

Dr. Magda Petryniak is an Assistant Professor of Pediatrics. She completed her Pediatric residency at the St. Louis University Children's Hospital and received her Neonatology training at UCSF. When not caring for patients, Dr. Petryniak is head of her laboratory and is a member of the OHSU Neuroscience training program.

Congenital and acquired diseases characterized by loss or damage to myelin affect tens of thousands of children and are a major cause of neurologic morbidity in the pediatric population. These range from periventricular white matter loss associated with preterm birth, hereditary leukodystrophies and primary disorders of myelin formation, as well as immune-based diseases such as multiple sclerosis. Dr. Petryniak's lab is interested in understanding the immune mechanisms that regulate myelin loss in leukodystrophies, and current investigations utilize a new mouse model of Krabbe disease that genetically matches a human Krabbe disease mutation. She suspects that insight into the immune mechanisms mediating myelin loss in Krabbe disease will provide insight into immune function in other leukodystrophies as well as allow rational approach for use of immune modulators in this group of disorders.

Additionally, Dr. Petryniak's lab is interested in the molecular mechanisms that regulate oligodendrocyte production and differentiation. The lab utilizes transgenic and knock-out mouse models, cellular transplantation, *in vitro* myelination assays, immunohistochemistry, *in situ* hybridization and a diverse range of molecular neurobiology techniques to connect the basic biology of myelination and innate immune function with pathophysiological events that occur in leukodystrophies.