Alzheimer's Disease Neuroimaging Initiative Neuropathology Core

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ADNI Neuropathology Core

Rationale:

- Neuropathological examination is essential to validate the clinical diagnoses in the ADNI study groups
- Variability in methods and interpretation of lesions among individual neuropathologists require a central laboratory, using state-of-the-art methods and up to date criteria, to establish uniform and standard neuropathological diagnoses
- Clinical-neuroimaging-neuropathological correlations in any ADNI participant who comes to autopsy will be of exceptional value
- The archiving of fixed and frozen brain tissue will facilitate biomarker studies of the earliest stages of AD

Specific Aim #1

Provide and implement training materials and protocols in obtaining voluntary consent for brain autopsy in ADNI participants

- Utilize materials developed at WU ADRC and UPenn ADC
- Clinician-led discussion at initial assessment
  - Convey importance/value of autopsy
  - Consideration of participants wishes
  - Answer questions, misconceptions or concerns
- Support materials on line at https://adni.ucsd.edu

Specific Aim #2

ADNI-NPC Materials

Frozen tissue

- Frontal lobe to include striatum
- Frontal and temporal lobe at the level of the mamillary body
- Temporal and parietal lobes at the level of the lateral geniculate nucleus
- Occipital lobe to include calcarine sulcus

16 standard blocks

- Middle frontal gyrus
- Superior and middle frontal gyri
- Inferior parietal lobe
- Occipital lobe (inc. calcarine sulcus)
- Anterior cingulate gyrus
- Posterior cingular gyrus and precuneus
- Amygdala and entorhinal cortex
- Hippocampus and parahippocampal gyrus
- Striatum (caudate and putamen)
- Lentiform nuclei (globus pallidus and putamen)
- Thalamus and subthalamic nucleus
- Midbrain
- Pons
- Medulla oblongata
- Cerebellum with dentate nucleus
- Spinal cord

Specific Aim #3

Maintain a state of the art brain tissue resource

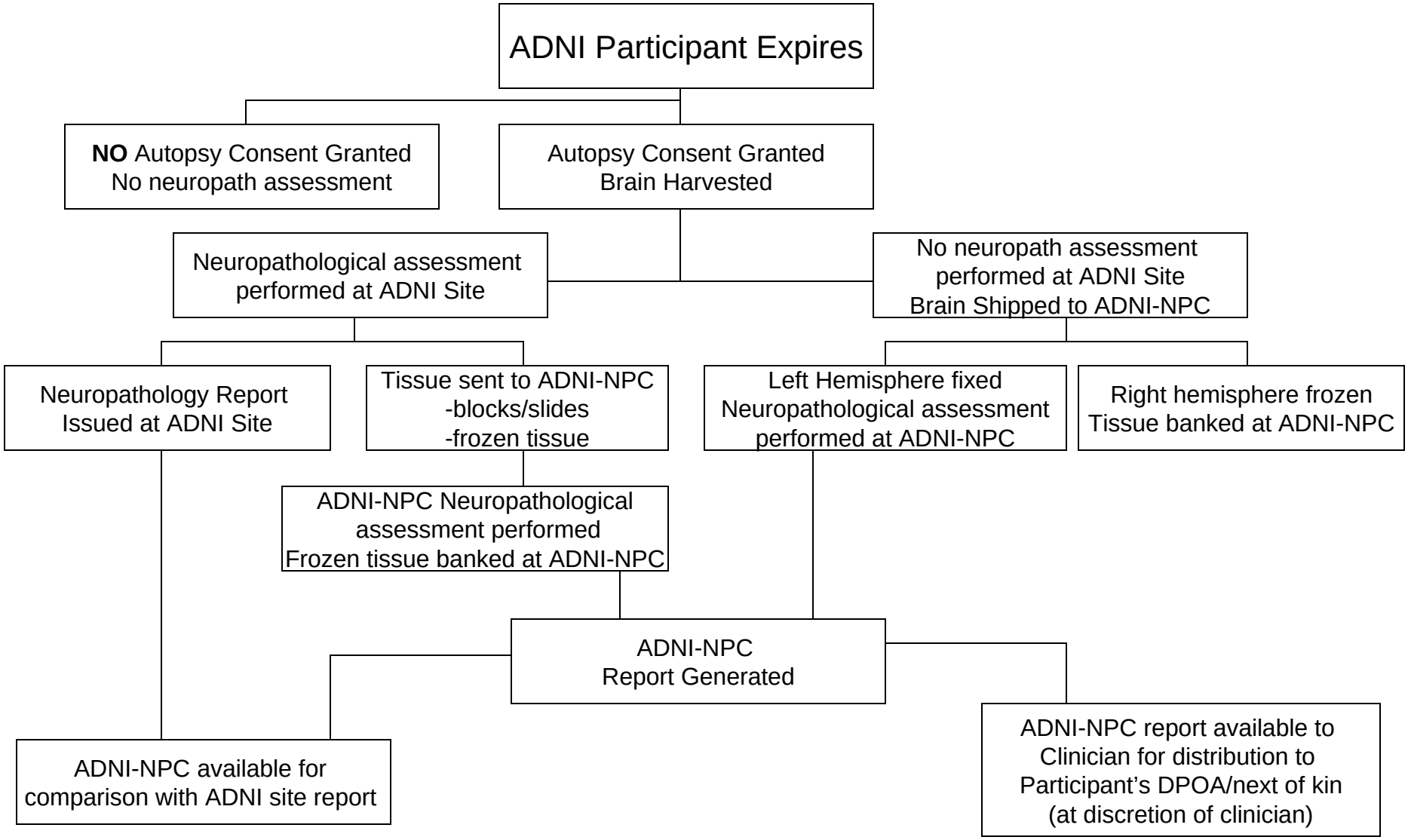
- Centralize tissues to be used in collaborative studies
- Generate sufficient number of samples to undertake clinicopathologic and biochemical studies

Specific Aim #4

Interact with ADNI's Data Coordinating Center to ensure data entry, data sharing and collaborative research

- Neuropath, clinical, biological and imaging data accessible online
- Online tissue request
- Tissue requests processed through WU ADRC Tissue committee and receive final approval from ADNI-NPC Tissue Committee

ADNI-NPC Workflow



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