

## **Dr. Pam Freda**

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This project will conduct the first comprehensive prospective study of clinically non-functioning pituitary adenomas (CNFA). Current clinical practices for the evaluation, treatment and follow up of patients with these pituitary adenomas are based on retrospectively collected data, which have many shortcomings. As a result, significant gaps exist in our knowledge about how to optimize these practices. A major barrier to improving our approach to these patients has been the lack of prospectively collected evidence to support or change it. We will overcome this barrier and answer the important outstanding questions about CNFA care. Aim 1 of this project is to prospectively study asymptomatic pituitary lesions that do not require surgical intervention in order to determine the appropriate initial evaluation and follow up as well as the safety of their conservative, non-surgical management. Aim 2 of this project is to prospectively assess the outcome of symptomatic CNFAs treated with surgery, the initial treatment of choice. Recurrences after surgery are common, but cannot be reliably predicted so we will study potential risk factors for tumor re-growth in particular the "silent" corticotroph tumor type. We will also assess the safety of conservative follow up for patients with small tumor remnants after surgery and determine in which of these patients RT is needed by examining the risks vs. benefits of post-operatively RT for residual/recurrent tumors. Aim 3 of the project is to examine for the first time, prospectively, the impact of the disease and our therapies on quality of life and neurocognitive function in patients with CNFAs. Aim 4 of the project will be to establish a novel bank of pituitary tumor specimens from our cohort that will be linked to the extensive clinical data collected in our prospective study. This bank will serve as a valuable resource for future collaborative studies of tumor markers and their clinical significance. Our investigative team with expertise in Endocrinology, Neurosurgery, Cognitive Neuroscience and Pathology is well qualified and equipped to undertake this study. The large number of patients referred to the team make us well situated to conduct this study. The project is further strengthened by its establishment of a large and unique prospectively followed cohort of CNFA patients and by its creation of a bank of pituitary tumors that is linked to its clinical data. This project will provide novel data on the evaluation, treatment and management of patients with clinically non-functioning pituitary adenomas."

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