-anxiety) and general health (i.e., PANQOL-GH) improved with surgery and correlated with the extent-of-resection.

Physical and mental health is significantly influenced by VS surgery. While PH might decrease after surgery, MH potentially increases when the patient is cured. Practitioners should take MH into account before advising an incomplete VS treatment (e.g., subtotal resection, observation, or radiosurgery).

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