

## **Intraoperative Collection of Neurosurgical Biorepository Tissue**

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**Abstract:** High quality biospecimens are critical to research. To deliver useful tissues to researchers, it is necessary to develop strategies for increasing the viability of human biospecimens while preventing their contamination. One method involves flash freezing biospecimens as close to their resection as possible. This will decrease the amount of time biospecimens are exposed to environmental factors, but it will also arrest their metabolic functions-preserving cellular proteomes and transcriptomes. In the Biobank Core Facility (BCF) at Barrow Neurological Institute (BNI), we have implemented an intraoperative collection procedure to markedly decrease the time to freezing. While still in the sterile field, OR staff divide tissue for clinical diagnosis and biobanking. Biobank portions are immediately frozen in LN2. To accomplish this, we established a satellite biobank adjacent to the OR suites, sourced sterile collection kits, and collaborated closely with OR staff to ensure their compliance. Currently, greater than 75% of neurosurgical specimens are flash frozen in under three minutes; of those biospecimens more than 66% are frozen in one minute or less.