



## Functioning and nonfunctioning pituitary adenomas in pregnancy: An European Society of Endocrinology clinical practice guideline

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### Abstract:

Pregnancies are rare in women with pituitary adenomas, which may relate to hormone excess from secretory subtypes such as prolactinomas or corticotroph adenomas. Decreased fertility may also result from pituitary hormone deficiencies due to compression of the gland by large tumours and/or surgical or radiation treatment of the lesion. Counselling premenopausal women with pituitary adenomas about their chance of conceiving spontaneously or with assisted reproductive technology, and the optimal pre-conception treatment, should start at the time of initial diagnosis. The normal physiological changes during pregnancy need to be considered when interpreting endocrine tests in women with pituitary adenomas. Dose adjustments in hormone substitution therapies may be needed across the trimesters. When medical therapy is used for pituitary hormone excess, consideration should be given

to the known efficacy and safety data specific to pregnant women for each therapeutic option. In healthy women, pituitary gland size increases during pregnancy. Since some pituitary adenomas also enlarge during pregnancy, there is a risk of visual impairment, especially in women with macroadenomas or tumours near the optic chiasm. Pituitary apoplexy represents a rare acute complication of adenomas requiring surveillance, with surgical intervention needed in some cases. This guideline describes the choice and timing of diagnostic tests and treatments from the preconception stage until after delivery, taking into account adenoma size, location and endocrine activity. In most cases, pregnant women with pituitary adenomas should be managed by a multidisciplinary team in a centre specialised in the treatment of such tumours.

### Core Recommendations:

	NFA	Prolactinoma	Acromegaly	Cushing's disease
Pre-conception	In women with an NFA near the optic chiasm who are seeking pregnancy, surgery may be considered to reduce the risk of chiasmal compression and to enhance fertility	Aim for normalisation of even mild hyperprolactinaemia with cabergoline at the lowest possible dose to optimise chances to conceive	Consider surgery in active acromegaly before pregnancy	Advise against pregnancy during active Cushing's disease
Pregnancy	Nonfunctioning microadenomas bear a low risk for growth during pregnancy, there is no need for routine monitoring	No indication for prolactin testing  Medical treatment should be stopped in most cases upon confirmation of pregnancy  Close surveillance is needed in women with a macroprolactinoma	No indication for GH and/or IGF-1 testing  Medical treatment should be stopped in most cases upon confirmation of pregnancy	Diagnosis of Cushing's disease and assessment of disease activity is challenging due to placental CRH production and activation of the hypothalamic-pituitary-adrenal axis, circadian rhythm however is preserved
Post-pregnancy	We recommend awaiting re-assessment of pituitary imaging and function until 3-6 months after delivery	A significant percentage of prolactinomas are biochemically in remission after pregnancy and lactation	Rebound of disease activity shortly after delivery is frequent	Re-assessment of disease activity should be performed 2-3 months post partum

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