

cognitive changes as reported in Vallabh et al 2020, and with the finding of Mole et al. 2021 that most tests reveal impairment only at a stage where carriers report subjective symptoms. Our results suggest an opportunity for primary prevention to preserve full cognitive health in at-risk individuals. However, small sample size and limited test sensitivity may leave us underpowered to detect subtle deficits. Future research is warranted to further investigate the neuropsychological profile of pre-symptomatic GPD.

**Categories:** Genetics/Genetic Disorders

**Keyword 1:** cognitive functioning

**Keyword 2:** neuropsychological assessment

**Keyword 3:** genetic disorders

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### **Program Welcome by Co-Chairs: Julie Bobholz and Sakina Butt**

4:15 - 4:30pm Wednesday, 1st  
February, 2023  
Pacific Ballroom A

### **Plenary A: Presidential Address: Anesthesia: A Wake-Up Call. Part 2. Developmental Risk or Resilience?**

**Presenter: Ida Sue Baron**

4:30 - 5:25pm  
Wednesday, 1st February, 2023  
Pacific Ballroom A

**Abstract & Learning Objectives:**

This presentation is a clarion call to neuropsychologists to contribute their specialized knowledge to help answer a critical question: Is there a Fetal Anesthesia Syndrome that results in subtle and persistent adverse effects over an individual's lifespan? Neuropsychologists are uniquely positioned to make substantial contributions to

conceptualization, methodology, and interpretation in studies of human exposure to general anesthesia (GA). Part 1, presented at the 2022 INS Barcelona meeting, reviewed preclinical data that documented effects on the central nervous system and long-term behavioral adversities of GA exposure during an animal's critical growth spurt developmental period. Studies of human adult exposure were also summarized, and attention directed to the absence of prospective studies from childhood to adulthood. Part 2 extends the conversation to GA exposure during the highly vulnerable in utero and early childhood developmental periods. Human retrospective study results began to be published in the early 2000s, and prospective studies only within the last decade. Reports of associations between GA and attentional problems, learning disorder, neuropsychological deficit, and neuropsychiatric disorder are emerging. Yet, due to methodological weaknesses and multiple confounders, clear evidence of causality remains lacking in this nascent literature. A 'developmentalistic' way forward for neuropsychologists will be suggested, one using neuropsychological expertise along with the application of innovative technologies that is informed by the extensive preclinical data showing cellular, synaptic, and neural circuitry disruption during critical growth periods and short- and long-term neuropsychological effects.

Upon conclusion of this course, learners will be able to:

1. Describe types of central nervous system disruption that result in animals following exposure to general anesthesia
2. Identify neuropsychological domains at high potential risk following exposure to general anesthesia during the human critical growth spurt period
3. Explain what is meant by 'vertical transfer'

### **INS Awards Ceremony**

5:30 - 6:30pm  
Wednesday, 1st February, 2023  
Pacific Ballroom A

### **Reception**