

Table 3: Vision

Author (Year)	Description of Study	Classification Process / Evidence Class	Results and Conclusions
Colao et al (1998) ³	<p><u>Study Design:</u> Retrospective case series.</p> <p><u>Patient Population:</u> Eighty-four adult patients with NFPA.</p> <p><u>Study Description:</u> Evaluate the endocrine and ophthalmologic effects of surgery followed by RT in patients with NFPA.</p> <p>Follow-up duration was 1 year for all 84 patients, 2-5 years in 63 patients, 6-10 years in 32 patients, and 16 patients were followed for more than 10 years.</p> <p>All 84 patients underwent surgical resection; 72 patients with residual tumor were considered for RT, but 13 refused.</p> <ul style="list-style-type: none"> - Ophthalmologic exam was performed pre-op, then at 3, 6, and 12 months post-op, then yearly. 	Clinical Assessment / III	<p><u>Results:</u></p> <p>Fifty-eight out of 84 patients presented with visual disturbances.</p> <ul style="list-style-type: none"> - Immediately post-op, 43 had partial improvement in visual disturbances and 15 regained normal vision. - In 59 patients who received RT 6-12 months post-op, 9 experienced improved vision, 17 were stable, and 1 worsened. Improvement was noticed within the first 6 months. <p><u>Authors' Conclusions:</u></p> <p>Long-term ophthalmologic follow-up should be carried out in patients with NFPA who have undergone surgery and RT.</p> <p><u>Comments:</u></p> <p>Retrospective study. The authors did not compare the value of endocrine function follow-up versus ophthalmologic or radiologic follow-up after surgery and RT. Ophthalmologic follow-up is recommended to document changes in visual acuity and visual fields and reassure patients on the outcome. Concordance index between observers for the conclusions reached was not reported.</p>

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Berkmann et al (2014) ¹⁹	<p><u>Study Design:</u> Retrospective case series.</p> <p><u>Patient Population:</u> 210 patients with NFPA.</p> <p><u>Study Description:</u> Patients underwent surgery for initial NFPA in iMRI suite and visual sequelae tracked with mean follow-up of 5 years. Visual examinations were performed preoperatively and 7 days and 3 months postoperatively.</p>	Clinical Assessment / III	<p><u>Results:</u></p> <p>Normalization of visual field deficit was noted in 51 (86%) patients on ophthalmological follow-up examinations within 1 month after surgery. Improvement of visual acuity (VA) was noted in all 44 patients with preoperative deficiencies.</p> <p>In 30 (68%) patients, VA had normalized.</p> <p>No further improvements were noted after 1 year.</p> <p><u>Author's Conclusions:</u></p> <p>Improvement in vision is expected in symptomatic patients with NFPA; the improvements should occur within 1 year of surgery.</p> <p><u>Comments:</u></p> <p>Although authors performed radiologic, endocrinologic, and ophthalmologic follow-up, they did not report which one was better. No ophthalmologic follow-up schedule algorithm was proposed. Nevertheless, they report that improvement in vision after surgical treatment of NFPA could happen up to 1 year after intervention. Concordance index between observers for the conclusions reached was not reported.</p>

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Dekkers et al (2007) ²⁴	<p><u>Study Design:</u> Retrospective case series.</p> <p><u>Patient Population:</u> Forty-three adult patients with NFPA.</p> <p><u>Study Description:</u> VA and VF were examined before surgery and 3 and 12 months after surgery in patients with compression of chiasm.</p>	Clinical Assessment / III	<p><u>Results:</u></p> <p>Preoperatively, VF was normal in 4 patients, severely altered in 60% of patients, moderately altered in 17%, and mild in 14%.</p> <p>At 3 months, 60% experienced improvement of VF, 30% experienced normalization, and 1 was worse.</p> <p>At 1 year, 36% experienced improvement of VF, and 80% of these showed improvement of VA.</p> <p>In 56% of the patients, VA showed continued improvement.</p> <p><u>Authors' Conclusions:</u></p> <p>Follow-up of patients after surgical treatment for pituitary macroadenomas should include ophthalmologic assessment within several weeks after surgery as well as subsequent assessments after 1 and 2 years in order to estimate the final effect of surgery on visual function.</p> <p><u>Comments:</u></p> <p>The authors do not compare whether radiologic, endocrine, or ophthalmologic follow-up is better for tumor recurrence. Long-term ophthalmologic examination is recommended for documentation of improvement of visual disturbances and patient reassurance. Concordance index between observers for the conclusions reached was not reported.</p>